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Swedish University of Agricultural Sciences

Department of Economics

# Farmers' Retirement Pension

- How social aspects and information collection affect farmers' retirement planning

*Caroline Johansson*



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- How social aspects and information collection affect farmers' retirement planning

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Uppsala, January 2016

Caroline Johansson

# Summary

The retirement scheme is not easy to understand and it is hard to know how the rules should be applied at an individual basis. It is at the same time essential to have a financial security as future pensioner. People being employed have a favorable security giving them both national retirement- and occupational pension, in general automatically. The issue prevails when it comes to planning retirement pension for self-employees, who often are in need of stability. This is the case for family businesses, where a firm's financial position is closely related to that of the owner. The approximately 500,000 self-employees in Sweden today endure a difficult situation facing a complex retirement pension. Thereby the present study focuses on Swedish farmers' decision-making and their retirement planning, including how and why they act in a certain way.

This thesis uses four key aspects to keep a distinct structure. The key aspects are information collection, knowledge, social aspects, and farmers' decision-making. The aim of this study is to explore how farmers handle information and how social aspects influence the early stages in their decision-making regarding retirement pension. This knowledge makes it possible to clarify patterns that may exist among farmers' retirement decisions.

It is desirable to get data that is quantifiable and therefore a quantitative approach was suitable. To reach the aim a web-based questionnaire was sent by e-mail to 3,000 members of The Federation of Swedish Farmers (LRF).

A statistical test, named chi-square test, is used to explore patterns among farmers' retirement planning. The chi-square test measures the degree of linkage between two variables. The risk of calculation being random is 10% with a p-value of 0,10 as the limit to determine whether the hypothesis should be accepted or rejected.

The results reveal the most evident correlation between loan-to-value ratio (acronym LTV) and retirement saving. Farmers with a low LTV tend to save less money in other forms (such as equity funds, national retirement-, occupational pension and pension insurance) than those with a higher LTV. The results also show a correlation between how much rented land of total cultivated land farmers use and their tendency to save to retirement pension in other forms than the real estate. The most likely reason behind these correlations is that the invested value in agricultural properties is the farmers retirement saving.

The findings also show an unmistakable correlation between the farmers' interest in business matters and their knowledge about retirement saving. Furthermore the more knowledge that claim to have, to more willing are they to search for more information within the topic.

The conclusion of the study is that individuals' interest correlate with their knowledge, which makes them more likely to search for more information. An interest is therefore of great importance on how actively the individual plans how to save for retirement. The complexity within the Swedish retirement pension scheme makes people more active in their decision making. Yet another obvious conclusion of this survey is that very few farmers are talking about retirement-related issues with family and friends. Neither the previous generation nor the successor have any influence on how active decision-making regarding retirement savings the individual have. Still, the existence of a successor affects when the farmer will retire.

# Sammanfattning

Pensionssystem är inte enkelt att förstå och en allmän åsikt är att det är svårt att veta hur reglerna ska tillämpas på en individuell basis. Samtidigt är det viktigt att ha finansiell säkerhet som pensionär. Individer som är anställda har en gynnsam säkerhet som ger dem både allmän- och tjänste-pension, i allmänhet automatiskt. Dock blir problematiken större när det gäller egenföretagare att planera ålderspension. Speciellt i familjeföretag som har en stark koppling mellan företags finansiella ställning och den hos ägaren. Därför står de cirka 500 000 egenföretagare som finns i Sverige idag inför en problematisk situation gällande det komplexa pensionssystemet. Därmed fokuserar denna studie på lantbrukares planering och beslutsfattande gällande pension, samt hur och varför de agerar på ett visst sätt.

Genomgående i studien står fyra kärnaspekter i centrum, vilka gäller hantering av information, kunskap, sociala aspekter och lantbrukares beslutsfattande. Syftet med denna studie är därför att undersöka hur lantbrukare hanterar information och hur sociala aspekter påverkar de tidiga faserna i lantbrukarnas beslutsfattande om ålderspension.

Det är önskvärt att få data som är kvantifierbara. Därför var en kvantitativ metod lämplig. För att nå målet med studien har en webbaserad enkät skickats ut via e-post till 3 000 medlemmar i Lantbrukarnas riksförbund (LRF).

Ett statistiskt test, kallat chi-två test, har använts för att undersöka mönster i lantbrukares pension planering. Chi-två testet mäter korrelationen mellan två variabler. Risken för beräkningen är slumpmässiga är 10 % med ett p-värde på 0,10, vilket är den gräns som använts för att bestämma om hypotesen ska tillstyrkas eller förkastas.

Resultaten ger bevis på att det finns ett starkt samband mellan fastighetens belåningsgrad och lantbrukarens pensionssparande. Lantbrukare med en låg belåningsgrad på sin fastighet tenderar att spara mindre pengar i andra former (t.ex. aktier, allmän-, tjänstepension och pensionsförsäkring) än de med en högre belåningsgrad. Resultaten visar också på ett samband mellan andelen arrenderad mark och lantbrukarens tendens att spara till pension i andra former än i fastigheter. Den mest sannolika förklaringen till dessa samband är att det investerade medlen i lantbruksfastigheter är lantbrukarnas sätt att pensionsspar.

Studien visar också att det finns ett samband mellan lantbrukares intresse för företagsrelaterade frågor och deras kunskap om pensionssparande. Ju mer kunskap de anser sig besitta, desto mer villig är de att söka mer information inom ämnet.

Kontentan av studien är att individernas intresse korrelerar med deras kunskap som i sin tur gör de mer benägna att söka mer information. Ett intresse är därför av stor vikt för att aktivt planera hur de ska pensionsspara. Att pensionssystemet i Sverige upplevs som komplexitet gör att människor tenderar att vara mer aktiva i sitt beslutsfattande. En tydlig slutsats är att väldigt få lantbrukare pratar om pensionsrelaterade frågor med familj eller vänner. Dessutom påverkar varken den tidigare generationen eller existensen av en efterträdare hur aktiva beslut de fattar gällande sitt pensionssparande. Att det finns en tilltänkt efterträdare påverkar trots det planeringen för när lantbrukaren kan tänkas gå i pension och därmed tidpunkten för när ett generationsskifte kan genomföras.

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# 1 Introduction

The study's background and problem are described initially in this chapter. Further on the study's limitations and aim are presented. Lastly, the approach and research design explain the process used to be able to reach the aim.

## 1.1 Background and problem

Running a business is complicated. Decision-making is not always easy. Crucial decisions mixed with less important actions are a part of daily work for managers. Large organizations are often prepared for business risks and possible losses. This differs in small and medium sized enterprises (acronym SMEs), which are feeble and in need of stability. This is the case for family businesses, where a firm's financial position is closely related to that of the owner (Björklund & Nilsson, 2014). Thus the conditions for self-employees are unique.

The issue prevails when it comes to planning retirement and money to use after the working days are over. This problem area is just as central from a microeconomic as from a macroeconomic point of view since the farmers with poor financial security affect the society as well. Some people become poorer at the same time as others, who have chosen better alternatives, get a better return. The gap between pensioners becomes larger and the national economy as a whole will suffer. Instead longer working life is preferable and contributes to economic growth in society and at the same time, secures private economy (Holmberg & Thelin, 2010). The macroeconomic point of view is though outside the scope of the present study.

The topic of farmers' decision-making concerning retirement pension has not been subject to much research. Pension in general is seen as complex and hard to understand. This is the case especially for business owners who do not have the same basic safety as employees. Based on how to handle this situation, self-employees may end up with variant outcomes. The character of these outcomes affects the self-employees' livelihood after retiring, which makes the topic highly worth examining.

The main target group for the study consists of financial counseling agencies. These organizations must be able to give useful advices to their clients. As it is today, self-employees probably make decisions based on poor information, which may result in a tough time when working days are over and no paycheck is received. If the self-employees make uninformed decisions, the consultants' reputation can be harmed. Furthermore, they should be able to recognize cases where their clients are saving in not optimal way. Another target group is business schools and other institutes, whose task is to educate in related topics. Lastly, this study's results might be noteworthy even for self-employees themselves.

On the basis of the account above it is obvious that self-employees suffer a complicated situation facing complex retirement pension. Thereby the present study focuses on Swedish farmers' decision-making and their retirement planning, including how and why they act in a certain way.

## 1.2 Problem analysis

The concepts that are subject to analyses are clarified in this section in order to reach a more precise statement of the study's aim. Hence the following description covers the concepts of "decision-making", "farmers' decision-making", and "retirement scheme".

### 1.2.1 Decision-making

The most central aspect when analyzing this topic is how human beings make decisions. Therefore theory of human behavior plays a central role in this study. What is interesting when it comes to retirement planning are which factors that influence retirement decisions, both financially and time-wise. How people make decisions may be affected by factors such as *knowledge* and *information gathering* (Björklund & Nilsson, 2014). It takes time, work effort and knowledge to make well-founded decisions about retirement pension, which the self-employees most likely do not have. Therefore it is more likely that *well-informed* and *well-educated* people are motivated to deliberate their decisions when it comes to pension and retirement savings.

When people are to make a decision they have to *process information* from different sources. It is hard to take a lot of information into account at the same time. This is called *limited rationality* and results in a situation where information gets selected. To solve a problem the human being looks for similar experiences and tries to solve the actual problem in the same way. Hence humans create rules-of-thumb. What have worked before will be used again. This process continues without the individual being aware of it. *Feelings* and *social influences* may as well affect the problem solutions (Björklund & Nilsson, 2014).

*Information overload* may appear when much and complex information makes it difficult to take every aspect into account. In a situation characterized by information overload, it is rational for people to lump together the information to vague concepts and feelings. Through this behavior people are able to handle more complex situations and simplify their information processing. Therefore individuals are able to make decisions faster (Björklund & Nilsson, 2014).

Above presented view of knowledge, limited rationality and information overload influence the performance in decision-making. These may be linked together in a common concept of how to handle information when making decisions. Therefore handling information is one part of the study's aim.

### 1.2.2 Farmers' decision-making

An investigation of Swedish farmers' decision-making concerning their retirement schemes must be based on empirical data. It is not possible to make deductions based on only general theory about human decision-making. Farmers tend to act and argue in a way that seems irrational from an outsider's perspective but is perfectly rational, given the preconditions prevailing for the farmers. This makes it central to consider how farmers' decision-making differs from everyday peoples for example.

Decision-making for self-employees is influenced by the private economy. Additionally, having a financial income is more important than making more money than necessary (Björklund & Nilsson, 2014; Thelin & Holmberg, 2010). Self-employees' business decisions

are similar to those made in the private economy. Thus emotions, previous experiences and opinions from family, friends and others in the social environment influence decisions. When the private and the business economies are interlinked, the concept of "*consumption-on-the-job*" may get another content. Then the concept may imply the fact that investments can be made to satisfy personal goals, even if they do not provide a good return on invested capital. Unnecessarily costly decisions will not affect anyone else than the self-employees themselves. (Björklund & Nilsson, 2014)

The social environment is likely to influence a self-employee's decision-making. The influence may even come from previous generations. Farmers, who often inherited the agricultural property, are most likely traditional (Björklund & Nilsson, 2014). This may result in a situation where the self-employees do not make renewing investment and do not adopt to changes in society such as a new pension system. Similarly, the upcoming generation influences the process of making decisions. If there is a successor in the picture, it is more likely to make investments for the future than if no successor exists (Björklund & Nilsson, 2014). Pension and succession is closely related and are both a part of the agricultural estate and the farming business lifecycle (El-Ostia et al., 2010). A fascinating question is how pension and retirement savings correlate with the process and ability to succession. Therefore the correlation between these aspects is highly interesting to examine further.

The above-mentioned variables may vary. To some extent the variations may be due to economic factors such as the profitability of the farm enterprises, the wealth of the farmer, the location and the age, but also personality variables and social networks may influence.

### 1.2.3 Retirement scheme

Sweden has an unusual retirement system ruled by the government through the Swedish Pensions Agency. In the current retirement system, self-employees do not have the same safety net and therefore need to ensure that they get pension when retiring. The basic part, *national retirement pension*, self-employees do not get automatically as a starting point. You need to have a paycheck from the firm and pay charges and taxes to get national retirement pension. The second part, *occupational pension*, self-employees do not get at all (www, pensionsmyndigheten, 2015). Nowadays more and more people in Sweden do not think the forecast of their pension is enough. Thus it has become more common to save money in *private pension*, which is the third and last part of the Swedish pension system. Without private pension people usually do not get more than 60-65% of the payment they have had during their working life (www, pensionspara, 2015). Apparently the effects of the Swedish retirement system differ significantly for self-employees compared to employees. These significant differences make it harder for self-employees to identify a good and well-established retirement strategy on their own, which validates the present study's problem statement.

The current sectioning between government and labor market has given a situation where the national retirement pension and the occupational pension are not aligned in an efficient way. Because of this the information of alternatives and their consequences are deficiency. Therefore the people have not got satisfying basis to make good choices about retirement pension. (Riksrevisionen, 2014)

The complexity in the Swedish retirement scheme makes it harder for individuals to make good choices about retirement. Different variables result in various circumstances for farmers

as self-employees. It is therefore highly central to examine this in combination with farmers' decision-making throughout this study.

The data collection includes farmers while other self-employees are not comprised. It is although highly notable that the circumstances may be similar for self-employees in general. The study involves both full-time and part-time working farmers. Different business sizes, production section and location in Sweden are relevant. The present study focuses on pension because of age, thus disability pension and contractual pension are excluded.

### 1.3 Aim of the study

To provide a professional understanding by the study, two key aspects are in focus. These aspects concern how farmer handle information and how social aspects affect the farmers' actions when it comes to retirement pension. Consequently, the aim of this study is as follows:

*By exploring farmers' information collection and social aspects in connection with their retirement planning, this study's aim is to clarify the varying patterns that may exist among farmers based on behavioral theory.*

An ambition is that the findings of the study should be of value to counselors who work to assist farmers in planning retirement. They should hopefully be able to understand the reasoning behind the farmers' retirement decisions, and they should be able to identify which differences may be found within farmer groups with different attributes, described in both economic and socio-psychological terms.

### 1.4 Approach

This study uses a quantitative approach and a survey will be used as empirical method. It is wanted to have a high reliability, validly and a trustworthy result (Robson, 2011). By testing the survey on a couple of persons before the actual survey is send out to 3,000 farmers in Sweden, gives the chance to see how the questions decipher. This element gives a possibility to correct details in the survey.

The following chapter (Chapter 2) describes the parts of the Swedish retirement system further. To understand the rest of the study it is crucial to know about aspects affecting self-employees regarding pension. This study focuses on self-employees in agricultural businesses, which is why related characteristics are presented and argued in detail.

Chapter 3 gives an account of the theoretical framework. Given that the topic concerns individuals' decision-making that natural choice of theoretical base is behavioral theory. An alternative theoretical approach would be agency theory, which may explain the peculiarities that exist when an employee and an employer are the same persons. However, the agency theory would not be sufficient for an explorative study like the present one. Still another option would be the so-called stewardship theory, which presupposes that no conflict exists between the principal and the agent, but this theory suffers from the same deficiency as the agency theory, i.e. it would not provide depth enough.

Studies have been done on the topic of how family members as manager affect the performance. The results from these have conflicting conclusions. A pattern is, however, that

small family businesses with concentrated ownership are more likely to have a higher profitability (Miller et al, 2013). Even though this literature may be taken into account it is not sufficient to provide the main theoretical basis for this study.

