

# **Transition to IFRS 16 Leases and its Impact on Key Financial Ratios for Construction Companies in Finland**

Pia Ellimäki

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Auth	or(s)
Pia E	llimäki

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Leasing has gained popularity as a financing alternative among companies of all sizes. Until now, accounting for leases under International Financial Reporting Standards has divided the leases into two categories: operating and finance leases. Only the latter are recorded as liabilities on the balance sheets of lessees. This has brought about discussion on the unequal treatment of lease commitments. The accounting standard IFRS 16 Leases was developed to solve this issue.

The objective of this thesis was to investigate how the implementation of IFRS 16 Leases will affect the financial statements and financial ratios of Finnish construction companies. It is a current topic – the standard was released in the beginning of 2016 and transition will take place in 2019. The study focused on three of the largest Finnish construction companies: Lemminkäinen Corporation, YIT Corporation and SRV Group Plc. The main data was derived from the audited financial statements of the entities. First, the leasing activities of each corporation were analyzed and later the financial statements were restated to include operating leases on the balance sheets. This was expected to have a significant impact on the financial ratios chosen for this study, which were gearing ratio, current ratio and EBITDA.

As a result of the restatement of financial statements, the gearing ratios and current ratios worsened while the EBITDA improved, as was expected. There were differences between the three companies, resulting in most part from their varying amounts of operating and finance leases and the total amount of financial liabilities. Predictably, the company with the highest amount of off-balance sheet lease commitments presented the biggest variations in all three financial ratios. It should be noted that the study utilized many assumptions and therefore, the results are only indicative and should be interpreted as such. It would be possible to achieve more accurate results if more information was available. The work could be continued upon gaining access to the lease contracts or other internal leasing related information of the companies.

#### **Keywords**

IFRS, financial accounting, lease capitalization, leasing, financial analysis, financial ratios.

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#### 1 Introduction

This introductory chapter presents the thesis topic and its relevance to the field of accounting. The research question, demarcation and benefits are discussed in the following paragraphs. To help the reader in getting acquainted with the topic, the key concepts are explained in the last part of this chapter.

#### 1.1 Background

Globalization has shaped the last decades of all of the largest enterprises in the world. The field of financial accounting, too, has become more and more international over the years. As businesses seek funding abroad, transparency and reliability are key. Investors are more likely to place their money on a company whose financial position and performance information they can trust and predict. Since 2003, over 100 countries have adopted the International Financial Reporting Standards. These accounting principles were created to replace the national accounting principles used in different countries, so that the financial statements of companies across regions would be more transparent and easily comparable.

One of these International Financial Reporting Standards sets out the rules for the accounting of leases. Leasing is similar to what is commonly called renting. It is an agreement in which one party pays for the right to use a good. Leasing is ever more popular as an alternative to buying the good, as it might not require any initial investment and the associated risks are often smaller. The current leasing standard has been criticized for not requiring the same treatment for all leases. Some companies have been able to maintain a better financial position by choosing certain types of lease agreements.

A new accounting standard, IFRS 16 Leases, was released in January 2016. It will supersede the existing standard and aims to increase comparability of different kinds of leases. It will be applied to annual financial reporting periods from 1 January 2019. The transition to the new standard will bring about considerable changes to companies applying IFRS and the sooner the preparation starts, the better.

#### 1.2 Research Question

This research aims to establish what the impact of the transition to the new leasing standard is on the lessees in the Finnish construction industry. The research topic delimitation is explained in chapter 1.3.

The research question is:

How will the transition to IFRS 16 impact the key financial ratios of construction companies in Finland?

The investigative questions are:

<u>Investigative question 1.</u> What is the current state of lease usage in the Finnish con-

struction industry?

Investigative question 2. How will IFRS 16 affect the financial statements of Finnish con-

struction companies?

Investigative question 3. What will the impact be on key financial ratios?

Table 1 below presents the theoretical framework, research methods and results for each investigative question.

Table 1. Overlay matrix

Investigative Question	Theoretical Framework	Research Methods	Results
IQ 1. What is the current state of lease usage in the Finnish construction industry?	Chapter 2	Qualitative and quantitative	Chapter 4.1
IQ 2. How will IFRS 16 affect the financial statements of Finnish construction companies?	Chapters 2.3 and 2.4	( ) ( ) ( ) ( ) ( ) ( ) ( ) ( )	
IQ 3. What will the impact be on key financial ratios?	Chapter 2.5	Quantitative	Chapter 4.3

#### 1.3 Demarcation

This thesis focuses on the International Financial Reporting Standards IAS 17 and IFRS 16. Both standards distinguish between lessee and lessor accounting. The topic has further been delimited to include only lessee accounting. Lessor accounting is not covered because the accounting remains almost the same under IFRS 16. Accounting for sale-and-leaseback and sub-lease transactions is left out, as they are special cases. Figure 1 on the next page visualizes the demarcation of this thesis.

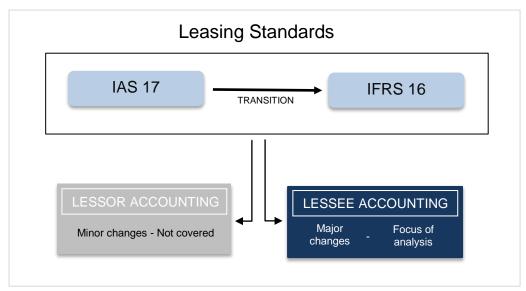


Figure 1. Demarcation of the thesis.

The research question presented in the previous subchapter narrows down the topic to include analysis on Finnish construction companies. This is further delimited as explained in chapter 3. The thesis focuses on the effects to financial accounting information and will not consider the effects the transition to the new standard might have on any other aspect of the companies, such as IT systems and other implementation costs.

#### 1.4 International Aspect

This thesis investigates IFRS 16, which will be applied to the financial statements of thousands of companies worldwide. As a case study, construction companies operating in Finland are researched. The results can, however, be useful to companies in the construction industry in any country applying the IFRS.

#### 1.5 Benefits

The party that most clearly can benefit from this thesis is the construction industry, both in Finland and in other countries that apply IFRS. Businesses in that industry will be able to estimate the effects that the transition to the new standard will have on their financial position and performance. In addition, they will be able to benchmark their leasing activities to those of competitors. Additionally, other industries that are heavy users of leasing might find this thesis interesting. Some of the findings can be applied to all lessee companies applying IFRS, although the magnitude will vary.

Accounting students and professionals can learn the key differences of the current and new leasing standard without having to immerse themselves in the standard texts. This

can be especially beneficial to those that are not used to reading legal text, as this thesis aims to explain the standards in more common language. Anyone interested in International Financial Reporting Standards in general will also get a quick overview.

For the author, the thesis presents an interesting professional challenge. She wants to learn more about the new leasing standard because, at the time of writing the thesis, it is a hot topic in the field of accounting. She plans to develop her career in one of the large global consulting firms and in-depth knowledge of the IFRS will help in achieving that goal.

#### 1.6 Risks and Risk Management

This thesis, like any other, is exposed to some risks. The biggest of them is not getting enough data to perform the restatement of financial statements applying IFRS 16. This could happen if the notes to the financial statements of the studied companies are not sufficiently informative. This risk is mitigated by defining clear criteria for choosing the case companies. The main criterion is that the companies apply IFRS in their financial reporting. Another risk is that even with high-quality data the restatement of financial statements of the studied companies might require several assumptions to be made and the reliability of the results might be affected. In such case, special attention will be paid to determining those assumptions and they will be explained in full detail with justifications for their use.

#### 1.7 Key Concepts

International Accounting Standards (IAS) are a set of accounting standards specifying how a company should record their financial transactions and other information. The Board of the International Accounting Standards Committee issued them until year 2000. After that, the International Accounting Standards Board has continued the development. (Cambridge University Press 2016.)

International Financial Reporting Standards (IFRS) are a set of accounting principles developed by the International Accounting Standards Board since 2001 and followed by more than 100 countries. They have partly superseded some of the earlier IAS standards. (IFRS Foundation 2015.)

The dictionary definition for **a lease** is that it is a legally binding agreement in which one party (**lessee**) pays money to the owner (**lessor**) for the right to use an asset, such as a building, a vehicle or machinery for a period of time (Cambridge University Press 2016). The accounting standards define the term in their own ways, as explained in subchapter 2.4.1.

**Lease capitalization** refers to the recognition of off balance sheet leases in the balance sheet of a company. It is a technique used to analyze the financial position of a company taking into account lease commitments otherwise not presented in the balance sheet. (IASB 2007.)

**Lessee accounting** explains how companies that have the right to use assets should record these leasing transactions in their bookkeeping. This thesis presents two different accounting methods for lessees in chapter 2.4.2.

#### 2 Theoretical Framework

The theoretical framework in Figure 2 below presents the basis for the research and introduces theories relevant to the thesis topic. Chapter 2.1 introduces leasing and the main reasons companies utilize it. The next subchapters present the concept of International Financial Reporting Standards and introduce two accounting standards: the lease standard currently in use and the standard that will supersede it in 2019. These standards are compared in terms of how a lease is identified, accounted for and reported in the notes of the financial statements. The last subchapters cover the topic of financial statement analysis in general and introduce key financial ratios, which will be investigated later on in this thesis.

