Thessaloniki – Greece, November 2016

How susceptible Norwegian firm's profitability really is?

Maria Georgia Roussou
International Hellenic University
MSc in International Accounting, Auditing, and Financial Management

INTERNATIONAL
HELLENIC
UNIVERSITY

Student Name:	Maria Georgia Roussou
SID:	1107150025
Supervisor:	Dr. Koutoupis Andreas

I hereby declare that the work submitted is mine and that where I have made use of another's work, I have attributed the source(s) according to the Regulations set in the Student's Handbook.

November 2016

Thessaloniki, Greece

Abstract

This particular dissertation was written as part of the studies on the MSc in International Accounting, Auditing, and Financial Management at the International Hellenic University.

This paper concentrates in the Norwegian market and examines the relationship between the financial performance of the listed companies in Børs stock exchange and an extensive set of variables like the size of the firm, debt/EBITDA ratio, financial leverage ratio etc. Panel data from 2004 since 2015 along with regression analysiswere used for the research. Furthermore, a second stage analysis for the pre-recession, recession and post-recession period has been made, in order to determine the possible influence in the firm's profitability during these periods.

Although scientific research has been made before for the profitability's actual susceptibility for several countries and industries, no prior investigation has been made for the Norwegian market as a whole. The results indicated that during all the periods under analysis there is a negative relationship between profitability and debt/EBITDA ratio. Moreover, during the overall period (2004-2015) there is a positive significant relationship between the firms' profitability and the size of the firm- regarding its assets-, fixed asset ratio and financial leverage ratio. During the pre-recession period the size of the firm and financial leverage ratio seem to influence profitability in a positive way and also in the post-recession period the size of the firm (assets) play a significant part too. On the other hand, during the recession period, results quite naturally indicates that financial leverage ratio influences Norwegian firms' profitability and the asset factor is nowhere to be found.

Keywords

Norway, profitability, recession, ratios, size, age, GDP

Maria Georgia Roussou

30/11/2016

Acknowledgments

After a year on this MSC and after this Master thesis is finally completed, acknowledging all individuals who should be recognized seems like an impossible task. However, there are some people who need to be named and mentioned on an individual basis, without whom it would not have been possible to get to this stage.

It is a great pleasure to acknowledge the help and guidance of my supervisor Dr. Koutoupis Andreas, who despite his busy and complex schedule, he was present at all stages of the work presented in this Master thesis. He was there to encourage and support me spending a great amount of time of inspirational advice and constructive criticism of the highest quality. Furthermore, I would like to thank Dr. Sikalidis Alexandros for his implicit support and guidance. Last but not least, Mrs. Chalkia Angeliki for her assistance throughout the whole Master thesis.

I would like to express my sincere gratitude to my fellow students for all the "brain-storming" and all the great time spending together. It is always very productive to socialize with that kind of intelligent and remarkable people. I also wish to thank everybody at the International Hellenic University for their substantial support during this MSC.

Last but not least, special thanks to my friends, co-workers and family who have unfailingly provided me with the emotional support that I was in need of. They actually played the most significant part for me to believe in myself and accomplish all this. Hopefully, I have taken a very careful inventory not only from the educative perspective but also from the emotional one too.

"To state the facts frankly is not to despair the future nor indict the past. The prudent heir takes careful inventory of his legacies and gives a faithful accounting to those whom he owes an obligation of trust. "

John F. Kennedy

Table of Contents

1. INTRODUCTION

The main variable for economic decisions to be made is profit. Several surveys and studies have been carried out throughout the years over the subject of profit, covering every possible connection. Hence, the factors that affect the profitability of the companies tried to be identified. Parameters such as the type of the industry, size of the company, the company's advertising costs,age, the debt ratio on assets and the capital ratio to assets are known as the important factors of profitability.

As aforementioned, the most vital criteria for a company's existence is profitability. In this paper the corporate financial performance has been measured by a profitability ratio (i.e., return on resources (ROA)). As profitability is an extremely crucial variable for a firm, since depending on its high or low levels it will attract more lenders, this study tries to examine whether financial performance; represented by "ROA"; is related to some independent factors in the Norwegian economy. More specifically, these variables are going to be "size of the firm (log (assets))", "size of the firm (log (sales))", "firm's age (log (age))", "fixed asset ratio", "debt ratio" , "financial leverage", "debt/EBITDA", "external auditing firm (audit)", "growth rate (assets)", "degree of operating leverage" and finally "economic growth rate". Based on all these facts, 11 null hypotheses are going to be developed in order to determine the most significant factors.

Totally, four analyses are going to be conducted; first in the overall period under research from 2004 until 2015, then a pre-recession period analysis (2004-2006), a recession period analysis (2007-2009) and last but not least a pre-recession period analysis (2010-2012). Subsequently, since the worldwide economic crisis affected more or less every country, it is hoped for the level of effect on the Norwegian firm's profitability to be determined.

Hopefully, the results are going to be extracted thoroughly in order to identify any possible correlations betweenthe independent variables aforementioned and the Norwegian firms' profitability. Thus, a modest contribution to this financial system that is considered to be a pillar of the EU environment is going to be made.

2. PROFITABILITY

2.1 The importance of profitability

Profitability comprises of two words profit and ability. It is important to separate between the term Profit and Profitability though. The term Profit, from accounting perspective, arises by deducting from the total amount of income all expenditures in earning, while the term Profitability is characterized as the ability of an investment to gain some amount of profit by its usage. The forecasts on Profitability are uncertain. The Trade-off hypothesis predicts that profitable firms ought to be more highly levered to balance corporate expenses Ross (1977)[1]. Titman and Wessels (1988)[2]and Fama and French (2002)[3] on the other hand, observed profits and leverage to be correlated in a negative way.

Profitability is the essential objective of all business and organizations. Without profitability the business won't make due over the long haul. So measuring present and past profitability and anticipating future profits is vital.

Whether you try to record profitability for the past period or anticipating profitability for the coming time frame, measuring profit is the most vital measure of the success of the business. A business that is not profitable cannot survive. On the contrary, a business that is exceedingly profitable can remunerate its owners with a vast return for their investment.

Maximizing profits is a standout amongst the most vital errands of the business managers. Managers always search for approaches to change the business to enhance profitability. These potential changes can be broke down with a pro forma income statement or a Partial Budget. Incomplete planning permits you to assess the effect on profit of a little or incremental change in the business before it is executed.

[1] Ross, S.A., 1977. The determination of financial structure: The incentive-signaling approach. Bell Journal of Economics 8, 23-40.

[2] Titman, S., Wessels, R., 1988. The determinants of capital structure choice. Journal of Finance 43, 1-18.

[3] Fama, E.F., French, K.R., 2002. Testing trade-off and pecking order predictions about dividends and debt. Review of Financial Studies 15, 1-34.

An assortment of Profitability Ratios can be utilized to evaluate the financial strength of a business. These ratios, created by data taken by the income statement, can be contrasted with industry benchmarks.

The significance of the enterprises' owners has been lately expanded, as they are the ones who contribute their own particular capital assets, which is rather than the past financial demonstrate, where public property dominated. Nowadays, the owner infers particular benefits accruing from an expansion in the firm's capital. Therefore, he is specificallyintrigued by the firm's effective functioning and also by its market position. Alongside financial duty, he additionally bears lawful obligation, which is associated with the hazard and the results of running a venture. Over the span of time, it has been observed that one of the principle conditions for the entity's rational functioning is the efficiency in dealing with the financial elements. That is the reason dealing with any entity ought to focus on distinguishing and acknowledging set objectives of the entity's functioning. Every choices made in the venture's operations will be considered through the crystal of its original purpose and it will motivate each and every decision.

The literature shows essential objectives of businessactivity. These are among others, development, growth and increase of the firm's value and profit maximization. Friedman accepts that the main goal of the enterprise should be to maximize the owners' profit.[4]To accomplish this, analyzing the level of effectiveness of an economic entity is very crucial. Effectiveness implies productivity, capability and a positive outcome which is most of the times profit. Running any firm depends on accomplishing financial effectiveness. This effectiveness comes about because of the choices made, which implies that effectiveness is significant to a firm because the appropriate evaluation and measurement of effectiveness distinguishing the zones where assets are expanding the most. Proper estimation and assessment of effectiveness empowers one to construct reasonable frameworks to evaluate a firm.

[4] Milton Friedman, "The social responsibility of business is to increase its profits," New York Times Magazine, September 13, 1970, pp. 122-126.

In today's economy, where strong rivalry dominates and where all procedures are exceptionally reliant on data, a firm's success requires particular estimation and administration frameworks. To conform to the guideline of rational economics aspects, a firm must methodically examine its financial results and analyze its profitability. While deciding a firm's profitability index, we can utilize numerous variations of the numerator and denominator to acquire more data about an organization.

However in order to acquire the most data, we can apply the whole scale of profitability indexes, thanks to which we can acquire a broad range of helpful information:

- Economic return, or return on assets
- Financial profitability, or return on invested capital
- Sales profitability, or return on sales

Various components influence a firm's profitability. Their impact changes in the short term, and also in the long haul. Perceiving these elements will be exceptionally supportive in dealing with a business substance. These determinants can be of a negative or a positive nature. In the first case, an imperative part tumbles to the firms' manager, who must attempt all endeavors to enhance the financial results of the organization.

2.2 Theoretical frameworks and profitability drivers

Amid the 1980's, management accounting researchers began the exploration on the effect on expenses from different factors than volume and their significance (Banker and Johnston, 2007). While researchers at first centered on cost drivers, later on they extended their concentration to cover income and profit drivers. Cost drivers have additionally been portrayed as income drivers, as the cost drivers likewise may create value for the client. Diverse perspectives on cost and profit drivers have been portrayed by various analysts. As cited in Banker and Johnston

"there is no single, widely accepted, unifying theory of taxonomy of cost, (..) and profit drivers and their underlying relationships".[5]

Customarily, in both accounting and economics, theoretical models of cost conduct expected that volume was an adequately proper cost driver. In the 1980's, analysts understood that non-volume factors were of principal and key significance to both managers and the design of management accounting information systems (Banker and Johnston, 2007). As indicated by key cost management, expenses are driven by a wide range of variables; some of them interrelated, in complicated relationship. Volume is a critical cost driver, however for strategic analysis, it is generally not the most valuable method for clarifying cost behavior (Shank and Govindarajan, 1993).[6]

The way that non-volume factors may influence the expenses and profitability drastically is critical. Firstly, a manager may take better vital choices when he or she considers a few factors. Sound knowledge about the hidden cost drivers may empower the organization to expand its profits and bolster the organization's general objective (Banker and Johnston, 2007).

