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Summary

Most theory suggests that private owned enterprises outperform state owned enterprises financially. Norway has a history for having a large share of state owned enterprises. We therefore want to test if the private owned enterprises do outperform the state owned enterprises. We will measure it with the financial ratio Return On Assets. We will first test if ownership affects Return on assets by performing a multiple linear regression. We will then compare Return On Assets between the two ownership types. Most of our data will be collected through The Brønnøysund Register Countre. We expect to see a difference in the Return On Assets in favour of private ownership.

Introduction:

Theory and literature suggest from time to time that private owned enterprises (POE) create better economic results then state owned enterprises (SOE). History shows that there have been large changes in types of ownership structures in companies. Some countries prefer a high number of state owned enterprises in their economy, while some do not.

Since 1945 most countries have tried to use SOE to achieve their economic and social goals. During the 1960s and 1970s an expansion of state owned enterprises occurred, but due to poor performance by such companies, the situation reversed. (Kikeri, S. Nellis, J & Shirley M (1994). Ronald Reagan and Margaret Thatcher started a trend across the west of privatizing the state-run industries and pruning the welfare state. The fall of the soviet also contributed to the increased privatization. (The Economist (2018))

In recent years the capitalism has had some big challenges. The fall of the Lehman Brothers sent much of the rich world into a crisis. Countries such as Greece was plunged into chaos. Even the United States has seen the income of the average worker drop dramatically. (The Economist (2018))

The Chinese state has large ownership interests in companies. They have experienced a tremendous growth in GDP, at an average of 9,5 percent in recent years. The Chinese economy is now the world’s second largest economy. The Chinese state is the largest shareholder in the 150 largest domestic enterprises. The state companies make up 80 percent of the value of the stock market in China (The Economist, 2018). With the financial crisis, one can hear the Chinese phrase: the state advances, the private sector retreats (Forbes (2018)).

The dominant type of ownership in the world economy is private ownership, but it is easy to find cases of state ownership. Since the end of the 2000s, the State

capitalism has again been on the rise, much due to the financial crisis in 2007-2008, and the success stories of China and other Asian countries.
(SNL.no (2018))

Norway has a history for having a high degree of state ownership in companies. The debate of state ownership vs private ownership in Norway is very relevant. The different political parties have different opinions on the importance. Some parties want to decrease the state ownership, while some want to keep it at today's level.

We therefore want to test how state-owned enterprises perform financially, compared to private owned enterprises. We have only found one study of this in Norway. This study deals only with the period 1990 to 1999. We want to test the performance from 2002 to 2016 in Norway. We therefore want to contribute with newer evidence on the performance.

Motivation

We are very interested in the political decisions that may have impact on the Norwegian economy. When an election approaches in Norway, the politicians always debate on what is the most efficient business ownership structure for the country. This has motivated us to test the assumption that POEs outperforms SOEs. We wanted to write a thesis on a topic that is currently relevant, and we also believe that it will stay relevant for the years to come. We are very motivated to apply our finance education into this politically relevant topic.

Research question

Our research question is therefore:

- Does private owned enterprises outperform state-owned companies financially.

Literature Review

Goldeng, Grünfeld & Benito (2008) examines the differences in performance between POEs and SOEs. They cover all registered companies during the 1990´s in Norway where SOEs played an important role in regular markets. They measure performance as return on assets (ROA) in markets where SOEs and POEs compete with each other. This study also tests the hypothesis that SOEs managers may learn from POEs managers in environments with strong competition, but find only weak empirical support for this. Their findings indicate that overall, POEs perform significantly better than SOEs.

Arens & Brouthers (2001) uses key stakeholder theory to investigate how differences in SOEs and POEs in transitional economies influence the firm's ability to adapt to changes in the environment, pursue aggressive competitive strategies, and achieve better performance. In their findings, they conclude that POEs performs better than SOEs. Privatized firms tends to pursue more aggressive/competitive strategies, but are only marginally more adaptable than SOEs.

