

The Impact of LOV (Lagen om Valfrihetssystem) on the Swedish Home Care Sector

A Study on LOV's Impact on Swedish Home Care concerning the quality variables *Consideration of Opinions and Wishes*, *Reception*, *Safety at Home* and *Overall Experience*.

Henrik Berg¹

Gustaf von Platen²

Abstract

There has been an intense debate regarding elderly care in Sweden the last years. Since private actors, the largest owned by private equity funds, entered the market there has been increasing attention regarding large profits to owners, profit transfers to tax havens, industry risk, health care scandals and more. The debate has engaged the whole nation and many of our researched topics have been affected by inaccurate facts. Our research purpose is two-fold. The first part intends to investigate the most debated topics through examining research and actual facts. A currently debated topic concerns prohibiting profits in the elderly care industry. Prohibiting profits is equivalent to prohibit many private health care providers from operating which in turn would reduce patients' freedom of choice. As of May, 2013 there is no research on what impact LOV has had on quality in the home care sector. LOV is a law that was introduced in 2009 and implemented on municipality level, allowing patients to choose freely among providers; whether they are private or publicly owned. If LOV have a positive impact on quality, profits in this industry should be allowed. Therefore, our second part is an empirical study that examines LOV's impact on quality within the home care sector. We compare how the quality has evolved in municipalities where LOV has been implemented with municipalities where LOV has not been implemented. In our study we measure quality through four variables. We have got statistically significant improvements for the two variables *Consideration of Opinions and Wishes* and *Reception* in municipalities where LOV has been implemented. For the two other variables, *Safety at Home* and *Overall Experience*, we have no statistical significant results.

Keywords: LOV, home care quality, elderly care, difference-in-difference estimation, private equity

Tutor: Professor Clas Bergström
Presentation date: 2013-05-24
Location: Stockholm School of Economics
Discussants: Johan Engvall

Acknowledgements: We would like to thank our tutor Professor Clas Bergström for helpful comments and support in writing this thesis. Furthermore, we thank SALAR (SKL, Sveriges Kommuner och Landsting) for the data provided.

¹ 22321@student.hhs.se

² 22156@student.hhs.se

Table of Contents

1. Introduction	3
1.1 Purpose	4
1.2 The LOV-reform.....	5
1.2.1 The buying process.....	6
1.3 Measuring quality in home care.....	7
2. History and background	8
2.1 Elderly care development in Sweden.....	8
3. Examination and discussion of debated topics	9
3.1 Internal interest rate procedure	9
3.2 Profits are indirectly the taxpayers' money	11
3.3 Health care scandals more common in private operated companies.....	11
3.4 Private equity should operate in industries with risk	12
3.5 PE-funds investment horizon is too short	12
3.6 Huge profit extraction	12
3.7 Some claim that capital expenditures decreases after a buyout	13
3.8 Procured elderly care generally comes with lower quality	13
4. Data and Methodology	13
4.1 SALAR-data	13
4.2 SCB-data.....	16
4.3 Regressions	16
4.3.1 Control variables	17
5. Problematization and eventual biases	18
6. Results	20
6.1 Difference-in-difference estimation.....	20
6.1.1 Descriptive statistics.....	20
6.1.2 Graphical illustrations	22
6.1.3 Regression results.....	25
7. Implications and conclusions	26
8. Further research	29
9. References	31
9.1 Written sources	31
9.2 Online sources	31
9.3 Interviews	33
10. Appendix	34

1. Introduction

The intense debate regarding elderly care in Sweden has created many rumors. Since private actors, the largest owned by private equity (PE) funds, entered the market there has been increasing attention regarding large profits to owners, profit transfers to tax havens and health care scandals. Private-equity owned actors have been criticized of managing their nursing homes poorly by understaffing and of having many Lex Maria/Sarah-remarks. A Lex Maria/Sarah-remark is a notification that must be reported if there has been a serious incident involving a patient. Health care providers are legally obliged to report serious injuries and risks of injuries to the National Board of Health and Welfare (Socialstyrelsen), pursuant to Lex Maria/Sarah. The health care provider is obliged to let the patient or a relative present their side of the incident.³ Furthermore, PE-owned actors have been accused of transferring profits to tax havens and of generating very large profits for the owners. In addition to the critique regarding profit transfers, they have been accused of using too high internal interest rates for tax-evading purposes.

Additional critique has claimed that the private actors do not belong in the elderly care industry since there is a low level of risk taking. The critics mean that PE-funds do not belong in this industry due to the claimed fact that the customer flow is close to guaranteed. Left Party leader Jonas Sjöstedt, for example, is a strong proponent of this view.⁴ Furthermore in our interview with the Liberal Party, one of their representatives Lars Bergstig expressed similar thoughts. Another part of the critique is that the profits made by private actors are indirectly the taxpayer's money, since Swedish health care is funded by taxes.

The trigger to the intense debate was the rumored scandals at Koppargården, an elderly care home operated by Carema. The catalyst was when a patient died of blood poisoning due to a poorly treated wound. At first, the media declared that Carema had reduced the amount of staff at Koppargården, and that Koppargården's care-quality had decreased while mortality increased. However, the reporting of the events at Koppargården is not one-sided; both Dagens Samhälle⁵ and a consultant, appointed by the municipality to investigate the events, found that the media critique was unjust in most aspects.⁶

³ See <http://www.socialstyrelsen.se/lexmaria>

⁴ See <http://www.dagenssamhalle.se/nyhet/jonas-sjoestedt-vi-aer-duktiga-pa-att-ha-makt-5042>

⁵ See <http://www.dagenssamhalle.se/debatt/konspirationsteorierna-frodas-pa-dagens-nyheter-2726>

⁶ See <http://www.nsk.se/article/20130214/OPINION/702149914/-/den-pahittade-caremaskandalen>

Dagens Samhälle has investigated the media coverage regarding these types of scandals and reached the conclusion that the expression “health care-scandal” has increased during the past two years. It does not, however, seem as if the scandals themselves have increased. In other words, there has been a huge media-effect that has caused the debate to intensify.⁷

1.1 Purpose

Our purpose of this thesis is two-fold. In the first part we examine the debate and dissect some important themes. Many arguments have been examined, but in many cases misconceptions remain and affect the debate. We want to sort out these arguments by combining real facts with economic reasoning. One of the most current and important statements for the future of the elderly care industry is the one made by the Social Democratic Party; to limit profits.⁸ Another Swedish party, the Left Party, wants to prohibit all profits within this industry.⁹ To prohibit profits is equivalent to prohibiting many health care providers from operating, in turn reducing patients’ freedom of choice.¹⁰ Therefore, the second part of our study, and our primary objective, is to conduct an empirical study on the LOV (Lagen Om Valfrihetssystem) reform’s impact on home care quality in Sweden’s municipalities. This law enables freedom of choice, meaning that patients are given the opportunity to choose their health care provider; be it public or private. Each individual municipality decides whether they want to implement the reform or not. Our hypothesis is that freedom of choice benefits the home care sector. As economists we know that markets operate more efficiently under such circumstances, and we also believe that people prefer to have the opportunity to choose from different alternatives.

As of May, 2013 there is no study on how LOV has affected quality within the Swedish home care sector.¹¹ If LOV is found to improve quality within this sector, then we can conclude that the reform benefits patients. This would imply that politicians should accept that these care providers make a profit, as they offer patients a wider range of options with better quality.

Our aim is for this report to be a useful reference for future decision-making. As we have shown, the topic we are investigating is politically charged and there are a lot of rumors and prejudices that have emerged in the media-storm. The intense media pressure has made politicians cautious in their decision-making. One recent example is the Moderate Party,

⁷ See <http://www.dagensamhalle.se/nyhet/medierna-frossar-br-i-varuskandaler-4670>

⁸ See <http://www.socialdemokraterna.se/Webben-for-alla/Landsting/Vastsverige/Nyheter/Invanarnas-valfrihet-ar-viktigare-an-yardforetagens-mojlighet-att-valja-patienter/>

⁹ See <http://www.ka.se/index.cfm?c=102354>

¹⁰ See http://www.svd.se/opinion/ledarsidan/man-kan-kolla-kvalitet-mer-an-en-enda-gang_7298521.svd

¹¹ Dagens Samhälle, issue #12 2013

which in early March, 2013 withdrew the suggestion of making LOV mandatory in all municipalities.¹²

We considered what effect freedom of choice would have had if only public providers were allowed. This would mean that patients could choose between different public providers. However, without private providers there would be no need for the LOV reform, that type of agreement form would not be needed since everything would be handled within the public organization. Furthermore, according to Anders Anell, in order to get the benefits of competition private actors are needed. It is not possible to get the potential benefits from LOV without enabling private actors from operating. Even if a municipality has several separate divisions operating in the local elderly care, all the divisions will still be represented by the same provider; the municipality. Therefore that kind of competition will not be equivalent to the competition among various private actors. Additionally, municipalities might have several elderly care homes, which mean that patients choose from different homes that might differ in location characteristics etc. However, in the home care sector where the provider comes to the patient, splitting a municipality operator into several operators to get options would not really grant patients freedom of choice. Bearing what has been discussed in mind we have chosen to not investigate this topic further.