Furthermore, it has significantly influenced the management accounting frameworks. The advantage of the usual management accounting systems (MAS) was initially addressed by the American professors Thomas Johnson and Robert Kaplan. They contended that the customary MAS lost their importance in an inexorably dynamic environment (Johnson and Kaplan, 1987)[7]. Managers depended on information that came too late, were excessively aggregated and too impacted by outer reporting requirements. This was not especially valuable for supporting decisions, for example, what and how to deliver, and part of the arrangement was to incorporate a more extensive arrangement of cost and profitability factors.

[5]Banker, R. D., & Johnston, H. H. (2007). Cost and Profit Driver Research. I C. S. Chapman, A. G. Hopwood, & M. D. Shields, *Handbook of Management Accounting Research* (ss. 531-556). Amsterdam: Elsevier Ltd.

[6]Shank, J., & Govindarajan, V. (1993). *Strategic Cost Management: New Tool for Competitive Advantage.* New York: The Free Press.

[7]Johnson, H. T., & Kaplan, R. S. (1987). *Relevance Lost.* Boston: Harvard Business School Press.

2.3 Research background

The difference amongst income and different expenses is the accounting profit. Profitability is considered as the most complex component for an organization to be comprehended and assessed. There are some ratios that demonstrate a firm's profitability, having ascertained the aggregate expenses and wage assess, operational efficiency, firm's pricing policies etc.

In a more general manner, profitability ratios are considered as the primary financial ratios of an organization so that can assess the alluring performance of a firm in profitable circumstances. For the most areas, if a profitability ratio is generally higher than the required ratio for different competitors, is shown as the better performance of the organization (Saghafi and Aghaei, 1994)[8]. On the contrary, so as to relate the taxes to the profitability records, the debts and the costs of a company can be alluded. Debt is one of the three principle segments of accounting expression and the capital structure of most of the organizations. Regarding tax saving, legitimate utilization of debt is relied upon to be brought about in profitability growth for a firm.

Regularly expanding development of monetary exercises and its unpredictability and also various alluding to shareholders' financial data have led for a new analytical and modern framework to be created. Financial statements are the methods by which the managers can evaluate their control outcomes on the accessible assets. An organization's accounting records is not accessible for the shareholders and a large portion of them depend on their own choices over financial statements. Utilizing unique means, the managers demonstrate their own particular income smoothed.

Moreover, computing return after tax, for example, Return on Equity (ROE) and Return on Assets (ROA) are generally utilized for evaluating firm's performance.

[8]Saghafi, A., & Aghaei, M.A. (1994). Behavior of Accounting Profit, *Studying Accounting and Auditing, 9*, 5-21.

In all countries, governments are responsible towards the general population to address some of their issues and requests like jobs, price stability, national and internal security, economic, political and social stability, financial recovery etc. and they would require adequate budgetary resources keeping in mind the end goal to accomplish these essential issues. Additionally, building up a government's commitment in the field of financial and social manner has increased the government's consumptions and financing and such expenses do require trustable and significant assets.

Thus, verifiably, the development of governmental societies depended on the tax was gotten under various structures and has been step by step framed as a logical angle (Eskandari et al., 2010)[9]. These days, tax revenues are of the most noticeable income source in the financial plan of the majority of governments – especially for developed countries – and it is examined as a monetary index in ranking nations. While in undeveloped nations, the government's dependence is on the incomes picked up from offering common and underground assets like raw petroleum, which is really considered as offering the capital, have created structural issues. In spite of the vacillations on the planet costs of natural resources, a country's budget would be influenced and achieving the budgetary objectives will be complex and quite difficult.

Nowadays, tax returns are the best and the most trustable techniques to take care of the costs related to the government. The more prominent accomplishment to this income under a reasonable and proficient tax framework is essential. Considering that the tax impacts the financial existence of the general population and residents of a nation more tangibly contrasting different parameters, it is more considered by the general population instead of some other monetary arrangement.

There are a few definitions for tax, which is really viewed as a kind of installment for the social life cost. The definition in the International Monetary Fund is “the tax is included of compulsory, irrevocable and non-compensated payments

[9]Eskandari, M. (2010). Expected Effects of Tax Reintroduction on Total Revenue in Iran Economics, *Seasonal Research Journal of Tax*, *14 (62).*

which are required by the government for public purposes." Regarding tax collection and general legislation, by altering income and wealth imbalances, the state is searching for a way to equip financial resources against governmental consumption.

In like manner, tax is considered as one of the principle subjects in macroeconomics and an effective monetary leverage for adjusting the economy in nations. As financial specialists and researchers underlining on applying monetary strategies, lessening the government reliance on natural resources and alluding to tax returns and expanding normal rate of tax for speeding the procedure of financial development growth and social welfare, the need to support, in another word defending tax gathering, considering the attributes of every general public, is becoming one of the necessities.

In order to accomplish these elements, distinguishing and detecting tax avoidance and subsequently forestalling and decreasing tax avoidance are the techniques to expand the tax returns. The verifiable marvel of tax avoidance from the related expense installment by falling back on various techniques has brought out genuine inconveniences for each and every nation and the government, so that arranging and giving some ways with a specific end goal to diminish and keep this phenomenon, is a standout amongst the most critical tax frameworks considered for each nation.

2.4 Variables influencing profitability

The profit is considered as the vital data for settling on monetary choices. The studies and the reviews have been done over the subject of profit are of the best research endeavors amid accounting history. Managers, analysts and investors use some means in order to assess management effectiveness, and also some instruments for evaluating and predict the decision process. Therefore, numerous scientists attempted to recognize the variables that influence the organizations' profitability. Parameters, for example, the sort of the business, size of the

organization, age, the capital ratio to assets, debt ratio on assets are known as the compelling components of profit.

The type of the industry

Caloghirou et al. (2004)[10] has researched Greek organizations for 3 economic periods amid 1994-1996. The aftereffect of their examination showed that both industry sector and the organization's internal assets impact the productivity. Be that as it may, the impact of the organization's assets is more prominent. Besides, the impact of the business sector for small and medium organizations has been less than the impact on the big ones.

Based on the aforementioned, business sector sometimes can be a influencing factor of profitability. In this paper though, business sector will not be examined due to the lack of data in the listed companies.

The size of the organization

Kouser (2012) showed that there is a less significant and negative impact on profitability of the listed companies in Pakistan stock exchange.

Palangkaraya et al. (2005) trusts that the size of the Australian organizations influence the profitability of the organizations. Bokhari et al. (2005)[11] have brought up in the research that, in the UK, the big organizations are much steady in profitability contrasting with the smaller ones, while the profitability of the smaller organizations are liable to conditions and the market vacillations.

Age of the organization

J. Ilaboya researched Nigerian listed companies and his study found that there is a significant positive relationship between firm age and profitability.

[10]Caloghirou, Y., Protogerou, A., & Spanos, Y. (2004). Industry-Versus Firm specific Effects on Performance: Contrasting SMEs Large-sized Firms, *European Management Journal, 22(2),* 231–243.

[11]Bokhari, J., C., Hudson, R., & Keasey, K. (2005). The Predictive ability and Profitability of technical trading rules: Does company size matter? *Economics Letters*, *86,* 21-27.

Akben-Selcuk's objective was to investigate firm's age influence on Turkish listed companies. The findings concluded that there is a negative and raised relationship between firm age and profitability measured by ROA, ROE or profit margin. This proposes that younger companies begin to see a decrease in their profitability from the earliest starting point yet they may become to be profitable again at an older age.

Debt ratio to assets

In light of financing through debt, the organizations' managers might want to fulfill the financial requirements of the organization along these lines. Be that as it may, financing through debt would bring about benefit cost which causes the organizations to spent part of their incomes for financing costs later on years. Thusly, their future profitability will be decreased (Seyednezhad and Aghaei, 2002)[12].

3. LITERATURE

Andreas Stierwald (2009) researched the determinants of firm profitability of Australian firms for the period 1995-2005, the research applies random and fixed effect regression and corrects for dynamic panel bias. The paper's profit model is consisting by a time-variant, firm-level measure for total factor productivity obtained from an auxiliary cost function estimation. After analyzing the given data he concludes that lagged profit, productivity level and size, have a positive and large impact on firm profitability. Furthermore, the research confirms the forecasts of firm effect models that firm –level effects define contrasts in profitability and that the sector-wide effects have less impact. Based on financial literature contending models of firm profitability are suggested. This research has upheld both sorts of models. The SCP model hypothesizes that the level of industry concentration

[12]Seyed Nezhad Fahim, R., & Aghaei, M. (2002). The Role of Borrowing in Companies' Profitability, M.S. Thesis, Tarbiat Wenfeng Wu, Chongfeng Wu, Chunyang Zhou, Jun Wu, (2012), Political connections, tax benefits and firm performance: Evidence from China, *Journal of Accounting and Public Policy, 31(3),* 277-300

outlines firm behavior and profit, something can be interpreted as the higher the concentration in an industry the higher the profit of the industry's firms. Firm effect models consider heterogeneity inside industries. Profit's allocation depends on firm qualities.

Renato Balducci et al in 2008 performed a hazard functions analysis on a set of European firms so to determine if a stochastic relationship among financial structure and profits does exist. Debt and equity show up to impact expected profitability with an alternate degree for every country. Inside every nation, significant contrasts are recorded among listed and non-listed firms. These outcomes highlight the part of institutional elements, specifically identified with credit and stock markets, in decreasing informational asymmetries amongst financial specialists and managers.

In 2014 T.Pratheepan in his research, using a balanced panel data set of Sri Lankan listed manufacturing companies and static panel models, tried to examine profitability's determinants. ROA considered as the dependent variable whereas leverage, size, tangibility and liquidity were the independent variables. He actually concludes that leverage and liquidity have insignificant impacts on a company's profitability. On the other hand, size is statistically significant of positive relationship with profitability and tangibility is statistically significant of inverse manner. In other words, larger firms are given the chance of negotiate with their suppliers and minimize their costs and as a result increase their profits. Furthermore, firms with higher level of tangible assets have also lower levels of profitability and it indicates that firms with a tendency to invest in R&D activities, gradually innovative and have greater profitability levels.

Generally models of firm profitability are classified into two noteworthy groups, firm effect models and structure-conduct performance (SCP). On the one hand, in SPC model firm behavior and profitability are determined by each market structure. On the other hand though, in firm effect models, market structure is the outcome of the allocation of firms and their profits.