While behavioral theory is chosen as the analytical tool for the present study, the focus is on the self-employees' information gathering and processing. This include knowledge, experience and social influences as well as information sources, deliberations and screening of information, while the outcomes of the decisions cannot be considered as these are due to be unknown to the respondents at the time of the data collection.

The literature review concerns both general theory about human information collection and research specifically about farmers' behavior, not the least about farmers' views about retirement and old age pensions. The theoretical analysis results in a number of hypotheses, which determine what kind of questions that are included in the survey.

Chapter 4 presents methodological deliberations for the empirical part of the study such as techniques chosen for the collection of data. This study, using a quantitative approach, involves limited data on many cases in general. A survey is used because generalizable finding are sought (Robson, 2011).

After the data is collected, it is statistically treated and the results are presented in Chapter 5. Chapter 5 also comprises an analysis where the result will be interprets and the hypotheses will be tested, which lastly follow by Chapter 6 comprising discussion. The last chapter, Chapter 7, presents conclusions of the comprehensions of the findings in relation to the study's aim.

## 2 Empirical bases

Chapter 2 provides an empirical base, which starts with the history behind the retirement scheme in Sweden. Throughout this chapter two parallel systems in the current retirement system are clarified. Lastly, a section about opportunities for business owners gives a more detailed understanding of their specific conditions.

### 2.1 History of retirement scheme in Sweden

The Swedish retirement system as it is today, called *public pension system*, is strongly affected by the history in society and political decisions in the past. Therefore it is interesting to involve these aspects to get a broader picture. The history behind today's system started with a decision in the parliament May 21th 1913, which nowadays is seen as one of the first and most important decision to develop the welfare society in Sweden today (www, Umeå Universitet, 2015). The *national old-age pension* ("folkpension" in Swedish) had a retirement age of 67 at the same time as the life expectancy for men was below 60 (www, efn, 2015). This meant that far from everyone got benefits from the retirement system. Because of that, a new system was introduced in 1948. This was the first system that made it possible for pensioners to live only on the pension payments (www, efn, 2015).

In the 1950s some groups, but far from everyone, had occupational pension (read more in section 2.3.2). In 1969 the wish for *general supplementary*, an occupational pension for everyone (called ATP acronym "allmän tilläggspension") became true. ATP is a pension payment based on price trends. Thus, when the Swedish economy slowed down and the life expectancy got even higher but the pension payment did not slow down. Therefore it became unrealistic to keep the system and eventually it was shut down. Instead the pension payments needed to be based on wage index (www, efn, 2015). The system used nowadays was introduced in 1999 (www, pensionsguide, 2015). The new arrangement involves premium- and guarantee pension and cuts national old age pension and ATP. Beneficial with this system is that it will never stress the treasury. However, it will give the Swedish people less pension payment for every year forward compared with the payments today (www, efn, 2015).

### 2.2 General supplementary (ATP)

As a result of the reform in 1999, Sweden has two parallel retirement schemes today: general supplementary (further on called ATP) and the public pension system. The system of ATP included national old-age pension and general supplement pension. Nowadays these forms of pension are referred to as *supplementary*. Thus even if ATP is closing down, it still affects a part of the population. Those who are born 1937 or earlier are subject only to the system of ATP. People who were born 1954 or later are instead subject only to the public pension system. This results in a gap concerning those who were born between 1938 and 1953. This gap-generation gets its retirement pension from both systems. The distribution between the systems depends on what year an individual was born. The earlier in the gap, the more pension comes from ATP and vice versa (Swedish Pension Agency, 2013; LRF Konsult, 2014). *Table 1* shows this distribution between pension from ATP (old pension scheme) and national old-age system (new scheme).

**Table 1. The gap-generation gets pension from two systems according to this proportions.**

Year of birth	Proportion old scheme	Proportion new scheme
1937	20/20	0
1938	16/20	4/20
1939	15/20	5/20
1940	14/20	6/20
1941	13/20	7/20
1942	12/20	8/20
1943	11/20	9/20
1944	10/20	10/20
1945	9/20	11/20
1946	8/20	12/20
1947	7/20	13/20
1948	6/20	14/20
1949	5/20	15/20
1950	4/20	16/20
1951	3/20	17/20
1952	2/20	18/20
1953	1/20	19/20
1954	0	20/20

## 2.3 The Swedish retirement scheme

The Swedish pension system is divided into three main parts: *national retirement-*, *occupational-* and *private pension*. *Figure 1* shows these parts illustrated in a pyramid, called the pension pyramid. In this pyramid the major bottom part represent the national retirement pension, the middle represents the occupational pension and the top part is private pension. *Figure 1* also reveals that the national retirement pension has two elements: income pension and premium pension (www, pensionsmyndigheten, 2015).

There is no fixed retirement age in Sweden and therefore the pension is not transferred automatically. The general outline is although to start the pension payment at an age of 65 but can be started as early as at age of 61. The pension can be acquired in payments in form of 1/4, 1/2, 3/4 or full pension (LRF Konsult, 2014). It is possible to work and at the same time collect pension and it is permitted to work until an age of 67. If the employee and the employer reach an agreement, is it possible to continue working even after 67. Self-employees however, may work how long they want to. The earlier retirement, the lower the pension will be since less working years results in lower pension-qualifying amount of earned money and because the years in retirement are then estimated to be more (www, pensionsmyndigheten, 2015). This is another reason to why it is important to have a strategy for individual retirement and pension. In the future the pension will be lower or/and the retirement age higher than 61. This depends on the development in Swedish economy and therefore there is no guarantee (www, efn, 2015).

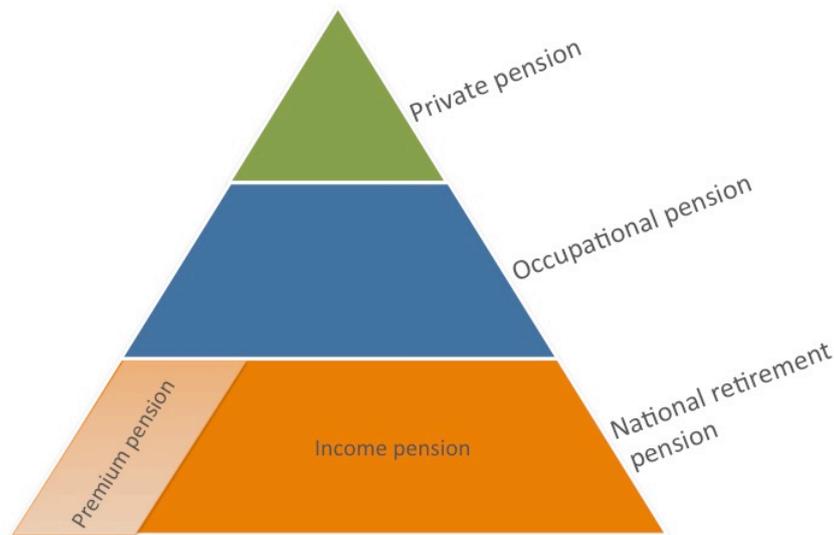


Figure 1. Model of the Swedish pension system. This pyramid illustrates the different parts: national retirement pension, occupational pension and private pension (Own version of pension pyramid. <https://www.minpension.se/du-far-pension-fran-flera-hall>, 18-02-15).

Pensioners in Sweden may potentially get pension from all of the three parts in the pension pyramid depending on several factors (www, pensionsmyndigheten, 2015). Each part is explained further in the following sections.

### 2.3.1 National retirement pension

The national retirement pension is based on 18.5% of the pension-qualifying amount, which is the yearly-earned payment and other taxable benefits. Besides yearly payments, the pension-qualifying amount also includes time spent with children at home, higher education, sickness- and activity compensation. There is an income ceiling at 7.5 income-related base amounts (acronym IBA), which means that this is the highest possible pension-qualifying amount per year and person (www, pensionsmyndigheten, 2015). Of the 18.5%, 16% is set-aside for income pension and 2.5% for *premium pension*. The premium pension is money invested in funds, which may be chosen among 800 funds by the pensioner-to-be. Only work after 1994 has provided premium pension as a part of the national retirement pension (www, pensionsmyndigheten, 2015).

The national retirement pension additionally includes a *guarantee pension* and the ATP. The guarantee pension is for people who have had no or low pension-qualifying income during their lives. To be qualified for guarantee pension a person needs to be over 65 years old. Plus have lived in Sweden for more than 40 years between the age of 16 and 64, otherwise the payment from guarantee pension will be reduced. ATP is a part of the national retirement pension if an individual is qualified for it (read more in section 2.2). (www, pensionsmyndigheten, 2015)

### 2.3.2 Occupational pension

The occupational pension is an important supplement to the national retirement pension. It is advantageous to employees since they get it from their employers. Unlike the national retirement pension, occupational pension is received even on income above 7.5 IBA (www, minpension, 2015). Most employers have a central agreement with a trade union, which provides employees with occupational pension. The occupational pension can be referred to as *employers' pension scheme* (www, pensionsmyndigheten, 2015). If a central agreement exists, this decides the size of the occupational pension. Otherwise the employee and the employer may agree about an individual contract about occupational pension. In some cases no occupational pension exist at all. Self-employees, who are not employees, do not have occupational pension. Approximately 90% of the employees in Sweden have a collective agreement including occupational pension. This is a remarkably high number in an international comparison (www, pensionsguide, 2015).

The sectioning between the government and the labor market has given a situation where the national retirement pension and the occupational pension do not collaborate in an efficient way. As a result of many choices (i.e. organization and type of insurance), the retirement scheme gets complicated for the individuals. This complexity reduces the tendency to make well-considered choices. (Riksrevisionen, 2014)

### 2.3.3 Private pension

The private pension is the third part of the Swedish pension system. This part is entirely optional, has to be started by the individuals themselves and may be in insurance schemes or pension saving accounts. Individual pension saving (IPS) is an account where private pension is saved through different funds chosen by the person. Saving money in IPS may be done monthly or spontaneously when it is possible. The private pension may be more important in the future for those who have a long education or have been unemployed a significant part of the working life (www, pensionsguide, 2015).

There are many opportunities regarding private pension for how to invest the money. One possibility is saving in an *unit-linked insurance*, which often has a higher risk level than other but at the same time this type usually gives a higher return (www, pensionsguide, 2015). The two most common types are *bond funds* (with debt securities) and *equity funds*. Choosing a higher degree of equity funds also provides a higher risk profile. Depending on risk aversion, risk can be seen as positive or negative. For those who have a longer time period left until retirement a high risk and equity is suitable. Those who are close to retirement should instead aim for a portfolio with low risk, which primarily invests in fixed income securities. Savers who are not interested in an active management can get help from bank and other finance advisers (www, pensionsguide, 2015).

## 2.4 Opportunities and risks for self-employees

Self-employees in Sweden pay *social contribution* to the Swedish Tax Authority in form of *payroll tax* ("egenavgift" in Swedish) and *employer contribution* ("arbetsgivaravgift" in Swedish). By these fees they pay for benefits, which they get the day they retire or get sick. Included in the social contribution is a fixed *old-age pension contribution* of 10,21% (LRF Konsult, 2014; Swedish Pension Agency, 2013). The total paid amount of old-age pension contribution decides the size of the final retirement pension.

There are two forms of tax, called F-tax and A-tax. These forms decide how the tax and the social contribution shall be paid and who should be paying. The approximately 500,000 self-employees in Sweden usually have F-tax registration, which means that they pay their own preliminary tax and social contribution ([www.ekonomifakta.se](http://www.ekonomifakta.se), 2015). Instead of F-tax, employees have A-tax, which means that their employer deduct tax from the employees' salaries and pays employer contributions. (Swedish Tax Agency, 2014)

A third alternative is to have both F-tax and A-tax (called FA-tax). This is the case for a physical person who receives income from an employer and at the same time runs a firm actively. The obligation to pay tax remains and depends on whether the person uses the F- or A-tax for a given job. If the person makes written reference to the F-tax registration in documents that is produced in connection with the job, F-tax shall be used. Otherwise, the client can assume that A-tax should be used. (Swedish Tax Agency, 2014)

Another aspect affecting the tax to pay is if the firm is categorized as active or passive. The common definition of an *active business* is a firm where the "taxpayer" (i.e. owner) works at least 1/3 of a full-time job. Otherwise the firm is a passive business (SFS 1999:1229). A special payroll tax ("särskild löneskatt" in Swedish) is paid if running a passive business and active business pays the ordinary pay roll tax. Special payroll tax is currently 24,26% and is based on the taxable income. The payroll tax at 28,97% is paid with of the same results. ([www, Lawline](http://www.lawline.se), 2014) The company form has an impact on the taxation but the deposition to pension is fixed at 10,21%.

Since self-employees do not get occupational pension as most of employees do, they must compensate this on their own. Many advisers give the recommendation to compensate by saving in a deductible private pension. Unfortunately it is highly notable that this is not advantageous for all self-employees. Owners of active firms, who have an income from the firm, are allowed to set aside 1,800 SEK (for 2015) plus 35% of the income as a deduction for pensions savings. The maximum amount income the deduction is based on is 10 price-related base amounts (acronym PBA), for 2015 this equals 445,000 SEK ([www, scb](http://www.scb.se), 2015). If the income is below the ceiling at 10 PBA, it should be avoided since it lower the declared operating profit, which is the pension-qualifying amount and the amount many other social benefits are based on ([www, pensionsmyndigheten](http://www.pensionsmyndigheten.se), 2015). This may seem as a good alternative. The advice for self-employees with an income from active business should instead be to save taxed resources in alternative ways. By amortizing loans and mortgages, the worker can reduce the cost of living to the retirement day for example ([www, efn](http://www.efn.se), 2015; [www, pensionsmyndigheten](http://www.pensionsmyndigheten.se), 2015).

Individuals with an income from employment and from owning an active firm have the opportunity to use the deduction for pension saving in two various ways. One option is as *common deduction* ("allmänt avdrag" in Swedish) and the other is as *deduction in business* ("avdrag i näringsverksamhet" in Swedish). The strength of the first-mentioned alternative is that it in general reduces the taxable income without affecting the pension-qualifying amount. (LRF Konsult, 2014)

Generally, in a short perspective it is lower tax for capital gains compared to taxable income. But by preferring capital gains, the self-employees do not get pension-qualifying amount. ([www, efn](http://www.efn.se), 2015) Since the old age pension contribution is fixed at 10,21%, the real variable is the taxable income, which most likely is influenced by fiscal legislation and the type of

company form. Therefore a description of sole proprietorship, partnership and limited company from the present study's perspective follows.

#### 2.4.1 Sole proprietorship and partnership

For a self-employee with sole proprietorship or partnership it is the declared business result from active firm that is the amount which the payroll tax are based on. The profit or surplus is the owner's (or owners') income in the end of the year (www, pensionsmyndigheten, 2015; Bacos, 2012).

A self-employee may choose to pay a fee to a *fund insurance* ("pensionsförsäkringspremie" in Swedish), which makes the surplus smaller. The tax is lower for funds insurances than general payroll tax, which therefore makes it an attractive alternative. Although, in general it is negative to make the surplus lower since it lowers the national retirement pension as well. In addition, a low income results in lower amount money in case the self-employee gets sick or wants to stay home with children. The difference in tax is marginal and by focus on having a higher surplus the owner get a higher income and automatically a saving to enjoy as pensioner (www, privata affärer, 2015; Bacos, 2012). This argument holds sway as long as an owner's salary is below 8,07 IBA.