1.2 The LOV-reform

In January, 2009 the reform Lagen Om Valfrihetssystem was implemented in Sweden.¹³ The law speaks in favor of a society where both public and private actors operate (Government Proposition). Prior to the reform, municipalities were responsible for the public procurement of health care services and citizens were assigned to the service provider that the municipality had procured the service from. This meant that there were both private and state-owned providers, but most patients did not have the freedom to choose which of them they wanted to use. However, patient choice (kundval) existed to some extent in all Nordic countries, except for Iceland, at the time when LOV was implemented. In the beginning of 1990s, a small number of Swedish municipalities introduced patient choice in elderly care, similar to the LOV-system (Lusensky 2007).

In municipalities with LOV, patients can choose which specific provider's service they want. It is mandatory for all the counties to have LOV in the primary elderly care as from January, 2010. In the county councils' and municipalities' other operations such as care taking of

¹²See www.dn.se/debatt/lagen-om-valfrihet-bor-inte-bli-obligatorisk

¹³ See http://www.kkv.se/t/SectionStartPage_4198.aspx

people with disabilities, family counseling and social psychiatry, decision-makers are however free to choose whether to implement LOV.

Our aim is to examine LOV's impact on quality within the elderly home care sector. In order to conduct an empirical study we needed a large data sample, and since LOV is most common in the home care sector we chose to focus on this area. Of Sweden's 290 municipalities, 129 have implemented LOV, most of which have implemented LOV in the home care sector.¹⁴ We also suspect that other factors may affect how the quality in each municipality evolves. Therefore, we have decided to include two control variables in our regressions. We have included one variable concerning municipality wealth and one concerning population density. We discuss these variables further in our data section.

1.2.1 The buying process

On the website www.valfrihetswebben.se, operated by Kammarkollegiet, municipalities are obligated to advertise the services they wish to procure. The procurement process must follow guidelines from EU-law, meaning that applications are evaluated equally and that requirements regarding the procurement are made public. According to Konkurrensverket (2012) the public procurement law LOU (Lagen Om Offentlig Upphandling) states that there are two different evaluation grounds from which to award contracts. The municipalities as purchasers can either choose the lowest bid price or the most economically valuable bid. The evaluation grounds need to be specified in the contract. The most common case is that the municipality chooses the alternative with the lowest price, since this is the most transparent option. In the health and elderly care sector, other aspects besides price are also important, making offers more difficult to evaluate.

The advertisement on Valfrihetswebben specifies requirements and compensation level. If a supplier fulfills these demands, the municipalities will approve them and the supplier is free to start its operation and attract customers. When a supplier is approved there is no price competition, since the compensation level is already stated.

The municipality is responsible for making all information available for patients in order for them to make the best possible decision in choosing their provider. In addition, health care providers can market themselves in order to be perceived as more attractive for patients. Health care providers are able to apply at all times and applications are handled on a rolling basis throughout the year. This makes it easier to enter the market. However, no approved

¹⁴ See http://www.skl.se/vi_arbetar_med/valfrihet/valfrihetuppdrag/kommuner_och_valfrihetssystem_oktober_2012

provider is guaranteed any deals since they rely on patients choosing to seek their services. It does not matter which provider patients choose, or whether it is private or municipality-owned – the municipality pays for the service regardless.¹⁵

Since there were no compiled data regarding which year each municipality implemented LOV we decided in consultation with SALAR to use the date when the municipality first started to advertise on valfrihetswebben.se as a proxy for the exact implementation date. SALAR is the Swedish Association of Local Authorities and Regions; SKL, Sveriges Kommuner Och Landsting. They represent the governmental, professional and employer related interests of Sweden's municipalities, county councils and regions.

1.3 Measuring quality in home care

Defining quality in home care is difficult. Quality is experienced differently depending on individuals and there are both objective and subjective parameters, meaning that there is a continuum of variables that can be used. The National Board of Health and Welfare (Socialstyrelsen), which is a government agency in Sweden under the Ministry of Health and Social Affairs, have decided to measure home care quality in their survey through four specific variables. They have concluded that these variables are the most accurate measurements of quality, which is why we decided to use them in our study. These four variables are;

- *Consideration of Opinions and Wishes (Hänsyn till åsikter/önskemål)*
- *Reception (Bemötande)*
- *Safety at Home (Trygghet i ordinärt boende)*
- *Overall Experience (Hemtjänst i sin helhet)*

Survey-takers were asked about each of these variables, and were asked to choose between the answers “not satisfied” and “fairly satisfied or very satisfied”. For example, if a municipality receives the score 80 on the variable *Reception*, it means that 80% of respondents were fairly satisfied or very satisfied with the reception. Our intention is to measure how the quality has changed since the LOV-reform was implemented, which we will do by conducting difference-in-difference regressions.

¹⁵ See

<http://www.tillvaxtverket.se/huvudmeny/insatserfortillvaxt/flerochvaxandeforetag/halsavardochomsorg/lagenomvalfrihetlov.4.21099e4211fdba8c87b800017768.html>

2. History and background

Before we start our examination of the debated topics, we will give a brief account of the privatization of the Swedish welfare system.

2.1 Elderly care development in Sweden

One of the major roles of the government is to create an efficient society. The definition of an efficient society is diffuse, but a common definition is the maximizing of total welfare. In Sweden the development of a social policy can be traced back to the late 19th century. It started when the Riksdag (the Swedish parliament) passed a bill aimed at reducing work related injuries and accidents. During the years after World War 2 the Riksdag decided to implement reforms to increase the scope of government-provided elderly care, and the government's role in elderly care has been debated ever since. The social welfare system is built upon the philosophy that everybody should have a democratic right to the system regardless of income and position on the labor market (Trydegård 2000).

In a social welfare state, public sector services cannot always be privatized. Services such as education and health care are legally protected rights in Sweden, and must therefore be made available to all citizens. On the other hand, it might not always be in private actors' interest to cater to all people. However, there are situations where private actors may be more efficient at providing public services. Lundsten and Löfqvist (2011) have shown that private forms of education in Sweden operating under the voucher system can be more efficient, both in terms of academic achievement and operating performance, than those owned by governments. In Sweden, public social expenditures are large and mainly financed with tax payments. However, opinion polls have shown that there is public support for this type of expenditures (Trydegård 2000).

Municipalities in Sweden have a long tradition of freedom when it comes to the municipal budget; while the government provides guidelines and control through supervising authorities. In 1992, a new legal reform, known as "Ädelreformen", was introduced. This reform stated that municipalities should be responsible for long-term elderly care. The purpose behind the reform was partly to make it possible for fragile elderly people to stay in their own homes and still receive treatment. Moreover, the reform was also intended to use public resources more efficiently. This reform was influenced by the ongoing trend of New Public Management, which was characterized by governments encouraging competition (Stolt and Winblad, 2009). New Public Management in turn was affected by the privatization wave that emerged in the

UK during the 1980's. Following the success in the UK, several governments around the world implemented the practice of denationalization. Research has shown that privatization contributes with increased efficiency, productivity, profitability and lower costs.¹⁶

The reform did not only entail increased responsibility, but also created economic incentives for municipalities (Trydegård 2000). The increased responsibility in turn made municipalities look for opportunities to operate more efficiently and with tighter financial control. This gave birth to the purchaser-provider model, which enabled private contractors to offer their services to the municipalities. Private contractors often increase efficiency, since they are more willing to replace poorly performing management. PE-funds in particular are more active in replacing politically appointed management with more business-oriented management. This is a typical way of how they create value, through what is known as governance engineering (Kaplan & Strömberg 2008).

Our area of investigation, home care, is part of the elderly care system and consists of two kinds of services; service care and nursing care. Examples of service care include housekeeping, laundry and making food purchases. Nursing care mainly concerns maintaining the daily hygiene of patients, preparing meals and simpler care that doctors usually hand over to patients or relatives.¹⁷

3. Examination and discussion of debated topics

As mentioned before, the purpose of our thesis is two-fold. Below we conduct the first part of our study, examining debated topics through the lens of economic reasoning and empirical evidence. Since there is no research on LOV's impact on quality, we will conduct an empirical study after this section in order to answer the second, and primary, part of our report.