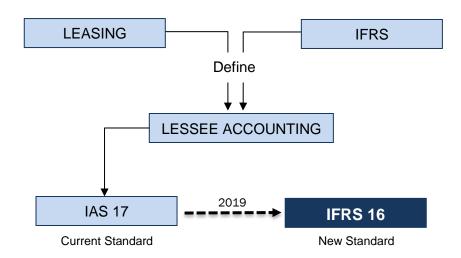


Figure 2. The theoretical framework for the thesis.

#### 2.1 Leasing

Leases are agreements in which one party (a lessee) makes payments to the owner of an asset (a lessor) for the right to use that asset over a specified period of time. Leasing has gained popularity as a financing option over the past years. As opposed to traditional acquisition of assets, leasing does not usually require any initial investment. Leasing is therefore more flexible and less risky than ownership. (Mackenzie & al. 2012, 561.)

Almost every industry uses leasing to some extent. However, there are big differences in the volumes and the kinds of assets that the businesses in various industries lease. Some industries that are heavy users of leasing include manufacturers, retailers and airlines, which tend to lease equipment, retail space and planes, respectively. Other assets commonly leased include buildings, vehicles and computers. (PwC 2016b.)

#### 2.2 International Financial Reporting Standards

The most widely used accounting principles today are the International Financial Reporting Standards. They are the result of decades of development first by the International Accounting Standards Committee (IASC) and since 2001 by the International Accounting Standards Board (IASB). As mentioned in the introduction chapter of this thesis, the IFRS were created to replace national accounting principles utilized in different economies. The standards aim to add transparency and comparability to financial statements, which in turn decreases the investors' risk in financing companies internationally. (IFRS Foundation 2016b; Mackenzie & al. 2012, 1-5.)

As of 2015, 116 countries required IFRS for listed companies and financial institutions (IFRS Foundation 2015). The European Union was among the first adopters. It approved the IFRS regulation in 2002 and all listed companies of the union countries have had to use IFRS since 2005 (Mackenzie & al. 2012, 11). Subsequently, several countries all over the world have adopted the principles. Remaining large economies still using non-IFRS standards, such as Japan and the United States, are expected to converge to or adopt the IFRS soon (Mackenzie & al. 2012, 1).

Currently, there are two sets of standards: the International Accounting Standards (IAS) and the International Financial Reporting Standards. The IAS comprise principles issued by the IASC before 2001. Since that year, the IASB replaced the IASC as the issuing body and all IAS were adopted. The standards developed since then have been named IFRS and while some of the IFRS complement existing standards, others supersede them. (IFRS Foundation 2016a, Cambridge University Press 2016.)

#### 2.3 Analysis of Financial Statements

The IFRS require that an entity present a complete set of financial statements. These comprise the statement of financial position (balance sheet), statement of comprehensive income (income statement), and statement of changes in equity, cash flow statement and notes to the financial statements. Financial reports are prepared to fulfill the needs of many stakeholders, which include financial institutions, investors and local governments. The users analyze these reports in order to evaluate a company and predict its future financial position and performance. (Harrison W. T. & al. 2014, 746-747.)

Companies applying IFRS need to present figures of the reporting period and at least one comparative period (Harrison W. T. & al. 2014, 747). Financial statements are always

compared with previous periods' figures so as to analyze the progress and financial stability of a company. It is therefore of great importance that companies are consistent in the way they categorize and present items in their financial statements. Otherwise comparison between periods would be all but impossible. (Harrison W. T. & al. 2014, 236.)

Financial statement analysis is often based on a year-to-year comparison, which can be done horizontally or vertically. In horizontal analysis, line items of different periods are compared to each other and differences are calculated in amounts or percentages. This is a fast way to analyze a specific item, such as the revenue, accounts receivable or personnel expense of a company. It gives a good indication of how the different items of financial statements have changed from one period to another but does not acknowledge their relationship to one another. (Harrison W. T. & al. 2014, 748.)

Vertical analysis focuses on the bigger picture; on how separate items of the financial statements relate to each other. On the income statement, amounts are often compared to the revenue of the period and on the balance sheet to total assets. Common ratios include operating profit margin and net profit margin. By comparing the net profit margins of different periods, one can gain more insightful information than by comparing the net profits in euros. As revenues and other line items tend to change over time, vertical analysis provides comparable data. (Harrison W. T. & al. 2014, 752.)

Another common way to analyze a company is to compare it with other similar companies, often in the same industry. This analysis, called benchmarking, is used to obtain information on how well the company is performing compared to the others and to understand what the other companies are doing better. (Harrison W. T. & al. 2014, 754-755.) One way to do this is to compare the financial ratios of a company with its competitors. Three common financial ratios are introduced in the chapter 2.5.

#### 2.4 Differences in the Leasing Standards

The IAS 17 Leases was first published in 1997 by the IASC and was later adopted by the IASB in 2001. The most recent amendment was made in 2014. IAS 17 is the standard that is currently applied in the accounting of companies that report their financial statements in accordance with the IFRS. It applies to agreements in which the right to use assets is transferred from one contracting party to another. (International Accounting Standard 17.) The problem with the current standard has been that it reduces comparability between financial statements. The standard divides leases into two types and only one lease type is recorded on the balance sheet. Therefore, companies that favor certain leases have not

recorded a liability in their balance sheets, even though they have had an obligation to pay rent for a specified time. (IFRS Foundation 2016b.) These lease types are introduced in more detail in subchapter 2.4.1.

The IASB has worked in cooperation with its American equivalent FASB on the new leasing standard. The long-awaited IFRS 16 Leases was published in January 2016. It will replace IAS 17 and bring about considerable changes for lessee accounting. (IFRS Foundation 2016b.) As stated in the introduction chapter of the new standard (International Financial Reporting Standard 16, paragraphs IN4-IN6), IFRS 16 helps lessees and lessors to present their leasing activities in a more transparent and faithful manner. The new standard brings virtually all of the leases of a company on its balance sheet. The users of financial statements, which include banks and investors, will be provided with comprehensive information that allows for better analysis on the entities' performance. The standard will be applied in the financial periods starting on or after 1 January 2019. Early application is possible if the company in question applies IFRS 15, another recently issued standard. (IFRS Foundation 2016b.)

#### 2.4.1 Identification of a Lease

According to IAS 17, there are essentially two types of leases: operating and finance leases. The classification is made at the inception of the lease, which is often the date of the lease agreement. The basic rule is that a lease can be considered a finance lease if the lessee obtains substantially all the risks and rewards of the use of an asset. Risks can include depreciation in the value of the asset leased, as well as losses resulting from technological obsolescence or deteriorated economic conditions. Rewards might present themselves in the form of value appreciation and profitable performance. (International Accounting Standard 17, paragraphs 7-8.)

Sometimes this basic rule is not enough. The standard specifies eight situations in which the lease is likely to be classified as a finance lease. This is the case for example if the lessee has the option of buying the asset for a price below fair value at the end of the lease term and is likely to use that option; or if the lease term spans most of the economic life of the asset. Moreover, if the ownership of the asset is transferred at the end of the lease term or if the assets are so specialized that only the lessee can use them without modifications, the lease will be classified as a finance lease. (International Accounting Standard 17, paragraphs 10-11.)

For the purposes of this thesis, there is no need to go into more detail on determining a finance lease. Operating leases, on the other hand, are defined as all the leases that do not meet the criteria specified for finance leases. In other words, they are agreements in which the lessor does not transfer substantially all the risks and rewards to the lessee. (International Accounting Standard 17, paragraph 8.)

IFRS 16 does not separate operating and finance leases. Instead, it states that a lease is a contract in which the lessee has the right to use an asset for a specified period of time in exchange for payment (International Financial Reporting Standard 16, paragraph 9). However, it is not always easy to establish whether a contract in fact is or contains a lease. Figure 3 below is a simplified flowchart that explains how to do that.

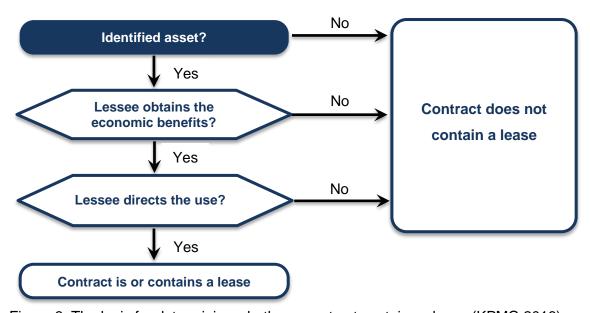


Figure 3. The logic for determining whether a contract contains a lease (KPMG 2016).