As presented in *table 1*, only those who were born before 1954 are subject to ATP. This distinction results in a complex scheme of different payroll tax. Those who are subject to ATP do not pay fees for incomes from active businesses or special payroll tax. *Table 1* also revealed the fact that people born 1938 are the first ones who have the right to get pension from the new national retirement scheme. In this new system there is no upper limit for vesting of pension rights, which means that self-employees who are 65 years old and above have to pay income tax for incomes from active businesses (LRF Konsult, 2014).

#### 2.4.2 Limited company

Self-employees with limited companies do not get pension as owners. However since they are employed by the firm and have therefore a salary that provides them with a taxable income. Their pension is therefore based on the old age pension fee of 10,21%, which the employer pays.

Besides the salary this type of self-employees must consider dividend from the firm as well (www, privat affärer, 2015). Self-employees should think about how to draw out money from the firm at lowest possible cost. Depending on aspects such as age and previous income there are many alternative, which may have various consequences. A general conclusion is that a higher salary gives better benefits in case of sickness and higher income as pensioner up to 8,07 IBA (Bacos, 2012).

### 2.5 Optional investment related to agricultural business

For self-employees and especially for SMEs, it is in general hard to get good advise about pension and to find an optimal strategy for retirement saving. Superior for farmers is that their investments in agricultural properties make them closely related to the real estate market. As a part of the agricultural property it is common to own forest in addition to arable land. Buying and owning forest may be seen as an investment alternative to pension for self-employees as well as for employees. Half of the forest in Sweden is privately owned. One reason behind

this may be the fact that there are other values besides the financial in owning forest estate such as hunting and recreation. (www, investera i skog, 2015)

Investing in Swedish forest should be seen as an investment in tremendously long-term. The possibility is considered small to accomplish a disforestation of forest planted by owners themselves. Therefore an investment like this should be seen as an advantage for the next generation. It is, however, possible to disforest the existing trees when buying a forest real estate, which makes it a purposeful investment as retirement saving. (www, investera i skog, 2015)

It is likely that farmers invest their money in their own businesses. For example with better technical support, more efficient machineries or more land they can develop their firms. Using the resource to extend their business they can manage their own return, which may be seen as safer than investing in funds and equity they do not know as well.

## 2.6 Summary

The previous sections have described the current retirement scheme in Sweden and that the final retirement pension depends on a lot of aspects. *Table 2* shows a summary of how a company's legal form affects the retirement pension. The left hand side the table is divided into sole proprietorship, limited company, and employee. Employment is included in the table to make it comparable. Keep in mind that the limited company's owner is employed, although the position is included in the table to make it work as an overall summary.

**Table 2. A summary is presented of retirement pension in relation to a firm's type of legal form.**

		National retirement pension	Occupational pension	Private pension
Sole proprietorship		Depends on taxable income	Do not get	Optional on an individual basis
Limited company	<b>Owner</b>	-	Do not get	Optional on an individual basis
	<b>Worker and/or manager</b>	Depends on taxable income	Depends on agreement	
Employee		Depends on taxable income	Depends on agreement	Optional on an individual basis

So far a fundamental knowledge of the Swedish retirement system and aspects for self-employees in agricultural businesses are clarified. In the next chapter (Chapter 3) a theoretical framework will be presented. Theories concerning human behaviour and farmers' decision-making will be presented and argued.

### 3 Theoretical framework

Chapter 3 provides an account of the theoretical framework. Given that the topic concerns individuals' decision-making the natural choice of theoretical base is behavioral theory. While behavioral theory is chosen as the analytical tool, the focus is on the farmers' information collection and processing. This includes knowledge and social aspects as well as information sources, deliberations and screening of information, while the outcomes of the decisions cannot be considered as these are due to be unknown to the respondents at the time of the data collection.

The literature review concerns both general theory about human information collection and research specifically about farmers' behavior, not the least about farmers' views about retirement and old age pension. Based on the theoretical presentation a number of hypotheses are stated to function as the basis for empirical testing.

#### 3.1 Human decision-making

Decision-making starts with a need for something, which has to be solved. The *consumer decision process-model* describes humans' minds during the decision process and is illustrated in *figure 2*. The model shows seven types of activities: need recognition, search for information, pre-purchase evaluation, purchase, consumption, post-consumption evaluation and divestment (Blackwell et al., 2006). This study focuses on the initial part before the evaluation before an actual decision or choice is made, i.e. step 1 and 2.



*Figure 2. Model of the humans' decision-making process. (Own version of Blackwell et al., p.70, 2006).*

Within each step in the model, various factors influence humans' decision-making (Blackwell et al., 2006). *Figure 3* illustrates the two first steps of the model; need recognition and search for information. These are presented further in the following subsections.

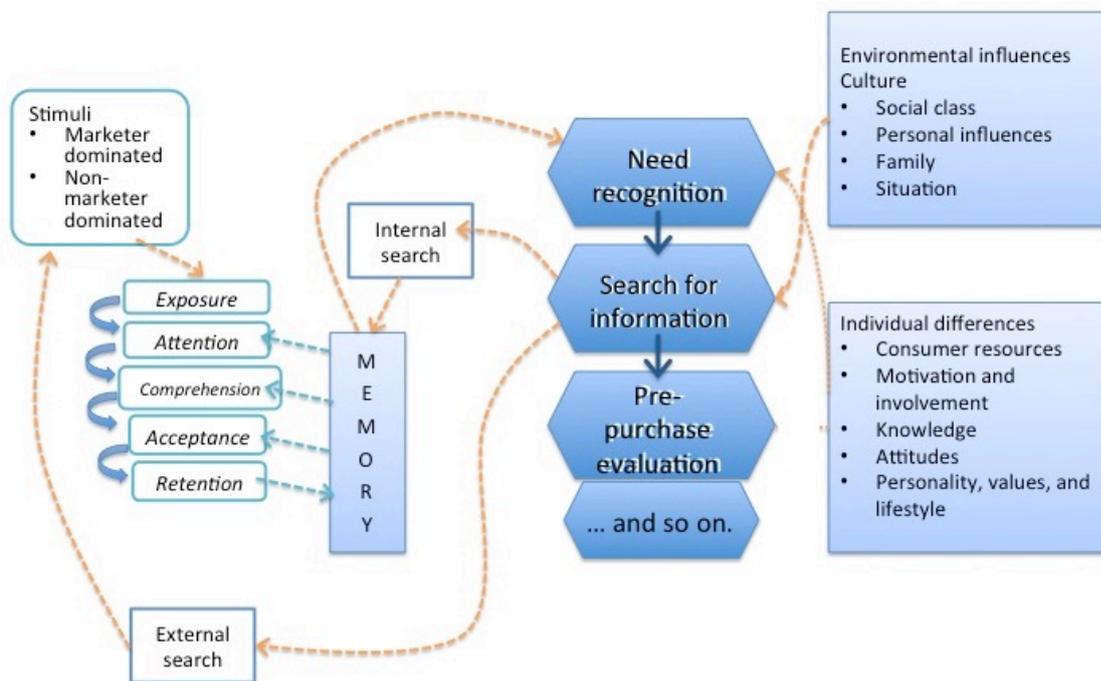


Figure 3. Detailed model of the first three stages in the process of human decision-making. (Own version of Blackwell et al., 2006, p.80)

### 3.1.1 Need recognition

The decision process starts with an individual's desire for something. This is the first stage, *need recognition*, and appears when an individual sees an actual problem or a need. Individuals buy something they think may solve their problem, meet their need, and that the ability is worth more than the price of the product or service. If it does not solve the individual's problem, the product fails. Well-developed technologies and large marketing efforts are wasted if the humans do not feel the need to buy. (Blackwell et al., 2006)

Illustrated in *figure 3* is that individuals use their memory in the stage of need recognition. This phase most likely vary among people since humans have different memories. Additionally, individual differences affect the need recognition as well. These differences are resources, motivation, personality etc. (Blackwell et al., 2006)

It has been argued that marketers can create a need or a problem. This is debatable but at least marketers can show how a product meets hidden needs and consequently raise people's awareness of the problem. Other determinants for how individuals look at their problems and needs are family, values, health, age, income, and reference group. (Blackwell et al., 2006)

### 3.1.2 Search for information

When need recognition occurs, individuals *search for information* to find a solution to the actual problem. The search process may be internal or external. These processes are also illustrated in *figure 3*. The *internal search* is retrieving information from memory or perhaps

genetic tendencies. In addition to this, the *external search* is collecting knowledge from peers, family, the marketplace etc. Individuals begin with internal search in their memory and if this information is not satisfying, individuals search externally as well. The process of searching for information aims at finding a solution to the problem and not to find information about specific products. This type of information exchange is often conducted actively but humans may gather information passively as well. Being more receptive to information from family and friends may be seen as passive information collection. Additionally, they can engage in active search behavior by researching on the Internet for example. (Blackwell et al., 2006)

How long and how deep the search phase is depends on variables such as personality, social class, income, and past experiences. If an individual has satisfying experiences of a brand, it is more difficult for competitive brands to get the human's attention. Therefore successful firms pay much attention to keeping customers happy and pleased in a long-term. (Blackwell et al., 2006)

#### *Sources of information*

To obtain the information needed to make a decision, the individual may search among different sources, which can be categorized as marketer dominated or non-marketer dominated (*figure 3*). The *marketer dominated* source is any information or stimuli coming from the supplier, for example it may be advertising, websites, and point-of-sales materials. The opposite, *non-marketer dominated*, are sources including friends, family, and media. Much of the stimuli come in the form of word-of-mouth. Others originate from mass media, for example independent product rating. (Blackwell et al., 2006)

At the same time as information search on the Internet increases, some individuals prefer to look for information in a more traditional way, called shopping. Other alternatives for information search are in-store and catalog shopping. The individual preferences on how to search information, is central for marketers. Obtaining information in an efficient way for the customer looking for a microwave for example is the most effective marketing channel. By contrast, an individual looking for a car may enjoy the process of information search in auto magazines and test-driving different models. (Blackwell et al., 2006)

#### *Information processing*

When people are to make a decision they have to process information from different sources. In *figure 3* the processing of external information appears as exposure, attention, comprehension, acceptance and retention. At first, information must reach the individuals (called *exposure*) and then the next step, *attention*, is to allocate processing capacity. If the information appears relevant for the individuals, it is more likely that they will pay attention. It is common to ignore the huge commercial influence and instead select the information to pay attention to. If information attracts the humans' attention, they start to analyze it in relation to their previous experiences and memories. To reach a positive decision of consumption from the marketer's point of view, *comprehension* will occur. The message within the information can be accepted or not, in the stage of *acceptance*. A common outcome is that the message is dismissed as unacceptable. It is likely that at least some changes occur to reach the final stage, *retention*. The humans store the information in their memories and it can be useful in the future. (Blackwell et al., 2006)

Humans are exposed to a lot of information in their everyday life. The marketers are competing for their attention but only a few get individuals' comprehension, acceptance, and retention (Blackwell et al., 2006). It is hard to take all information into account at the same

time. This is called *limited rationality* and results in a situation where information gets selected. To solve a problem the human being looks for similar experiences and wants to solve the actual problem in the same way. Hence humans create rules-of-thumbs. This process continues without the individual being aware of it (Björklund & Nilsson, 2014). Additionally *information overload* may appear when much and complex information makes it the decision process hard to handle. In a situation characterized by information overload, it is rational for people to lump together the information to vague concepts and feelings. Through this behavior people are able to handle more complex situations and simplify their information processing. Therefore individuals are able to make decisions faster (Riksrevisionen, 2014; Björklund & Nilsson, 2014).

Swedish retirement scheme is as presented earlier complex, which may likely be an important reason to individuals' *passivity* in the process of making decisions about their pension. Depending on how the outcomes of different decisions interact with each other, they may cause negative consequences for the individuals. These difficulties are hard to be aware of and thus many people make decisions with no consideration of the consequences. Therefore the structure of forms may be instrumental for individuals' decision-making (Riksrevisionen, 2014). An example is default options. Another example is that enterprises offering occupational pension do not inform the individuals about their options in connection with retirement. The reason behind this can be that the enterprises design the questions in a way so the individuals tend to choose the alternative, which is suitable for the enterprises benefit. For some individuals this may not be the optimal choice for their strategy. However, a higher degree of individual opportunities may have a good intention, it may also result in an even more complex decision-making regarding pension. (Riksrevisionen, 2014)

The retirement system may additionally be more complex as a result of the circumstances in the decision-making. The financial consequences of a choice are rarely clarified in close connection to the actual situation of decision. (Riksrevisionen, 2014) The mental aspects take control and affect the financial behavior, which may end up in a postponed decision or no decision is made at all (Karlsson & Sandström, 2014).

### 3.1.3 Summary of behavioral theory

The consumer decision process model presented in *figure 2* shows an illustration of humans' decision-making with seven steps. To reach the aim of this study, only the first two steps (need recognition and search for information) are relevant. The decision process starts with a need to satisfy or a problem to solve. When the problem is revealed, the individual starts to search for a solution.

Marketers can influence as the humans move through these stages. As *figure 3* shows the purchase is affected by a complex set of influences, including individual differences and environmental influences.

In the moment of making a tough decision about retirement pension, individuals tend to simplify the choices and go for the easiest alternative. The huge amount of choices concerning both national retirement- and occupational pension is the main reason why the retirement scheme is considered complex. The complexity in regulations and options to choose leads to fewer tendencies to make well founded decisions.

## 3.2 Human information collection

### 3.2.1 Information collection

To be able to make a complete plan for retirement pension, individuals need to know their total income amount, future taxes, family conditions, health, and how long they are going to live. Since this is impossible to know, it is hard to make a trustworthy plan for retirement savings. Most likely, this may induce individuals not to plan their retirement financially in a proper way. In the same sense as people are aware of the positive consequences of working out or stop smoking, they are aware of the benefits of planning their retirement pension. The problem in these situations is that humans find it hard to change behavior actively and may therefore remain uninformed about retirement and pension. In previous studies of decision-making of pension, the following has been shown (Riksrevisionen, 2014; Mitchell & Utkus, 2003):

- A large number of choices make individuals passive
- Individuals are often inconsistent in their preferences of choice and choose differently depending on how the alternatives are presented
- Individuals tend to choose the middle alternative if one exists, no matter previous risk profile
- Individuals underestimate their life span.

In situations where decisions have to be made, an individual's experiences influence. People are not capable of predicting how markets will develop. Decisions made today will affect tomorrow and therefore imply *uncertainty*. Uncertainty leads to that people have to judge the probability of different scenarios on the market. Thereby previous experiences and gut feeling influences the decision-making (Björklund & Nilsson, 2014).

Human beings tend to choose default options. The reasons to why default options influence the decision-making are categorized into three main causes. Firstly, it is about *switching costs*, which affect the decision when the cost of deselect the defaulted option is higher than the expected profit of the choice. The cost in this sense may be time spent on making the switch or gathering information. The second reason is the person making the default option most likely has an *information advantage*. Thus the individuals who are about to make a decision get a signal pointing at a specific choice, which should be chosen. Lastly, the *risk aversion* among people in general causes individual to choose the default option. (Riksrevisionen, 2014)

Thus, it is a big challenge to change behavior and start an active act of personal retirement saving. One of the key problems is mental- and behavioral oriented. The main reason to why many do not actively take responsibility for their pension is because the pension is far forward in the future. This behavior of "do not care" is common even if individuals are aware of the pensions importance. In fact, using the terminology of *pension saving* seems to result in anxiety among people. Instead *long-term savings* give a more positive response. (Vikström, 2014)

### 3.2.2 Knowledge

It takes time, work effort and *knowledge* to make well-founded decisions (Björklund & Nilsson, 2014). Individuals may not possess the needed knowledge, since the retirement

pension scheme is so complex and hard to understand (Riksrevisionen, 2014). Therefore it may seem logical that *well-informed* and *well-educated* people are motivated to deliberate their decisions when it comes to pension and retirement savings. This is supported by another study, which reveals the potential that knowledge and education are correlated with higher interest in economics and a higher financial risk-taking (for example: saving in equity funds). Thus the financial strategies are influenced by the individual risk preference. (Karlsson & Sandström, 2014) In conflict with this argument, a study from 2011 shows that neither age, education degree or income influence an individual's capacity to calculate or financial talent. In addition, the same study points at individuals who have long-term investments, using internet banking, participate in equity market, or own housing also have better ability to calculate and financial talent (Finansinspektionen, 2011).