3.1 Internal interest rate procedure

The critique circulating in media is not entirely accurate.¹⁸ Transferring profits to tax havens by using high interest rates has been a criticized procedure. This procedure of reducing taxes on debt financed investments was completely legal until January 1, 2013 as long as the

¹⁶ Ehrlich, Gallais-Hamonno, Liu, and Lutter (1994). Majumdar (1996). Dewenter and Malatesta (2000).

¹⁷ See <http://www.valfrihetswebben.se/kommuner/annons.aspx?kategori=all&kommun=525&sokomrade=kommuner&annons=334>

¹⁸ See <http://www.dagensamhalle.se/debatt/dagens-nyheter-saknar-kunskap-om-riskkapital-2829>

interest rates corresponded to market based levels of interest rates. The perception that corporations are breaking tax laws still circulates in the debate, although some private equity owned companies as for example Carema has decided to convert the so-called shareholder loan to equity. This transformation means that the owners will not take advantage of the internal interest rate deductions.¹⁹ Critics have also claimed that the internal interest rates are too high. The new law from January 1, 2013 includes further regulations concerning the interest rates. In addition to the existing rules some new aspects were added. These new rules are intended to reduce the usage of internal loans that do not have the right purpose. Skatteverket are those who define if the loans have the right purpose, meaning that they can prevent companies from applying internal loans if they are found not to be based on right commercial grounds.

The so called ten-percent-rule, which means that the interest payments can be deducted if the receiver is taxed with at least ten percent, is complemented with a general “ventile” (ventil). This “reverse ventile” (omvänd ventil) means that if Skatteverket believes that the debt has arisen mainly to achieve tax benefits, deductions of interest expenses are not allowed. This applies despite if the conditions for the deductions for the so called ten-percent-rule are fulfilled. Furthermore, the law includes corrections for the so called ventile for which deductions of interest expenses can be made – even if the receiver is not taxed with at least ten percent – if the company can show that the conditions are mainly business motivated. Naturally, companies consider achieving lower taxes as a central part of their business. However, this is not perceived as business motivated by Skatteverket. The proposal also include that the provisions only hold if the interest receiver belongs to the European Economic Area (EEA), or in a country which Sweden have an agreed tax arrangement. This means that interest payments to countries that are known as tax havens can no longer be deducted.

The new law opens for subjective assessments since it will be hard to construct praxis. Companies will have to motivate their capital structure to Skatteverket, this creates uncertainty among companies and investors. An alternative model has been implemented in Finland, which enables interest expenses to be deductible up to a level of 30 percent of EBITDA.²⁰ According to Richard Hellenius at Svenskt Näringsliv, this is a more suitable and straightforward way of dealing with the interest expenses as compared with the Swedish

¹⁹ See <http://caremacaredokumentinifran.se/?paged=3>

²⁰ See <http://www.pwc.fi/en/services/proposal-regarding-limitations-on-interest-deductions.jhtml>

model where you have to evaluate if each case is based on businesslike manners.

Furthermore, Hellenius states that large international companies that have been interested in investing in Sweden have in some cases withdrawn their interest due to the uncertainty in the interest expense deductions. Hellenius mentioned one specific example when a company invested in Finland instead of Sweden. He says that when a company makes an investment calculation they cannot afford to be uncertain if the interest expenses will be deductible or not.

3.2 Profits are indirectly the taxpayers' money

A common argument in the debate is that private actors have nothing to do in the care sectors and specifically that they should not make profits originated from taxpayers. Critics argue that all tax funds should go to the operations and not to profits. What critics seem to forget is that there are many other industries that are in part financed by tax funds, such as the manufacturers of police and fire protection equipment, road building and maintenance, etc. Forbidding all suppliers of government services to make profits is thus not a suitable solution.

3.3 Health care scandals more common in private operated companies

When looking at health care scandals in Sweden, 85 percent occurred in the public, state-owned enterprises and 15 percent in private enterprises. These figures are equivalent to their relative market fractions; state-owned represents 85 percent and private 15 percent of the market.²¹ Thus, we can conclude that health care scandals occur to the same extent in both privately and publicly operated companies. Furthermore, measuring care deficiencies by looking at the number of Lex Maria/Sarah in a unit can be misleading. Mats Edman at Dagens Samhälle concludes that having many Lex Maria/Sarah-remarks is not necessarily a negative thing. Reporting deviations in a responsible manner in order to improve efficiency and routines is in fact a positive thing. It is hard to explain to the public that many Lex Maria/Sarah-remarks do not necessarily mean low quality. According to Helena Gustafsson at Socialstyrelsen, these remarks can be a tool that the provider can use in order to improve its operation.²² The head of quality at Carema, Lena Freiholtz, states that reviewing these remarks is an important way of identifying improvement opportunities. Carema works actively with designing optimal systems that detect these kinds of flaws. Mats Edman concludes that it is typical for private actors to implement digital quality systems that are intended for finding deviations. In addition, he says that by using these kinds of systems,

²¹ See <http://www.dagensamhalle.se/nyhet/medierna-frossar-br-i-varskandaler-4670>

²² See <http://caremacaredokumentinifran.se/?p=1233>

problems are identified much more easily and hence problems are solved more efficiently. Politicians are skeptical when they hear about problems arising; however, as argued by Helena Gustafsson, the amount of remarks is not automatically a negative signal.

3.4 Private equity should operate in industries with risk

As we have mentioned, an approved health care provider is not guaranteed any patients in municipalities that have implemented LOV. Providers need to provide high quality services and market themselves in order to gain customers. Even in municipalities without LOV, where the municipality does the procurement with contracts for several years, there is risk. Providers always risk getting their contracts denounced or not extended if not managed satisfactory. Thus, stating that the industry is risk-free is simply not true.

3.5 PE-funds investment horizon is too short

We believe it is necessary to account for a typical holding period, in order to have a point of reference when discussing PE-funds in health care. After raising capital, a PE-fund has up to five years to invest. When the capital is invested they have additionally five to eight years to return money to the initial investors (Kaplan & Strömberg 2008). We believe that a holding period of five to eight years in our modern economy, often driven by quarterly capitalism, is quite a long time. Furthermore, many of those who criticize PE-funds' holding periods do not take into account secondary buyouts. Taking secondary buyouts into account makes the private equity holding period even longer. For example, Attendo, one of the biggest PE-owned companies in the elderly care sector, has been owned by private equity actors since 2005. In 2006, IK Investment partners bought Attendo from Bridgepoint, which in turn had bought Attendo the year before. Carema and Aleris have been PE-owned since 2005, and Capio since 2006.²³

3.6 Huge profit extraction

The notion that private equity funds are making large profit extractions from their companies is not true. Since a private equity fund has a limited lifetime, one of its most important aspects is the exit strategy. There are three typical exit strategies; strategic buyer (a buyer from the same or a related industry), secondary leverage buyout (another PE-firm acquires the firm) and IPO (Initial Public Offering, i.e. listing the company on a stock exchange). It is typical for private equity owned funds to make the largest proportion of their profits when selling the portfolio company and not as dividends during the holding period (Kaplan & Strömberg

²³ See <http://kentwerne.se/granskande-artiklar/den-nya-valfardsindustrin/fakta-om-de-storsta-inom-varden-och-skolan/>

2008). By examining the private equity model and by interviewing industry experts we conclude that most PE-funds that have invested in privately operated health care providers reinvest all profits in order to grow their business and increase the value for a future sale.²⁴

3.7 Some claim that capital expenditures decreases after a buyout

This could mean that long-term performance and innovation is sacrificed in order to get the short-term cash flow needed to make debt payments. Lerner et al. (2008) examines this by using patent as a proxy for innovation and finds that there is no decline in patents post-buyout. This implies that companies do not underinvest in their future long-term performance after a buyout. Lerner et al.'s study did not focus on any specific industry. For our specific industry of research, Torbjörn Carlbom at Dagens Samhälle states that there are often PE-owned companies, and not municipalities, that are willing to make investments.

3.8 Procured elderly care generally comes with lower quality

A new research paper published at Umeå University shows that elderly care that has been procured exhibits lower mortality and lower costs without worsened quality. The same research found that procured elderly care is marginally cheaper and marginally better than elderly care run by municipalities, and is at the same time perceived as equal by patients (Bergman et al. 2012). An American study shows the opposite of what the Swedish research found, however. That study found that private actors in elderly care have more unhealthy patients, worse quality and fewer employees.²⁵ Although the American study confirms the statement, the American market may be characterized by different conditions than the Swedish. Therefore, we conclude in accordance with the study from Umeå University that there is no evidence that procured elderly care services exhibit lower quality in Sweden. Furthermore, according to Arfwidsson and Westerberg (2012) private equity ownership has no adverse effects on the quality in elderly care.