High industry concentration promotes the exertion of market power, as for example the monopoly pricing. Collaborative firms force a higher markup on those products with lower demand without agony the loss of interest to rivals. The price's maximization permits firms to be more profitable and surpass focused rates. Because of the confined amount of supply, industry concentration and high profits are connected with imperfect welfare levels. Consequently, the SCP model that was first inserted in neoclassical theory, declares that organizations in concentrated businesses are more productive and profitable than the ones in perfectly competitive markets.[13]

According to Demsetz's[14] firm hypothesis (1973), firms can be discriminated as for their level of cost or production proficiency. In other words, the fundamental assumption in firm effect models is that organizations are miscellaneous. Competent firms have a competitive advantage over the incompetent ones. Due to firm's reputation, complex firm structures, resource miscellaneous nature or even uncertainty of investments, in Demsetz's model, predominant performance can exist only for a specific timeframe. In 1982 Jovanovic[15] opposes that just efficient firms survive and stay in the market, become bigger and acquire a higher market share.[16] In the meantime, productive firms are more profitable than non-profitable ones.

Moreover, Peltzman[17] (1977) affirms that high market concentration, as high pieces of the "pie", what's more, high firm profitability happen all the while and are the aftereffect of the same cause, contrasts in profitability levels. Due to the market's aggressive function, no collusion between firms happens that limits supply or empowers firms to raise their cost above marginal costs. Thus, high firm profitability is not as a matter connected with welfare losses in firm effect models.

[13] Bain, J.S. (1951) "Relation of Profit Rate to Industry Concentration: American Manufacturing," Quarterly Journal of Economics, 65: 293–324

[14] Demsetz, H. (1973) "Industry Structure, Market Rivalry, and Public Policy," Journal of Law and Economics, 16: 1–10.

[15] Jovanovic, B. (1982) "Selection and the Evolution of Industry," Econometrica, 50: 649–670.

[16] Non-efficient firms shrink, their market share declines and, eventually, they exit the market. Theflow of entry and exit into the industry prevents domination of few very large firms.

[17] Peltzman, S. (1977) "The Gains and Losses from Industrial Concentration," Journal of Law and Economics, 20: 229–263.

During the years, many studies have taken place in the zone of profits, market structure and firm-level effects. More specifically the evidence proposes that both SCP what's more, firm effect models are conceivable. This suggests industry effects, as for example concentration and entries boundaries and firm effects, as for example, efficiency contrasts or strategic management, are vital. Based on the findings, firm-level or industry-particular impacts are observed to be the prevailing factor on a firm's profitability.

As indicated by the comprehensive survey on the topic by Frank and Goyal (2008), an indisputable proof is a long way from being come to. A portion of the discoveries are conflicting among each other and for the greater part of them it is most certainly not conceivable to give an unambiguous elucidation that backings a hypothetical clarification instead of the other. Regardless of wide proof for the pecking order approach, the debate is still vivacious.

In 2002 Fama and French, researching the relationship among leverage with profits and dividends, found that, there is no real deviation between the two speculations. Furthermore, experimental results can be undoubtedly translated by both of them. Shyam-Sunder and Myers (1994), contrasting the theories, concluded in favor of pecking order by examining US firms' capital structure. Their work has been censured by Chirinko and Singha (2000), as indicated by whom neither the pecking order nor static trade off models can clarify the findings.

One of the well-known affirmation of the pecking request models is the one by Fazzari et al. (1988). They discovered noteworthy affirmation about the tendency to internal funds, distinguishing a positive connection among income and investment and lower payouts for fiscally obliged firms. With respect to strategic assets, Kochar (1997) found particular confirmation about greater performance for firms that incline toward internal resources.

As indicated some research, market power, sales growth, size of the firm, efficiency and investment have the most grounded effect on profitability. Asimakopoulos et al (2009) have endeavored to recognize the determinants of

profitability utilizing a sample of Greek listed in the Athens Stock Exchange firms. They concluded that firm profitability was positively influenced by several determinants, for example, size of the organizations, sales growth and also investment, meanwhile it was negatively influenced by debt and current assets.

In contemplating the determinants of profit, sales income and the size of the firm are conceptualized as real determinants, macroeconomic conditions and also a business sector behavioral involving variables, for example, local supplier systems, market force and effectiveness have been taken as the determining factors in past.

4. REASONS FOR CONCENTRATING IN THE NORWEGIAN ECONOMY

A country with a highly developed economy and infrastructural and innovative development is considered to be a developed country. A great deal of parameters are considered to assess the level of development in a specific country. While the appropriate criteria for ranking countries for their degree of development still remains a subject of debate, yet the usually analyzed factors are (GDP), per capital income, level of industrialization, , standard of living, life expectancy and literacy level.

Another conspicuous term used to portray advancement of a nation is Human Development Index (HDI). The HDI joins economic measure and national income with education and life expectancy in order to frame a dependable rating. These HDI evaluations isolate the nations into four levels of human development- Very highly developed. Highly developed, Medium developed and Low developed. According to these HDI appraisals that were released on 24 July 2014 in Tokyo the World's most developed nation is Norway with a HDI of 0.944. Norway's economy is blended and perpetually developing since the beginning of industrial era. The unmistakable donor in its economy is the wealth of natural resources, for the most part oil and gas, and the also the country's exports. Norway's GDP is $277.1 billion

and $55,009 per capita. Norway has an unequivocally unified welfare framework, a life expectancy of 80.57 and to a great degree elevated high standards contrasted with other European countries. The HDI of 0.944, which has grew by 0.001 since 2013 and kept it steady in 2015, provides Norway with the first position as the most developed country among the whole world. [18]

As aforementioned, Norway is one of the world's most prosperous nations. Fisheries, metal, and oil are the most critical products. Norway spares a huge part of its petroleum-segment incomes, including profits from the halfway state-possessed Statoil and taxes from oil and gas organizations operating in Norway, in its Government Pension Fund–Global, esteemed at $900 billion. Norway is considered to be a diverse industrial society with a free market economy and generally low trade barriers. The Norwegian economy consists of service industries, including wholesale and retail trade, maritime, banking, insurance, engineering, seafood-fishing and aquaculture, transport and communications and public services.

Norwegian economy is built in frankness and transparency by implementing policies that support dynamic trade and investment. Legal and regulatory framework's quality is among the world's highest, institutionalizing the effective rule of law. Norway has a score of 70.8 economic freedom among the world rank and we can see in the diagram below, the country's trend met a continuing upturn during the last decade.

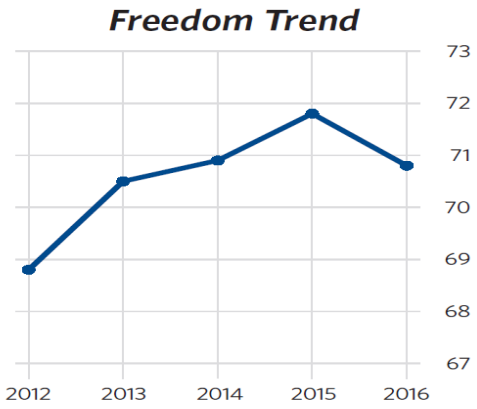


Figure 1 Norway's Freedom Trend

[18] http://listovative.com/top-15-most-highly-developed-countries-in-the-world/

5. RESEARCH METHODOLOGY

This particular study was conducted based on data of the selected companies of Norway. Using Thomson One, Bloomberg and Amadeus databases, the companies were divided at first locally, concentrating in Norway's boundaries and then the listed ones were grouped accordingly. Furthermore, while the research was conducted annual financial statements were used from the companies' websites.

Overall 172 companies were extracted from the aforementioned databases. Due to various type information unavailability, out of 172 companies, 51 were finally selected and researched. At first the study was conducted for 12 years, for the period 2004-2015. On the second stage pre-recession period 2004-2006, recession period 2007-2009 and post-recession period 2010-2012 were also researched. Multiple-regression analysis was used to determine the possible influence of various independent factors-variables on the companies' financial performance which is represented by "ROA" by using IBM SPSS Statistics 23.

5.1 Hypotheses development

The following null hypotheses that were framed were tested using panel data analysis:

$H_0$1: There is no significant relation between the "size of the firm (log (assets))" and "financial performance".

$H_0$2: There is no significant relation between the "size of the firm (log (sales))" and "financial performance".

$H_0$3: There is no significant relation between the "firm's age (log (age))" and "financial performance".

$H_0$4: There is no significant relation between the "fixed asset ratio" and "financial performance."

$H_0$5: There is no significant relation between the “debt ratio” and “financial performance”.

$H_0$6: There is no significant relation between the “financial leverage” and “financial performance”.

$H_0$7: There is no significant relation between the “debt/EBITDA” and “financial performance”.

$H_0$8: There is no significant relation between the “auditing firm(audit)” and “financial performance”.

$H_0$9: There is no significant relation between the “growth rate (assets)” and the “financial performance”.

H10: There is no significant relation between the “degree of operating leverage” and the “financial performance”.

H11: There is no significant relation between the “economic growth rate” and the “financial performance”.

5.2 Model specification

A multiple-regression model follows that is going to be used to test the possible theoretical relation between the financial performance and other independent variables.

ROA = a + b1 X1 + b2 X2 + b3 X3 + b4 X4 + b5 X5 + b6 X6 + b7 X7 + b8 X8 + b9 X9 + b10 X10 +b11 X11

Where Y is the financial performance (profitability) (EBIT/total assets),

X1 is the size of the firm (log assets),

X2 is the size of the firm (log sales),

X3 is the firm's age (log age),

X4 is the fixed asset ratio (sales/fixed assets)

X5 is the debt ratio (total debt/total assets)

X6 is the financial leverage (total debt/total assets),

X7 is the debt/EBITDA ratio,

X8 is the external auditing firm name

X9 is the growth rate (assets)

X10 is the degree of operating leverage

X11 is the economic growth rate

a is the constant term of the model

b_i is the coefficients of the model

5.3 Theoretical framework

Dependent Variable

Financial performance is measured as a ratio amongst EBIT and total assets. Return on assets (ROA) is a pointer of how gainful an organization is in respect to its total assets. ROA gives a thought with reference to how proficient administration is at utilizing its assets to creating profit. Profitability is the most crucial variable for an organization. A firm with high sales turnover and profitability levels would not lean to debt capital. An organization's assets are contained both by debt and equity. Both of these sorts of financing are utilized to support the operations of the firm. The ROA ratioprovides financial specialists with a thought of how adequately the organization is converting the cash it needs to invest into net income. The higher the ROA ratio,

the better, on the grounds that the organization is procuring more cash on less investments.

$$Profitability = \frac{EBIT}{Total\ Assets}$$

Independent Variables

Size of the Firm (Log Assets)

Assets are reported on an organization's balance sheet, and they are purchased or made to expand a firm's value or advantage the company's operations. An asset can be considered as something that later on can create income, decrease costs or enhance sales. Based on the aforementioned, we can conclude that assets play a very significant role to a firm's size and course. In this case the size of the firm is going to be depicted by the form of log (assets).