The knowledge about national retirement pension is low and even decreasing among many future pensioners according to investigations 2005-2009 and 2012 done by the Swedish government. As an example only three out of ten respondents know that the national retirement pension is based on the total amount of income throughout a lifetime. A significant number also consider themselves having low or no knowledge in the topic. In fact, 50% deem that their knowledge is "pretty bad" about national retirement pension. The respondent in an age of 60-66 years (who had not received pension payments yet) in 2012 investigation overall had better results than the average for all pension savers. Since the questions were about the national retirement scheme in basic, the level of knowledge is low for these individuals who are about to make important pension decisions in the nearest future. (Riksrevisionen, 2014)

### 3.2.3 Social aspects

The context within which decision-making occurs is influenced by social, cultural, and environment aspects. Farmers' decision-making also differs from other because their business decisions are related to the private economy and often to the households' lifestyle. Therefore the influences from family and household are relevant to consider when analyzing farmers' behavior.

The roles of various family members decide how families make decisions about consumption. Depending on the type of product the purchase may vary. Products such as milk and shampoo that are used by the entire family are often bought of one family member. Other products, which are personal, may be bought individually. A third type of product is for example a car or a house. The parents usually make these decisions together. It does not matter how many family members are present when the consumption decision is made. Even if someone is missing, he or she still influences the decision of household consumptions. For example a parent may act as an individual in the store but all the family members influence the purchase decisions anyway. (Blackwell et al., 2006)

Retiring may be a strenuous separation from a social engagement and leaving something well known completely. This is even harder for those who associate their own personality with their work (Riksrevisionen, 2014). Growing up at a farm and continuing an agricultural business, most likely qualify as a work associated with personality.

Humans are social in their nature and we form groups for different purposes. The general reason to this behavior is that we can accomplish more as a group than as individuals (Blythe, 2013). The family, as a group, is not a group one chooses to join but this group is so important for individuals' decision-making that it has already been presented. Other people influencing an individual's consumption decision significantly besides family are referred to as *reference*

*group* (Blackwell et al., 2006; Blythe, 2013; Björklund & Nilsson, 2014). From a historical perspective, this behavior has grown stronger as a result of better chance to survival if cooperating in activities such as hunting and defense. Therefore we continue to work in teams for both practical and social reasons.

A central reference group for a farmer most likely is other agricultural businessmen in the nearest countryside. A potential *peer group effect* may exist among farmers. A study has investigated if decisions in a peer group may influence an individual's decisions regarding retirement savings. Unfortunately, the results were only suggestive since it might just be the common variables such as background or common environmental factors that were the influencing the individual decision-making. (Duflo & Saez, 2002)

### 3.3 Farmers' decision-making

This section presents relevant aspects of what characterizes specifically farmers' decision-making behavior.

For example, farmers have a *practically orientated personality* and find working in the field as more satisfying than administrative work, which farmers in general find less attractive (Björklund & Nilsson, 2014). In this sense, planning pension and retirement saving are less interesting and have low priority. As for everyone else, a farmers' decision process is usually limited by financial resource. Human factors, such as status and prestige may be important as well. These non-economic goals can be decisive if the farmer finds functional criteria fulfilled. Therefore social and emotional aspects are important in addition to the functionality. (Kool, 1994)

In general, it is common that family members are involved in an agricultural business. Decisions made in the firm affect both family members and employees. Thus family members have a reason to be active in decision-making. However, it can be expected that only a few family members are involved to avoid inefficient decision-making. The social system farmers established throughout many years, is traditionally characterized by an expected cooperative behavior between the members. (Kool, 1994)

Usually, money is needed to satisfy our needs. The size of an individual's paycheck primarily decides how much of his or her needs are afforded to satisfy. The question that remains is: how to satisfy their needs when the working days are over and no paychecks are received? Clearly, it is important with financial security, which means that financial resources must be established (Blackwell et al., 2006). The resources set aside should be suitable for the wanted life standard and consumption patterns after leaving the work force. Unfortunately many retirement plans fail to deliver the desired welfare (Van Asseldonk et al., 2010). This may be a consequence of overly high expectations. To avoid disappointing pension, one may regularly evaluate the reserved assets to make sure that the capital meets the income need as retired (Van Asseldonk et al., 2010).

A product's importance signals by the consequences of making the wrong decision. It is expected that this importance decides how much time the farmer spends on the decision process. The available time is usually limited and therefore the allocation of time is based on priority. (Kool, 1994) Since decisions about retirement savings is a postponed problem in many cases, it most likely has low priority and thus less time is spent on the process of these decisions.

The time allocation within the firm is affected by what type of farming the business is. The type decides how the workload varies depending on which season it is. Arable farms have a strong seasonality in workload compared to non-grazing livestock farming (pigs and poultry), which has a nearly constant workload. These differences are related to the time allocation of decision-making. When the workload is very high, a minimum amount of decision can be made. However, between these periods farmers can dedicate more time and effort into decision-making. Thus decisions in periods of low workload may be well established (Kool, 1994).

Another central aspect when analyzing farmers is how the upcoming generation influences the process of making decisions. If there is a successor in the picture, it is more likely to make investments for the future than if there were no successor (Björklund & Nilsson, 2014). Any farmer who has the opportunity to invest in a long-term perspective faces the dilemma of choosing to invest off-farm or in his or her own business. Many farmers feel that it is more sensible to invest funds in the firm as in one "egg-nest". At the same time, their own agricultural businesses probably are the ones they know the best and thus the farmers should be better informed compared to off-farm choices. If choosing to invest in the own agricultural business, it is highly important to make the next generation aware of it since this means that a part of the future profit are return on investment to the retired farmer. Unfortunately it might be necessary to disinvest if the return is not enough to satisfy the retiree's consumption. These circumstances can lead to conflicts between the generations if the young ones are not informed about this in a proper way. (Van Asseldonk et al., 2010)

At the time of considering when to retire, there are a couple of aspects to take into account. In older workers final retirement decision-making the following is central (Nilsson, K, 2013):

- "Their possibility to balance and adapt functional ageing and health to a sustainable work situation
- Their economic situation
- Possibilities for social inclusion and coherence
- Possibilities for meaningful activities"

The individuals evaluate if these requirements are best fulfilled in or outside working life. The conclusion of the evaluation determines whether to retire or to continue work (Nilsson, K, 2013).

The succession is related to the importance of an income from the agricultural business relative to other activities generating incomes to the family. Even if one may argue that the personal considerations generally are the most important, the succession considerations are central too. The importance of succession is bigger among farmers, who were raised on a farm, had lower income, and those who have larger farms. Therefore the conclusion is that a high farm activity increases the demand of a successor. (Kimhi & Lopez, 1999)

Considering the development in real estate market, many owners of land properties can use these investments as financial securities today and hopefully in the future too. Thus a low LTV may seem as a saving for retirement and pension. A previous study reveals the fact that age or experience of the real estate market may be correlated to the individual's attitude towards the property as a financial security. The reason behind this may be that people with experience of the real estate crash in the 1990s have seen its consequences. Thus these

experiences may affect older individuals' amortizing behavior and saving strategies. (Karlsson & Sandström, 2014)

### 3.4 Hypotheses

The above-presented account is the base for the following hypotheses. The hypotheses are structured according to the terminology used in the theory, which is clarified in explanations to each hypothesis.

#### **Information collection**

*1. The more **exchange of information** that takes place within the family, the more likely they are to actively plan their retirement pension.*

Many choices concerning retirement savings have to be done by individual active decisions. Thus those who make these decisions have an advantage of being well informed. Exchange of information within the family raises the probability for the family members to actively manage their retirement pension.

*2. The more critical the individuals are to **web-based information** about retirement pension, the more inclined they are to talk with family and friends about the topic.*

Retirement pension is a personal subject, which should be treated careful to provide the individual with a satisfying private economy as pensioner. The decision-making regarding retirement pension should therefore be based on information from trustworthy sources.

#### **Knowledge**

*3. The higher level of education individuals have, the more likely do they possess **knowledge** about retirement saving.*

During education individuals are taught how to learn more efficient. People with higher education may therefore find it easier to search and locate information related to retirement saving.

*4. The more interest individuals have in business matters, the more likely they are to have a **knowledge** of retirement saving.*

Limited interest in business matters may imply a feeling of uncertainty related to financial activities. If having much interest in issues related to business matter, it is more likely for them to be willing to learn more about opportunities within retirement saving.

*5. The more **knowledge** of retirement pension individuals claim to have, the more willing they are to search for more information regarding retirement saving.*

Knowledge about retirement pension is initiated by an interest for the subject. An individual with an interest has a curiosity to learn more and is therefore more likely to search for more information.

#### **Social aspects**

*6. The more individuals consider they have **successors** to the agricultural estate, the more inclined they are to actively plan their retirement pension.*

Agricultural estates attach much financial recourses, which make it hard for many successors who wish to continue the agricultural business. The earlier generation may be more prone to actively plan their retirement pension to reduce the financial issues for the successor.

*7. The more individuals consider they have **successors** to the agricultural estate, the more inclined they are to become early fulltime pensioners.*

An individual who does not consider there is a successor to the agricultural estate, has a hard time to liquidate the business and become a fulltime pensioner right away. He or she most likely finds it more suitable to slowly reduce the extent of the business and by small steps work less each year getting closer to retirement age. However, if a successor exists, it is an obvious reason to hand over the firm earlier.

*8. The more individuals' **parents** have/have had a plan for their retirement pension, the more inclined they are to actively plan their own retirement pension.*

Most children have their parents as their head role model throughout life. Human beings usually learn by imitating what others do. It is therefore more likely that children to individuals who actively plan their retirement pension are more active than others.

#### **Farmers' decision-making**

*9. The lower **LTV** a property has, the less likely the owning individual is to possess retirement saving in other forms than real estate.*

A property with a high LTV (acronym for Loan To Value-ratio) means that the owner needs much money to be able to amortize and pay the rent. Thus the owner has less possibility to save money to pension compared to another individual with a lower LTV. Additionally, the owner with a high LTV ratio may invest in the real estate as a pension saving.

*10. The greater proportion of **rented land** out of the total cultivated land, the more likely the individuals are to own retirement saving in other forms than real estate.*

In the same sense as the previous hypothesis' explanation, it is more likely that farmers with no or less rented land are saving less in other forms (such as equity, funds and so on) instead of in the real estate.

*11. The more **complex** individuals find the retirement scheme, the more inclined they are to actively plan their pension savings*

The retirement scheme provides individuals with many choices to handle actively or not. Therefore the retirement scheme may be found complex, which reduces the tendency to make well-considered decisions.

Each hypothesis has to be empirically explored, which is why these hypotheses serve as a basis for the questions within the survey. The next chapter presents the empirical approach for the study.

## 4 Methodology

This chapter presents methodological deliberations for the empirical part of the study such as techniques chosen for the collection of data. Based on the previous theoretical presentation, a number of hypotheses are stated in the last section of Chapter 3 to function as the basis for empirical testing.

### 4.1 Methodological approach

The aim of this study is to explore how farmers handle information and how social aspects influence the early stages in their decision-making regarding retirement pension. This knowledge makes it possible to clarify behavioral patterns among farmers' retirement decisions. It is desirable to get data that is quantifiable and therefore a qualitative approach is less suitable than a quantitative approach. The qualitative approach is more appropriate for research aiming for a deeper understanding and a small sample, which is not the case in the present study (Patel & Davidson, 2011).

A quantitative approach in research is used to provide a large amount of data (Robson, 2011). Collected data with high correspondence make it possible to draw conclusions with good trustworthiness and to be able to generalize. Hence a high correspondence is wished for. A large amount of data also means that measurements for significance and validity are achievable by treating the data with statistical methods.

The researcher in this study does not intend to affect the respondents through the data collection. Thus the collection of data is structured before this stage begins. This is called *non-experimental fixed design*. The opposite, *experimental fixed design*, is used to examine how a change in for example the environment affects the respondents way to act and correspond throughout the data collection. Additionally, it is commonly used for explaining a course of action. Non-experimental fixed design is traditionally a design chosen to measure relationship between variables (Robson, 2011). Thus, this study uses non-experimental fixed design since the purpose is to clarify patterns in social aspects and information collection regarding retirement decisions. These variables are labeled as *explanatory variables* (those which may affect the others, also called independent variables) and *outcome variables* (those where we look for changes, also called dependent variables) (Robson, 2011). In the present study, most of the explanatory variables relate to social aspects and information collection since the study focuses on these. Consequently, the outcome variables are related to retirement planning. However, not all hypotheses fit this standard since it is also of interest to reach the aim of the study to explore varying characteristics among the farmers.

Empirical data may originate from various sources such as secondary sources, observations, diaries, or interviews. To determine what technique to use, it is central to consider available recourses and which method seems most suitable to reach the aim. This study uses a survey to collect empirical data.

The next step is to decide which form of survey to use: *postal questionnaires*, *Internet questionnaires*, *face-to-face interviews* or *telephone interviews*. Positive with a questionnaire, where respondents answer themselves (called *self-completed*), is that the questions are presented identically without a researcher influencing the circumstances. This makes it possible to get high reliability of response. Additionally, self-completed questionnaire is a

suitable method if the respondents may prefer to be anonymous since the topic can be perceived as private and sensitive. However, self-completed questionnaires mean that the researcher has no possibility to clarify misunderstandings in the survey. To counteract this, the respondents will be able to contact the researcher by phone or e-mail before, during and after answering the questions to eliminate unclearness. (Robson, 2011)

Disadvantages for surveys in general are that they may have low response rate and the respondents tend to respond in a way that put them in better lights. Additionally it may be complicated that respondents do not take the survey seriously, which is a disadvantage that is hard to detect and manage. However, the questionnaire is designed with the aim to make it easy for the respondents to answer. It is short and has simple questions to reduce the effort put in by the respondents. Using a questionnaire is although an extremely efficient method to collect a large amount of data in a short period of time and at a low cost. A huge advantage for Internet surveys is that the data is collected digitally immediately. Compared with a postal survey where the researcher has to enter the data into a computer by hand, the Internet survey saves time and reduces the risk of a researcher entering incorrect data by mistake. (Robson, 2011) Based on these statements, an Internet survey is chosen as method for data collection in this study.

A researcher wants to relate theory with the reality and vice versa. This study has a deductive way of working characterized by the process starts in existing common theories and derives conclusions about specific phenomena. This leads to stating of hypotheses, which are empirically tested. Thus, the existing theory decides what information to collect, how to interpret the information, and how to relate the results to the current theory. Additionally, the risk of influences from a researcher having subjective view is lower. (Patel & Davidson, 2011)

## 4.2 Questionnaire

### 4.2.1 Design

The data collection in this study uses Netigate, which is a web-based tool available for employees and students at SLU. A questionnaire is designed in Netigate and a link to this Internet site is sent by e-mail to the sample. A compilation of the result is also done thru Netigate.