The first requirement is that the contract must identify the asset that is to be leased, such as an office building or a truck. In order for the contract to be classified as a lease, this asset must bring economic benefits to its user – the lessee. IFRS 16 introduces another aspect to the definition of a lease, which is that the lessee must be the one deciding how the asset is used. (KPMG 2016.) In general, a lessee is considered to have control over the asset when the notions of economic benefits and direction of use are fulfilled. Be that as it may, this is not the case if the lessor has substantive rights to substitute the leased asset. These rights exist if the lessor is able to substitute the asset during the lease term and will benefit economically from doing so. In such case, the contract does not contain a lease. (Deloitte 2016a.)

#### 2.4.2 Lessee Accounting

The accounting for leases under IAS 17 makes a distinction between operating and finance leases. Operating leases are treated like any other expense and are charged to the income statement on an accrual basis over the lease period, in the period in which the economic benefits are received. The leases might appear on the balance sheet as periodend adjustments, such as prepaid or accrued expenses if the payments do not follow the same timeline as the benefits. (Mackenzie & al. 2012, 569.)

Finance leases follow more complex calculations and accounting rules. Under IFRS 16, almost all leases are accounted for in the same way as finance leases in IAS 17. These leases are initially recognized on the balance sheet as assets and liabilities of the same amount. This amount corresponds to the fair value of the leased asset or the present value of the minimum lease payments, depending on which is lower. Afterwards, the amounts will never be the same again. This is because the asset and the liability are treated differently after initial recognition. (International Accounting Standard 17, paragraphs 20, 23; KHT-yhdistys 2012, 65.)

The leased asset is initially measured at cost, which is composed of the initial amount of the lease liability, all initial direct costs, all prior lease payments, less possible lease incentives received by the lessee. If the lessee is required to incur in costs to install or dismantle the asset, an estimation of such costs will be recorded as part of the cost of the asset. (International Financial Reporting Standard 16, paragraphs IN10, 23-25.) Afterwards, the asset is in most cases measured on the basis of the cost model, as introduced in IAS 16 Property, Plant and Equipment. The right-of-use asset is measured at cost less accumulated depreciation. The depreciation policy must be in line with the policy used for similar classes of owned assets. The recorded asset is depreciated over the lease term unless a transfer of ownership is expected at the end of the lease term, in which case the asset's useful life shall be used. (International Financial Reporting Standard 16, paragraphs 29-32.)

The lease liability is initially measured at the present value of outstanding lease payments (International Financial Reporting Standard 16, paragraphs 26-27). After the commencement date, the lease liability will be reduced periodically, as the minimum lease payments are distributed into a finance expense and a reduction of the liability. The finance expense relates to a constant interest rate calculated on the outstanding balance of the liability. This way the present value of the minimum lease payments plus the future finance expenses equal total minimum lease payments at the end of the lease term. (International

Financial Reporting Standard 16, paragraphs 36-38.) The following Figure 4 exemplifies the accounting of a three-year finance lease with yearly payments:

Year	Initial amoun		Interest rate		Cash ayment	Reduc liab	tion of ility	Finance expense	Outstanding amount	
0									288 388	
1	288 388	}	2 %	10	000 🖊	94	232	5 768	194 156	
2	194 156	; /	2 %	10	000 00	96	117	3 883	98 039	
3	98 039		2 %	10	000 000	98	039	1 961	0	
The remaining lease liability		m	ctual payments ade in each eriod		Cash pay less finan expense		on the	t calculated remaining mount: 88 388	Present value of lease payments: 100000/(1+2%) + 100000/(1+2%)^2 100000/(1+2%)^3	+

Figure 4. Example calculation of a lease liability and finance expense.

In the above example three yearly payments of 100 000 EUR are to be made, in accordance with the lease agreement. As the interest rate implicit of the lease is not available, the calculations are made with an interest rate used for borrowing under similar terms. In this example, this interest rate is 2%. To compute the present value of the lease payments, one must utilize the information available: the payments of 100 000 EUR and the discount rate of 2%. This yields a present value of approximately 288 388 EUR. This amount is needed for the initial recognition of the lease liability (and the asset). After the commencement of the lease, an interest expense of 2% of the outstanding amount is added yearly. As we know that the actual payment is 100 000 EUR, the difference between the interest expense, in other words finance expense, and the payment is the 'amortization' – the amount by which the lease liability is deducted. This results in an addition (finance expense of 5 768 in year 1) and a deduction (94 232 in year 1) to the initial lease liability. In the beginning of the lease term the interest expense is larger than at the end because it is calculated on the remaining lease amount, which decreases after each payment.

The only exceptions to this accounting rule under IFRS 16 are leases of low value and short-term leases, which can be expensed on a straight-line basis, much like the operating leases under IAS 17. (International Financial Reporting Standard 16, paragraphs IN10, 5-6.) According to industry experts, low-value leases can be interpreted as assets valued at USD 5 000 or less (Deloitte 2016a, PwC 2016a).

#### 2.4.3 Disclosures

Finance leases have considerably higher disclosure requirements than operating leases under IAS 17. Just as the accounting for finance leases is more complex, so is the preparation of notes to the financial statements. Finance lease information is included in the notes on property, plant and equipment, depreciation expense, financial liabilities and financial expenses. (KHT-yhdistys 2012, 65, 167, 227.) Companies need to disclose the net book value of each class of asset at the end of the period but many choose to report also any additions or disposals during the period, accumulated depreciation and the depreciation of the period. (International Accounting Standard 17, paragraph 31.)

The standard also states that entities have to present a reconciliation of the present and future values of minimum lease payments. The future values are to be reported divided into three categories: due within a year, in 1-5 years and in more than five years. Other disclosure requirements include a general description of the lease activities, future sublease receivables and contingent leases that have been expensed during the reporting period. (International Accounting Standard 17, paragraph 31.) The lease liability is often detailed in the note on financial liabilities and financial expenses (KHT-yhdistys 2012, 167, 227). However, if the proportion of a lease liability of total financial liabilities or lease expense of total financial expenses is very small or the amount is otherwise immaterial, companies tend to group them with other items.

Operating leases are reported in other operating expenses on the income statement and on top of that, companies need to present in a note the minimum lease payments that are due in less than a year, between 1-5 years and in more than 5 years (KHT-yhdistys 2012, 287). Operating leases also require disclosure of a general description of leasing activities, the total of future sublease receivables and the amount of lease and sublease payments reported in the income statement (International Accounting Standard 17, paragraph 35).

Under IFRS 16 the same disclosure requirements apply to all contracts or parts of a contract identified as a lease. An individual company might have to present more or less information than stated in the standard, depending on the materiality of the leases (KPMG 2016). However, as the disclosure requirement applies to former off balance sheet leases, it is evident that companies that have such contracts will need to disclose substantially more data under the new standard. For the purposes of this thesis, details of these requirements in IFRS 16 are not relevant. It suffices to understand that the disclosures in the notes to the financial statements will be more detailed and will require more time to

prepare. The analyses presented in chapter 4 peruse the IAS 17 disclosure information in order to interpret and analyze all of the leasing activities of the case companies.

#### 2.4.4 Effects of the Key Differences on Financial Statements

The key differences of the standards are summarized in the table below (Table 2). The biggest difference is in the way leases formerly classified as operating leases are accounted for under the new standard. The accounting of finance leases in IAS 17 and in IFRS 16 is essentially the same.

Table 2. Key differences in lessee accounting.

	IAS 17	IFRS 16
	Finance lease: obtain most	
Identification of a lease	of the risks and rewards	Lease: right to control the
identification of a lease	Operating lease: all other	use of an identified asset
	leases	
Exemptions	None	Low-value assets
Exemptions	None	Short-term leases
	Finance lease: asset and fi-	
Balance Sheet	nancial liability	Like a finance lease
Dalatice Stieet	Operating lease: only pe-	Like a lilialice lease
	riod-end adjustments	
	Finance lease: depreciation	
Income Statement	and interest expense	Like a finance lease
moome Statement	Operating lease: operating	LINE A IIIIAIILE IEASE
	expenses of the period	

IFRS 16 brings virtually all leases to the balance sheets of the lessees. This implies an increase in the amount of assets and liabilities. The new lease assets will be presented either with property, plant and equipment or separately as leased assets. It is therefore a non-current asset. The new lease liability is classified in current and non-current financial liabilities and therefore increases an entity's debt. (IFRS Foundation 2016b.)

On the other hand, operating leases will no longer be recorded as an operating expense and instead expenses for depreciation and interest are recognized. The depreciation expense is normally divided by a certain amount of months or years and therefore remains constant. The interest expense, as explained in earlier subchapters, will be larger in the

beginning of the lease term and will decrease as the lease matures. In the case of an individual lease, this will result in a higher expense in the beginning of the lease term and a declining expense towards the end, as opposed to a constant lease expense over the lease term, when applying IAS 17 (Figure 5). (IFRS Foundation 2016b.)

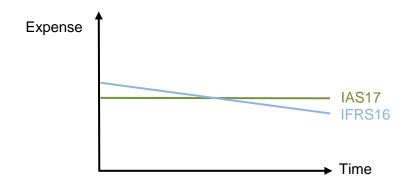


Figure 5. Lease expense in IAS 17 vs. depreciation and interest expense under IFRS 16 (Deloitte 2016b).