Size = log assets

Size of the Firm (Log Sales)

A firm's sustainability strongly depends on its size and also on its profit which is proportional to the firm's sales turnover. Their proportionality can be explained due to the fact that most of the times profit and sales turnover move accordingly to one another. Hence, the size of the firm can be calculated in the form of log (sales).

Size = log sales

Firm's age

A firm's financial performance may be influenced by its age due to excessive experience in the industry and thus there is also a probability of increasing profits.

Age = log age

Fixed Asset Turnover Ratio

The fixed asset turnover ratio is utilized by analysts to gauge operating performance. It is a ratio of net sales to fixed assets. This ratio particularly measures how capable an organization is to produce net sales by investments in fixed assets. Broadly speaking, a higher fixed asset turnover ratio shows that an organization has all the more adequately used investment in fixed assets for creating profit. In this research the variable is going to be calculated as follows:

$$Fixed\ Asset\ Ratio = \frac{Sales}{Fixed\ Assets}$$

Debt Ratio

A financial ratio that calculates the degree of an organization's leverage. The debt ratio is characterized as the ratio of total debt to total assets. It can be deciphered as the proportion of an organization's assets that are financed by debt. The higher this ratio, the more leveraged the organization is, inferring more noteworthy financial risk. In the meantime, leverage is a vital apparatus that organizations use to develop, and numerous organizations find feasible ways to use debt.

$$Debt\ Ratio = \frac{Total\ Debt}{Total\ Assets}$$

Financial Leverage Ratio

Organizations depend on a blend of shareholders' equity and debt to fund their operations. A leverage ratio is any of a few financial ratios that take a gander at how much capital comes as debt (loans), or surveys the capacity of an organization to meet its financial obligations. The most well-known ratio of this category is total debt to total equity. It shows the amount of debt a firm is using in order to finance its assets relatively to its equity.

$$\text{Financial Leverage Ratio } (Debt\ to\ Equity\ Ratio) = \frac{Total\ Debt}{Total\ Equity}$$

Debt/EBITDA

In Russell Halpern Nominees Pty Ltd v Martin ((1986) 4 ACLC 393)[19], which was chosen under the old segment 556, the Court stressed that a positive act must be submitted keeping in mind the end goal to bring a debt into existence. A lease represents a proceeding or serial commitment. The main demonstration that fulfills the "positive act" necessity with regards to a lease is the underlying entering into the agreement of lease. In this manner, an organization incurs a debt when they first go into an agreement of lease. The organization does not incur a debt each and every time rent gets to be payable under the lease in light of the fact that there is no positive act on behalf of the organization on these occasions.Debt/EBITDA is a measure of an organization's capacity to pay off its incurred debt. The ratio provides the financial specialist with the rough measure of time that would be expected to pay off all debt, overlooking the variables of depreciation and amortization, taxes and also interest.

$$Debt/EBITDA = \log(debt/EBITDA)$$

Auditing Firm

Auditors survey financial operations and guarantee that organizations run proficiently. Their occupation is to follow up cash flows from start to finish and guarantee an association's assets are represented appropriately. Investors and shareholders base their decisions upon the auditors' results and reports. Thus, an auditing firm is usually considered to be as an organization's advantage. In this particular case, numerous auditors are employed by the firms under research. If the auditing firm employed is one of the Big 4, it will be indicated by 1, or otherwise by

[19] http://www.findlaw.com.au/articles/2018/what-is-a-debt-and-when-is-one-incurred.aspx

0. Based on the aforementioned, we will examine the auditing firms that the companies under research are dealing with and the variable will be:

Auditor'sName = auditing firm

Growth Rate

Growth rate is additionally a vital angle for the capital structure of a firm. Firms with high future asset development openings will probably utilize a greater amount of equity financing, contrary to a higher leveraged organization which is more prone to leave behind productive investment opportunities. Generally, you will need to know how huge of a return you can expect on an asset on an annual basis. In order to do so, the forward formula was used:

Growth Rate (assets) = (P2 / P1) ^ (1 / n) – 1

P2: current year

P1: previous year

n: number of years under research

e.g. (2015 / 2014) ^ (1 / 12) – 1

Degree of Operating Leverage

Degree of operating leverage (DOL) is actually a leverage ratio that condenses the impact a specific measure of operating leverage has on an organization's earnings before interest and tax (EBIT) over a timeframe. Operating leverage includes utilizing an extensive extent of fixed costs to variable expenses in the operations of the organization. The high degree of operating leverage can magnify the variability in future profit earnings. There is a negative relation between operating leverage and debt level in the capital structure. The higher the operating leverage, the greater the chance of business failure.

$$DOL = \frac{\%\ change\ in\ EBIT}{\%\ change\ in\ sales}$$

Economic Growth Rate

An economic growth rate is a measure of monetary development starting with one period then onto the next in percentage terms. More specifically, it is a measure of the rate of progress that a country's gross domestic product (GDP) experiences from one year to another. Moreover, economic growth and production - what GDP speaks to - widely affects almost everybody inside that economy. For instance, when the economy is solid, you will ordinarily observe low unemployment and wage increments as organizations request work to meet the developing economy. A noteworthy change in GDP, whether up or down, usually significantly affects the stock market. Consequently, a bad economy implies lower benefits for organizations, which therefore implies the stock prices' drop.

$$Economic\ Growth\ Rate = \frac{GDP2 - GDP1}{GDP1}$$

6. EMPIRICAL ANALYSIS

6.1 Durbin-Watson Test 32

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,657[a]	,432	,421	6,772243000	1,418

a. Predictors: (Constant), log(debt/EBITDA), Economic Growth Rate, log (assets), DOL, Growth Rate(assets), Auditing Firm, log(fixed asset ratio), log (age), log (debt ratio), log (financial leverage ratio)

b. Dependent Variable: ROA

Table 1 Durbin - Watson test

Durbin–Watson statistic is a statistical test used in order to detect any possible presence of autocorrelation. The Durbin-Watson test was conducted in IBM SPSS Statistics 23 by taking the dependent variable, ROA, and also the independent variables. As we can see the result is close to 2, so we conclude thatthere is no auto-correlation between the dependent and independent variables.

6.2 Multicollinearity

Before running the regression analysis, an investigation into the possible multi-collinearity issue was carried out. According to Pearson's rule of thumb, any existence of correlation of 0.8 and more, can indicate a multi-collinearity problem. Multi-collinearity is the undesirable circumstance where the relationships among the independent variables are solid. In this case, a variance inflation factor (VIF) essentially evaluates the multi-collinearity issue, which actually is a domino effect. More specifically, multi-collinearity increases the standard errors of the coefficients. An increased standard error, thus, implies that the coefficient of some independent variables might be observed not to be fundamentally extraordinary from zero, while without multi-collinearity or with lower standard errors, these same coefficients may be found quite significant. In other words, since multi-collinearity makes some

variables statistically insignificant, some may claim that it may misleadingly inflate the standard errors.

Furthermore, from the correlation matrix (Table 2)we can observe that the firm's size in terms of log assets and log sales are almost having a correlation of 0.796. Consequently, the correlation analysis among the variables predicts a multi-collinearity problem among log assets and log sales.

	ROA	Growth Rate(assets)	Auditing Firm	DOL	Economic Growth Rate	log (assets)	log (sales)	log(fixed asset ratio)	log (age)	log (debt ratio)	log (financial leverage ratio)	log(debt/ EBITDA)
Pearson Correlation	1,000	-,071	,026	,016	-,025	,214	,249	,082	,085	,250	-,099	-,429
	-,071	1,000	-,016	-,003	,082	-,077	-,130	-,096	-,067	-,080	,026	,073
	,026	-,016	1,000	-,028	,016	,129	,103	,001	-,100	-,102	,048	,089
	,016	-,003	-,028	1,000	-,057	-,007	,035	-,021	,026	-,007	-,093	-,027
	-,025	,082	,016	-,057	1,000	,006	,008	,014	,004	,022	-,033	-,015
	,214	-,077	,129	-,007	,006	1,000	,795	-,127	,151	-,038	,162	,039
	,249	-,130	,103	,035	,008	,795	1,000	,398	,333	,127	-,110	-,159
	,082	-,096	,001	-,021	,014	-,127	,398	1,000	,301	,160	-,069	-,057
	,085	-,067	-,100	,026	,004	,151	,333	,301	1,000	,127	-,069	-,093
	,250	-,080	-,102	-,007	,022	-,038	,127	,160	,127	1,000	-,802	-,769
	-,099	,026	,048	-,093	-,033	,162	-,110	-,069	-,069	-,802	1,000	,796
	-,429	,073	,089	-,027	-,015	,039	-,159	-,057	-,093	-,769	,796	1,000

Table 2 Pearson Correlation

An effort to remove the one of the two aforementioned variables by using the Variance Inflation Factor (VIF). Normally, if no correlation among the independent variables exist, VIF should be around 1. Nevertheless, in this particular case VIF is observed to be 28.155 for log sales and 24.715 for log assets. Hence, depending on the size of VIF, with that to be log sales' 28.155, this particular variable is going to be removed for the rest of the analysis. (Table 3)

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	Growth Rate(assets)	,961	1,041
	Auditing Firm	,935	1,069
	DOL	,962	1,039
	Economic Growth Rate	,984	1,016
	log (assets)	,040	24,715
	log (sales)	,036	28,155
	log(fixed asset ratio)	,114	8,771
	log (age)	,817	1,224
	log (debt ratio)	,157	6,379
	log (financial leverage ratio)	,113	8,874
	log(debt/EBITDA)	,297	3,366

a. Dependent Variable: ROA

Table 3 VIF I

As soon as log sales was removed, and the multi-collinearity problem was again tested, we can observe from table 4 that VIF is under 10, so we can safely conclude that there is no evidence of collinearity.

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	Growth Rate(assets)	,967	1,035
	Auditing Firm	,943	1,061
	DOL	,964	1,038
	Economic Growth Rate	,987	1,013
	log (assets)	,852	1,174
	log(fixed asset ratio)	,837	1,195
	log (age)	,850	1,177
	log (debt ratio)	,285	3,508
	log (financial leverage ratio)	,248	4,030
	log(debt/EBITDA)	,312	3,209

a. Dependent Variable: ROA

Table 4 VIF II

6.3 Multiple linear regression

On this stage, multiple linear regression analysis was conducted on ten independent variables – "auditing firm", "fixed asset ratio", "debt ratio", "financial leverage ratio", "degree of operating leverage", "economic growth rate", "log assets", "log age", "debt/EBITDA" and "growth rate(assets)" – and one dependent variable "ROA". The model summary (Table 5) presents that R-square is 0.432, or in other words 43.2% of the dependent variable, in this case ROA, is explained by the independent ones.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,657[a]	,432	,421	6,772243000

a. Predictors: (Constant), log(debt/EBITDA), Economic Growth Rate, log (assets), DOL, Growth Rate(assets), Auditing Firm, log(fixed asset ratio), log (age), log (debt ratio), log (financial leverage ratio)

b. Dependent Variable: ROA

Table 5 Model Summary

Moving to ANOVA table, we can deduce that F is 33.682 and highly significant at 0.000. Hence, since the p-value is less than 0.05, a linear regression relationship between the independent variables and the dependent one (ROA) is likely to exist.