The questionnaire, as a hyperlink, is sent in e-mail to the sample. This e-mail works as a cover letter (Appendix 1<sup>1</sup>) with the purpose to provide trustworthiness for the author and to stress the importance of the answers. Lastly, a picture of the author and contact information to the author and the supervisor gives the respondent confidence. If any uncertainty exists, the respondent should feel comfortable to contact the author and she will gladly clarify the information.

Initially in the questionnaire (to read the whole questionnaire with results, go to appendix 2<sup>2</sup>) there is a section with questions about basic background variables about the respondents such as age, location, and education. Following questions in the questionnaire are divided into sections suitable to reach the aim with the topics: *your present work*, *your retirement saving*, *knowledge about retirement pension*, and *information about retirement pension*. Lastly in the

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<sup>1</sup> Appendix 1 presents the original cover letter written in Swedish to avoid risk of misreading.

<sup>2</sup> Appendix 2 presents the questionnaire in Swedish to avoid risk of misreading.

questionnaire, the respondents have an opportunity to comment on the questions and highlight topics that are important according to them, which have not been mentioned within the questionnaire (Patel & Davidson, 2011). Most of the questions' purpose is to function as information to the statistical testing of each hypothesis. The test of hypotheses uses two questions per hypothesis. *Table 3* clarifies which questions are used for which hypothesis.

**Table 3. This table shows the questions that are used in the testing of hypotheses.**

Hypothesis
1. The more exchange of information that takes place within the family, the more likely they are to actively plan their retirement pension. <ul style="list-style-type: none"> <li>I talk a lot about retirement pension with my family.</li> <li>To actively plan my retirement savings is not important.</li> </ul>
2. The more critical the individuals are to web-based information about retirement pension, the more inclined they are to talk with family and friends about the topic. <ul style="list-style-type: none"> <li>I do not consider web-based information regarding retirement pension trustworthy.</li> <li>I talk a lot about retirement pension with my family and friends (this variable is combined by two question).</li> </ul>
3. The higher level of education individuals have, the more likely do they possess knowledge about retirement saving. <ul style="list-style-type: none"> <li>Which education do you have?</li> <li>I have satisfying knowledge about retirement saving.</li> </ul>
4. The more interest individuals have in business matters, the more likely they are to have a knowledge of retirement saving. <ul style="list-style-type: none"> <li>I find business matters interesting.</li> <li>I have satisfying knowledge about retirement saving.</li> </ul>
5. The more knowledge of retirement pension individuals claim to have, the more willing they are to search for more information regarding retirement saving. <ul style="list-style-type: none"> <li>I have satisfying knowledge about retirement saving.</li> <li>I want to develop my knowledge about retirement saving.</li> </ul>
6. The more individuals consider they have successors to the agricultural estate, the more inclined they are to actively plan their retirement pension. <ul style="list-style-type: none"> <li>Is there a planed successor for the agricultural estate today?</li> <li>To actively plan my retirement savings is not important.</li> </ul>
7. The more individuals consider they have successors to the agricultural estate, the more inclined they are to become early fulltime pensioners. <ul style="list-style-type: none"> <li>Is there a planed successor for the agricultural estate today?</li> <li>At what age have you planed to become fulltime pensioners?</li> </ul>
8. The more individuals' parents have/have had a plan for their retirement pension, the more inclined they are to actively plan their own retirement pension. <ul style="list-style-type: none"> <li>My parents have/had a strategy for their retirement saving.</li> <li>To actively plan my retirement savings is not important.</li> </ul>
9. The lower LTV a property has, the less likely the owning individual is to possess retirement saving in other forms than real estate. <ul style="list-style-type: none"> <li>What LTV ratio does your agricultural estate has?</li> <li>In what forms do you save to pension?</li> </ul>
10. The greater proportion of rented land out of the total cultivated land, the more likely the individuals are to own retirement saving in other forms than real estate. <ul style="list-style-type: none"> <li>Do your agricultural firm rent land area? If "Yes": how big proportion?</li> <li>In what forms do you save to pension?</li> </ul>
11. The more complex individuals find the retirement scheme, the <u>more</u> inclined they are to actively plan their pension savings. <ul style="list-style-type: none"> <li>It is easy to understand the retirement scheme.</li> <li>To actively plan my retirement savings is not important.</li> </ul>

The other questions within the questionnaire that are not used directly in test of hypotheses aims to give an general impression of the respondents, contribute to the analysis, and provide a better understanding of the results. *Table 3* reveals that parts of the questionnaire are formulated as questions and some are statements that the respondents have to consider. The reason behind this design is to avoid that the respondents find the questionnaire monotone. Lastly, the respondents are asked to enter their e-mail address if they wish to receive the promised summary of the study. The estimated time to answer this survey is not more than eight minutes.

To facilitate the data processing the respondent chooses from set alternatives to answer most of the questions. This means that the survey has high *degree of structuring* and the respondents answering are limited to the given alternatives (Denscombe, 2009; Patel & Davidson, 2011). A possible negative consequence of this design is if the respondent does not find any alternative fully suitable. Therefore at least one question in each section of the questionnaire has a comment field, which makes it possible for the respondents to write a message and make the researcher aware of the problem. The comment field may serve as a chance to highlight their opinion. This opportunity also provides the author with additional information from the respondents, which is of interest when analyzing the results.

#### 4.2.2 Sample

The aim of this study focuses on farmers in Sweden. Thus, this is the population to examine. It is unusual to be able to examine the whole population in a survey, which is why a smaller group is a selection of the population (Robson, 2011). This smaller group is called the *sample*.

The sample in this study consists of 3,000 individual members of *The Federation of Swedish Farmers (LRF)*, which is considered to be most representative for the population of Swedish farmer. However, members of LRF do not have to be an active farmer. Others, for example farmers' family-members or everyday people, may as well be members of LRF. Thus it is not suitable to choose the 3,000 individuals to the sample from this group. According to LRF, their members are operating in 63 kinds of businesses. Since the purpose focuses on farmers as a population, the sample is taken from the group of business-members with forestry, crop- and livestock production. Among these categories of businesses, 3,000 members are randomly selected according a method called *unbound random selection*. This method means that every member has the exact same probability to be selected by using this method of providing a sample group. A computer program does the selection, which makes the process not affected by human hand. (Robson et al., 2011; Trost, 2007; Patel & Davidson, 2011)

This survey, as for most other surveys, aims to provide data that makes it possible to generalize findings to the whole population, which is why the homogeneity of the population is a very important aspect to take into account when planning the size of the sample group (Robson, 2011). A heterogeneity population increases the need of a larger sample. In the current case, no information is found regarding farmers being neither nor.

To achieve generalizable results the sample should be as representative as possible for the population. A large sample increases the chances for representativeness for the population (Denscombe, 1998). In research the sample size is a central issue to consider. There is no straightforward key to this issue since it depends on different aspects. Still the most representative sample group is the same as the whole population to examine, but it is usually not optimal or even possible in most cases. Therefore the larger the sample, the lower the risk

of error in generalizing (Robson, 2011). Furthermore, a study with a big sample makes it possible to identify categories among the respondents (Robson, 2011). Overall, a large sample group is better than a small one. The sample in this study is considered relatively large and suitable for the current study.

#### 4.2.3 Control of design and quality

By testing the preliminary questionnaire on a group of individuals before it is sent to the sample group, gives a chance to see how the questions are interpreted (Robson, 2011; Olsson & Sörensen, 2011). This procedure gives a possibility to correct details with and within the questionnaire. The test group consists of 10 persons with different background and knowledge within the topic, which meant that they potentially could provide useful feedback and different aspects to improve. This process of improving the questionnaire is divided into two stages. At first, five persons were asked to answer the questionnaire and bring feedback to the researcher. The feedback was incorporated and resulted in a revised edition, which was sent to five others in the test group. After the second stage of test correspondence, the questionnaire was improved even further according the second feedback (Robson, 2011). Further control is done by two experts in the topic within the segment of agricultural businesses: Fredrik Rosén (LRF Konsult) and Anders Johannesson (LRF).

#### 4.2.4 The reduction of non-responses

A common consequence of data collection thru a self-completed questionnaire is a low response rate (Robson, 2011). This is taken into account when designing this survey. The questionnaire is easy to follow, thanks to the general design and simple instructions initial in each part of the questionnaire, with the aim to appeal even to people with less computer experiences (Robson, 2011). To increase the number of responses, reminders could be sent a couple of days after the questionnaire. Reminders also reduce the risk that the e-mail disappears among others in the respondents' inboxes. The purpose with the reminder is to motivate the respondents to answer the questionnaire (Trost, 2007). Unfortunately, reminders could not be used since Swedish law does not allow companies to hand out their costumers' contact information as an integrity protection. Therefore the email is sent from LRF office and not through Netigate's distribution.

Further is it important to design the questionnaire in such way that the respondents do not find the questionnaire time consuming or difficult to complete. The questions should be written in a simple language, have clear instructions, and have an attractive layout.

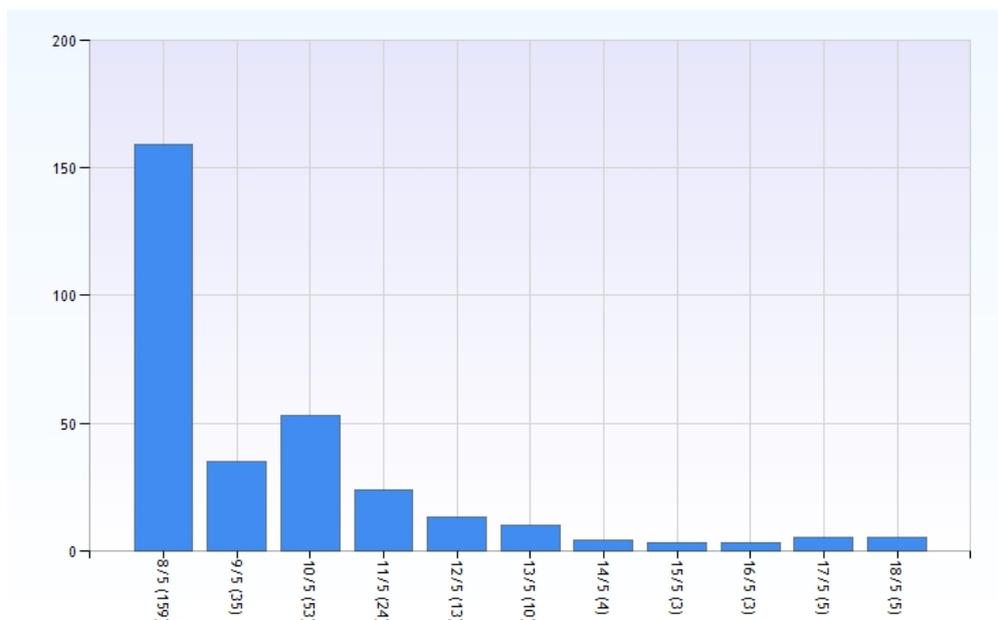
The aspect of when the survey reaches the sample group may affect the response rate. The survey is sent out Friday May 8th 2015 and the last date to answer is Monday May 18th. Swedish farmers usually have a lot of work during the spring. The busier the respondents are at the time they get the e-mail, it is less likely that they will answer. For farmers, this time of year might be reserved with activities such as sowing depending on the weather conditions.

To increase the response rate, respondents can be remunerated of some kind. The respondents in this study are given the opportunity to get a summary of the findings and considerations for self-employees in agricultural businesses regarding pension. This opportunity is presented in cover letter in the e-mail. The aim of giving them this opportunity is that they hopefully find filling in the questionnaire meaningful. For instance, farmers and other rural businessmen thinking in terms of pension, retirement savings and succession may find it as worthwhile

getting information and conclusions based on themselves and their opinions. To make the summary attractive, it is written in Swedish (appendix 3). To be able to send them this summary with information and advices, addresses must be collected within the questionnaire, which means that the respondents no longer are anonymous. However, it is possible to complete the questionnaire without indicating such information.

### 4.3 Non-response analysis

Answers were received from 314 out of the 3,000 randomly selected members of LRF. This gives a response rate of 10,5%. It is impossible to know the reason why the other 89,5% has not answered. Low interest for the topic may be one reason to the large amount of non-responses. Another reason may be that the survey was active during only 10 days. On the other hand, only 13 answers were received the last three days comparable to 159 answers during the first day. *Figure 4* illustrates the number of received answers per day. This may indicate the possible effect of using a reminder. Nevertheless the results show fullness and tendencies.



*Figure 4: This diagram illustrates the number of answers received each day the questionnaire was activated.*

A number of 76 people have opened the questionnaire without answering the questions, which can be interpreted as they found the questions too hard or the questionnaire too long. The questionnaire was designed with many compulsory questions. This may be an irritating fact for the respondents, who therefore chose not to complete the questionnaire.

Among the 314 completed answers, there were still some questions without answer. *Table 4* illustrates the missing answers in each section of the questionnaire. The second column shows the numbers of missing answers. On the right hand side, the status of internal missing answers. The cause to this is impossible to know. However, a potential reason might be that the respondent answered the questions with carelessness and therefore missed some questions.

**Table 4. This table reveals the internal missing answers to questions divided into sections.**

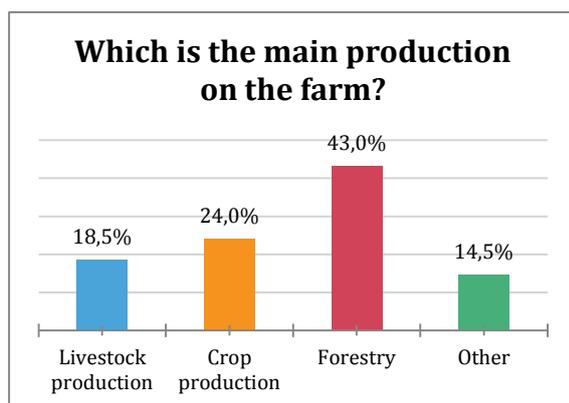
Question section	Number	Status
<b>Background variables</b>	0	0%
<b>Questions to owners of business or real estate</b>	4	1-10%
<b>Your work</b>	1	1-10%
<b>Your retirement savings</b>	22	1-10%
<b>Knowledge about pension</b>	7	1-10%
<b>Information about pension</b>	1	1-10%

It seems as if the respondents find the questions related to economic and pension interesting. Unfortunately, it is likely that they who have not answered the questionnaire have neither such interest nor active strategy for retirement savings.

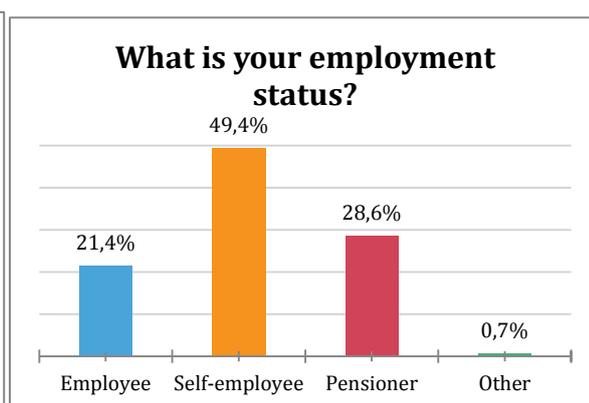
## 4.4 Background variables

Out of the 314 respondents were 83% male and 17% female. The sample consists of 39% women, which most likely fairly represent the population to investigate in general. It is therefore interesting to notice that only 17% of the respondents were female. The majority (58%) is between 60 and 75 years old. All of the counties in Sweden are represented among the respondent. Still south province (16%) and western Mid-Sweden (14%) are the ones most represented. Approximately half of the respondents (48%) have tertiary education and all have answered they own agricultural and forestry land. The majority of the respondents, 83,9% runs a sole proprietorship. The second most common business form is limited company (7,4%).