#### 2.5 Key Financial Ratios

To facilitate comparison between companies and different industries, analysts and other users of financial statements have created hundreds of financial indicators. There are many ways to classify them and the calculation methods may vary. According to leading consulting firms and other industry experts, the financial indicators that will experience the most variance when changing to IFRS 16 are gearing, asset turnover, current ratio, EBITDA, EBIT and return on equity (IFRS Foundation 2016b, KPMG 2016, PwC 2016a).

Out of these, three were selected for analysis in this study. The first one is gearing, which is one of the most widely used indicators for financial leverage. It measures the proportion of a company's net debt to its equity. A higher percentage reflects a higher proportion of debt. Companies with a high gearing ratio run the risk of insolvency and inability to obtain further funding. Generally, a ratio below 120% is regarded satisfactory, whereas a ratio above 200% is weak. (Kauppalehti 2012.) The gearing ratios of the companies are expected to increase as the amount of financial liabilities rises when operating leases are capitalized. Each of the case companies has reported the formulas they have used in their annual reports. The gearing formula used by all three companies, and therefore applied in this study, is:



Current ratio was chosen as the second financial ratio to be investigated because it is a very popular and simple ratio that gives indications of a company's liquidity. It measures how well the current assets of a company cover its current liabilities, thereby indicating whether the company can meet its short-term obligations. A ratio below 1 is generally considered weak, whereas a ratio above 1.5 is high. However, an individual company's current ratio should be compared to other companies in the same field to better analyze its financial position. (Harrison, W. T. & al. 2014, 315-316.) The current ratios of companies are expected to decrease considerably as a result of lease capitalization (IFRS Foundation 2016b). This is because the financial liabilities of companies with off-balance sheet leases will increase. Current ratio is calculated as follows:



EBITDA, short for earnings before interest, taxes, depreciation and amortization, presents a company's profit from normal operations during a period. As the name suggests, EBITDA is calculated by adding interests, taxes and depreciation to net profit, or more simply, by adding the depreciation expense to the operating profit of an entity:



EBITDA was selected as the third indicator due to its importance to analysts and investors as a tool to measure future cash flows. (The Wall Street Journal 2012.) Additionally, the impact of IFRS 16 on the ratio will be considerable. EBITDA is expected to increase notably for companies with a high amount of operating leases. (IFRS Foundation 2016b.) The increase is due to the reduction of operating lease expenses, which are part of other operating expenses. Instead, depreciation and finance expenses will rise but these items are not part of EBITDA. When comparing companies of different sizes, EBITDA margin is often used instead of the amount of EBITDA. The margin is calculated by dividing EBITDA by net sales. The resulting percentage is a useful measure of profitability.

#### 3 Research Design and Methodology

Construction industry is one of the heaviest users of leasing, which is why businesses in the industry were chosen as the study population. The research was delimited to leave out companies that do not apply IFRS because research into non-IFRS financial statements does not serve the purpose of this thesis. To ensure the availability of high-quality financial information and optimize the size of the study population, three companies were selected based on their revenues. The companies with the highest revenues in 2015 are Lemminkäinen Corporation, YIT Corporation and SRV Group Plc, in that order. It is important to note that there are other important players in the construction industry in Finland, such as Sato Corporation, Destia Group Plc, Skanska Group and NCC, but they are not part of this study. Skanska and NCC, although they are large construction companies, did not fulfill the criteria because they are Swedish. Sato and Destia, on the other hand, are not among the top three companies when measured in revenue. The selected companies were analyzed in their function as a lessee; lessor activities and related accounting were ignored.

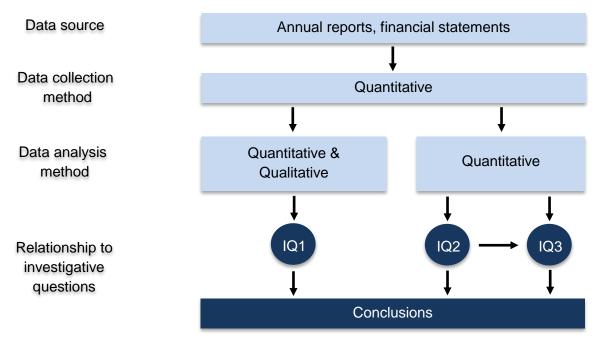


Figure 6. Research design of the thesis.

The main sources of data for this research were annual reports and audited financial statements published on the websites of the studied companies (Figure 6 above). These financial statements are presented in Appendix 1 of this thesis. This quantitative data collection method was chosen because of the nature of the study and the novelty of the topic. As the research objective was to establish the effects of IFRS 16 on the financial statements and key financial ratios of Finnish construction companies, the needed information could be collected from publicly available data. The key information was

obtained from the leasing standards themselves – this was the theory base for most of the analyses performed.

The annual reports were analyzed qualitatively, with the object of establishing the main revenue generation methods and overall business environments of the companies. This background analysis was needed for investigative question 1. In addition, quantitative analysis was performed on each of the financial statements. Key items analyzed included balance sheets, income statements and all notes in some way related to leases. These consisted of the notes on property, plant and equipment, depreciation expense, financial liabilities, financial expenses, other operating expenses and operating leases. The aforementioned notes were examined in pursuance of a comprehensive comparison of the leasing activities of the companies. This analysis formed the basis for investigative questions 1, 2 and 3.

After the initial analysis presented in subchapter 4.1, the financial statements were restated to demonstrate the effects of IFRS 16. The information base was the same as for the earlier analysis but this time calculations were performed to present the financial statements as they would be under the new standard. For investigative question 3, both the reported and restated financial statements were utilized to calculate the three key financial ratios defined in chapter 2.5. This third investigative question required further methodological choices to be made, which are explained in chapter 4.3.

#### 4 Research Data and Results

This chapter presents the data and results of the research. Each investigative question has its own subchapter. The first one analyzes the three construction companies' financial position and performance and above all, their leasing activities. The second results chapter then continues with this analysis of the chosen companies, restating their financial statements regarding operating leases, as required by IFRS 16. This financial statement analysis leads to the comparison of the status quo and the adapted, restated situation. Chapter 4.3 develops the comparison further by analyzing the effect of the new standard on some of the most relevant financial ratios.

#### 4.1 Financial Statement Analysis

The companies included in the research are Lemminkäinen Corporation, YIT Corporation and SRV Group Plc. They are the three largest Finnish construction companies. First, each company will be introduced briefly and their key figures will be discussed. Later, the pre-selected financial ratios are calculated using the formulas introduced in chapter 2.5 and the current finance and operating lease situation of the companies is explored.

#### Presentation of case companies

Lemminkäinen Corporation's operative areas are building construction, infrastructure construction and paving projects. Paving is the biggest business unit with 48% of total revenues. The group employs more than 4,000 professionals and has operations in the Nordic countries, Russia and the Baltics. Net sales revenue fell 8,1% compared with the previous year to 1,879 million EUR. Lemminkäinen is the largest revenue generator out of the three companies in this study. 60% of the revenue derived from operations in Finland. The order backlog, which presents the euro amount of confirmed orders that are yet to be fulfilled, was 1,180 million EUR at the end of 2015. The company's operating and net profit margins were low at 2.0% and 0.4%, respectively (see Table 3 below). Especially the operating expenses of the period seem to have been high compared with the other two companies. (Lemminkäinen 2016.)

Table 3. Key figures reported by the companies for the reporting period of 2015.

in million EUR	Revenue	Operating pro- fit margin %	Net profit margin %	Total assets
Lemminkäinen	1,879	2.0	0.4	1,036
YIT	1,732	4.7	2.7	1,967
SRV	719	3.4	1.9	763

The net sales of YIT Corporation also decreased in 2015, by 8,3%, to 1,732 million EUR. YIT operates in Finland, Russia, the Baltics, Poland, Czech Republic and Slovakia, employing more than 5,300 people. Its main operations include infrastructure projects and construction of housing and business premises. Operations in Finland represent 73% of net sales in 2015. The order backlog of the group at the end of 2015 was 2,467 million EUR, the largest of the three companies analyzed. YIT was the second biggest Finnish construction company in 2015 when measured in revenue. Although its net sales fell a bit more than Lemminkäinen's, the operating and net profits were higher than the two competitors'. YIT has the highest value of total assets among the three companies, almost twice as much as higher-revenue Lemminkäinen. (YIT Corporation 2016.)

SRV Group Plc is the smallest of the companies but the only one with positive revenue evolution in 2015. Its net sales grew by 5,1% to 719 million EUR. The group has operations in Finland, Estonia and Russia. It operates mainly in construction of urban centers and has ongoing projects in Russia to build shopping centers. The order backlog of the company is impressive, with 1,583 million EUR, which predicts future growth. SRV Group's operating and net profit margins in 2015 were in between those of the other two case companies. (SRV Group Plc 2016a, SRV Group Plc 2016b.)

#### Comparison of financial ratios

As the companies might compute the financial ratios in different ways, each of the three selected indicators is calculated again using the same formula to ensure comparability between the companies. The formulas were presented in chapter 2.5. All the numbers used in the calculations are taken from the 2015 audited financial statements of the companies (Appendix 1). The ratios are presented in Table 4 below. The supporting calculations are presented in Appendix 2.