Vining & Boardman (1992) are using property rights theory to study difference in allocative efficiency between POEs and SOEs in competitive markets. Their findings are that ownership matters a lot in terms of efficiency, but it does not necessarily imply that POEs is always preferable to SOEs.

Boardman & Vining (1989) compares the performance of SOEs, POEs and mixed enterprises (MEs) by the use of property rights theory in competitive environments. In their study four profitability measures are utilized: return on equity (ROE), return on assets (ROA), return on sales (ROS) and net income (NI). In their conclusion, partial privatization (MEs) may be worse, especially in terms of profitability, than complete privatization (POEs) or SOEs.

Sheshinski (2003) uses micro- and macro-economic theory trying to explain the effects of privatization compared to public owned enterprises. Microeconomic theory tells us that incentives and contracting problems create inefficiencies for

SOEs, given that the managers pursue objectives that differs from those of POEs. Sheshinskis empirical evidence shows that privatization increases profitability and efficiency in both competitive and monopolistic sectors. Full privatization (POEs) has a greater impact than partial privatization (MEs). From a macroeconomic perspective, no conclusion could be drawn, but trends are favorable for privatization.

Shirley & Walsh (2000) have looked at 52 studies and created a review. Out of the 52 studies, 32 concludes that the performance of private and privatized firms is significantly superior compared to public firms. 15 studies find that there is no significant relationship between ownership and performance. 5 studies conclude that SOEs performs better than POEs. Shirley & Walsh conclude that in the debate over the effects of competition, theory suggests that ownership matters. POEs will outperform SOEs. The empirical studies favor POEs in competitive markets.

Dewenter & Malatesta (2001) are reporting empirical evidence on the relative efficiency of public and private enterprises. They compare performance of POEs and SOEs using data from 1975, 1985 and 1995. Each year Fortune ranks firms according to sales, and reports the 500 largest corporations. These are used in this study. The conclusion is that SOEs are significantly less profitable than POEs, and they tend to have more leverage and greater labor intensity than POEs.

Aldo Musacchio and Sergio G. Lazzarini (2014) wrote a book where they argue that governments have learned that they need more suitable ownership schemes and corporate governance regimes for SOEs. They argue that some states have learned that in order to have more sustainable models, they need to get the private sector involved in monitoring and funding SOEs as well as in sharing the losses of these enterprises. That means that the state can share both the management and the rents. They find that many SOEs have changed their governance practices to a system in which the government acts like an investor rather than a manager. They argue that in light of history, there have emerged new organizational forms of SOEs. Hence the title of the book, Reinventing State ownership.

Theory

In our master thesis we want to test if the private enterprises do outperform the state-owned enterprises in Norway. We have therefore found theory by many different authors and scientists that can describe what our results should be.

The idea that private ownership has advantages over public ownership in terms of being more efficient is not new. Already in 1776, Adam Smith wrote that when the crown land had become private property, they would in the course of a few years, become well improved and well cultivated. (Sheshinski, E & Calva, L. (2003)).

Principal agent theory is an economic theory about how a principal can use different incentives to adjust the agent interest align with his own. This problem occurs when an agent acts on the principal´s behalf simultaneously as the interest of the agent does not equal the principal´s interests and the agent possesses information which the principal does not. This is referred to as "information asymmetry". The principal agent theory deal with how the principal can determine a contract, which ensures that the agent acts in the principals own interest. The principal cannot monitor the agent, just the final outcome. This depends on coincidences, and this is why the principal agent problem occurs because of two different goals.

The principal wants to act in the firm's best interest and increase the profit, but the agent wants to maximize his/her own salary and minimize the effort. (Andresen, M & Idsø, J. (2016)). In POEs the incentives are often in the form of stock options and bonuses given to managers, in order to align their interests with the shareholders interest. For private owners, firm performance in terms of return on assets, return on equity, return on investment and profit of the year are of importance to the owners. In regard of SOEs, incentive schemes tied up to the financial performance is often not possible. Returns from SOEs go into a public budget in such way that no specific individual can exploit for their own benefit as a principal (Goldeng, Grünfeld & Benito, 2008). A principal agent problem that may occur is that managers for state owned enterprises seek a political career, and therefore focus on other interests then to increase efficiency (Sheshinski, E & Calva, L. (2003)).