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	15907,063	10	1590,706	33,682	,000[b]
	Residual	25314,059	536	47,228		
	Total	41221,122	546			

a. Dependent Variable: ROA

b. Predictors: (Constant), log(debt/EBITDA), Economic Growth Rate, log (assets), DOL, Growth Rate(assets), Auditing Firm, log(fixed asset ratio), log (age), log (debt ratio), log (financial leverage ratio)

Table 6 ANOVA

Regarding the Coefficients table, it is observed that “Auditing firm” has a t-value of 1.937 and a p-value of 0.053 which signifies that this particular variable is not important for the model.Similarly, “Degree of Operating Leverage” a t-value of 1.762 and a p-value of 0.79, “Economic Growth Rate” a t-value of -0.556 and a p-value of 0.578, “log (age)” a t-value of -0.168 and a p-value of 0.867, “Growth Rate (assets)” has a t-value of 0.201 and a p-value of 0.841 and finally “log(debt ratio)” has a t-value of 1.831 and a corresponding p-value of 0.068. Since all the aforementioned variables have a p-value higher than 0.05 and a t-value within the range of -2 to +2, they seem not to be important for the model being tested.

On the contrary, “log(fixed asset ratio)” has a t-value of 2.239and a corresponding p-value of 0.026, “log(financial leverage ratio)” has a t-value of 10.176 and a p-value of 0.000,“log(assets)” has a t-value of 3.969 and a corresponding p-value of 0.000, “and “log (debt/EBITDA) has a t-value of -14.798 and a p-value of 0.000. Having a p-value lower than 0.05 and a t-value out of the range of -2 to +2, we can easily conclude that these five independent variables are significant in determining Norwegian firm’s profitability.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1,502	5,125		-,293	,770
	Growth Rate(assets)	1,467	7,310	,007	,201	,841
	Auditing Firm	4,883	2,521	,068	1,937	,053
	DOL	,007	,004	,061	1,762	,079
	Economic Growth Rate	-,048	,086	-,019	-,556	,578
	log (assets)	,654	,165	,146	3,969	,000
	log(fixed asset ratio)	,549	,245	,083	2,239	,026
	log (age)	-,159	,948	-,006	-,168	,867
	log (debt ratio)	1,105	,603	,116	1,831	,068
	log (financial leverage ratio)	4,815	,473	,691	10,176	,000
	log(debt/EBITDA)	-5,023	,339	-,897	-14,798	,000

a. Dependent Variable: ROA

Table 7 Coefficients

The null hypotheses that were developed at the beginning, were rejected or accepted as follows:

$H_0$1: There is no significant relation between the “size of the firm (log (assets))” and “financial performance”. ($H_0$1 is rejected, as there is a significant relation between “size of the firm (log (assets))” and “financial performance”.)

$H_0$2: There is no significant relation between the “size of the firm (log (sales))” and “financial performance”. ($H_0$2 is accepted, as there is not a significant relation between “size of the firm (log (sales))” and “financial performance”.)

$H_0$3: There is no significant relation between the “firm’s age (log (age))” and “financial performance”. ($H_0$3 is accepted, as there is not a significant relation between “firm’s age (log (age))” and “financial performance”.)

$H_0$4: There is no significant relation between the “fixed asset ratio” and “financial performance.” ($H_0$4 is rejected, as there is a significant relation between “fixed asset ratio and “financial performance”.)

$H_0$5: There is no significant relation between the “debt ratio” and “financial performance”. ($H_0$5 is accepted, as there is not a significant relation between “debt ratio” and “financial performance”.)

$H_0$6: There is no significant relation between the “financial leverage” and “financial performance”. ($H_0$6 is rejected, as there is a significant relation between “financial leverage” and “financial performance”.)

$H_0$7: There is no significant relation between the “debt/EBITDA” and “financial performance”. ($H_0$7 is rejected, as there is a significant relation between “debt/EBITDA” and “financial performance”.)

$H_0$8: There is no significant relation between the “auditing firm” and “financial performance”. ($H_0$8 is accepted, as there is not a significant relation between “external auditing firm (audit)” and “financial performance”.)

$H_0$9: There is no significant relation between the "growth rate (assets)" and the "financial performance". ($H_0$9 is accepted, as there is not a significant relation between "growth rate (assets)" and "financial performance".)

H10: There is no significant relation between the "degree of operating leverage" and the "financial performance". ($H_0$1 is accepted, as there is not a significant relation between "degree of operating leverage" and "financial performance".)

H11: There is no significant relation between the "economic growth rate" and the "financial performance". ($H_0$1 is accepted, as there is not a significant relation between "economic growth rate" and "financial performance".)

NULL HYPOTHESES	RESULT
$H_0$1log(assets)	Rejected
$H_0$2 log(sales)	Accepted
$H_0$3 log(age)	Accepted
$H_0$4 log(fixed asset ratio)	Rejected
$H_0$5 log(debt ratio)	Accepted
$H_0$6 log(financial leverage ratio)	Rejected
$H_0$7 log(debt/EBITDA)	Rejected
$H_0$8 Auditing firm	Accepted
$H_0$9 Growth rate (assets)	Accepted
$H_0$10 Degree of operating leverage	Accepted
$H_0$11 Economic growth rate	Accepted

Table 8 Null Hypotheses Results

7. RECESSION ANALYSIS

Recession is an ordinary, though obnoxious, part of the business cycle; notwithstanding, one-time crisis can regularly trigger the onset of a recession. The worldwide recession of 2007-2009 conveyed an incredible measure of attention regarding the risky investments methodologies utilized by huge financial institutions, alongside the worldwide nature of the whole financial system. As a consequence of

the global recession, the economies of all the world's developing and developed countries endured noteworthy setbacks. Various government strategies were implemented to keep a comparable future financial crisis from happening again.

As we can apprehend, recession was a huge setback not only for Europe, but also for the world's whole economy. Nevertheless, Norway is probably the only European country that dealt with the crisis evidently with the smallest problems. Norway's unemployment rate went up slowly from 2.5% to 4.5%, but declined rapidly in 2007 and 2008. Moreover, even though the country did experience a GDP contraction in 2009, its rates recovered quickly by mid 2009s.[20] For some, Norway has been outstanding in policy terms in various aspects. The country's public sector had been able to maintain its high levels and even raise the public consumption. The well-organized public sector and the pre-crisis economic performance and structures, along with the discretionary finance politics, were Norway's most important assets in a successful handling of the crisis. Based on the aforementioned, an analysis for pre-recession (2004-2006), recession (2007-2009) and post-recession (2010-2012) periods was contacted, in order to conclude about the most important factors that played a quite significant role in Norwegian listed firm's financial performance.

7.1 Pre recession period (2004-2006)

The pre-recession period found Norway blooming and having an increasing financial course since 1993. In order to research the contributing factors of this steady and upward route of its, an analysis on the pre-recession period and more specifically for the years 2004-2006, using the same firm sample and the same independent variables was conducted. Nevertheless, before moving to the main analysis of multiple linear regression, the multi colinearity problem was first checked. As Table 9 presents, VIF is under 10 and hence multi collinearity evidence are not indicated.

[20] http://www.transformnetwork.net/uploads/tx_news/Norway_and_the_global_economic_crisis_01.pdf

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	Growth Rate (assets)	,719	1,390
	Auditing Firm	,900	1,111
	DOL	,915	1,093
	Economic Growth Rate	,840	1,191
	log(age)	,836	1,196
	log(assets)	,644	1,554
	log(debt/EBITDA)	,570	1,753
	log(fixed asset ratio)	,799	1,252
	log(financial leverage ratio)	,439	2,278
	log(debt ratio)	,442	2,261

a. Dependent Variable: ROA

Table 9 Pre-Recession VIF

Furthermore, we can see from Table 10 that R-square is 0.371 and the 37.1% of the dependent variable is explained by the independent ones. Also F's value is 8.085 and quite significant at 0.000. Thus, since the indications are favorable and p-value is less than 0.05, a linear regression relationship is likely to occur between the dependent and independent variables.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					F Change	Sig. F Change
1	,609[a]	,371	,325	10,14380252	8,085	,000

a. Predictors: (Constant), log(debt ratio), Economic Growth Rate, DOL, log(age), Auditing Firm, log(assets), log(fixed asset ratio), Growth Rate (assets), log(debt/EBITDA), log(financial leverage ratio)

b. Dependent Variable: ROA

Table 10 Pre-Recession Model Summary

Subsequently, based on the coefficients table “Growth Rate (assets)” has a t-value of 1.383 and a t-value of 0.169, “Auditing Firm” has a t-value of 1.405 and a t-value of 0.162, “Degree of Operating Leverage” has a t-value of 1.290 and a t-value of 0.199, “Economic Growth Rate” has a t-value of -0.703 and a t-value of 0.483, “log(age) has a t-value of 1.054 and a t-value of 0.294, “log(fixed asset ratio)” has a t-value of 1.544 and a t-value of 0.125 and finally “log(debt ratio)” has a t-value of 1.166 and a t-value of 0.246. Hence all these variables are not important for the model being researched.

On the other hand, “log(assets)” has a t-value of 2.682 and a t-value of 0.008, “log(debt/EBITDA)” has a t-value of -3.786 and a t-value of 0.000 and last but not least “log(financial leverage ratio)” has a t-value of 4.492 and a t-value of 0.000. The 3 aforementioned variables, having a p-value lower than 0.05 and a t-value out of the range of -2 to +2, they are considered significant for the model’s dependent variable.