4. Data and Methodology

4.1 SALAR-data

As mentioned, our empirical part of the thesis measures quality in home care through four specific variables; *Consideration of Opinions and Wishes, Reception, Safety at Home* and

²⁴ See <http://www.dagensamhalle.se/debatt/dagens-nyheter-saknar-kunskap-om-riskkapital-2829>

²⁵ See <http://www.svtplay.se/video/211667/vi-gav-dom-var-pappa>

Overall Experience. We have received data for these variables from SALAR. Socialstyrelsen conducts a survey each year that measures patient satisfaction. SALAR compiles the outcome of this survey in “Open Comparisons” (Öppna Jämförelser). Open Comparisons compares information regarding quality, results and costs in certain areas that municipalities, counties and regions are responsible for. The aim of the survey is to stimulate comparisons in order to obtain better results and contribute to a greater openness concerning results and costs for the activities that are run by municipalities. The sample period is 2008 and 2010-2012, which gives us data both prior and post the LOV-reform. There is no data from 2009 since Socialstyrelsen did not conduct a survey this year. The data is based on information from Sweden’s 290 municipalities.

The survey has been sent out to people older than 65 years that use the home care service in Sweden. During 2012, 89 436 people using the service have been asked to answer the survey. Of these, 69 percent (61 600) have responded. Furthermore, Statistics Sweden, SCB (Statistiska Centralbyrån), was responsible for sending out and compiling the results from the survey. Three reminders have been sent out (Socialstyrelsen).

Table 1: Home care survey statistics

	2008	2010	2011	2012
Sample size	77 500	86 580	83 626	89 436
Response frequency	72%	70%	67%	69%

The response frequency, from the survey of 2012, between men and women is equally divided and higher for patients that are 80 years or older as compared with other age groups. Furthermore, the response frequency is higher for patients that have a higher level of education than upper secondary school and higher for patients that are born in Sweden as compared with patients born in another country. Patients that are in a healthier condition have responded to a greater extent. Due to health conditions patients may be unable to answer the survey, thus they hand over this task to another person. Table 2 provides statistics regarding who have answered the survey. We can conclude that a large proportion has answered the survey themselves.

Table 2: Respondent statistics

Respondent	
Patient	76%
Close relative/family	15%
Other	3%
No information	6%

In order to find out which year each municipality had implemented LOV in home care, we had to investigate each municipality separately. We did this by examining municipalities' advertisements on valfrihetswebben, where in some cases the exact implementation date was stated but in many cases we had to contact municipalities by telephone or e-mail in order to find out. We needed an implementation date for the reform in order to get an event year to our time series which was necessary for our difference-in-difference regressions. Since the sample is from 2008, 2010-2012 we had to choose between 2010 and 2011 to use as event year of the reform. Most municipalities implemented the reform during 2010. Thus, we have used 2010 as the event year in our regressions.

Since the data from SALAR measures quality in municipalities by pooling service care and nursing care there is no way to separate service care from nursing care. Some municipalities have only implemented LOV in the service part of home care and not in the nursing part. To measure the true effects of the LOV reform with our data from SALAR we decided to examine only those municipalities that have implemented LOV in both areas. Furthermore, municipalities often implemented LOV in early January. This means that the reform has been used in practice during the entire coming year, meaning that it is equivalent to implement the reform in December. We classified early January implementation as late December because the quality surveys are handed out on a yearly basis, and our interest is to compare years with and without the reform.

We assumed, in consultation with SALAR and with municipalities that have implemented LOV, that it takes some time before the reform has a significant effect. Therefore we have assumed that the effects from the reform arise first during the coming year after that the municipality has implemented the reform. For example, the effects of implementing the reform in 2010 would be seen in the data first in 2011. Furthermore, in order to strengthen this assumption we conducted regression analysis defining the post variable to include year

2010 and obtained insignificant results for all the quality variables. Hence we chose not to disclose these results.

Based on the outcomes from the survey where patients have been asked if they are fairly or very satisfied, we have ranked municipalities in increasing order, meaning that the municipality with the highest score has the lowest ranking, 1 out of 290. The municipality ranked first will be the municipality that has the highest proportion of fairly or very satisfied patients. The results from 2012 were already ranked. The reasoning behind the ranking was that we needed data comparable over time. The survey questionnaire changed structure in 2012, therefore we could not compare the actual proportion of patients answering that they are fairly or very satisfied with the survey data from 2008, 2010 and 2011. In order to overcome this problem and to get comparable data over time, we decided in consultation with SALAR that a ranking system was the most appropriate.

4.2 SCB-data

We grouped municipalities by population density into deciles. There are 290 municipalities implying that each decile constitutes of 29 municipalities. We have used population density data from 2012 as a proxy for the rest of our sample period since we wanted to have the same municipality in each decile constant over time. Furthermore, we believe that this variable is not likely to change dramatically over time. For the same reasoning, we have chosen to use a constant measure of income throughout the time period which is defined as the average income level during 2011. The data originates from Statistics Sweden, SCB (Statistiska Centralbyrån).

4.3 Regressions

When performing the difference-in-difference estimation we use a simplistic regression for each quality variable, which we thereafter enhance by including control variables. Each quality variable will be the dependent variable. We begin by defining the *treatment* variable which is a dummy variable that takes on the value one if the municipality has implemented LOV and zero otherwise. Our treatment group thus consists of those municipalities that implemented LOV in both service and nursing home care during 2010. Our control group consists of those municipalities that have not implemented LOV as of October 2012. In the next step we define a time dummy *post*, which takes the value one if the year being 2011 and 2012 which is post reform, and zero otherwise.

Our first regression specification, MODEL 1, is:

$$y = \alpha_0 + \partial_1 \times Post + \partial_2 \times Treatment + \partial_3 \times Post \times Treatment + \varepsilon \quad (1)$$

where y is defined as either ranking for *Consideration of Opinions and Wishes*, *Reception*, *Safety at Home* or *Overall Experience*. α_0 is the intercept for municipalities in the control group prior reform, ∂_1 estimates the additional intercept effect of the time after the reform, ∂_2 is the additional intercept effect for municipalities implementing the reform, ∂_3 is the difference-in-difference estimator of the effect of the reform and ε is the error term.

Thereafter we include our first control variable which is *population density*. This variable controls for different population densities between municipalities. The municipalities are split into 10 deciles based on 2012 years population density. We choose to use a fixed measure of population density to ascertain that changes in population density during the sample period are not captured by the measure. We argue that this is valid as the population density does not change significantly during the time period studied and hence, the ranking holds over the studied time period. Municipalities with the highest population density are assigned to the 10th decile and municipalities with the lowest population density are assigned to the 1st decile. Table A1 describes the different cut off points for each of the ten deciles. The resulting regression, MODEL 2, is:

$$y = \alpha_0 + \partial_1 \times Post + \partial_2 \times Treatment + \partial_3 \times Post \times Treatment + \partial_4 \times PD + \varepsilon \quad (2)$$

where PD represents the population density variables.

Our final regression, MODEL 3, adds the control variable *income*, which is the natural logarithm of average income in the municipalities. As with population density, we choose to use a fixed measure of income. The resulting regression is:

$$y = \alpha_0 + \partial_1 \times Post + \partial_2 \times Treatment + \partial_3 \times Post \times Treatment + \partial_4 \times PD + \partial_5 \times Income + \varepsilon \quad (3)$$

4.3.1 Control variables

Population density

According to our interviews and research, one possible factor affecting how well the implementation of LOV works in municipalities is the population density. LOV's effect on municipalities' quality ranking might depend on the population density. For example, representatives for municipalities with low population density claim that even if LOV is

implemented private actors may not operate in the municipality. Population density does then seem to be a proxy for attractiveness of doing business. For example, a private actor may find it unprofitable to operate in a municipality with long distances between customers since the production costs will be higher as compared in municipalities with high population density. The success of implementation regarding LOV is reflected in the “Open Comparisons” ranking. Thus by controlling for population density we control for that municipalities with different levels of population density might have different effects on rankings through the success of the LOV implementation. Table 5 shows that the mean of population density for treatment group is higher as compared with the control group.

Furthermore, according to interviews, population density may affect whether LOV is implemented or not. If we do not control for population density this variable will be in the error term and hence, if correlated with the difference-in-difference estimator and the dependent variable (quality ranking), it might cause an omitted variable bias.