The allocation between different types of productions is: 43% forestry, 24% crop production, 18,5% livestock production, and 14,6% other (*figure 5*). In *figure 6* the respondents' employment status is demonstrated. The most common is self-employee (49,4%) and the second most common is pensioner (28,6%). At the same time about half of the respondents (48%) stated in another question that they are fulltime or part-time pensioners. This means that a significant group is retired and still runs a sole proprietorship.



*Figure 5: Main production.*



*Figure 6: Employment status.*

The distribution of age among the respondent can show a proper picture of the farmers in Sweden today (*figure 7*). A possible effect of having respondents predominantly elderlies, is that they most likely possesses more experiance of the shifting pension scheme and have seen

the outcome of their strategies for retirement saving. Thus these experiences affect their current financial decision-making.

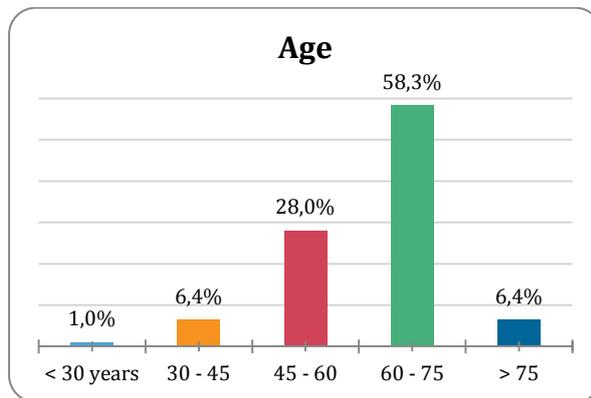


Figure 7: The age within the sample.

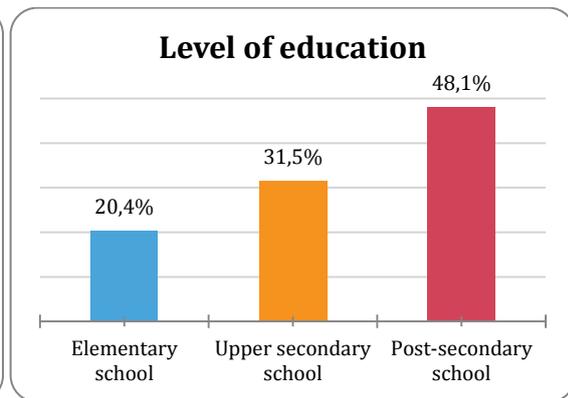


Figure 8: The samples level of education.

The level of education within the sample is higher than the average in Sweden (*figure 8*). About half of the respondents (48%) have post-secondary education, which may be compared with the average at 35% in Sweden 2014. Since the main part (58%) of the respondents is more than 60 years old it is interesting to mention that the general average in these categories are lower than the total average. (SCB, 2015)

Furthermore, 31% of the respondents consider their knowledge about retirement pension as good. At the same time do only 10% think that the general knowledge is good among Swedes. Thus the respondents consider themselves having more knowledge in the topic than the everyday people. The question that arises is: why so? A potential cause may be that they want to put themselves in better lights. Another reason to this difference in knowledge might be that the respondents who have chosen to fill in the questionnaire are those who are interested of the issues discussed in this thesis.

## 4.5 Test of hypotheses

The empirical data has to be statistical tested to determine the significance of the stated hypotheses. In this study a statistical test, named chi-square test, is used to explore patterns among farmers' retirement planning. The chi-square test measures the degree of linkage between two variables (Robson, 2011; Denscombe, 2009). The calculation is made in a program called Minitab, which gives a rejection or acceptance of the "null hypothesis" (H0). All kinds of test of hypotheses use a null hypothesis and an alternative hypothesis (H1) (Körner & Wahlgren, 2005). The statistical hypotheses are stated as follows:

H0 = No correlation or dependence exists between the variables.

H1 = A correlation or dependence exists between the variables.

When determining if the hypotheses will be rejected or accepted, the rate of significance (p-value) is read (Körner & Wahlgren, 2005). The test is significant (statistical ensured) if a p-value is received between 0,00 and 0,10, which means that the "null hypothesis" is rejected and the alternative hypothesis (H1) is true. Thus a correlation exists between the tested variables.

Data collections with a random sample do not provide the researcher with complete information about the population. Hence there is a risk for incorrect conclusions based on this incomplete information. To limit the risk (since it is not possible to eliminate) to reject the null hypothesis when it is true a certain level of significance (p-value) is determined (Körner & Wahlgren, 2005). A p-value of 0,10 reveals that risk of a random calculation is 10%. In case the p-value exceeds 0,10 the test is not statistically ensured, since the risk of the calculation being random is too large. Hence the "null hypothesis" is not rejected and there is no correlation between the variables.

The limit value may be higher or lower in various studies depending on different aspects. In general 0,10 is a common used value in chi-square test, which is why it is chosen in the present study as well. To grade how strong the correlation is between the variable a score of one to three stars is used. Three stars represent the strongest correlation with a p-value below 0,01. A p-value between 0,01 and 0,05 is symbolized with two stars and three stars represent p-values between 0,05 and 0,10. (pers.com., Andersson, 2015)

## 5 Result and analysis

This chapter purpose is to address the study's aim stated in Chapter 1, based on the theoretical framework and the empirical data. The concepts to analyze in connection to farmers retirement planning are: information collection and social aspects. The following presentation of results is structured as one subsection for each hypothesis.

### 5.1 Hypothesis 1: Information exchange and planning

#### 5.1.1 Test of hypothesis

*The more exchange of information that takes place within the family, the more likely they are to actively plan their retirement pension.*

According to the chi-square test the p-values is 0,1060. Thus hypothesis one's null hypothesis is accepted and no correlation between the variables is proved by this study.

#### 5.1.2 Analysis

Only 16% have answered, they discuss pension plans a lot with their family. The majority (44%) does not talk about this topic with their family. This may be compared to the even smaller amount (6%) that answered, they talk a lot with their friends about it. The part stating that they do not talk about retirement pension with their friends was 59%. The other variable, how active they are in planning their retirement saving, is tested as a statement that result in 51% answered they find it important to actively plan their retirement saving, 30% answered neither nor, and 19% disagreed. The majority considers that it is important to have a strategy how to save for retirement pension.

Retirement and financial issues are in general considered as very private subjects. People are not willing to share these subjects with each other. So it may not be surprising that the flow of information regarding retirement pension among farmers is low. It seems even more logical that the exchange is lower among friends than within families. However, the family has mostly no or very little knowledge of this topic, so the family may not be the most optimal group to discuss the matter. Hence the exchange of information with friends might be more advantageous. Another reason for the low exchange of information might be that the individuals do not find these topics fascinating. On the other hand this should not be the case since 45% of the respondents have stated that they find issues related to retirement pension interesting.

This low p-value may be an indication for a correlation between the tested variables even if the p-value is above the level of 0,10 (or 10% significance). So this hypothesis is supported with significance at 10,6%, which is very close to the limit at 10%. Therefore the interpretation is that a correlation most likely exists between information exchange and the individual's planning of retirement pension.

## 5.2 Hypothesis 2: Criticism and source of information

### 5.2.1 Test of hypothesis

*The more critical the individuals are to web-based information about retirement pension, the more inclined they are to talk with family and friends about the topic.*

According to the chi-square test the p-values is 0,3442. Thus hypothesis two's null hypothesis is accepted and no correlation between the variables exist.

### 5.2.2 Analysis

Most of the respondents (65%) are neutral whether information regarding retirement pension from Internet should be trusted or not. Thus there is no general tendency to be neither critical nor positive towards web-based information. As argued in the analysis of hypothesis one, the majority of the respondents does not talk about retirement pension with their family (44%) or friends (59%). This is understood to be an indication to the fact that retirement saving is a private topic. Individuals prefer to keep this to themselves.

The answers to another question in the questionnaire support the rejection of this hypothesis. Only 8% of the respondents answered that they agreed to the following statement: "What my friends tell me about retirement savings are more important to me than information from other sources". This can be compared with the majority (46%) that disagreed. Thus the interpretation of this is that individuals do not find friends as a trustworthy source for information regarding retirement pension compared to web-based information.

Additionally, another question adds information when analyzing whether the family or friends influence the individuals strategies regarding retirement saving or not. The respondents were asked to consider if they agree, disagree or neither nor to the following statement: "Information regarding pension from friends and colleagues is the easiest to process". Only 13% agreed compared with 35% that disagreed and 40% answered neither nor. The summarized interpretation is that individuals find friends and colleagues neither trusted nor easier from whom to gather/process information.

## 5.3 Hypothesis 3: Education and knowledge

### 5.3.1 Test of hypothesis

*The higher level of education individuals have, the more likely do they possess knowledge about retirement saving.*

According to the chi-square test the p-values is 0,2662. Thus hypothesis three's null hypothesis is accepted and there is no correlation between these variables.

### 5.3.2 Analysis

As presented in Chapter 4, the level of education among the respondents was surprisingly high. About half of the respondents (48%) have post-secondary education, 32% answered upper secondary school, and 20% education from elementary school. This reveals that all respondents have at least an education from an elementary school. The knowledge was tested

as a statement, "My knowledge of retirement saving is good". The respondents could choose to either agree/disagree or answer nothing. The result was as follows: 31% agreed, 53% neither nor, and 16% disagreed. Thus the majority considers themselves having at least a satisfying level of knowledge about savings for retirement pension.

## 5.4 Hypothesis 4: Interest and knowledge

### 5.4.1 Test of hypothesis

*The more interest individuals have in business matters, the more likely they are to have a knowledge of retirement saving.*

According to the chi-square test the p-values is 0,0017. Thus hypothesis four's null hypothesis is rejected and a three starred correlation exist between the variables.

A problem arose during the statistical testing of this hypothesis. The chi-square test did not go through since only four respondents answered disagree to this statement "Business matter is interesting". Therefore the alternative "neither nor" (19%) and "disagree" (1%) were merged together, which made the chi-square test possible to complete.

### 5.4.2 Analysis

The majority (79%) finds business matters interesting. The majority also considers to have at least a satisfying level of knowledge of savings for retirement pension. The test reveals a very strong correlation between interest for business matters and a knowledge of retirement pension.

## 5.5 Hypothesis 5: Knowledge and search for more information

### 5.5.1 Test of hypothesis

*The more knowledge of retirement pension individuals claim to have, the more willing they are to search for more information regarding retirement saving.*

According to the chi-square test the p-values is 0,0607. Thus hypothesis five's null hypothesis is rejected and a one starred correlation exists between the variables.

### 5.5.2 Analysis

One third (31%) of the respondents has answered that they have good knowledge of retirement savings. The rest of them is mostly neutral and 16% answered that they do not have satisfying knowledge of retirement savings. The other variable, willingness to search for more information, were tested as a statement as well. The result was as follows: 20% agreed, 55% neither nor, and 25% disagreed.

The section about knowledge in questionnaire ends with an open question about what they would like to know more about within the field of retirement pension. Some of them would like to know more about the optimal strategy for pension saving. One wrote:

"At what age should the pension payments start? Would it be favorable to work part time at the office or at the farm?"

These thoughts indicate that they are conscious what information they are missing and that they are aware of the need to learn more.

## 5.6 Hypothesis 6: Successor and planning

### 5.6.1 Test of hypothesis

*The more individuals consider they have successors to the agricultural estate, the more inclined they are to actively plan their retirement pension.*

According to the chi-square test the p-values is 0,6213. Thus hypothesis six's null hypothesis is accepted and no correlation between the variables exists.

### 5.6.2 Analysis

The majority (51%) has answered negative to the question if there is a successor to the agricultural estate. There are 31% who have a potential successor and 18% have answered that a succession is not a current problem. The interpretation of this provides a negative picture of the future agricultural industry in Sweden. The advanced age among farmers in combination with the result shown: About half of them do not have a successor for the moment. It shows and indicates a decreasing interest of farming. A new and motivated generation could influence the farmers' decision-making and inspire them into future investments in comparison to no successor.

The majority considers it is important to have a strategy how to save for retirement pension. The reason for this result is difficult to identify with any certainty. However, the theory describes farmers' decision-making as different from others' (decision-making). The fact is that their business decisions are closely related to the private economy. This might be a reason why the farmers (or respondents) find it important to plan their retirement saving actively.

A p-value at 0,62 gives no reason to reject the null hypothesis and therefore the interpretation of this test is that there is no correlation at all between these variables.

## 5.7 Hypothesis 7: Successor and planning

### 5.7.1 Test of hypothesis

*The more individuals consider they have successors to the agricultural estate, the more inclined they are to become early fulltime pensioners.*

According to the chi-square test the p-values is 0,1094. Thus hypothesis seven's null hypothesis is accepted and no significant correlation between the variables is proved by this study.

## 5.7.2 Analysis

The majority (51%) has no successor to the current agricultural estate. 31% of the respondents have answered, they have a potential successor and 18% have answered, succession is not an issue at the moment.

Approximately half of the respondents are currently full- or part-time pensioners and about 30% have stated that they plan to continue working after they have turned 70 years old. This seems reasonable since many retirees have a good health and are therefore able to continue working part-time to keep in touch with working and social life.

Most of the respondents (60%) wish to retire before an age of 70. It is notable that 14% of the respondents' aim to become a pensioner after turning 75 (figure 9). The interpretation of the result of testing hypothesis seven is that the existence of successors most likely has an influence on the farmers when they choose to retire but more research is needed to prove the correlation.

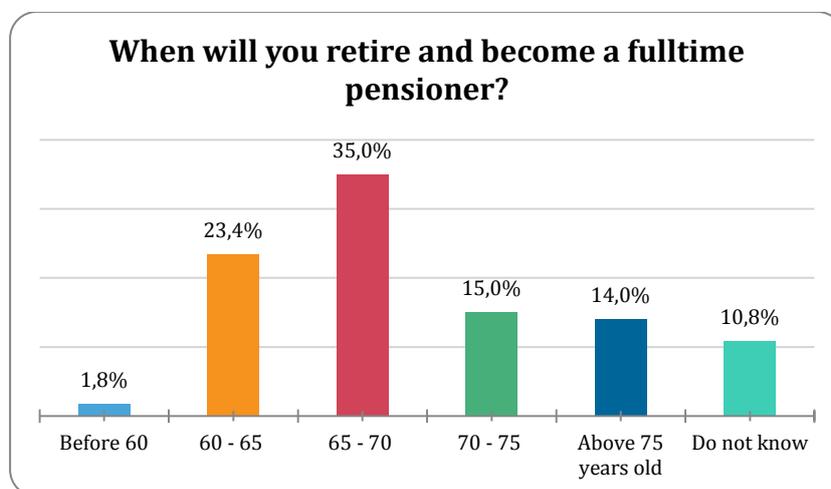


Figure 9: Illustration, when farmers wish to retire.