Coefficients[a]

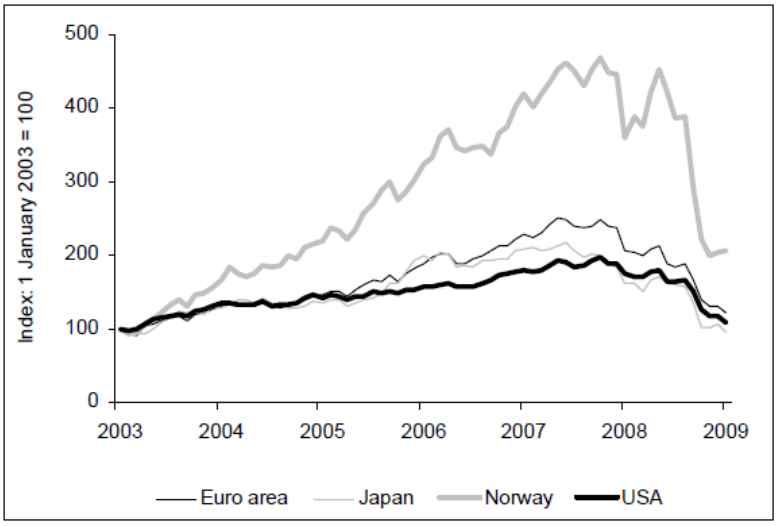
Model		Unstandardized Coefficients	Standardized Coefficients	t	Sig.
		Std. Error	Beta		
1	(Constant)	13,953		-2,743	,007
	Growth Rate (assets)	5,633	,110	1,383	,169
	Auditing Firm	6,235	,100	1,405	,162
	DOL	,008	,091	1,290	,199
	Economic Growth Rate	6,324	-,052	-,703	,483
	log(age)	2,656	,078	1,054	,294
	log(assets)	,493	,226	2,682	,008
	log(debt/EBITDA)	,772	-,340	-3,786	,000
	log(fixed asset ratio)	,639	,117	1,544	,125
	log(financial leverage ratio)	,928	,459	4,492	,000
	log(debt ratio)	1,757	,119	1,166	,246

a. Dependent Variable: ROA

Table 11 Pre- Recession Coefficients

7.2 Recession period (2007-2009)

Being an open and small economy with free movement of capital, Norway has been affected by the worldwide financial crisis through different ways. The negative impacts were quickly reflected in the dollar-based Norwegian market. At the point when the dollar market totally became scarce in the wake of the Lehman Brothers' collapse, it became hard for Norwegian banks to acquire funds.The Norwegian stock exchange is vigorously influenced by worldwide occasions and developments. Oslo Børs is dominated by vast commodity-based firms and is likely also to be utilized by investors wishing to secure themselves against high oil costs.Weaker universal growth prospects have prompted to sharp falls in commodity costs since summer 2008, pushing down the value of many organizations recorded on Oslo Børs. Low global demand has contributed to debilitate prospects for the shipping and export sector and has pushed the value of shares further down. Oslo Børs dropped as much as 54 % in 2008. (Table 12)

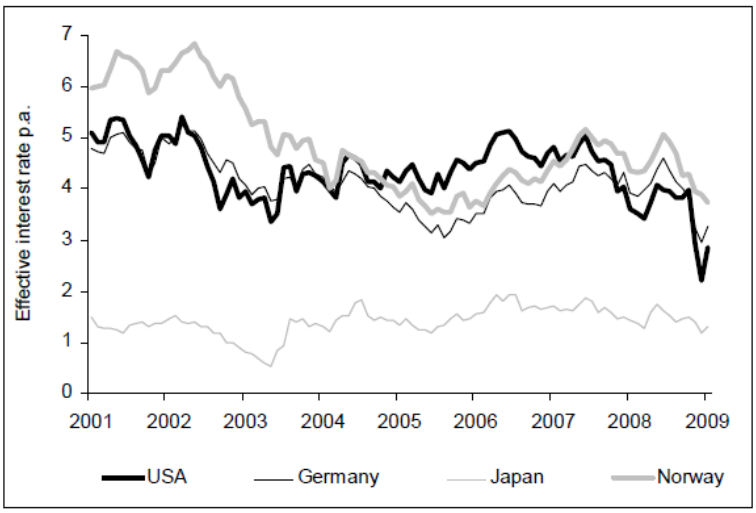


Source: Reuters Ecowin

Table 12 Stock Markets Performance

Moreover, in the bond market the value of government securities has been pushed up and financing costs down as more investors look for lessdangerous

alternatives. The inverse pattern has been found in the market for corporate securities where risk premiums have risen substantially. (Table 13)



Source: Reuters Ecowin

Table 13 Interest Rate on 10-year government bonds

The standpoint for Norway's real economy was steadily revised down over 2008. This was to a great extent because of global developments, despite the fact that domestic factors additionally had impact on it. The Norwegian economy has experienced the most vigorous period of monetary development in 20 years. Private consumption and housing investment were imperative drivers in that period, a lot of it debt financed. While already the stage was set for a gradual slowdown, the financial crisis has prompted to a serious setback in the Norwegian economy. The downturn emerged most importantly in the final quarter of 2008 and into 2009.Banks' outcomes in 2008 were however hit by securities losses arose by the financial market turbulence. The negative trend in the real economy has brought a significant ascent in loan losses, but from a low level. The worldwide financial crisis has significantly limited banks' supply of capital through the securities markets. In the meantime, credit risk premiums the banks need to pay on their borrowing have risen extraordinarily. The issues in cash and capital markets are making significant challenges for both firms' and banks' subsidizing.

The Norwegian economy passed its patterned top as right on time as end-2007, and growth slipped all through 2008. The financial crisis and the negative trend in the universal economy as from September increased the downturn. Sharp increments in money market rates in 2008 prompted to negativity among firms and family units, and amid autumn an unmistakable decay was found in expectations indexes for both firms and households. The lodging business sector was hit in the first place, yet investment growth in mainland (non-oil) firms likewise suddenly stopped. Unemployment ascended as from July 2008, and private consumption declined as from the second quarter, while registered unemployment ascended from 1.5% in summer 2008 to 2.6% in January 2009.

EGENKAPITALINSTRUMENTER / *EQUITY CAPITAL INSTRUMENTS*

Omsetning per sektor - i verdi (NOK mrd.)
Turnover per sector - by value (NOK bn)

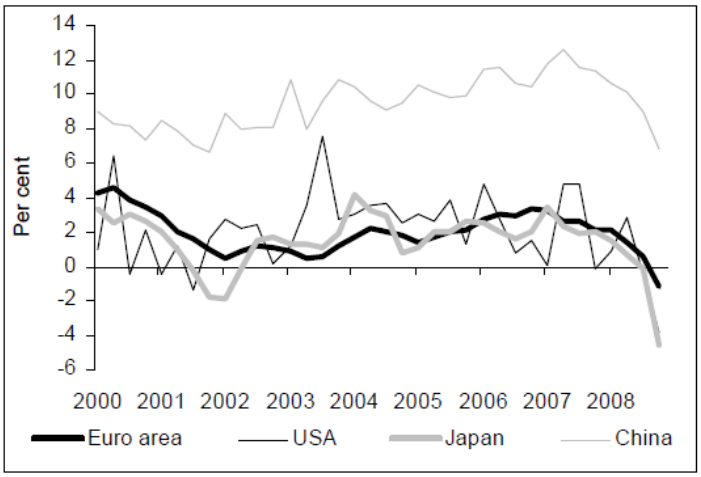
OSLO BØRS

Year	Energy	Materials	Industrials	Consumer Discretionary	Consumer	Health care	Financials	Information Technology	Telecom Services	Utilities	Total
2001	86,2	22,3	137,4	43,6	58,8	11,6	43,7	123,2	25,8	2,2	554,8
2002	159,9	20,2	45,2	29,5	30,5	8,9	46,6	70,9	21,2	0,7	433,6
2003	245,9	17,8	29,8	24,1	24,5	8,3	78,5	55,7	62,8	2,0	549,4
2004	440,5	52,4	61,1	29,3	46,0	5,8	87,5	84,6	95,4	0,0	902,5
2005	908,1	72,7	98,3	37,6	68,5	2,6	104,4	112,8	100,7	0,4	1.505,9
2006	1.716,6	125,3	148,5	39,4	138,1	3,3	134,1	153,4	117,3	1,8	2.577,8
2007	1.800,2	258,2	387,9	34,7	99,5	6,7	196,4	188,2	235,9	2,9	3.210,5
2008	**1.181,1**	**484,8**	**351,5**	**27,8**	**32,4**	**2,7**	**133,0**	**75,9**	**139,4**	**1,4**	**2.430,1**

Table 14 Turnover per sector 2001-2008

The national records demonstrated that GDP for Mainland Norway declined in the final quarter of 2008 (table…..). After the sharp deceleration towards the end of 2008, 2009 looks set to be the principal year since the mid-1980s in which Mainland GDP will fall compared with the previous year.Norway's first line of defense against the impacts of the budgetary emergency is monetary policy, and in 2008 Norges Bank brought down its key rate by a sum of 2.75% to 3%. By the beginning of 2009 the key rate had been further brought down, to 2.5%. The Norwegian government has simultaneously displayed an expansionary fiscal stimulus

bundle alongside a credit package worth NOK 100 billion (approximately 10 billion euro) to oppose against the impacts of the financial crisis. National records figures demonstrate that private consumption, exports and investments all added to the turnaround in GDP in 2008. The log jam in private consumption was especially checked, and the consumption growth had fallen to 1.5% in 2008 contrasted to 6.0% in 2007. Bigger consumer goods' sales, for example, cars and furniture were especially influenced. Falling house costs and rising unemployment kept on having a negative effect on private consumption in 2009. In the construction and building trade unemployment had officially risen impressively, while workers in retail trade, parts of the business services and manufacturing industry had experienced tough times in 2009. Between December 2008 and January 2009 unemployment ascended by 0.5% to 2.6%. This is still a low level, yet the quantity of occupation opening has fallen impressively in many areas.Quite a long while of high investment growth was supplanted by a descending trend in 2008.



Source: Reuters Ecowin

Table 15 Growth in credit to households

Moreover, investment activity was especially powerless in service industries. In manufacturing the trend was also negative, however indicated to some degree bigger fluctuations. Amid autumn it got to be both costlier and harder to finance new investment projects, and a more noteworthy tendency apparently attempted to

shift loan renegotiating from the bond market to the banks.In mainland firms investments also fell through 2008, especially in the second half year. The mix of a crumbling economic environment and scarcer and costlier access to financing have acquired a significant fall in investment in 2009. Enterprises where leverage levels were most astounding and investments were largest seemed especially vulnerable.The export division is likewise intensely influenced by the universal financial turnaround, and exports of traditional products fell pointedly in the final quarter.

Based on the aforementioned, we can easily conclude Norway's financial difficulties during the recession period (2007-2010). Like pre-recession period, the same steps will be repeated, with multi collinearity problem first being checked. Table 16 suggests that no evidence of multi collinearity among the variables exist, since the Variance Inflation Factor is below 10.