Income

As we have mentioned, since “Ädelreformen” was introduced in 1992 municipalities’ responsibility increased for the long term elderly care which in turn created economic incentives. Thus municipalities strived after having tighter financial control. It is thus likely that a wealthier municipality procures care of higher quality. We use average income in 2011 as a proxy for municipalities’ wealth and control for this difference between municipalities in our regressions. By including an income variable in the regression we control for the differences in ranking depending on variations in municipalities’ wealth.

5. Problematization and eventual biases

A common problem when conducting empirical research is the issue known as survivorship bias. This issue states that only companies that are financially strong will survive leaving the others to default. Since our study is based on municipalities the default risk is close to non-existing meaning that survivorship bias is not likely.

A typical survey problem is how the questions are constructed.²⁶ Some questions can be constructed to seek a preferable answer, which in turn could give biased results. The organization constructing the surveys is as mentioned Socialstyrelsen. The intention with the

²⁶ See <http://www.annualreviews.org/eprint/rU4UOoizjrXROhijkRIS/full/10.1146/annurev.soc.29.110702.110112>

survey is to give an independent and objective evaluation. Thus, the existence of the typical survey problem should be of low risk in our study. As mentioned, the questionnaire changed structure in 2012 and we overcame this problem by using a ranking system.

Defining quality is a hard task and there are continuums of variables that can be used to measure quality. Socialstyrelsen is a professional organization seeking to obtain the most accurate and objective results. They have decided to measure all various quality aspects through the four variables that we have used in our study. Thus we believe that these variables are a good proxy for overall quality.

There are perhaps more potential variables which to control for in our regressions. In our case we believe that population density and income are the most important variables to account for.

We also conducted research regarding if there had been a major event during 2010 that could have affected the treatment or control group in our study. We did not find any event that could have affected these two groups and it is very unlikely that an event occurred that only affected one of the two groups.

Our sample consists of data from 2008, 2010, 2011 and 2012. It can be argued that the data set is too narrow and thus making it hard to make accurate conclusions. However there is only data available from these years and SALAR started to make this kind of survey also during these years. Thus, our sample consists of the best data available as of now (2013).

A potential pitfall to regression analysis could be reverse causality. We argue that the risk for reverse causality in our study is low. What we want to measure in our study is if LOV creates higher quality. In this case the reverse causality would be if municipalities with already high quality would implement LOV as an effect of their quality level. As can be seen in table 3 the proportion regarding if the survey takers are fairly or very satisfied does not vary to a great extent between treatment and control group. We used data to table 3 from 2008 since most municipalities began to discuss whether to implement LOV or not well in advance of the exact implementation date.

Table 3: Proportion that has answered that they are fairly or very satisfied

2008	Cons. of Opinions & W.	Reception	Safety at Home	Overall Experience
Treatment	65%	78%	74%	75%
Control	64%	79%	73%	75%

Thus, reverse causality does not seem to be an issue in our study. It seems that if the reform has been implemented due to mainly political reasons and not to variation in quality. Lastly, the possibly best measure regarding LOV implementation date would be to look at when the first patient in each municipality signed up to use a private actor in accordance with the LOV-reform possibilities. This is however beyond the scope of this thesis.

After reviewing eventual problems we conclude that the results from our empirical research will still be valid since the discussed potential problems are not obstacles for our investigation.

6. Results

6.1 Difference-in-difference estimation

6.1.1 Descriptive statistics

A comment on our sample number is necessary, logically the number should be 1160 since there are 290 municipalities in Sweden and our sample period is four years (2008, 2010-2012), however, as can be seen in table A2, our number of observations is 820 which suggests that 340 observations has been dropped. Since our treatment group is those who implemented LOV 2010 and our control group is those without the LOV-reform, we had to eliminate the municipalities that implemented LOV in 2008 (10 municipalities were eliminated), 2009 (29), 2011 (25) and 2012 (9). Furthermore, some municipalities have only implemented LOV in the service home care sector. Thus we eliminated these municipalities, 2008 (0) 2009 (3) 2010 (3) 2011 (5) and 2012 (1). The eliminated municipalities sum to 85. Our treatment group, municipalities that implemented LOV in 2010, consists of 40 municipalities. These municipalities are those who have implemented LOV both in the service and nursing area in the home care sector. Furthermore our control group, municipalities that has not implemented LOV at all, consists of 165 municipalities. Notice that the sample number is less than a third in our treatment group compared to our control group.

Comparing our four variables in table 4 we conclude that treatment and control group show similar values except for population density. The mean population density for the treatment group is 203.12 inhabitants/km² and 94.90 inhabitants/km² for the control group which implies that the differences are large. Once again, we can thus conclude that controlling for population density is important in the regressions. Average income is slightly higher for treatment group; however standard deviation for income is significantly higher in the treatment group, more than twice as large as compared with the control group. Our treatment group has a maximum income of 486 659 SEK while the control's maximum is 352 999 SEK.

Table 4: Summary statistics for treatment and control group for the whole period

Control					
	Mean	Min	Max	SD	N
<i>Population density</i>	94.90	0.24	4 705.07	413.64	660
<i>Income</i>	237 851.90	199 994.00	352 999.00	19 237.14	660
Treatment					
<i>Population density</i>	203.12	2.37	3 693.94	600.97	160
<i>Income</i>	261 076.50	214 412.00	486 659.00	47 715.16	160

As we have stated, a low rank is preferable for our four quality variables. Table 5 shows that in the control group three out of the four quality variables has a slightly higher rank post the LOV-reform. The exception is the improvement in the quality variable *Safety at Home*, which has gone from an average rank of 139.92 to 135.88. Looking at treatment group post the reform the results are quite different. Each of the four quality variables show a lower rank than prior the reform. The difference in the mean post compared to prior the reform in our treatment group, is higher compared to the corresponding difference in our control group. All of Sweden's 290 municipalities are not divided among the treatment and control group. Since the sum of average ranking for all municipalities are constant over time, a decrease for both treatment and control group must be compensated by an increase for the other municipalities.

Table 5: Summary statistics for treatment and control group prior and post the LOV-reform

Control	<i>Prior the reform</i>					<i>Post the reform</i>				
	Mean	Min	Max	SD	N	Mean	Min	Max	SD	N
Reception	140.4	1	290	85.43	328	143.11	2	285	85.1	319
Cons. of Op. & W.	143.36	1	290	86.03	328	146.9	1	285	83.17	318
Safety at Home	139.92	1	290	84.92	328	135.88	1	285	85.06	319
Overall Experience	133.82	1	287	85.23	330	135.73	1	289	86.35	324
Population density	94.9	0.24	4 705.07	413.96	330	94.9	0.24	4 705.07	413.96	330
Income	237 851.9	199 994	352 999	19 251.75	330	237 851.9	199 994	352 999	19 251.8	330

Treatment	Mean	Min	Max	SD	N	Mean	Min	Max	SD	N
Reception	152.36	9	287	79.76	80	123.99	1	280	81.72	78
Cons. of Op. & W.	152.9	7	287	83.47	80	120.06	4	276	84.58	78
Safety at Home	158.43	5	283	83.69	80	134.95	2	282	83.36	78
Overall Experience	144.13	6	290	82.07	80	129.49	4	280	81.93	78
Population density	203.12	2.37	3 693.94	602.87	80	203.12	2.37	3 693.94	602.87	80
Income	261 076.5	214 412	486 659	47 865.92	80	261 076.5	214 412	486 659	47 865.92	80

Table A3, provided in the appendix, provides more detailed information on how ranking has evolved during the specific years.

6.1.2 Graphical illustrations

Before we ran any regressions we began by conducting difference-in-difference graphs. We did this because we wanted to see if treatment and control group had similar trends in each of the four variables prior to the LOV-reform. It is necessary that the trends are relatively similar prior to the reform in order to get accurate results. This allows us to draw conclusions about the trends post the implementation of the reform. If the trends prior to the reform for the two groups are not similar, the results can be misleading.

As one can see in figure 1 the trend for the variable *Consideration of Opinions and Wishes* before the reform was similar for the treatment and control group. Following the reform we can see that treatment group continues to decrease its relative ranking and as of 2011 the slope of the trend line gets steeper. The steeper slope indicates an improvement in relative ranking. Thus, post the reform treatment group has decreased in relative ranking, which is favorable since a lower ranking number indicates a higher relative quality. For our control group the

trend line changes after the reform was implemented. It is upward sloping, suggesting deterioration in relative ranking.