As discussed in hypothesis one's analysis, a low p-value may be an indication for a correlation between the tested variables even if the p-value is above the level of 0,10 (or 10% significance). Thus this hypothesis is supported with significance at 10,94%, which is very close to the limit at 10%. Therefore the interpretation of the test of this hypothesis is most likely a correlation exists between the existence of a successor and their willingness to become an early fulltime pensioner.

## 5.8 Hypothesis 8: The parents and planning

### 5.8.1 Test of hypothesis

*The more individuals' parents have/have had a plan for their retirement pension, the more inclined they are to actively plan their own retirement pension.*

According to the chi-square test the p-values is 0,9177. Thus hypothesis eight's null hypothesis is accepted and no correlation between the variables exist.

## 5.8.2 Analysis

Only 19% have agreed to the statement that their parents have/have had a strategy for their retirement savings and 43% disagreed. Compared to 20% who intend to become a pensioner in the same way as their parents and 36% do not intend to. The interpretation of this is that those parents who have/have had a plan for retirement are happy with the outcome of their strategies and are role models how to plan for pension saving. Therefore they find it suitable to do as their parents when retiring.

No correlation exists between these variables. The extraordinary p-value at 0,9177 reveals that the risk of rejecting the hypothesis although it is true is 8,23%. Therefore it is reasonable to believe that there is no correlation.

## 5.9 Hypothesis 9: LTV and pension allocation

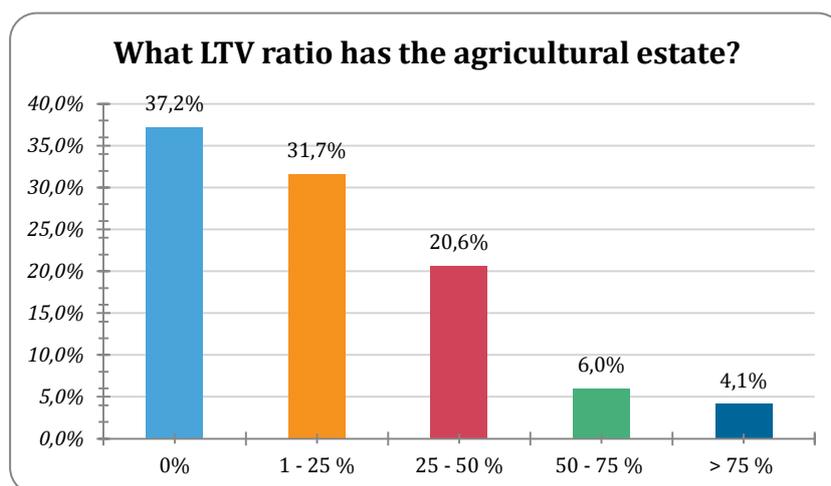
### 5.9.1 Test of hypothesis

*The lower LTV a property has, the less likely the owning individual is to possess retirement saving in other forms than real estate.*

According to the chi-square test the p-values is 0,0007. Thus hypothesis nine's null hypothesis is rejected and a strong correlation (three stars) between LTV and the individual's choice of pension saving form exists.

### 5.9.2 Analysis

The average LTV ratio is in general low among the respondent. As illustrated in *figure 10*, 37% have answered that they have no loans at all and 32% have between 1 and 25 % loans of the total value.



*Figure 10: This diagram illustrates the respondents' answers to a question about the LTV ratio on the agricultural estate.*

*Figure 11* reveals the frequency of answering to the available alternatives. Summarizing all percentages show that the respondents have answered more than one alternative. The most common is the national retirement pension (61%), though. An interpretation of this can be

that not all respondents are aware that their income (most likely) provides them with this kind of pension. This is supported by a previous study that revealed a low level of knowledge about national retirement pension. Additionally, 49 per cent have answered that they are saving in occupational pension, which only is received by employees and not by self-employed. This is in conflict with the information from another question regarding whether they are self-employed, employed, pensioner or something else, which the majority of the respondents answered the first mentioned alternative. Since self-employed does not get occupational pension these answers are in conflict with each other. However, those who have answered that they are self-employed might have been employed before and are therefore expecting money from occupational pension as pensioner.

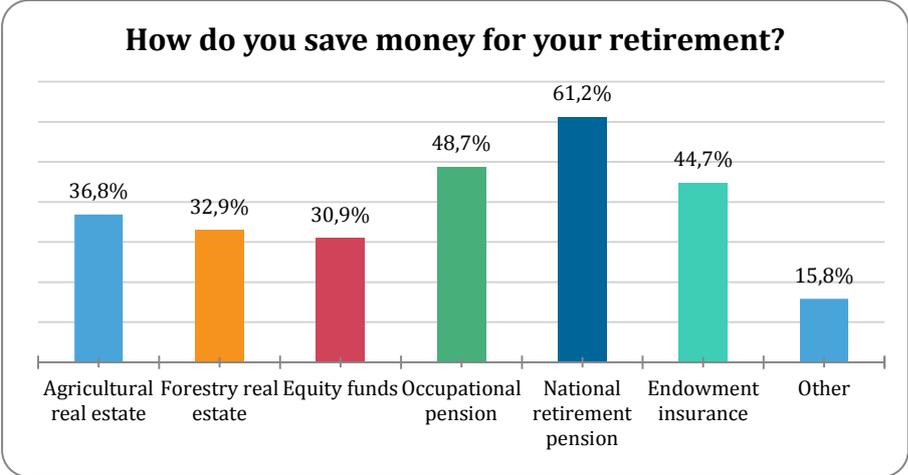


Figure 11: This diagram illustrates the respondents' allocation of their retirement saving.

Another question in the questionnaire regarding the motive to the investment in an agricultural estate is of interest when analyzing this hypothesis. The question is about whether the investment was a form of long-term investment or not. 56% answered "No", 38% "Yes, partly as a long-term investment", and 6% "Yes, totally as a long-term investment". This is interpreted as an indication for split motives for the individual investments. About half (56%) of the respondents have either inherited the property or invested only because he/she wanted to extend the existing farming business. The other half (44%) of the respondents has in some kind (or totally) had a long-term saving in mind when investing in the property. Hence, they probably believe in increasing prices on agricultural properties.

The testing results in a highly significant regarding the correlation between the two variables. This is interpreted as farmers tend to invest their financial resources in the agricultural property, thus they priorities to amortize loans instead of investing in funds or other forms of retirement saving. About half of the respondents (52%) answered that they find it important to amortize loans and by reducing the cost of living as future pensioner.

## 5.10 Hypothesis 10: Rented land and pension allocation

### 5.10.1 Test of hypothesis

*The greater proportion of rented land out of the total cultivated land, the more likely the individuals are to own retirement saving in other forms than real estate.*

According to the chi-square test the p-values is 0,0754. Thus hypothesis ten's null hypothesis is rejected and a one stated correlation between the degree of rented land and the individual's choice of retirement saving exists.

### 5.10.2 Analysis

The majority (64%) has stated that they do not use any rented land at all. Among those who rent land to use in their agricultural business, it is 17% who have more than 50% rented land of total cultivated land and 18% having less than 50% rented land.

The testing of this hypothesis is remarkable since it shows a tendency to ensure a financial security among farmers. To own a real estate gives the opportunity to sell it if it is needed in the future. Renting land means that the farmer cannot be sure that he or she still rents it in the future. Thus the bigger percentage rented land area farmers use, the less financial safety do they have in properties. However, this may also be seen as positive since it provides the farmers with the opportunity to invest their resources in other alternatives, which may give them better return. On the other hand, a potential better return often also involves a higher risk.

## 5.11 Hypothesis 11: Complexity and planning

### 5.11.1 Test of hypothesis

*The more complex individuals find the retirement scheme, the less inclined they are to actively plan their pension saving.*

According to the chi-square test the p-values is 0,0863. Thus hypothesis eleven's null hypothesis is rejected and a one stated correlation between the variables exists.

### 5.11.2 Analysis

The majority (52%) considers the retirement scheme to be complex. Only 11% of the respondents answered it is easy to understand the Swedish retirement scheme. The questionnaire had a couple of open questions, which gave the respondents an opportunity to highlight what they think is important. Two quotes from these open questions clarify the frustration about the complexity in the retirement scheme:

"The scheme should not be so difficult to understand"

"It would be good if it was not so insanely complicated and did not have not so many loopholes".

Most of the respondents believe that it is important to have an active strategy how to save for retirement pension. This study proves a significant correlation between the variables but the relationship is not as in the hypothesis. The correlation shown in this study is as follows: *The more complex individuals find the retirement scheme, the more inclined they are to actively plan their pension savings.*

## 5.12 Summary of result

To summarize the results of the present study, *table 5* presents the outcome of the statistical tested hypotheses. The table shows each hypothesis and whether they are rejected or accepted according to the statistical test chi-square test. As presented in the methodology chapter, the accepted level of significance is 10%. Since two of the hypotheses are just above 10% but although close to the limit, the percentages of significance are presented in the table.

**Table 5: Summary of results of hypotheses testing.**

Nr	Hypothesis	Significance	Rejected/accepted
1	<i>The more <b>discussions about retirement</b> within the family, the more actively they are in planning their retirement pension.</i>	10,60%	Rejected
2	<i>The more critical the individuals are to <b>web-based information</b> about retirement pension, the more inclined they are to talk with family and friends about the topic.</i>	34,42%	Rejected
3	<i>The higher level of education individuals have, the more likely do they possess <b>knowledge</b> about retirement saving.</i>	26,62%	Rejected
4	<i>The more interest individuals have in business matters, the more likely they are to have a <b>knowledge</b> of retirement saving.</i>	0,17%	Accepted 
5	<i>The more <b>knowledge</b> of retirement pension individuals claim to have, the more willing they are to search for more information regarding retirement saving.</i>	6,07%	Accepted 
6	<i>The more individuals consider they have <b>successors</b> to the agricultural estate, the more inclined they are to actively plan their retirement pension.</i>	62,13%	Rejected
7	<i>The more individuals consider they have <b>successors</b> to the agricultural estate, the more inclined they are to become early fulltime pensioners.</i>	10,94%	Rejected
8	<i>The more individuals' <b>parents</b> have/have had a plan for their retirement pension, the more inclined they are to actively plan their own retirement pension.</i>	91,77%	Rejected
9	<i>The lower <b>LTV</b> a property has, the less likely the owning individual is to possess retirement saving in other forms than real estate.</i>	0,07%	Accepted 
10	<i>The greater proportion of <b>rented land</b> out of the total cultivated land, the more likely the individuals are to own retirement saving in other forms than real estate.</i>	7,54%	Accepted 
11	<i>The more <b>complex</b> individuals find the retirement scheme, the <u>more</u> inclined they are to actively plan their pension savings.</i>	8,63%	Accepted 

## 6 Discussion

The intention with this chapter is to relate the findings to the theories and models presented in Chapter 3. The chapter is structured according to the previous used terminology: information collection, knowledge, social aspects, and farmers' decision-making.

### 6.1 Information collection

The retirement scheme is complex and hard to understand, which is why a lot of information must be collected to give individuals a proper picture of what circumstance they should consider when making decision about retirement savings. A central stage in decision-making is the search for information. The search for information may be both internal and external, as presented in the theoretical framework. Examining the external information search, the findings from this study reveal a possible correlation between exchange of information within the family and how actively farmers plan their retirement savings. Even though this correlation was not significantly proved in the present study, it indicates for a linkage of interest to examine further. The theory explains that humans can collect information passively for instance by being more responsive to information exchanged within the family. This form of passive information collection may gain the individual's interest to learn more according to the theory, which therefore supports this indication.

The source of information seems to matter to farmers. The summarized interpretation is that individuals find friends and peers neither trusted nor easier to gather/process information from. This is in conflict with the theory that deems that word-of-mouth and family members' opinions should have bigger influence on farmers' decision-making than written information from somewhere else. However, even if the respondents do not actively gather information from family and friends, they may collect information passively. It is possible that word-of-mouth has an initial effect and gives the individual an inspiration to search for information from professional sources such as advertisers and authority.

Information from many sources must be processed to make decisions. A lot of information reaches individuals every day but to be attracted individuals must find the information relevant for them in particular. It seems as Swedes in general get a lot of information about the retirement scheme and different types of savings but they do not have the interest or time to evaluate the alternatives and create a strategy for their savings. Therefore they do not feel the need to change their current behavior. However, if they do see a need to change their strategy it is usual to lump together information to vague concepts when information overload occurs. This behavior makes it possible for them to make decisions faster. It is also common to ignore huge amounts of information since it is not possible to take it all in at the same time. The phenomenon limited rationality occurs when human selects some of the information to pay attention to. This description seems as a good explanation for the farmers who have been examined in the present study.

### 6.2 Knowledge

The general impression of the retirement scheme is hard to understand. Even though the respondents have a high level of education and consider they have good knowledge about the retirement pension scheme, the hypothesis testing reveals no correlation between general level of education and knowledge. Farmers with a higher level of education are not more motivated to deliberate their decisions when it comes to pension and retirement savings. Therefore it is

interesting to compare this result with existing literature within this topic that concludes that education degree does not influence the individual financial talent, nor do the individual's age or income (Finansinspektionen, 2011). This theory therefore supports this study's finding.

Human beings are in general good at what they find interesting. People are more responsive to information regarding topics that they find stimulating. Therefore it is no surprise that farmers' interest in business matters has a strong positive correlation to their level of knowledge about retirement saving. This correlation is supported by the theory, which reveals a potential correlation between higher interest in economics and knowledge (Karlsson & Sandström, 2014). Thus the result from this study strongly supports this assertion with an extraordinary low risk of the calculation being random at 0,17%.

The same study also argues for a correlation with higher financial risk-taking, which can be exemplified by saving in equity funds (Karlsson & Sandström, 2014). Among the respondents, 31% have entered that they save to retirement pension in equity funds. Since the majority of the respondents is in an age between 60 and 75, the interpretation of this may be that they are not afraid of risk. Thus this result can be seen as supporting the argument of a correlation between interest and higher financial risk-taking. However, more research is needed to ensure this correlation.

Another correlation that may be a consequence of individuals' interest is the linkage between knowledge and willingness to search for more information within the topic. The more knowledge individuals have the more willing are they to search for more information regarding retirement pension. Analyzing from the opposite point of view, the hypothesis would be: the less knowledge about retirement pension individuals claim to have, the less willing are they to search for more information regarding retirement saving. This can be discussed in relation to need recognition, the first step in decision-making. Those who do not have sufficient knowledge do not see the issue and therefore not feel the need to search for information. It is unavoidable to exclude the uncertainty characterizing the situation when it comes to decision-making regarding retirement planning. The decisions made today affect the individuals' financial situation as future pensioner. Uncertainty is a consequence of the individual having imperfect information and therefore has to judge the probability of different scenarios. The theory reveals that gut feeling therefore may have a strong impact on the decision-making.

Additionally in this discussion regarding uncertainty, it is equivocal whether default options is beneficial or not in forms where individuals make choices about their retirement pensions. Default options can be seen as an advice for what choice the majority of people should prefer. On the other hand, the others probably do not know that they belong to the few who should not choose the default options. Humans tend to choose default options because they in general are risk avert and think that they have information disadvantage compared with the one who has structured the form probably has more information.