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	Growth Rate (assets)	,904	1,106
	Auditing Firm	,888	1,126
	DOL	,973	1,028
	Economic Growth Rate	,931	1,074
	log(age)	,848	1,179
	log(assets)	,809	1,237
	log(debt/EBITDA)	,261	3,839
	log(fixed asset ratio)	,733	1,365
	log(debt ratio)	,185	5,393
	log(financial leverage ratio)	,119	8,372

a. Dependent Variable: ROA

Table 16Recession VIF

Moving to Table 17we find R Square to 0.656 and the 65.6% of ROA is explained by the independent variables of the model. Furthermore, F has a value of 24.748 and an important significance in 0.000. A linear regression relationship do

exist in our model and hence a linear regression analysis is going to be conducted in order to research the most significant variables.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					F Change	Sig. F Change
1	,810[a]	,656	,629	4,456286906	24,748	,000

a. Predictors: (Constant), log(financial leverage ratio), Economic Growth Rate, log(assets), DOL, log(age), Auditing Firm, Growth Rate (assets), log(fixed asset ratio), log(debt/EBITDA), log(debt ratio)

b. Dependent Variable: ROA

Table 17 Recession Model Summary

Using the same 10 variables we can concluded from the Table 18 that "log(debt/EBITDA)" (t-value of -12.85 and p-value of 0.000) and "log(financial leverage ratio)" (t-value of 3.2 and p-value of 0.002) are the most significant determinants of Norwegian firm's financial performance in the recession period (2007-2009).

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	40,994	7,143		5,739	,000
	Growth Rate (assets)	3,341	7,365	,025	,454	,651
	Auditing Firm	,247	2,760	,005	,090	,929
	DOL	-,006	,006	-,050	-,949	,344
	Economic Growth Rate	,007	,073	,005	,090	,929
	log(age)	-1,693	1,207	-,078	-1,402	,163
	log(assets)	-,016	,231	-,004	-,071	,944
	log (debt/EBITDA)	-6,747	,525	-1,296	-12,85	,000
	log(fixed asset ratio)	,040	,368	,007	,109	,913
	log(debt ratio)	-1,906	1,063	-,214	-1,793	,075
	log(financial leverage ratio)	3,374	1,054	,477	3,200	,002

a. Dependent Variable: ROA

Table 18 Recession Coefficients

7.3 Post-recession period (2010-2012)

	2007	2008	2009	2010	2011	2012
Gross domestic product (GDP)	2.7	0.1	-1.6	0.5	1.2	3.2
GDP Mainland-Norway	5.3	1.5	-1.6	1.7	2.5	3.5
Petroleum activities and ocean transport	-4.7	-4.7	-1.6	-4.0	-3.3	1.9
Final domestic use of goods and services	5.9	1.4	-4.0	3.2	3.4	3.6
Final consumption exp. of households	5.7	1.8	-0.2	4.0	2.5	3.0
Final consumption exp. of general government	2.7	2.7	4.3	1.3	1.8	2.1
Gross fixed capital formation	11.4	0.2	-7.5	-8.0	7.6	8.1
Exports	1.4	0.1	-4.2	0.4	-1.8	2.2
Imports	10.0	3.9	-12.5	9.0	3.8	3.3
Total employed	4.1	3.3	-0.4	-0.5	1.3	2.2
Total man-hours worked	4.6	3.6	-2.0	0.1	1.8	2.1

Table 19 Norwegian economy's growth[21]

The most important contribution in GDP's growth for mainland Norway was from the construction industry, which increased by 7.4% from 2011 to 2012 and which meant almost 0.5% of the expansion in GDP for mainland Norway. Growth in construction was particularly solid in first half of 2012, and after that it was balanced in the last two quarters. Supply of electricity and production additionally contributed

[21] http://www.norwaypost.no/news-politics/28119-solid-growth-in-norwegian-economy-from-2011-to-2012

in an important level to the development in GD`P for mainland Norway, and represented around 0.4%. (Table 20)

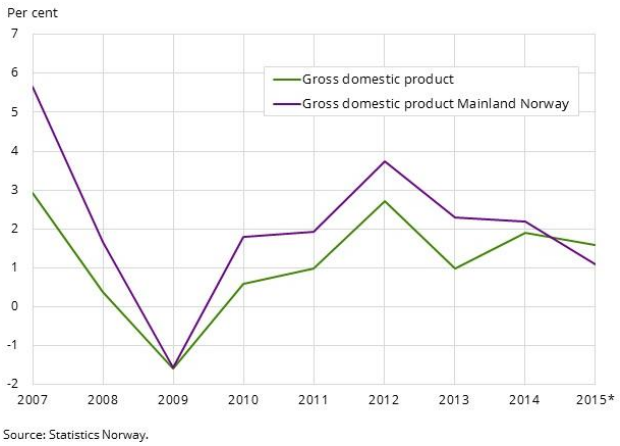


Table 20 Volume GDP growth rate

Aquaculture increased by 22%, while traditional fisheries fell for the second year in a row.In the manufacturing sector value added increased by 2.4%. Production in hardware and shipbuilding businesses were up, while commodity based manufacturing decreased. Service-producing sector barring general government developed by 3.3% in 2012. Solid growth was particularly clear for enterprises that are firmly associated with petroleum activity. (Table 21)

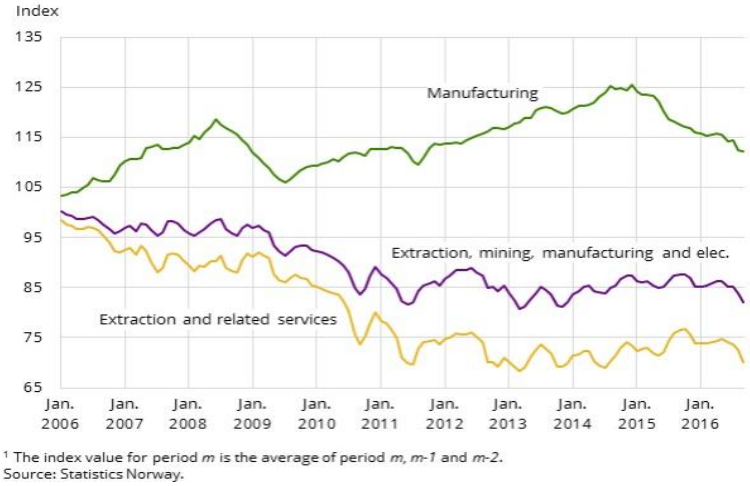


Table 21 Production development[22]

[22] https://www.ssb.no/en/

Gross fixed capital formation (GFCF) totally grew by 8.1% in 2012, which is essentially due to higher GFCF in extraction of crude petroleum and natural gas. The volume of GFCF in manufacturing was fluctuating in same levels as in the earlier year. Dwellings' investments were high both in 2010 and 2011 and ascended by 7.4% in 2012. GFCF in mainland Norway except general government rose by 4.7%.

Employment expanded by 58 000 employees, or 2.2%, in 2012. Employment in manufacturing developed by 0.7%, while general government ascended by 1.7%, or 14 000 employees. Total number of hours worked altogether developed by 2.1% in 2012, up from 1.8% in 2011. The growth in average annual income for all workers is evaluated at 4.0% in 2012, down from 4.2% in 2011. Growth in average annual profit in manufacturing is assessed at 4.3%, and 4.2% in general government.

The trade surplus expanded by NOK 20 billion from 2011, which is connected to high oil and gas prices, and is assessed to be NOK 385 billion in 2012.

Regarding volume, exports expanded by 2.2% in 2012. Exports of traditional merchandise developed by 2.6%, with solid factors to be machinery and equipment, electricity and farmed fish. Export of electricity represented near 1.1% of the traditional goods' growth. Exports of services developed by 6%, with petroleum-related services and ocean transport's growth.

Last but least, the post-recession period (2010-2012) is analyzed. Regarding the multi-collinearity problem, no indications of multi-collinearity among the variables exist, since VIF is again below 10.

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	Growth Rate(assets)	,915	1,093
	Auditing Firm	,954	1,048
	DOL	,974	1,027
	Economic Growth Rate	,958	1,043
	log(age)	,804	1,244
	log(assets)	,838	1,194
	log(debt/EBITDA)	,230	4,343
	log(debt ratio)	,112	8,894
	log(financial leverage ratio)	,178	7,756
	log(fixed asset ratio)	,783	1,277

a. Dependent Variable: ROA

Table 22 Post-Recession VIF

Moving to linear regression analysis and as Table 23 predicts, given the circumstances that R-Square is 0.507, 50.7% of ROA is explained by the independent variables tested. Noteworthy is also F which is 12.555 and highly significant at 0.000.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					F Change	Sig. F Change
1	,712[a]	,507	,467	5,690205360	12,555	,000

a. Predictors: (Constant), log(fixed asset ratio), Economic Growth Rate, DOL, Auditing Firm, log (debt/EBITDA), log(assets), Growth Rate(assets), log(age), log(debt ratio), log(financial leverage ratio)

b. Dependent Variable: ROA

Table 23 Post-Recession Model Summary

Furthermore, during the post-recession period we found “log(assets)” with a t-value of 4.48 and a corresponding p-value of 0.000 and also “log(debt/EBITDA)” with a t-value of -7.339 and a corresponding p-value of 0.000 to be the most significant factors for the financial performance of the country’s firms.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	31,92	11,151		2,86	,005
	Growth Rate (assets)	-13,65	27,446	-,033	-,498	,620
	Auditing Firm	,642	5,848	,007	,110	,913
	DOL	,016	,009	,112	1,74	,084
	Economic Growth Rate	-,252	,461	-,036	-,547	,585
	log(age)	-1,731	1,657	-,074	-1,0	,298
	log(assets)	5,143	,501	,413	4,48	,000
	log(debt/EBITDA)	-4,253	,579	-,972	-7,3	,000
	log(debt ratio)	-2,092	1,416	-,280	-1,5	,142
	log(financial leverage ratio)	,591	1,451	,092	,407	,684
	log(fixed asset ratio)	,472	,406	,083	1,16	,248

a. Dependent Variable: ROA

Table 24 Post-Recession Coefficients

8. CONCLUSION

After conducting all the necessary analyses, it can be concluded from the study that “Growth Rate (assets)”, “Auditing Firm”, “Degree of Operating Leverage”, “Economic Growth Rate”, “log (age)” and ‘log (debt ratio)” seem not to be statistically significant and thus these factors do not influence the Norwegian firms’ profitability. On the contrary, “log (assets)”, “log (Financial leverage ratio)”, “log (fixed asset ratio)” and “log (debt/EBITDA)” are statistically significant variables for determining Norwegian firms’ profitability. On Table 25 the relative importance of the significant variables for Norwegian firms’ profitability is shown and a ranking is done accordingly using a Beta basis.