One common view of the state-owned enterprise is that these enterprises are highly inefficient, and their inefficiency is the result of political pressures from the politicians that control them. The political interference often distorts the objectives and the constraints faced by the public managers. One example is that politicians encourage the state-owned enterprises to employ to many people, since they are seeking votes. (Sheifner, A & Vishny, R. (1994)). Theory also suggests that managers of state owned enterprises faces softer budget constraints, since bankruptcy is not a credible threat to public managers. It is in the central government´s own interest to bail them out in case of financial distress. Theory also suggests that publicly owned enterprises has poorer monitoring, and therefore the incentive for efficiency is weaker. (Sheshinski, E & Calva, L. (2003)).

Uhlenbrock and de Castro (1998) suggests that state controlled SOE´s may have to utilize strategies that are politically driven, not efficiently driven. These goals can often be pursued at the expense of economic efficiency. Lioukas (1993) states that the power of the state, as key stakeholder, may impact the SOE strategy so that its strategy is less analytical, more defensive, less future oriented, less risky, and less proactive than would be the strategy of privatized SOEs.

Shleifer (1998) suggests that ownership (POE) strengthens the owner´s incentives to be competitive and efficient to increase profitability. The reason is that the owner has the power to take advantage of the rewards. The rewards can be in the forms of dividends, higher stock price or a higher income.

Methodology

In our thesis we want to test if private owned enterprises outperform state owned enterprises, in terms of profitability. We want to focus on ownership identity, and test if it is more profitable for a firm to be private owned then state owned. Theory suggests that private owned enterprises has an advantage in terms of being more efficient.

Performance measure

Our study is based on corporate governance, and we will therefore use a performance measure that reflects the benefits for owners in terms of an economic profitability measure of the company. We want to use a profitability ratio to measure the performance.

We have decided to use Return On Assets (ROA). This is a common measure of profitability, which indicates how efficiently a company can create profits from its assets. (Investopedia (2018)). By applying ROA as a performance measure can we capture the performance differences by SOEs and POEs.

$$ROA = \frac{Net\ income + Interest\ expense\ (after\ tax)}{(TA_{t-1} + TA_t)/2}$$

Explanatory Variables

The first thing we need is a variable that distinguishes between SOEs and POEs. We intend to use a dummy variable on ownership identity. The dummy variable will create 0 if a company is SOE and 1 if it is a POE. ROA often varies across industries, and we therefore need a variable for industry segment. This can be found by using the 5 digit NACE-code level in the data we will use. A variable on company size will be used, since performance may be effected due to economy of scales. Size will be measured in terms of total sales revenue. Age can affect the performance of a company. Firms often has low profitability during the start up, and we will therefore create an age variable.

We think that public listed companies can have a different asset value, and therefore create a dummy variable for public listing. 0 for public listed and 1 otherwise. There can be large distances between the compared companies in Norway. Transportation costs can be high for companies that have a remote location. We therefore want to create a variable for location. We do believe that the Norwegian Key Policy Rate can have an effect on ROA. Interest rates effect ROA, so we will create a variable for the key policy rate. We also believe market share can influence ROA, so we will include this as a variable. This will be calculated by sales divided by total sales in the industry.

Empirical model

We will try to estimate ROA by using a multiple linear regression. We will use a stepwise regression in EViews, which will automatically select the most important explanatory variables. We will also check for multicollinearity to make sure that none of the variables are related to each other. We do this to make sure to get reliable p-values for the independent variables (Brooks, 2014).