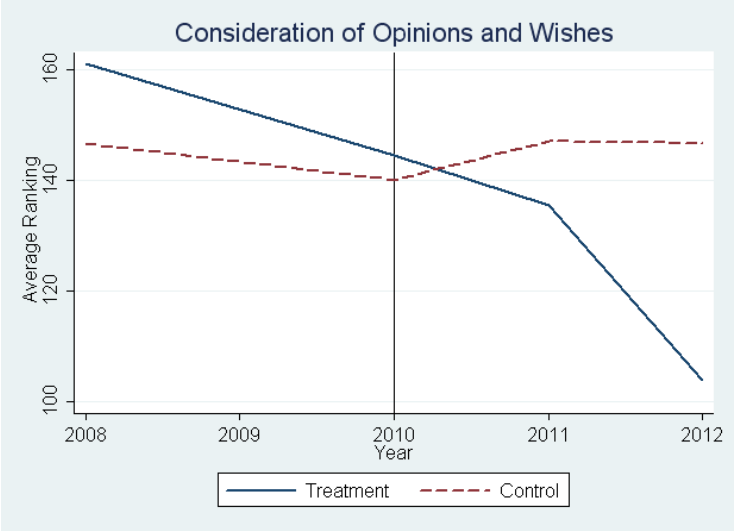


Figure 1: Average ranking for the variable *Consideration of Opinions and Wishes*.

In figure 2, for the variable *Reception*, the trend lines prior to the LOV-reform are not as similar as those in the variable *Consideration of Opinion and Wishes*. However, the trends are relatively comparable; both downward sloping. After the reform was implemented, the trend for treatment group continues to be downward sloping, however with a flatter slope. As of 2011 the trend line has a steeper downward slope suggesting a further improvement in relative ranking. The trend for control group shows the opposite; the ranking increased. This can be concluded from looking at the trend after LOV was implemented in 2010, the trend line is now upward sloping which suggests a higher average rank. In 2011 the trend line for control group stagnates, but at a higher ranking level than prior the reform.

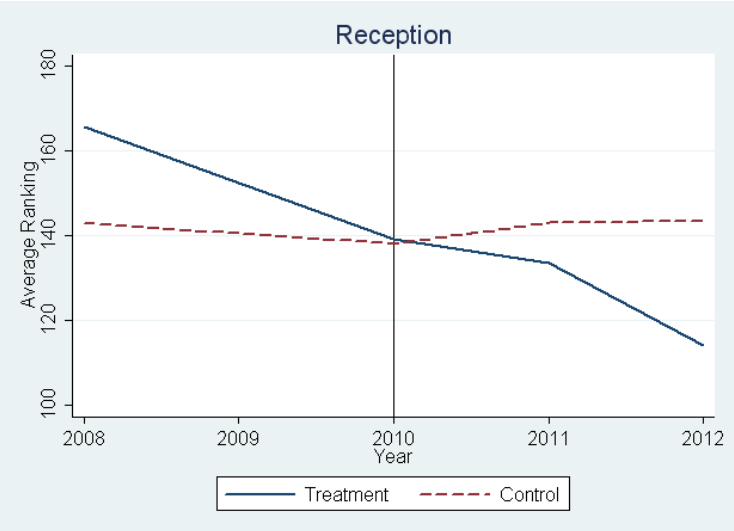


Figure 2: Average ranking for the variable *Reception*.

Figure 3 show that the trend lines for the variable *Safety at Home* are similar and downward sloping prior to the reform. Ranking in both treatment and control group improves initially post the reform. This can be seen since the trend lines are downward sloping. Note that the slope is steeper for treatment group than in control group concluding that the improvement in average ranking is larger for the treatment group. However as of 2011, the trend for treatment group changes to an upward slope.

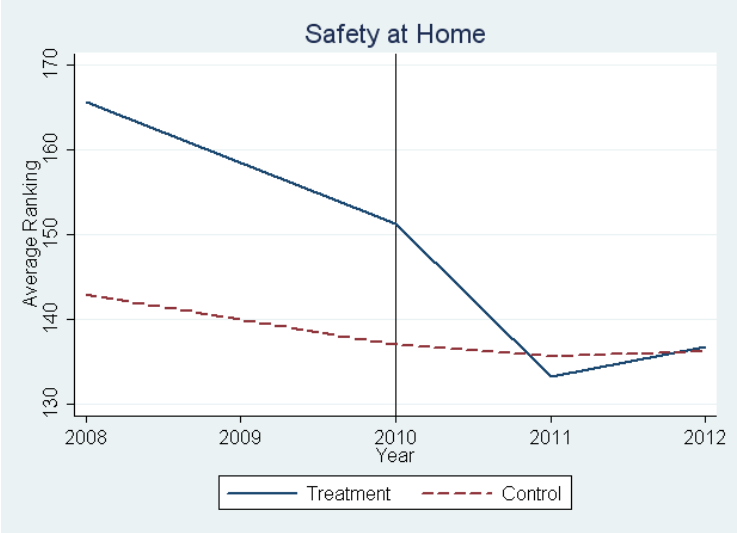


Figure 3: Average ranking for the variable *Safety at Home*.

For the variable *Overall Experience* the trends prior the reform are not quite similar, which can be seen in figure 4. The trend line for treatment group is downward sloping while the trend line for control group is flat. Since these trends are different it is hard to draw any conclusions. When dropping the lowest and highest population density percentiles – 1, 9 and 10 – which is illustrated in figure 5, we found that the trend lines prior to the reform became close to identical. Using this narrow sample we see that the trend lines for both treatment group and control group are upward sloping prior the reform. Post the reform the trend changes for treatment group; the trend line is now downward sloping. This downward slope continues post the reform and as of 2011 the slope gets steeper, indicating additional improvement in average ranking. For control group the upward slope continues post the reform until 2011 when it then changes to a downward slope. Thus after 2011 the trend lines are both downward sloping for treatment and control group.



Figure 4 & 5: Average ranking for the variable *Overall Experience*, full & narrow sample.

6.1.3 Regression results

Table 6 represents MODEL 1 which is our base regression. The regression results reflect average ranking for the four quality variables. The variable *post x treatment* is our difference-in-difference estimator. As can be seen in the table, the results are statistically significant on a 5% significance level for the variables *Consideration of Opinions and Wishes* and *Reception*. The difference-in-difference coefficients are negative which implies a relative improvement in ranking. A negative coefficient suggests that the ranking has decreased for the treatment group compared with the control group post the reform. The results for the two variables *Safety at Home* and *Overall Experience* are not statistically significant.

Table 6: MODEL 1

Variable	Consideration of Opinions and Wishes	Reception	Safety at Home	Overall Experience
post x treatment	-36.3755* (-2.44)	-31.0512* (-2.15)	-19.4396 (-1.31)	-14.5380 (-0.89)
N	804	805	805	566
r2	0.0093	0.0060	0.0060	0.0063

*legend: * p<0.05; ** p<0.01; *** p<0.001
t-statistics in parentheses*

Table 7 includes the control variable *population density*. The results do not change considerably and are still statistically significant for the two variables *Consideration of Opinions and Wishes* and *Reception*.

Table 7: MODEL 2, including population density

Variable	Consideration of Opinions and Wishes	Reception	Safety at Home	Overall Experience
post x treatment	-36.5222* (-2.55)	-31.0263* (-2.30)	-19.5038 (-1.40)	-14.4464 (-0.86)
N	804	805	805	566
r2	0.1066	0.1289	0.1192	0.0287

*legend: * p<0.05; ** p<0.01; *** p<0.001*

t-statistics in parentheses

Table 8 includes the final control variable which is *income*. After controlling for this variable as well, we can conclude that our results still hold. The results for the variable *Consideration of Opinions and Wishes* in fact seem to have strengthened since these results are now statistically significant on a 1% significance level. Since the results are still statistically significant the post-treatment trend still holds.

Table 8: MODEL 3, including population density & income

Variable	Consideration of Opinions and Wishes	Reception	Safety at Home	Overall Experience
post x treatment	-36.6094** (-2.60)	-31.0821* (-2.33)	-19.5569 (-1.42)	-14.4753 (-0.86)
N	804	805	805	566
r2	0.1117	0.1308	0.1209	0.0287

*legend: * p<0.05; ** p<0.01; *** p<0.001*

t-statistics in parentheses

7. Implications and conclusions

Some argue that LOV is only applicable in wealthy and highly populated municipalities. When comparing average income between treatment and control group, in table 4, we conclude that the differences are small. Average income is only slightly higher for the treatment group than for the control group. In other words, stating that LOV is only applicable in wealthy municipalities is simply wrong.