Table 4. The selected financial ratios for the companies.

	EBITDA mi- Ilion EUR	EBITDA margin %	Current ratio	Gearing ratio %
Lemminkäinen	75.3	4.0	1.57	33.6
YIT	93.7	5.4	1.67	101.1
SRV	27.9	3.9	1.59	83.3

The EBITDA figures of the companies are presented in the above table. To facilitate comparison, EBITDA margins are calculated for each company by dividing the amount of

EBITDA with the revenue of the period. In this measure, the higher the percentage, the better. The differences are not huge; each company's EBITDA margin is between 3.9% and 5.4%. In fact, the margins of Lemminkäinen and SRV are only 0.1 percentage points apart. YIT comes out as the strongest in this financial measure with 5.4%.

The current ratios of the three companies are also fairly similar, in the range of 1.57–1.67. The ratios tell the multiple of current assets the companies have compared with current liabilities. Once again, a higher number reflects a better financial position. Lemminkäinen and SRV present ratios of 1.57 and 1.59, respectively, while YIT had a relatively better ratio of 1.67. The gearing ratios of the companies, on the other hand, are very different. A lower gearing ratio indicates better solvency. Lemminkäinen has the lowest gearing at 34%, which can be considered very good. SRV has a gearing ratio of 83% and YIT an even higher 101%.

#### Leasing activities

All three companies apply IFRS and are therefore required to disclose information related to their leasing activities, as described in chapter 2.4.3. The entities' use of finance leases varies significantly. SRV states that it does not have considerable finance lease agreements in place and therefore does not separate them in the notes related to PPE and finance expenses (SRV Group Plc 2016b). The net book value of YIT's lease assets is 0.5 million EUR (Table 5), which is only 1.1% of total property, plant and equipment. The leased assets are mainly buildings and machinery and equipment. The related finance expenses in 2015 were insignificant. (YIT Corporation 2016.)

Table 5. Leased assets as of 31 Dec 2015.

million EUR	Book value	Accumulated depreciation	Depreciation of the period	Net book va- lue
Lemminkäinen	90.4	-44.3	-11.2	34.9
YIT	6.4	-5.9	-0.1	0.5
SRV	0.0*	0.0*	0.0*	0.0*

<sup>\*</sup>SRV states that it does not have considerable finance lease agreements in place.

Lemminkäinen has a much higher value of leased assets, with a net book value of 34.9 million EUR or 23.4% of total PPE. The assets in leasing are machinery and equipment. Lemminkäinen is the only case company that has a significant value of leased assets, indicating that it is an active user of finance leases as a means of financing. Lemminkäinen does not specify how much of its finance expenses correspond to finance leases. (Lemminkäinen 2016.)

The next item analyzed is financial liabilities related to finance leases (Table 6 below). Again, SRV has no significant finance lease agreements and therefore has no lease liabilities (SRV Group Plc 2016b). YIT has very little left of its finance lease agreements, with 0.2 million EUR in future payment obligations. This remaining liability is divided equally into short-term and long-term financial liabilities. (YIT Corporation 2016.) Lemminkäinen, the only company heavily relying on finance leases, presents 34.8 million EUR in related financial liabilities. This figure corresponds to 13.7% of total financial liabilities. (Lemminkäinen 2016.)

Table 6. Finance lease liabilities as of 31 Dec 2015.

million EUR	Lease liabi- lity	Total financial liabilities	Leases as a % of total
Lemminkäinen	34.8	254.7	13.7
YIT	0.2	651.2	0.0
SRV	0.0*	265.8	0.0*

<sup>\*</sup>SRV states that it does not have considerable finance lease agreements in place.

What is more interesting for this study, however, is to examine the notes related to operating leases. The following table (Table 7) presents the maturity of future operating lease payments. The commitments are divided into those that are due in less than a year, between 1-5 years and in over 5 years, as reported in the financial statements. At first glance, the amounts seem large. YIT, for instance, had a total of 126.9 million EUR in future operating lease payments at the end of 2015. This represents 99.8% of the total lease portfolio. In other words, only 0.2% of the company's lease liabilities are on the balance sheet. The vast majority of the leases are due in 1-5 years. The operating leases include leases of offices, cars and land. The amount of land lease payments is specified and is 14.8 million EUR. YIT discloses that the lease terms for office leases are normally 8 years and car leases 4 years. (YIT Corporation 2016.)

Table 7. Maturity of operating lease commitments as of 31 Dec 2015.

million EUR	Lemminkäinen	YIT	SRV
Less than a year	4.7	20.9	3.0
1-5 years	6.5	76.4	9.0
More than 5 years	0.3	29.6	11.1
Total	11.5	126.9	23.2

SRV had off balance sheet lease commitments worth 23.2 million EUR. The group did not report any finance leases so the whole lease portfolio consisted of operating leases.

These agreements are for the use of cars and office premises. Cars are normally leased for 3-4 years and open-ended agreements are considered to have a lease term of one year. The maximum length of a lease is 13.5 years. (SRV Group Plc 2016b.) The off balance sheet leases of Lemminkäinen include real estate and machinery and equipment. The total amount at the end of 2015 was 40.2 million EUR, of which 11.5 million EUR are operating leases. The company does not explain what the remaining 28.7 million presented under the headline 'Operating lease commitments' refer to. (Lemminkäinen 2016.)

The companies have also reported a lease expense as part of their operating expenses (Table 8). The numbers in the first column of the table are total lease expenses and the second column specifies the parts that are attributable to operating leases. YIT reported a lease expense of 44.5 million EUR and specified in the notes that 23.5 million of it are related to operating leases. This amount is almost equal to the 2014 amount of operating lease commitments due in less than a year. (YIT Corporation 2016.) The lease expense can also include for example variable payments related to finance leases. In the case of SRV, the whole lease expense of 2.8 million EUR is interpreted as pertaining to operating leases, as the company has reported no finance leases. Lemminkäinen had a total lease expense of 30.3 million EUR in 2015. The proportion of operating leases is not detailed, however, one can estimate it from the previous year's operating lease commitments. In 2014, Lemminkäinen presented 6.1 million EUR of operating leases due within a year. This amount does not take into account possible new leases entered into during 2015. Nevertheless, in the absence of information on the operating lease expense, this estimation shall be used. This accounts for 20.1% of the total lease expense.

Table 8. Lease expenses of 2015.

million EUR	Total lease expense	Operating lease expense	Operating leases out of total
Lemminkäinen	30.3	6.1*	20.1%*
YIT	44.5	23.5	52.8%
SRV	2.8	2.8	100%

<sup>\*</sup> In 2014, Lemminkäinen presented 6.1 million EUR of operating leases due within a year.

Based on the amounts of off balance sheet leases reported by the companies, all are expected to experience changes as a result of the restatement of the financial statements. The total effect will depend not only on the amount of operating leases, but also on the total reported amount of financial liabilities. This will be discussed in the next subchapter.

#### 4.2 Restatement of Financial Statements

The concept 'restatement' is used in this thesis to refer to the presentation of previously published financial statements applying IFRS 16 on operating leases. All other aspects of the financial statements are held constant. In the following paragraphs, any and all operating leases of the companies are capitalized. In this study, any low-value or short-term leases of the entities are accounted for in the same way as other leases.

#### **Assumptions**

To restate the operating leases on the balance sheet the way IFRS 16 requires, quite a lot of data is needed. One must know the amount of future payments of operating leases, their present values, the interest rate to be used and the depreciation policy to be used. Currently, companies are required to disclose the amount of future operating lease payments, classified into three groups based on their due dates. The lease expense of the period is detailed in the note on operating expenses. However, this amount might include variable rents or other transactions related to the finance leases of the business.

As the information available publicly is not enough for a complete restatement of financial statements, some assumptions had to be made. Assumptions made in other similar studies were used as a reference. One of the missing pieces of the puzzle is the discount rate. IFRS Foundation (2016b) opted for using a 5% discount rate, as this was estimated to be the average for all industries worldwide. PwC (2016c) chose to look at individual companies' credit ratings before establishing the discount rates for them. According to the Bank of Finland (Suomen Pankki 2016), the average interest for corporate loans was 2% in December 2015. This interest shall be used in the calculations because it is considered accurate enough and can be applied to all of the case companies.

The duration of the lease terms is also not available publicly. This can be estimated, however, using the information from the notes on operating lease commitments. As entities need to present the future payments divided into three maturity groups, it gives an indication of the lease terms. IFRS Foundation (2016b) made an assumption similar to this. In this study, the amounts from each maturity group shall be allocated to individual years as follows:

- a. Amounts that are due in less than a year shall be regarded as amounts of year 1.
- Amounts that become due in 1-5 years will be distributed equally into years 2, 3, 4 and 5.
- c. Amounts due in more than 5 years shall be divided by the year 5 amount to yield an approximation of the remaining years. This number will be rounded up to the

nearest year. Each of the complete years will be allocated with year 5 amount until the last incomplete year, which will receive the remaining amount.