The first model we will test is:

$$\begin{aligned}\widehat{ROA} = \alpha_t + \beta_1 D.Ownership\ identity + \beta_2 D.Public\ listed + \beta_3 Location \\ + \beta_4 Market\ share + \beta_5 Size + \beta_6 Industry + \beta_7 Age \\ + \beta_8 Key\ Policy\ rate + \varepsilon_t\end{aligned}$$

The Explanatory variable “ownership” will capture the effect that type of ownership has on ROA. If it is significant, we can conclude that ownership has an effect. The dependent variable (ROA) will tell us if it is higher for private owned enterprises then for state owned enterprises. This test will help us to answer our research question. First, it will tell us if ownership is of significance on ROA. If it is of significance, can we continue our research to see the difference in ROA between SOEs and POEs. To measure the difference we will compare ROA on the basis of variables that effects ROA. For example, if industry and public listing is of significance, will we compare state owned enterprises with private owned enterprises where both are listed, in the same industry. We need comparable firms to get valid evidence.

Data

We have not collected data yet, but Eskil Goldeng, Leo Grunfeld and Gabriel Benito in 2008 retrieved the same data we need, but only for the period 1990 to 1999. We are confident that this will not be an issue. Accounting laws in Norway say that companies that have more than 4 employees or more than 5 million Norwegian kroners in turnover, shall file information with the Brønnøysund Register Centre. We can therefore obtain information on the majority of Norwegian Companies by using data from the Brønnøysund Register Centre. We have to limit the amount of data, and will therefore not use companies with less than 5 million kroners in turnover, or less than 4 employees. The years we will need data for is 2002 to 2016. We will use annual data to solve our research question.

Most of the data we need can be collected through standard financial statements, which is public. So, data on variables such as revenues can therefore be extracted.

The data from the Brønnøysund Register Centre contains a variable that identifies what kind of ownership the company have. It tells us if the company is owned by a private person, a public authority, another firm or a foreign owner. The data contains a specific code that tells us under what industry they operate in. For example, agriculture has the code 01. The dataset also contains geographical location. We can use this to separate the companies into different location segments.

We have already retrieved the information needed on the key policy rate from Norges Bank. We have extracted the annual rate from 2002 to 2016.

We have to reduce our dataset, since we are focusing on the owner (POE vs. SOE). Hence, we neglect subsidiary companies, companies that are a part of a holding company and companies that are organized as co-operatives or groups.

We may need to omit the banking and finance sector (06, NACE) because they report accounts in a different way than other sectors. At last, sectors for extracting natural resources and a wide selection of industries where there is strong political regulation will also be omitted, e.g. health and social services (08 & 09, NACE) (Goldeng, Grünfeld & Benito, 2008).

Expected results:

Through our testing we expect to find evidence similar to much of the existing theory and literature. We do expect to find evidence of ownership to be of significance when testing on ROA. We also expect the private owned enterprises to outperform the state-owned enterprises.

There is a lot of political effects regarding the profitability of SOEs.
We think that the focus on social outcome will reduce the profitability of SOEs. In a country with democracy like Norway, politicians are dependent of re-election, which can possibly make them focus on maximizing employment and on a better outcome for the society than the managers of private companies do (Sheshinski, 2003).

In POEs the managers have a much stronger incentive to act in the best interest of the board and the shareholders and to survive in competitive markets, compared to the managers in SOEs. Secondly, POEs tend to pursue more aggressive strategies in competitive markets by reducing costs or improve the way of using assets, which will have an effect on ROA (Shleifer, 1998; Sheshinski, 2003). We therefore believe that many POEs will have higher profit margins than SOEs in Norway.

Aldo Musacchio & Sergio G. Lazzarini (2014) talk highly on how the SOEs have learned from history. They have changed their way of controlling the companies. We therefore understand that the difference might not be as significant as we expect. Our testing may give other results then much found in existing literature since we are testing on more recent time then previous studies that we have found.

Thesis progression

January/February	Start gather data and information needed to do the regression.
February	Continue gathering data, organize data and start testing. Find significant variable, test for multicollinearity.
March	Complete testing, gather result and analyzing it.
April/May	Start writing, and create a draft.
June/July	Correct and improve the draft.
July/August/September	Deliver final master thesis

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