When comparing average population density between the treatment and control group, we found that average population density is lower for the latter. Moreover, the difference is quite substantial since population density on average is 165.24 inhabitants/km² for the treatment group compared with 94.90 inhabitants/km² for the control group. This strengthens the assumption that LOV is more frequently implemented in municipalities with higher population density due to higher attractiveness of doing business. However, after controlling for *population density* and *income* we can conclude that LOV has a positive effect on quality in municipalities with different characteristics regarding *population density* and *income*.

From the initial findings in table 5, the LOV-reform seems to have had a positive effect on relative quality. Interestingly, each of the quality variables had a higher ranking number in the treatment group compared to the control group prior to the reform. However, after the reform the treatment group had lower ranking numbers on each of the variables compared to the control group. The control group has a higher rank after the LOV-reform in three of the four quality variables, compared to before the reform which means that the relative quality has had a negative development in the control group.

As illustrated in the figures, the trends prior to the reform were similar for the variables *Consideration of Opinions and Wishes*, *Reception* and *Safety at Home*, but not entirely similar for the variable *Overall Experience*. Since the trends after the reform change quite substantially we can conclude that the reform has had an impact. For the variables with similar trends prior to the reform, the downward slope for treatment group increases after the reform. This implies that the reform improves the relative quality. As for the two variables *Consideration of Opinions and Wishes* and *Reception*, the control group changes trend after the reform to an upward sloping line implying that relative quality has actually decreased post 2010. For the variable *Safety at Home* the trend line does not change dramatically post reform but it is still downward sloping. Using the narrow sample on the variable *Overall Experience* we found that the treatment group evolved similarly as when using the full sample. However, when using the narrow sample, the downward sloping trend line for treatment group became steeper as of 2011, indicating a potential improvement of relative quality.

In order to verify these results on how LOV has affected relative quality we have to look at the regression results. We found that the results for the variables *Consideration of Opinions and Wishes* and *Reception* are statistically significant. Thus we can determine that the trends for treatment and control group that are shown in the figures, which illustrate an improvement

in relative quality for treatment group, hold. This implies that the reform has had a positive impact on relative quality. For the other two variables, *Safety at Home* and *Overall Experience* the figures indicated that average ranking had decreased signaling an improvement in relative quality for the treatment group. However, since these results are not statistically significant, we cannot draw any certain conclusions.

As mentioned, we have focused on how ranking in municipalities have changed since we could not compare actual proportions answering that they are fairly or very satisfied due to the fact that the questionnaire structure changed in 2012. The ranking is based on the yearly proportion answering if they are fairly or very satisfied. The ranking number does however not give an exact guidance of how the proportion answering that they are fairly or very satisfied has changed. However as we see in table 9 the average ranking for treatment group has improved substantially for the variable *Consideration of Opinions and Wishes*; from 146 (2010) to 103 (2012), and *Reception*; from 136 (2010) to 115 (2012). For control group, the corresponding numbers shows a slight deterioration in average ranking. The significantly improved ranking numbers for treatment group during the period 2008-2012 should correspond to a significant increase in the proportion of patients answering that they are fairly or very satisfied.

Table 9: Ranking for Treatment and Control group 2010-2012

	Treatment 2010	Control 2010	T 2011	C 2011	T 2012	C 2012
Consideration of Opinions and Wishes	146	140	135	147	103	147
Reception	136	138	131	143	115	143

We find that the LOV-reform, which gives more power to the patients by granting them the opportunity to choose their suppliers freely, has had a positive impact. The survey answered by patients across the entire nation reflects their satisfaction with the home care service. Since the average ranking has evolved better in municipalities that implemented LOV in 2010 than in the control group, we conclude that LOV has had a positive impact on relative quality. We conclude, after discussing potential biases and accounting for the major forces affecting home

care in Sweden, that the reform has had a positive and significant impact on patients' satisfaction.

These findings suggest that the proposition withdrawn by the Moderate Party to make implementation of LOV mandatory for all municipalities should not have been withdrawn. As we mentioned in our purpose, prohibiting profits is the same as prohibiting freedom of choice. Given LOV's positive impact on quality, profit-making in the home care industry should be allowed since it enables different service provider options for patients. In 2008 Carema Care and Attendo Care, both PE-owned, accounted for half of the private elderly care industry. The four largest providers together controlled 70 percent of the market (SNS). Since it is necessary to allow profit making and private actors in order to guarantee different service provider options for patients, it is natural to allow the intensely debated PE-owned companies to operate in the industry due to the fact they account for such a large share of the market.

The report we have conducted has hopefully contributed to the previously non researched area on the LOV reform's impact on home care quality in Sweden's municipalities. As we have shown, this study's results show that municipalities on average will be better off in terms of certain quality aspects after implementing LOV.

8. Further research

Many representatives from the PE-funds state that one of their main functions is to put pressure on current providers. An interesting topic to investigate is what actually happens behind numbers, concerning the quality and satisfaction improvements within the home care sector in municipalities with LOV. There are two sides of the reasoning behind if quality has increased; the first is that increased pressure, that arises from competition, increases quality since current actors need to improve and because there are more providers to choose from. The second is that private actors per se offer higher quality in their offering which in turn increases the overall quality. If the quality is exactly equivalent between public and private actors the overall satisfaction may still increase since there could be a psychological effect; people may be more satisfied just because they like the feeling of having more opportunities to choose from. In municipalities where LOV has been implemented, there is only a slightly higher fraction of private health care providers than in municipalities without LOV (Socialstyrelsen). Furthermore, research has shown that, on average, private providers achieve

just marginally better results than public providers in national surveys (SNS). Therefore it is likely that it is not the high quality of the private providers per se that drives substantial quality improvements, rather that it is the competition that indirectly improves quality as stated by many PE-representatives. In order to investigate this topic data is needed on individual home care providers.

As we mentioned, since the sum of average ranking for all municipalities are constant over time, a decrease in ranking for both treatment and control group must be compensated by an increase for the other municipalities. It would be interesting to examine why municipalities that are not included in the treatment and control group, have experienced ranking deterioration as a group. In addition, it would be interesting to examine how well our results hold out-of-sample, that is, for municipalities that have implemented LOV in other years or other sectors.

9. References

9.1 Written sources

Arfwidsson & Westerberg, John & Jakob (2012), *Profit Seeking and the Quality of Eldercare*. Stockholm School of Economics

Bergman, Lundberg & Spagnolo, Mats, Sofia & Giancarlo (2012), *Public Procurement and Non-contractible Quality: Evidence from Elderly Care*, Umeå University

Eek, Cecilia (2012), *Vad tycker de äldre om äldreomsorgen?*, Socialstyrelsen

Finansdepartementet, Skatte- och tullavdelningen (2012), *Effektivare ränteavdragsbegränsningar*. Stockholm

Fryksdahl & de Jonge, Ann & Malin (2012), *Upphandlingsreglerna – en introduktion*. Konkurrensverket

Hartman, Laura (2011), *Slutsatser och sammanfattning; Konkurrensens Konsekvenser – Vad händer med svensk välfärd?*. SNS (Studieförbundet Näringsliv och Samhälle)

Kaplan & Strömberg, Steven & Per (2008), *Leveraged Buyouts and Private Equity*. National Bureau of Economic Research. Cambridge, Massachusetts.

Lerner & Sørensen & Strömberg, Josh & Morten & Per (2008), *Private Equity and Long-Run Investment: The Case of Innovation*. Harvard Business School

Lusensky, Sven (2007), *Kundval inom äldreomsorgen*. Socialstyrelsen

Perkiö, Hans (2013), *Utvärdering i Stockholm är ingen lovsång till LOV*, Dagens Samhälle (Issue nr. 12)

Reinfeldt & Larsson, Fredrik & Maria (2008), *Regeringens proposition Lag om valfrihetssystem 2008/09:29*. Stockholm

Stolt & Winblad, Ragnar & Ulrika (2009), *Mechanisms behind privatization: A case study of private growth in Swedish elderly care*. Uppsala University

Socialstyrelsen (2012), *Äldre och personer med funktionsnedsättning – regiform år 2012*, Socialstyrelsen

Trydegård, Gun Britt (2000), *Tradition, change and variation: past and present trends in public old-age care*. Stockholm University

9.2 Online sources

Annual Reviews (2003, August), *The Science of Asking Questions*,
<http://www.annualreviews.org/eprint/rU4UOoizjrXROhijkRIS/full/10.1146/annurev.soc.29.110702.110112>
(Accessed 2013-02-17)