For the sake of simplicity, the discounted values shall be calculated always for the beginning of the year. This way the amount of year 1 is already in its present value. Should the operating lease expense of the period not be reported, the 2014 operating lease commitments due in less than a year shall be used. Additionally, the operating lease expense that will be removed shall be assumed to be equal to the sum of the depreciation and finance charge that substitute it. No further adjustments will be made to the operating lease payments of the period. The calculation for this and all the other assumptions are presented in the following subchapters.

#### Lemminkäinen Corporation

The operating lease commitments in the notes are presented in their future values. The first task is to discount them to their present values. As discussed in the previous subchapter, a discount rate of 2% shall be used. The lease payments are distributed into different years using the method explained earlier. Here is the present value calculation for Lemminkäinen:

	Lemminkäinen						
Year	Year Future value Discount rate Present						
1	4,7	1	4,70				
2	1,625	1,02	1,59				
3	1,625	1,02^2	1,56				
4	1,625	1,02^3	1,53				
5	1,625	1,02^4	1,50				
6	0,3	1,02^5	0,27				
	11,5		11,16				

Figure 7. Present value calculation for Lemminkäinen's operating leases.

In the case of Lemminkäinen, the value of future payments of years 1-5 was 6.5 million EUR. This was divided into four years and the amount for each of the years 2, 3, 4 and 5 was 1.625 million (Figure 7 above). The payments after year 5 totaled 0.3 million EUR so there was no need to divide the amount into different years; the whole amount was considered to pertain to year 6.

In capitalizing the leases, the present value of all future operating lease payments, in this case 11.2 million EUR, is recorded in assets (in property, plant and equipment) and liabilities (current and non-current liabilities). Leased assets are often classified according to

the underlying assets, for example in machinery and equipment or vehicles. Current liabilities will increase by the first year's amount, 4.7 million, while non-current liabilities grow by 6.5 million.

Next, the operating lease expense of the period should be removed and replaced with depreciation and finance expense. Lemminkäinen has not reported a breakdown of the lease expense and the amount of short-term operating lease commitments shall be used instead. The commitments were 6.1 million EUR in 2014. This amount is removed from other operating expenses. The finance expense of the period will be 2% of this amount, in accordance with the assumptions presented earlier. This results in a finance expense of 0.1 million EUR. The remaining 6.0 million EUR are recorded in depreciation expense of the period. Table 9 below presents the changes in the figures of Lemminkäinen as a result of lease capitalization.

Table 9. Comparison of Lemminkäinen Corporation's figures.

million EUR	Donortod	Restated	Difference		
IIIIIIOII EUK	Reported	Restated	MEUR	%	
Property, plant and equipment	149.1	160.3	+11.2	+7.5	
Current financial liabi- lities	131.6	136.3	+4.7	+3.6	
Non-current financial liabilities	123.1	129.6	+6.5	+5.3	
Other operating expenses	140.2	134.1	-6.1	-4.4	
Depreciation expense	38.0	44.0	+6.0	+15.8	
Finance expense	54.5	54.6	+0.1	+0.2	

The complete restated financial statements are presented in Appendix 1. The overall effect on the balance sheet is that both sides increase by 11.2 million EUR. Property, plant and equipment will increase by 7.5%, current financial liabilities by 3.6% and non-current liabilities by 5.3%. Other operating expenses in the restated financial statements are 4.4% lower than in the reported income statement. Depreciation expenses experience the biggest change: an increase of 15.8%. Although the net profit of the period stays the same, some profitability ratios will change. This will be discussed in chapter 4.3.

#### YIT Corporation

The same assumptions and methods were used to calculate the present values of YIT's operating lease commitments (Figure 8 on the following page). The payments due in over 5 years (29.6 million EUR) were placed in the sixth year (the amount equal to fifth year's

amount) and seventh year (the remainder). The present value added up to 120.3 million EUR, whereas the future value was 126.9 million.

		YIT	
Year	Future value	Discount rate	Present value
1	20,9	1	20,90
2	19,1	1,02	18,73
3	19,1	1,02^2	18,36
4	19,1	1,02^3	18,00
5	19,1	1,02^4	17,65
6	19,1	1,02^5	17,30
7	10,5	1,02^6	9,32
	126,9		120,25

Figure 8. Present value calculation for YIT's operating leases.

The current liability amount is 20.9 million and non-current 99.4 million EUR. The total amount of 120.3 million EUR is recorded to PPE when restating the financial statements (Table 10). The operating lease expense was 23.5 million EUR in 2015 and in the restated financial statements it will be distributed to a finance expense (2% of the amount, 0.5 million EUR) and a depreciation expense (the remaining 23.0 million EUR).

Table 10. Comparison of YIT Corporation's figures.

million EUR	Reported	Postatod	Difference		
IIIIIIIIIII EUR	Reported	Residieu	Restated MEUR		
Property, plant and equipment	47.3	167.6	+120.3	+254.3	
Current financial liabilities	266.1	287.0	+20.9	+7.9	
Non-current financial liabilities	385.1	484.5	+99.4	+25.8	
Other operating expenses	286.0	262.5	-23.5	-8.2	
Depreciation expense	12.1	35.1	+23.0	+190.1	
Finance expense	14.3	14.8	+0.5	+3.5	

YIT's figures change radically when comparing the reported and restated financial statements. This is because the group does not have many owned assets and therefore the reported amounts of PPE and depreciation are fairly low. The addition of operating leases increases PPE amount by more than 250% and almost triples the depreciation charge. Both current and non-current financial liabilities rose considerably, by 7.9% and 25.8%, respectively. The effect on other operating and finance expenses, too, was stronger than in the case of Lemminkäinen.

#### SRV Group Plc

SRV has a high proportion of operating lease commitments due in more than five years and therefore, applying the same calculation methods as before, the commitments are spread into 10 years (Figure 9 below). The total present value of the lease payments is 21.2 million EUR.

	SRV					
Year	Future value	Discount rate	Present value			
1	3	1	3,00			
2	2,25	1,02	2,21			
3	2,25	1,02^2	2,16			
4	2,25	1,02^3	2,12			
5	2,25	1,02^4	2,08			
6	2,25	1,02^5	2,04			
7	2,25	1,02^6	2,00			
8	2,25	1,02^7	1,96			
9	2,25	1,02^8	1,92			
10	2,1	1,02^9	1,76			
	23,1		21,24			

Figure 9. Present value calculation for SRV's operating leases.

This total present value is added to property, plant and equipment on the balance sheet, which more than doubles the asset (Table 11). Additionally, current liabilities will be increased by the short-term amount of 3 million EUR and non-current with the long-term amount of 18.2 million EUR. Total financial liabilities increase by 7.1%. The operating lease expense reported by SRV in 2015 was 2.8 million EUR. This amount is deducted from other operating expenses and distributed into a depreciation (98%) and a finance expense (2%), as shown in the table below.

Table 11. Comparison of SRV Group's figures.

million EUR	Banartad	Restated	Difference		
IIIIIIIIIII EUR	Reported	Resialeu	MEUR	%	
Property, plant and equipment	10.7	31.9	+21.2	+198.1%	
Current financial liabi- lities	102.6	105.6	+3.0	+2.9%	
Non-current financial liabilities	163.2	181.4	+18.2	+11.2%	
Other operating expenses	13.8	11.0	-2.8	-20.3%	
Depreciation expense	3.5	6.2	+2.7	+77.1%	
Finance expense	11.8	11.9	+0.1	+0.8%	

#### 4.3 Effects on Key Financial Ratios

As mentioned in the earlier chapters, the effect of IFRS 16 was investigated on three preselected financial indicators. These were gearing, current ratio and EBITDA. The numbers used in the calculations are taken from the reported and restated financial statements (Appendix 1). In the following tables, the ratio based on reported figures is presented first (A), followed by the ratio computed per the restated financial statements (B). The last column indicates the percentage change from A to B.

The gearing ratios of the companies increased by differing amounts. YIT had the highest gearing ratio of 101.1 in 2015 and as a result of the restatement the ratio grew by 22.7% to 124.1 (Table 12 below). The gearing ratios of Lemminkäinen and SRV increased by around 8.6% to 36.5 million EUR and 9.1% to 90.9 million, respectively. YIT's ratio increased the most due to the restatement and its gearing position deteriorated compared to the competitors. All of the companies' gearing ratios got worse because of the increase in current financial liabilities.

Table 12. Comparison of gearing ratios (%) prior to and post-restatement.

Company	Gearing (A)	Gearing (B)	% change
Lemminkäinen	33.6	36.5	+8.6%
YIT	101.1	124.1	+22.7%
SRV	83.3	90.9	+9.1%

When it comes to the current ratios, none of the companies experienced big changes. The restated current ratios very only a little worse than the reported current ratios (see Table 13 below). The ratios declined by 0.6–1.8%. The three companies were already quite similar in terms of their reported current ratios, and the restatement neither improved nor worsened any one company's position in relation with the others.

Table 13. Comparison of current ratios prior to and post-restatement.