	Pre Recession		Recession		Post Recession		Overall		Influence on Profitability
Independent Variables	t	Beta	t	Beta	t	Beta	t	Beta	
log (fixed asset ratio)							2,239	0,083	Positive
log (assets)	2,682	0,226			4,48	0,413	3,969	0,146	Positive
log (finacial leverage ratio)	4,492	0,459	3,2	0,477			10,176	0,691	Positive
log (debt/EBITDA)	-3,786	-0,34	-12,852	-1,296	-7,339	-0,972	-14,798	-0,897	Negative

Table 25 Beta - Relative importance

Pre-Recession Period (2004-2006)

Rank 1: Financial leverage ratio with a beta value of 0.459.

Rank 2: Debt/EBITDA with a beta value of -0.34.

Rank 3: Size of the firm in terms of its assets with a beta value of 0.226.

Recession Period (2007-2009)

Rank 1: Debt/EBITDA with a beta value of -1.296.

Rank 2: Financial leverage ratio with a beta value of 0.477.

Post-Recession Period (2010-2012)

Rank 1: Debt/EBITDA with a beta value of -0.972.

Rank 2: Size of the firm in terms of its assets with a beta value of 0.413.

Overall Period (2004-2015)

Rank 1: Debt/EBITDA with a beta value of -0.897.

Rank 2: Financial leverage ratio with a beta value of 0.691.

Rank 3: Size of the firm in terms of its assets with a beta value of 0.146.

Rank 4: Fixed asset ratio with a beta value of 0.083.

It can actually be concluded that “Size of the firm (log (assets))”, “fixed asset ratio”, “financial leverage ratio” and “debt/EBITDA” have a significant influence on Norwegian firms’ profitability.

More specifically **“financial leverage ratio”** has been already defined in the study as a ratio between total equity and total debt. As we can already apprehend from the variable’s beta, financial leverage has a positive influence to the Norwegian firms’ profitability. In other words, the financial leverage’s increase causes an increase on the companies’ profitability.At a perfect level of financial leverage, an organization's ROA increases on the grounds that the utilization of leverage increases stock volatility, expanding its level of risk which hence maximizes returns. Probably, exactly the case of Norwegian economy.

Furthermore, it is actually quite natural to conclude that **"size of the firm (log (assets))"** is an important factor impacting the profitability of the Norwegian firms in the pre-recession, post-recession and also in the overall period. "Size of the firm (log (assets))" having a positive beta demonstrates that with a growth in "size," the profitability also increases. Norwegian firms seem to invest not only money but also time on their assets and thus these investments actually contributes positively to the firms’ profitability. After all, it is the most essential variable for each firm in light of the fact that a company's sustainability for the most part relies on upon its "size”.

As **“fixed asset ratio”** is concerned, it is a ratio of net sales to fixed assets. This ratio particularly measures how capable an organization is to produce net sales by investments in fixed assets. As derived by the variable’s beta, a positive relationship exists between “fixed asset ratio” and the Norwegian firm’s profitability. As fixed asset ratio increases, so does the firm’s profitability. Naturally, the more capable a firm is in utilizing effectively its fixed assets, the more profitable is. Asset

utilization is particularly useful to organizations considering capital investments or growth if production can be expanded by enhancing the efficiency of the existing assets.

Last but not least, **"debt/EBITDTA"** variable represents the measure of an organization's capacity to pay off its incurred debt. The variables has a negative beta in all periods under research denoting that there is a negative influence to Norwegian firms' profitability. It likewise implies that with an increase of debt/EBITDA ratio, the profitability of the firm declines. This happens due to the fact that since the debt component of the firm increases, the associated financial risk also increases. As the organizations need to pay a higher interest load due to the debt component's increase, the organizations' profitability decreases.

Based on all the aforementioned facts, these four factors, "log (assets)", "financial leverage ratio", "fixed asset ratio" and "debt/EBITDA" play the most important role in a Norwegian firm's profitability. It is worth also to mention that during recession period, "debt/EBITDA" and "financial leverage ratio" were the most significant factors and assets' factors were nowhere in the spotlight, compared with the rest periods. Given the circumstances of the economic crisis, this was expected to occur.

9. LIMITATIONS

A logical rationale behind this thesis would be perfect since the goal of the research is to clarify Norwegian firm's profitability factors. Because of the challenges in demonstrating causal connections, this study expects to investigate and depict. Subsequently, just assumptions on what influences profitability can be made. The sample extended over 12 years and 51 firms where used for the research. Ideally, every one of the organizations would have been covered for probably the same period. Another restriction with this study is that some of the factors that may would have been significant could not be included due to lack of data. A portion of the factors could likewise be addressed for their legitimacy.

10. REFERENCES

Alfons Palangkaraya Andreas Stierwald, Is firm productivity related to firm size and Age? The case of large Australian firms (2005), The University of Melbourne

Bain, J.S. (1951) "Relation of Profit Rate to Industry Concentration: American Manufacturing," *Quarterly Journal of Economics*, 65: 293–324.

Bain, J.S. (1956) *Barriers to New Competition*, Harvard University Press.

Banker, R. D., & Johnston, H. H. (2007). Cost and Profit Driver Research. I C. S.

Bokhari, J., C., Hudson, R., & Keasey, K. (2005). The Predictive ability and Profitability of technical trading rules: Does company size matter? *Economics Letters*, *86,* 21-27.

Caloghirou, Y., Protogerou, A., & Spanos, Y. (2004). Industry-Versus Firm specific Effects on Performance: Contrasting SMEs Large-sized Firms, *European Management Journal, 22(2),* 231–243.

Chapman, A. G. Hopwood, & M. D. Shields, *Handbook of Management Accounting Research* (ss. 531-556). Amsterdam: Elsevier Ltd.

Demsetz, H. (1973) "Industry Structure, Market Rivalry, and Public Policy," Journal of Law and Economics, 16: 1–10.

Eskandari, M. (2010). Expected Effects of Tax Reintroduction on Total Revenue in Iran Economics, *Seasonal Research Journal of Tax*, *14 (62).*

Fama, E.F. and French, K.R, (1998). "Taxes, financing decisions, and firm value". *Journal of Finance*, Vol. 53, pp. 819-843.

Fama, E.F., French, K.R., 2002. Testing trade-off and pecking order predictions about dividends and debt. Review of Financial Studies 15, 1-34.

Geroski, P. A. and A. Jaquemin (1998). The Persistence of Profits: A European Comparison.Economic Journal 98(391), 375–389.

Huberman, G, (1987) "Arbitrage Pricing Theory," in *The New Palgrave, Finance*, Eatwell, J., Milgate. M., and Newman, P. (eds) New York: W.W. Norton.
Johnson, H. T., & Kaplan, R. S. (1987). *Relevance Lost.* Boston: Harvard Business School Press.

Jovanovic, B. (1982) “Selection and the Evolution of Industry,” Econometrica, 50: 649–670.

Kochar, A. 1997. An empirical investigation of rationing constraints in rural credit markets in India, *Journal of Development Economics*, Vol. 53, pp. 339-371.

Milton Friedman, “The social responsibility of business is to increase its profits,” New York Times Magazine, September 13, 1970, pp. 122-126.

Modigliani, F., Miller, M., 1963. Corporate income taxes and the cost of capital: Acorrection. American Economic Review 53, 433-443.

Mueller, D. C. (1977). The Persistence of Profits Above the Norm. Economica 44, 369–380.

Mueller, D. C. (1990). The Dynamics of Company Profits. Cambrigde: Cambridge University Press.

Murray Z. Frank and Vidhan K. Goyal, Capital Structure Decisions: Which Factors are Reliably Important?, (2009) University of Minnesota, Hong Kong University of Science and Technology

Myers, S.C. & Majluf, N.S., (1984). “Corporate financing and investment decisions when firms have information that investors do not have”. *Journal of Financial Economics*, 13, pp. 187-221.

Myers, S.C., 1977. Determinants of corporate borrowing. Journal of FinancialEconomics 5, 147-175

Ofuan. J. Ilaboya1 & Izien. F. Ohiokha, Firm Age, Size and Profitability Dynamics: A Test of Learning by Doing and Structural Inertia Hypotheses (2016), University of Benin

Peltzman, S. (1977). The Gains and Losses from Industrial Concentration. Journal of Lawand Economics 20(2), 229–263.

Rehana Kouser, Inter-Relationship between Profitability, Growth and Size: A Case of Non-Financial Companies from Pakistan (2012), Department of Commerce, BahauddinZakariya University

Renato Balducci et al (2008) Financial Determinants of Firms Profitability: a Hazard Function Investigation

Robert S. Chirinko Anuja R. Singha, Testing static tradeoff against pecking ordermodels of capital structure: a critical comment, *Department of Economics, Emory University, Atlanta, Georgia, 30322-2240, USA CESifo, Munich, 81679, Germany*

Ross, S.A., 1977. The determination of financial structure: The incentive-signaling approach. Bell Journal of Economics 8, 23-40.

Saghafi, A., & Aghaei, M.A. (1994). Behavior of Accounting Profit, *Studying Accounting and Auditing, 9*, 5-21.

Seyed Nezhad Fahim, R., & Aghaei, M. (2002). The Role of Borrowing in Companies' Profitability, M.S. Thesis, Tarbiat Wenfeng Wu, Chongfeng Wu, Chunyang Zhou, Jun Wu, (2012), Political connections, tax benefits and firm performance: Evidence from China, *Journal of Accounting and Public Policy, 31(3),* 277-300.

Shank, J., & Govindarajan, V. (1993). *Strategic Cost Management: New Tool for Competitive Advantage.* New York: The Free Press.

Slade, M. (2004). Competing Models of Firm Profitability. International Journal of Industrial Organization 22, 289–308.

T. Pratheepan, A PANEL DATA ANALYSIS OF PROFITABILITY DETERMINANTS EMPIRICAL RESULTS FROM SRI LANKAN MANUFACTURING COMPANIES (2014), International Journal of Economics, Commerce and Management United Kingdom.

Titman, S., Wessels, R., 1988. The determinants of capital structure choice. Journal of Finance 43, 1-18.

http://listovative.com/top-15-most-highly-developed-countries-in-the-world/

http://www.findlaw.com.au/articles/2018/what-is-a-debt-and-when-is-one-incurred.aspx

http://www.transformnetwork.net/uploads/tx_news/Norway_and_the_global_economic_crisis_01.pdf

http://www.norwaypost.no/news-politics/28119-solid-growth-in-norwegian-economy-from-2011-to-2012

https://www.oslobors.no/

http://www.nytimes.com/2009/05/20/business/global/20kroner.html

https://www.ssb.no/en/