- Carema Care (2012, December), *Fakta om räntesnurror*, <http://caremacaredokumentinifran.se/?paged=3> (Accessed 2013-04-12)
- Carema Care (2012, December), *Socialstyrelsens omfattande granskning av Koppargården klar*, <http://caremacaredokumentinifran.se/?p=1233> (Accessed 2013-04-12)
- Dagens Samhälle (2013, March), *Jonas Sjöstedt: Vi är duktiga på att ha makt*, <http://www.dagenssamhalle.se/nyhet/jonas-sjoestedt-vi-aer-duktiga-pa-att-ha-makt-5042> (Accessed 2013-04-02)
- Dagens Samhälle (2012, May), *Konspirationsteorierna frodas på Dagens Nyheter*, <http://www.dagenssamhalle.se/debatt/konspirationsteorierna-frodas-pa-dagens-nyheter-2726> (Accessed 2013-04-12)
- Dagens Samhälle (2012, May), *Dagens Nyheter saknar kunskap om riskkapital*, <http://www.dagenssamhalle.se/debatt/dagens-nyheter-saknar-kunskap-om-riskkapital-2829> (Accessed 2013-04-12)
- Dagens Samhälle (2013, February), *Medierna frossar i vårdskandaler*, <http://www.dagenssamhalle.se/nyhet/medierna-frossar-br-i-vardskandaler-4670> (Accessed 2013-03-22)
- DN (2013, March), *Debatt: Lagen om valfrihet bör inte bli obligatorisk*, <http://www.dn.se/debatt/lagen-om-valfrihet-bor-inte-bli-obligatorisk> (Accessed 2013-04-12)
- Kent Werne (2011, November), *Fakta om de största inom vården och skolan*, <http://kentwerne.se/granskande-artiklar/den-nya-valfardsindustrin/fakta-om-de-storsta-inom-varden-och-skolan/> (Accessed 2013-04-12)
- Kommunalarbetaren (2012, July), *Så vill V stoppa vinst i välfärden*, <http://www.ka.se/index.cfm?c=102354> (Accessed 2013-04-12)
- Konkurrensverket, *Valfrihetssystem*, http://www.kkv.se/t/SectionStartPage_4198.aspx (Accessed 2013-04-08)
- NSK (2013), *Den påhittade Caremaskandalen*, <http://www.nsk.se/article/20130214/OPINION/702149914/-/den-pahittade-caremaskandalen> (Accessed 2013-04-12)
- PwC, *The Finnish Government releases its proposal regarding limitations on interest deductions*, <http://www.pwc.fi/en/services/proposal-regarding-limitations-on-interest-deductions.jhtml> (Accessed 2013-05-13)
- SKL (2013, October), *Beslutsläge om införande av LOV, Oktober 2012*, http://www.skl.se/vi_arbetar_med/valfrihet/valfrihetuppdrag/kommuner_och_valfrihetssystem_oktober_2012, (Accessed 2013-02-19)

Socialstyrelsen, *Lex Maria*,

<http://www.socialstyrelsen.se/lexmaria> (Accessed 2013-03-13)

Socialdemokraterna, *Invånarnas valfrihet är viktigare än vårdföretagens möjlighet att välja patienter*, <http://www.socialdemokraterna.se/Webben-for-alla/Landsting/Vastsverige/Nyheter/Invanarnas-valfrihet-ar-viktigare-an-vardforetagens-mojlighet-att-valja-patienter/> (Accessed 2013-05-08)

SVD (2012, June), *Man kan kolla kvalitet mer än en enda gång*,

http://www.svd.se/opinion/ledarsidan/man-kan-kolla-kvalitet-mer-an-en-enda-gang_7298521.svd (Accessed 2013-03-22)

SVT (2012), *Dokument inifrån: Vi gav dom vår pappa*,

<http://www.svtplay.se/video/211667/vi-gav-dom-var-pappa> (Accessed 2013-03-04)

Tillväxtverket (2013), *Lagen om valfrihetssystem inom vård och omsorg (LOV)*,

<http://www.tillvaxtverket.se/huvudmeny/insatserfortillvaxt/flerochvaxandeforetag/halsavardochomsorg/lagenom-valfrihetlov.4.21099e4211fdb8c87b800017768.html> (Accessed 2013-03-17)

Valfrihetswebben (2012, March), *Hemtjänst enligt LOV- Täby kommun*,

<http://www.valfrihetswebben.se/kommuner/annons.aspx?kategori=all&kommun=525&sokomrade=kommuner&annons=334> (Accessed 2013-02-19)

9.3 Interviews

Bergstig, Lars (The Liberate Party, Folkpartiet). Personal interview. 2013-03-12

Edman & Carlbom, Mats & Torbjörn (Dagens Samhälle). Personal interview. 2013-03-11

Hellenius, Richard (Svenskt Näringsliv). Personal interview. 2013-05-13

Freiholtz, Lena (Carema). Personal interview. 2013-03-10

Nilsson, Peter (SALAR, SKL). Personal interview. 2013-03-15

10. Appendix

Table A1: Percentile division of population density

Population density in deciles										
	1	2	3	4	5	6	7	8	9	10
Mean	1.22	4.80	9.35	14.01	18.19	24.81	34.80	51.60	93.28	929.28
Min	0.24	2.37	6.96	11.62	16.09	21.38	31.51	40.34	69.06	132.03
Max	2.24	6.89	11.24	16.05	21.35	30.32	39.78	67.99	129.11	4 705.07

Table A2: Summary Statistics for population density (inhabitants/km²) and income (SEK)

	Population density	Income
Mean	116	242 383
N	820	820

Table A3: Summary statistics for treatment and control group prior and post the LOV-reform by year

	Mean	Min	Max	SD	N
Reception	142.80	1	286	84.74	163
Consideration of Opinions and Wishes	146.66	1	286	85.40	163
Safety at Home	142.91	2	287	84.51	163
Overall Experience	133.92	1	285	85.02	165
Population density	94.90	0.24	4 705.07	414.59	165
Income	237 851.90	199 994	352 999	19 281.08	165

treatment=0 year=2008

	Mean	Min	Max	SD	N
Reception	165.50	9	287	79.72	40
Consideration of Opinions and Wishes	161.20	7	287	82.70	40
Safety at Home	165.60	5	280	89.93	40
Overall Experience	148.50	6	290	86.86	40
Population density	203.12	2.37	3 693.94	606.73	40
Income	261 076.50	214 412	486 659	48 171.77	40

treatment=1 year=2008

	Mean	Min	Max	SD	N
Reception	138.02	1	290	86.31	165
Consideration of Opinions and Wishes	140.10	1	290	86.77	165
Safety at Home	136.96	1	290	85.47	165
Overall Experience	133.72	1	287	85.70	165
Population density	94.90	0.24	4 705.07	414.59	165
Income	237 851.90	199 994	352 999	19 281.08	165

treatment=0 year=2010

	Mean	Min	Max	SD	N
Reception	139.15	19	271	78.58	40
Consideration of Opinions and Wishes	144.60	16	286	84.45	40
Safety at Home	151.25	17	283	77.43	40
Overall Experience	139.75	15	287	77.85	40
Population density	203.12	2.37	3 693.94	606.73	40
Income	261 076.50	214 412	486 659	48 171.77	40

treatment=1 year=2010

	Mean	Min	Max	SD	N
Reception	142.89	2	285	86.86	161
Consideration of Opinions and Wishes	147.06	1	285	85.19	161
Safety at Home	135.61	1	285	86.96	161
Overall Experience	140.32	1	289	88.79	165
Population density	94.90	0.24	4 705.07	414.59	165
Income	237 851.90	199 994	352 999	19 281.08	165

treatment=0 year=2011

	Mean	Min	Max	SD	N
Reception	133.33	2	275	80.11	40
Consideration of Opinions and Wishes	135.48	4	276	84.61	40
Safety at Home	133.30	2	282	83.39	40
Overall Experience	132.98	14	280	83.13	40
Population density	203.12	2.37	3 693.94	606.73	40
Income	261 076.50	214 412	486 659	48 171.77	40

treatment=1 year=2011

	Mean	Min	Max	SD	N
Reception	143.34	3	278	83.55	158
Consideration of Opinion and Wishes	146.73	2	278	81.32	157
Safety at Home	136.16	1	278	83.35	158
Overall Experience	130.97	1	280	83.76	159
Population density	94.90	0.24	4 705.07	414.59	165
Income	237 851.9	199 994	352 999	19 281.08	165

treatment=0 year=2012

	Mean	Min	Max	SD	N
Reception	114.16	1	280	83.30	38
Consideration of Opinion and Wishes	103.84	4	273	82.57	38
Safety at Home	136.74	2	279	84.42	38
Overall Experience	125.82	4	279	81.59	38
Population density	203.12	2.37	3 693.94	606.73	40
Income	261 076.50	214 412	486 659	48 171.77	40

treatment=1 year=2012