Company	Current ratio (A)	Current ratio (B)	% change
Lemminkäinen	1.57	1.56	-0.6%
YIT	1.67	1.64	-1.8%
SRV	1.59	1.57	-1.3%

As anticipated, the EBITDA figures increased as a result of the restatement of the financial statements. The EBITDA of YIT increased significantly by more than 25% from 93.7 to

117.2 million EUR (Table 14). Lemminkäinen and SRV did not experience such a drastic improvement. Lemminkäinen's EBITDA grew by 8.1% to 81.4 million EUR, whereas SRV's figure increased by 10.1% to 30.7 million EUR.

Table 14. Comparison of EBITDA figures in million EUR prior to and post-restatement.

Company	EBITDA (A)	EBITDA (B)	% change
Lemminkäinen	75.3	81.4	+8.1%
YIT	93.7	117.2	+25.1%
SRV	27.9	30.7	+10.1%

The restated EBITDA margins are presented below (Table 15). The percentage changes are the same as for the euro-amount EBITDAs but it is interesting to see how these often reported ratios increase and how the companies compare to each other. The EBITDA margins of Lemminkäinen and SRV both increased to 4.3% as a result of lease capitalization. YITs margin improved the most and after the restatement it is 2.5pp ahead of its competitors in terms of EBITDA margin.

Table 15. Comparison of EBITDA margins (%) prior to and post-restatement.

Company	EBITDA margin (A)	EBITDA margin (B)	%-point change
Lemminkäinen	4.0	4.3	+0.3pp
YIT	5.4	6.8	+1.4pp
SRV	3.9	4.3	+0.4pp

#### 5 Conclusions

The objective of this thesis was to analyze the effect that the new accounting standard IFRS 16 will have on Finnish construction industry. This was accomplished by restating the balance sheets and income statements of three of the largest companies in the construction industry and analyzing the effects of that restatement on the companies' financial ratios. The conclusions of the research are presented in the next three paragraphs, followed by comparison with other studies. The last paragraphs discuss the trustworthiness of the study, provide ideas for possible future theses and describe how the thesis process has contributed to the author's learning and professional development.

The leasing situations of the three companies were very different from each other at the end of 2015. The lease portfolio of SRV Group Plc consisted of only operating leases, which amounted to 23.2 million EUR. YIT had also clearly opted for operating leases, as they represented 99.8% of total lease portfolio. The total amount of operating lease commitments at the end of 2015 was 126.9 million EUR. Lemminkäinen was the only company with a substantial amount of finance leases at 34.8 million EUR. It also had operating lease commitments worth 11.5 million EUR. Based on this setting, one could expect differing results from the restatement of financial statements. It is evident that the new standard will not affect these three companies to the same extent.

As a result of the restatement of financial statements, some items experienced a decrease while others increased. The property, plant and equipment experienced a significant increase in the cases of SRV and YIT - the amount tripled compared to the reported figures. Lemminkäinen's PPE grew by a much smaller percentage (7.5%), as the amount of PPE was high to begin with. The current and non-current financial liabilities increased the most for YIT, as it had the largest amount of operating leases. The current financial liabilities rose by 7.9% and non-current by 25.8%. SRV had a high proportion of long-term operating lease commitments, which resulted in an increase of 18.2 million EUR, or 11.2%, in non-current liabilities while current liabilities increased by 2.9%. Lemminkäinen's current and non-current financial liabilities grew by 3.6% and 5.3%, respectively. The total amount of assets increased for all companies. Lemminkäinen experienced a relatively small increase of 1% while SRV's assets rose by 3% and YIT's by 6%.

The impact on the companies' financial ratios varied according to the variations in the key items described in the previous paragraph. YIT increased their gearing ratio by 23%, whereas the other companies' ratios grew by a more modest 9%. The current ratios were not affected as much; they increased by 1-2%. When it comes to EBITDA margins, the

most significant increase was that of YIT, from 5.4% to 6.8% (+1.4pp). Lemminkäinen's and SRV's margins grew by 0.3pp and 0.4pp, respectively. YIT had the highest amount of non-recorded lease obligations as of December 2015 among the three companies, which explains the higher increases in both debt and EBITDA.

#### Discussion

Many international studies have been conducted on the effects of capitalizing leases. The methods used in them vary, although many utilize the constructive capitalization technique introduced in 1991. The conclusion of these studies has been that for companies with a high amount of off-balance sheet leases lease capitalization greatly increases the amount of financial debt. Companies with little or no operating leases do not experience much difference in their balance sheets. Most of these studies have been conducted before the publication of IFRS 16.

According to a recent PwC study (2016c) on how different industries are affected by lease capitalization, construction industry does not make it to the top 10 but is nevertheless expected to be highly impacted. The estimated median increase in debt is 14%. The total amount of financial debt of the three companies in this study increased by 13% mainly because of YIT, while the average increase rate was 10%. The same study by PwC estimated a median increase of 8% in EBITDA for the construction industry. Based on the results of this thesis, Finnish construction companies could expect an increase of around 14%. The main methodological differences between this thesis and the afore-mentioned PwC study are the amount of companies investigated (3 vs 3,199) and their locations (Finland vs global). However, the results show similarities between the studies.

#### Trustworthiness and generalizability

The general results of this thesis can be applied to any industry or company that has significant off balance sheet leases. However, the amounts and percentage changes presented in the thesis are unique to the case companies. The magnitude of the effects will vary depending on, among other things, the size of the company and the proportion of capitalized leases out of all financial liabilities. It should also be taken into account that the study utilized many assumptions. Therefore, the results are only indicative and should be interpreted accordingly. Accurate results could be achieved only if one had access to the lease contracts of the case companies.

#### Future use

The results of this thesis can be utilized in future research into the capitalization of operating leases. They can be especially beneficial to a research related to the construction industry. One interesting way to continue this research would be to gain access to the internal leasing information of one of the case companies of this study and to perform an effects analysis based on accurate calculations. The results of such analysis could then be compared with the restated financial statements presented in this thesis. This could give the company valuable information on how its real situation differs from the estimations made by analysts.

#### Professional development

During the process of studying the effects of lease capitalization and writing the thesis, the author grew as a professional and developed her analytical skills. She gained a good understanding of the current and new leasing standard. She was surprised to find how ambiguous some paragraphs of these standards can be. The interpretation of the new standard required outside sources, as some parts were too vague. This made her realize just how important IFRS accounting experts are and that it might be a possible career path for her.

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# **Appendices**

**Appendix 1. The Reported and Restated Balance Sheets and Income Statements** 

# Consolidated Income Statement - Lemminkäinen Corporation

EUR million	Reported	Restated	Var. %
Net sales	1,879.0	1,879.0	0.0 %
Other operating income	11.0	11.0	0.0 %
Change in inventories of finished goods and work in progress	-81.1	-81.1	0.0 %
Production for own use	0.1	0.1	
Use of materials and services	-1,299.6	-1,299.6	0.0 %
Employee benefit expenses	-294.9	-294.9	0.0 %
Depreciation and amortisation	-38.0	-44.0	15.8 %
Impairment	-0.4	-0.4	0.0 %
Other operating expenses	-140.2	-134.1	-4.4 %
Share of profit in associates and joint ventures	1.4	1.4	0.0 %
Operating profit	37.3	37.4	0.3 %
Financial income	33.9	33.9	0.0 %
Financial expenses	-54.5	-54.6	0.2 %
Total financial income and expenses	-20.6	-20.7	0.5 %
Profit before taxes	16.7	16.7	0.0 %
Income taxes	-9.4	-9.4	0.0 %
Net profit for the financial year	7.2	7.2	0.0 %

Source: Audited financial statements 2015 including notes, analysis

#### **Consolidated Balance Sheet - Lemminkäinen Corporation**

EUR million	Reported	Restated	Var. %
ASSETS			
Non-current assets			
Property, plant and equipment	149.1	160.3	8%
Goodwill	53.1	53.1	0%
Other intangible assets	14.0	14.0	0%
Investments in associates and joint ventures	4.7	4.7	0%
Available-for-sale financial assets	2.7	2.7	0%
Deferred tax assets	36.9	36.9	0%
Other non-current receivables	0.5	0.5	0%
Total non-current assets	261.0	272.2	4%
Current assets			
Inventories	402.0	402.0	0%
Trade and other receivables	241.9	241.9	0%
Income tax receivables	2.7	2.7	0%
Cash and cash equivalents	127.9	127.9	0%
Total current assets	774.5	774.5	0%
TOTAL ASSETS	1035.5	1046.7	1%

### **EQUITY AND LIABILITIES**

Share capital	34.0	34.0	0%
Share premium account	5.7	5.7	0%
Invested non-restricted equity fund	91.4	91.4	0%
Hybrid bonds	111.6	111.6	0%
Translation differences	-25.9	-25.9	0%
Retained earnings	153.4	153.4	0%
Profit for the financial year	7.2	7.2	0%
Non-controlling interests	0.1	0.1	0%
Total equity	377.6	377.6	0%
Non-current liabilities			
Interest-bearing liabilities	123.1	129.6	5%
Deferred tax liabilities	14.7	14.7	0%
Pension obligations	0.1	0.1	0%
Provisions	26.6	26.6	0%
Other non-current liabilities	0.5	0.5	0%
Total non-current liabilities	164.9	171.4	4%
Current liabilities			
Interest-bearing liabilities	131.6	136.3	4%
Provisions	13.1	13.1	0%
Advance payments received	105.4	105.4	0%
Trade and other payables	242.1	242.1	0%
Income tax liabilities	0.8	8.0	0%
Total current liabilities	492.9	497.6	1%
Total liabilities	657.8	669.0	2%
TOTAL EQUITY AND LIABILITIES	1035.5	1046.7	1%

Source: Audited financial statements 2015 including notes, analysis

# **Consolidated Income Statement - YIT Corporation**

EUR million	Reported	Restated	Var. %
Revenue	1,732.2	1,732.2	0%
Other operating income	16.0	16.0	0%
Change in inventories of finished goods and in work in	-116.7	-116.7	0%
Production for own use	0.6	0.6	0%
Materials and supplies	-233.5	-233.5	0%
External services	-774.9	-774.9	0%
Personnel expenses	-244.0	-244.0	0%
Other operating expenses	-286.0	-262.5	-8%
Share of results in associated companies	0.0	0.0	0%
Depreciation, amortisation and impairment	-12.1	-35.1	190%
Operating profit	81.6	82.1	1%
Financial income	1.5	1.5	0%
Exchange rate differences (net)	-7.5	-7.5	0%
Financial expenses	-14.3	-14.8	3%
Financial income and expenses, total	-20.3	-20.8	2%
Profit before taxes	61.3	61.3	0%
Income taxes	-14.0	-14.0	0%
Net profit for the financial year	47.2	47.2	0%

Source: Audited financial statements 2015 including notes, analysis

# **Consolidated Balance Sheet - YIT Corporation**

EUR million	Reported	Restated	Var. %
ASSETS			
Non-current assets			
Tangible assets	47.3	167.6	254%
Goodwill	10.9	10.9	0%
Other intangible assets	14.1	14.1	0%
Investments in associated companies and joint ventures	0.7	0.7	0%
Available-for-sale financial assets	0.4	0.4	0%
Receivables	3.7	3.7	0%
Deferred tax receivables	40.5	40.5	0%
Total non-current assets	117.7	238	102%
Current assets			
Inventories	1,528.4	1,528.4	0%
Trade and other receivables	187.6	187.6	0%
Tax receivables	10.7	10.7	0%
Cash and cash equivalents	122.2	122.2	0%
Total current assets	1,848.9	1,848.9	0%
TOTAL ASSETS	1,966.6	2,086.9	6%

# **EQUITY AND LIABILITIES**

Share capital		149.2	149.2	0%
Legal reserve		1.5	1.5	0%
Other reserves	0.0		0.0	0%
Treasury shares		-8.3	-8.3	0%
Translation differences		-260.2	-260.2	0%
Fair value reserve		-0.7	-0.7	0%
Retained earnings		641.4	641.4	0%
Non-controlling interest		0.1	0.1	0%
Total equity		523.1	523.1	0%
Non-current liabilities				
Deferred tax liabilities		18.5	18.5	0%
Pension obligations		0.9	0.9	0%
Provisions		40.8	40.8	0%
Borrowings		266.1	365.5	37%
Other liabilities		10.4	10.4	0%
Total non-current liabilities		336.7	436.1	30%
Current liabilities				
Trade and other liabilities		700.3	700.3	0%
Income tax liabilities		1.3	1.3	0%
Provisions		20.2	20.2	0%
Borrowings		385.1	406	5%
Total current liabilities	1	,106.8	1,127.7	2%
Total liabilities	1	,443.5	1,563.8	8%
TOTAL EQUITY AND LIABILITIES	1	,966.6	2,086.9	6%

Source: Audited financial statements 2015 including notes, analysis

## **Consolidated Income Statement - SRV Group Plc**

		Resta-	
EUR million	Reported	ted	Var. %
Revenue	719.1	719.1	0.0 %
Other operating income	1.8	1.8	0.0 %
Change in inventories of finished goods and work in progress	24.7	24.7	0.0 %
Use of materials and services	-639.1	-639.1	0.0 %
Employee benefit expenses	-64.6	-64.6	0.0 %
Share of profits of associated and joint venture companies	-0.1	-0.1	0.0 % 77.7
Depreciation and impairments	-3.5	-6.2	% -20.2
Other operating expenses	-13.8	-11.0	%
Operating profit	24.4	24.5	0.4 %
Financial income	5.0	5.0	0.0 %
Financial expenses	-11.8	-11.9	0.8 %
Total financial income and expenses	-6.8	-6.9	1.5 %
Profit before taxes	17.6	17.6	0.0 %
Income taxes	-3.6	-3.6	0.0 %
Net profit for the financial year	14.0	14.0	0.0 %

Source: Audited financial statements 2015 including notes, analysis

# **Consolidated Balance Sheet - SRV Group Plc**

		Resta-	
EUR million	Reported	ted	Var. %
ASSETS			
Non-current assets			
Property, plant and equipment	10.7	31.9	198%
Goodwill	1.7	1.7	0%
Other intangible assets	1.9	1.9	0%
Shares in associated and joint venture companies	206.6	206.6	0%
Other financial assets	11.7	11.7	0%
Receivables	0.7	0.7	0%
Loan receivables from associated companies and joint ventures	31.2	31.2	0%
Deferred tax assets	7.3	7.3	0%
Total non-current assets	271.9	293.1	8%
Current assets			
Inventories	336.6	336.6	0%
Trade and other receivables	111.9	111.9	0%
Loan receivables from associated companies and joint ventures	5.6	5.6	0%
Current tax receivables	1.6	1.6	0%
Cash and cash equivalents	35.0	35.0	0%
Total current assets	490.8	490.8	0%
TOTAL ASSETS	762.6	783.8	3%

EQUITY AND LIABILITIES			
Share capital	3.1	3.1	0%
Share premium reserve	0.0	0.0	
Invested free equity fund	141.2	141.2	0%
Fair value reserve	-1.4	-1.4	0%
Translation differences	-7.2	-7.2	0%
Other reserves	0.0	0.0	0%
Hybrid bond	45.0	45.0	0%
Retained earnings	95.7	95.7	0%
Non-controlling interests	0.8	0.8	0%
Total equity	277.2	277.2	0%
Non-current liabilities			
Deferred tax liabilities	2.3	2.3	0%
Provisions	6.3	6.3	0%
Interest-bearing liabilities	163.2	181.4	11%
Other liabilities	4.0	4.0	0%
Total non-current liabilities	175.8	194.0	10%
Current liabilities			
Trade and other payables	201.4	201.4	0%
Current tax payable	0.8	8.0	0%
Provisions	4.8	4.8	0%
Interest-bearing liabilities	102.6	105.6	3%
Total current liabilities	309.6	312.6	1%
Total liabilities	485.4	506.6	4%
TOTAL EQUITY AND LIABILITIES	762.6	783.8	3%

Source: Audited financial statements 2015 including notes, analysis

# Appendix 2. Financial Ratio Calculations

#### Financial ratios calculated on reported figures

Gearing	Lemminkäinen Current ratio	Lemminkäinen EBITDA
Interest-bearing liabilities 254,  Cash and equivalents 127,  Total equity 377,  = 33,6	$\frac{9}{6}$ Current liabilities 492,9 = 1,5	7 Operating profit 37,3 + Depreciation 38 = 75,3
YIT Gearing	YIT Current ratio	YIT EBITDA
Borrowings   651	Current liabilities 1107 - 1,0	7 Operating profit 81,6 + Depreciation 12,1 = 93,7
SRV Gearing	SRV Current ratio	SRV EBITDA
Interest-bearing liabilities 265,  - Cash and equivalents 3  Total equity 277, = 83,3	$\frac{15}{2}$ Current liabilities 309,6 = 1,5	9 Operating profit 24,4 + Depreciation 3,5 = 27,9
Financial ratios calculated on	restated figures	
Lemminkäinen	Lamaninkäinan	
Gearing	Lemminkäinen Current ratio	Lemminkäinen EBITDA
Gearing  Interest-bearing liabilities 265  Cash and equivalents 127  Total equity 377  = 36,5	Current ratio           9         Current assets 774,5 / Current liabilities 497,6 = 1,5	EBITDA
Interest-bearing liabilities 265  - Cash and equivalents 127  Total equity 377	Current ratio           9         Current assets 774,5 / Current liabilities 497,6 = 1,5	EBITDA  Operating profit 37,4 + Depreciation -44,0
Interest-bearing liabilities 265  - Cash and equivalents 127  Total equity 377  = 36,50	Current ratio     9	6 Operating profit 37,4 + Depreciation -44,0 = 81,4  YIT EBITDA  Operating profit 82.1
Interest-bearing liabilities   265	Current ratio     9	EBITDA  Operating profit 37,4 + Depreciation -44,0 = 81,4  YIT EBITDA  Operating profit 82,1 + Depreciation -35,1

= 90,9 %