## 6.3 Social aspects

Decision-making occurs within a context of social, environmental, and cultural aspects. Self-employees' decision-making is extra influenced by the family and household since the business economy is closely related to the private economy. The parents usually make decisions, such as retirement planning, that affect the entire family. It does not matter if the next generation is present at the moment when a decision is about to be made. Even if the

children are not present at the moment, they affect the choices made by their parents, which affect their future. It is not the existence of children that is examined in this study. This study focuses on the potential successor to the agricultural estate and business, which may or may not exist within the next generation. Therefore the respondents were asked whether they have a potential successor in mind for their agricultural estate and/or business. The findings of the hypothesis testing reveal that the existence of a successor has no influence on how active farmers' are planning their retirement savings. However, if there is a successor in the picture, the farmer is more likely to become a fulltime pensioner earlier. This can be seen as logical that the more the farmer sees a potential successor the more likely is he or she to plan their future and prepare for a smooth transition when the time is right. In the same sense individuals usually have their parents as role models and tend to imitate their behavior. An alternative theory to this is that they have learnt from the mistakes their parents have done and will therefore not repeat them. In the case of planning retirement pension pensioners today may be unhappy about the financial situation. Thus the next generation should be informed about these issues and get a hint about better retirement strategy to avoid getting in the same unpleased situation as pensioner. However, no correlation between how active the earlier generations was planning their retirement savings and the farmer's own retirement savings can be proved by the present study. The finding that no correlation exist between these variable seems likely since the respondents also have answered that they do not talk a lot about retirement pension with either friends or family.

Retirement pension is in general seen as a personal, private and sensitive topic to talk about and discuss with others. Therefore it should be something we talk about with the few nearest people around us but this study proves no such tendency. Even though humans have a gregarious behavior with the purpose to be able to accomplish more as a group. One such group is called reference group, which supports the group members both practically and socially. A central reference group for a farmer most likely consists of other agricultural businessmen in the nearest countryside. A previous study from 2002 has investigated if an individual's decision-making regarding retirement savings can be influenced by the colleagues' decisions about their retirement pension (Duflo & Saez, 2002). No peer group effect could be statistically proved by the study from 2002. Thus this is another interesting question that need more research to be able to examine further whether a correlation exists or not.

Being a farmer is linked to a lifestyle and an important part of the individual's personality. Besides that self-employees' private economy and the business financial situation are usually closely related, agricultural businesses are unique in many other ways. Most agricultural estates and businesses are succeeded thru families. Many farmers have been growing up at the farm and therefore have the business being a central part of their childhood. They have been taught from the start about what seasons are related to which activity. If interests exist and the son or daughter continues to run the agricultural business, he or she will always be linked to the farm. This childhood and lifestyle most likely make the individuals to associate their personality with their work. As a grown up the individuals have a lot of social relationships with others within the industry, i.e. suppliers, retailers, governmental, advertising, financial institutes. Therefore when the farmer is about to retire and hand over the business to a successor, it is most likely a lot of feelings involved. The retired farmers can be relieved because they not longer have the responsibility or need to have total control of the business. At the same time a lot of daily routines and activities are no longer to be done. The retired farmers may therefore experience a new lifestyle.

## 6.4 Farmers' decision-making

The strongest correlation proved by this study is the one between LTV ratio and saving allocation. A previous study reveals the fact that age or experience of the real estate market may be correlated to the individual's attitude towards the property as a financial security (Karlsson & Sandström, 2014). Having experience of the real estate market during the 1990s may affect the people to not save in real estates since these can lose their value very quickly, which then would be seen in individuals investing in other forms such as in this hypothesis. On the other hand, being prepared for eventual price fall might be seen as an indication for individuals to amortize their loans. This interpretation suits the result of this study, which shows an overall low LTV. Additionally, the proportion of rented land area out of total cultivated land does also have an influence on the farmer's allocation of saving.

The complexity within the Swedish retirement pension scheme is palpable. How it affects the farmers' retirement strategy is more dubious. The theory shows that the complexity in retirement scheme is an important reason to individuals' passivity in the process of making decisions about their pension. The reason behind this complexity is most likely the amount of choices to make for the individuals. With the theoretical framework as basis the hypothesis was formulated as:

*The more complex individuals find the retirement scheme, the less inclined they are to actively plan their pension saving.*

The hypothesis testing revealed a significant correlation between the variables but not in the original hypothesis brought out. Instead the test showed a correlation as the hypothesis:

*The more complex individuals find the retirement scheme, the more inclined they are to actively plan their retirement saving.*

This finding makes it possible to conclude an alternative theory to the presented literature in the theoretical framework. The complexity does not make the farmers less active in their planning of retirement savings. Instead the complexity makes the farmers to be more active. The purpose to be more active in their decision-making is most likely to avoid and counteract the fact that the retirement scheme is so hard to understand and manage.

The experience of consequences of different saving strategies is most likely insufficient among everyday people since these decisions are not made frequently. Thus farmers' decision regarding retirement pension is characterized by uncertainty. To reduce uncertainty the farmers may broaden the external information search to get information about options, their benefits, and their disadvantages. However, since it takes a lot of time and effort not everyone does this. It is therefore more credible that the individuals aim for the easiest way out as a result of limited rationality. In the same way as the choices may be too many, the information may also be apprehended as too excessive. In that case information overload may appear making the decision process hard to handle. It is then rational for people to lump the complex and large amount of information together to vague concepts and feelings. Through this behavior people are able to handle more complex situations and simplify their information processing. However, the outcome may vary since the decisions are made on simplified bases.

## 7 Conclusions

Chapter 7 presents the findings in relation to the aim of this study: *By exploring farmers' information collection and social aspects in connection with their retirement planning, this study's aim is to clarify the varying patterns that may exist among farmers based on behavioral theory.*

A number of patterns have been identified. The following observations concern the farmers' *information collection*:

- Farmers find friends and colleagues to be neither trustworthy nor easy to get information from when it comes to retirement pension.
- The information exchange with friends and family members seems, however, to affect how active the farmers are in their decision-making process.
- The farmers are in general uncertain about the trustworthiness of Internet regarding information about retirement savings.

No significant relation about farmers' information collection is found. The findings provide, however, insights regarding information collection. Word-of-mouth should according to the theory be an important and trusted external information source but this study found no relationship between farmers' information exchange with family members and friends and their retirement decision.

This study reveals strong relationships as concerns farmers' *knowledge* about retirement pension.

- Farmers' find the Swedish retirement pension to be hard to understand.
- The general level of education is not related to the farmers' knowledge of retirement pension.
- Farmers' amount of interest influences both their knowledge about retirement pension and their propensity to search for more information.

The Swedish retirement scheme is difficult to comprehend for individuals. This opinion is not affected by level of education, but the amount of education does not affect how active farmers are when it comes to retirement saving. However, their interest in business matters is strongly correlated to their knowledge of retirement saving. Personal interests affect what information and discussions people are responsive to. Furthermore, the more knowledge the farmers have the more likely they search for more information, which in the long run makes them well-informed and better decision makers.

A number of conclusions can be stated regarding *social aspects* within farmers' environment.

- Farmers' proprietary business economy and their private economy are interlinked, and likewise their work and their private life are interlinked.
- Many farmers are facing the issue of passing on their farm business to the next generation within a near future.
- No matter how active farmers are in their retirement planning, the decision about when the retirement will take place is affected by whether an intended successor exist.

- The parents' strategy for retirement planning does not affect the farmer is in his or her retirement planning.

According to theory, social aspect should influence farmers' decisions regarding retirement. However, none of the social variables tested in this study were correlated to retirement pension. One interpretation is that farmers do not talk a lot about issues related to retirement with either family or friends. Farmers' situation is special since the farm is a place both for work and a family home. Therefore it is extremely important for the farmers.

Only 31% have a successor in mind. The respondents' average age was high, which most likely is representative for Swedish farmers in general. The high age in combination with the low percentage of successors is worrying for the agricultural industry in Sweden.

Hence, neither the existence of successors nor the parents' handling of their retirement is correlated to how the farmers plan their retirement. However, the existence of successors may influence at what time the farmer becomes fulltime pensioner. This may be a consequence of the low or no exchange of information within the family. The farmers perhaps talk about future wishes of continue running the agricultural business and therefore have a plan for when the succession will occur.

Background variables have been investigated in relation to information collection, knowledge and social aspects. The background variables are for instance age, education, current employment status, and material regarding their agricultural- or forestry- real estates. The findings have resulted in conclusions regarding *farmers' decision-making*.

- A low loan-to-value ratio (LTV) and a low proportion of rented land reduce the farmers' willingness to save money in other forms than real estate.
- The complexity of the retirement scheme motivates the farmers to be more active in their decision-making.

The farmers invest money in agricultural property rather than other forms of saving. It is likely that farmers invest in their own businesses. By better technical support, more efficient machineries or more land they can develop their firms. They can raise their return by extending their business, which is safer than investing in funds and stock, which they do not know well. Amortizing is a way to reduce the cost of living as pensioners, and it is better than private pension insurances for most farmers. Those who rent land to cultivate tend to use other forms (such as equity funds, occupational pension, pension insurance) than real estates to save for pension.

There is the positive relation between perceived complexity and how actively the individuals plan their retirement. This observation is not in accordance with the theory, which rather indicates that the complexity of retirement scheme makes individuals passive.

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# Appendix 1: Cover letter



[Till hemsidan](#) | | [Avprenumerera](#)

## Hej!

Du som medlem i LRF har slumpmässigt valts ut att delta i en undersökning om lantbrukares och andra företagares pension. Undersökningen är ett examensarbete vid Institutionen för ekonomi vid Sveriges lantbruksuniversitet i Uppsala. Studien utförs i samarbete med LRF och LRF Konsult. Jag, Caroline Johansson, är agronomstudent och genomför studien med handledning av professor Jerker Nilsson.

Att svara på enkäten är självklart frivilligt och alla svar hanteras anonymt. **Som tack för att du svarar** på enkäten har du möjlighet att få en sammanfattning av studien. I slutet av enkäten finns möjlighet att ange en e-postadress dit du önskar sammanfattningen. Om du inte önskar den kan du självklart fullfölja enkäten utan att ange e-postadress.

Det tar mindre än 8 minuter att svara på frågeformuläret. Genom att klicka på länken nedan kommer du direkt till frågorna. **Sista svarsdag är måndagen den 18 maj.**

[Klicka här för att starta enkäten!](#)

Stort tack på förhand! Uppstår frågetecken är du hjärtligt välkommen att kontakta mig! Kontaktuppgifter finns nedan.

Med vänliga hälsningar,  
Caroline Johansson

**Caroline Johansson**  
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**LANTBRUKARNAS  
RIKSFÖRBUND**

[Lantbrukarnas Riksförbund](#), 105 33 Stockholm, Tel 0771-573 573, [info@lrf.se](mailto:info@lrf.se)

# Appendix 2: Questionnaire and results

## 1. Bakgrundsfrågor

### Vilket kön har du?

1. Man	260 (83%)
2. Kvinna	54 (17%)

### Hur gammal är du?

1. Upp till 30 år	3 (1%)
2. Mellan 30 och 45 år	20 (6%)
3. Mellan 45 och 60 år	88 (28%)
4. Mellan 60 och 75 år	183 (58%)
5. Över 75 år	20 (6%)

### Vilken är din högsta utbildningsnivå?

1. Grundskola	64 (20%)
2. Gymnasium	99 (32%)
3. Eftergymnasial utbildning	151 (48%)
4. Har ännu inte avslutat grundskolan	0 (0%)

### Vilket län bor du i?

1. Blekinge län	6 (2%)
2. Dalarnas län	14 (4%)
3. Gotlands län	4 (1%)
4. Gävleborgs län	14 (4%)
5. Hallands län	9 (3%)
6. Jämtlands län	13 (4%)
7. Jönköpings län	16 (5%)
8. Kalmar län	13 (4%)
9. Kronobergs län	14 (4%)
10. Norrbottens län	7 (2%)
11. Skåne län	50 (16%)

12. Stockholms län	10 (3%)
13. Södermanlands län	13 (4%)
14. Uppsala län	22 (7%)
15. Värmlands län	13 (4%)
16. Västerbottens län	7 (2%)
17. Västernorrlands län	5 (2%)
18. Västmanlands län	7 (2%)
19. Västra Götalands län	45 (14%)
20. Örebro län	9 (3%)
21. Östergötlands län	23 (7%)

### Är du idag hel- eller deltidspensionär?

1. Ja	152 (48%)
2. Nej	162 (52%)

### Äger du jordbruksmark?

1. Ja	258 (82%)
2. Nej	0 (0%)

### Äger du skogsmark?

1. Ja	246 (78%)
2. Nej	0 (0%)

## 2. Frågor till dig som företagare och/eller fastighetsägare

### Hur stor del av din fastighet är belånad?

1. 0%	81 (37%)
2. Mellan 1 och 25%	69 (32%)
3. Mellan 25 och 50%	45 (21%)
4. Mellan 50 och 75%	13 (6%)
5. Över 75%	9 (4%)
6. Vet ej	1 (0%)

**I vilken företagsform bedriver du näringsverksamhet? (Om du har fler än ett, ange dessa)**

1. Enskild firma	260 (84%)
2. Aktiebolag	23 (7%)
3. Handelsbolag	10 (3%)
4. Annan:	17 (5%)

**Arrenderar ditt företag jordbruksmark? Om "ja": hur stor del av den totala arealen utgörs av arrenderad mark?**

1. Ja, mer än 50%.	54 (17%)
2. Ja, mindre än 50%.	55 (18%)
3. Nej	199 (64%)
4. Vet ej	2 (1%)

### **3. Din sysselsättning**

**Vilket alternativ beskriver din nuvarande arbetssituation bäst?**

1. Anställd	66 (21%)
2. Arbetsökande	0 (0%)
3. Egenföretagare	152 (49%)
4. Pensionär	88 (29%)
5. Annat	2 (1%)

**Vilken är den huvudsakliga produktionsinriktningen?**

1. Animalieproduktion	57 (18%)
2. Växtodling	74 (24%)
3. Skogsbruk	133 (43%)
4. Annan	45 (15%)

## 4. Din pension

### När tror du att du slutar arbeta och blir pensionär på heltid?

1. Innan 60 års ålder	5 (2%)
2. Mellan 60 och 65 års ålder	67 (23%)
3. Mellan 65 och 70 års ålder	100 (35%)
4. Mellan 70 och 75 års ålder	43 (15%)
5. Över 75 års ålder	40 (14%)
6. Vet ej	31 (11%)

### Vid vilken ålder tror du att du vill starta din pensionsutbetalning?

1. Innan 60 års ålder	7 (3%)
2. Mellan 60 och 65 års ålder	102 (40%)
3. Mellan 65 och 70 års ålder	123 (49%)
4. Mellan 70 och 75 års ålder	7 (3%)
5. Över 75 års ålder	4 (2%)
6. Vet ej	10 (4%)

### Hur pensionssparar du?

1. Jordbruksfastighet	56 (37%)
2. Skogsbruksfastighet	50 (33%)
3. Aktier	47 (31%)
4. Tjänstepension	74 (49%)
5. Allmän pension	93 (61%)
6. Kapitalförsäkring eller liknande	68 (45%)
7. Annat:	24 (16%)

**Ange hur viktigt följande sparande är för din pension på skalan 1-3. 1 = Viktigt och 3 = Inte viktigt.**

	1 Viktigt	2 Neutral	3 Inte viktigt	Vet ej
Försäljning av lantbruksfastighet	58 (21%)	65 (23%)	122 (43%)	37 (13%)
Sparkonto	96 (34%)	107 (38%)	69 (24%)	12 (4%)
Allmän pension	178 (62%)	87 (31%)	12 (4%)	8 (3%)
Tjänstepension	144 (51%)	57 (20%)	51 (18%)	31 (11%)
Arrendeintäkter, skogsintäkter	88 (31%)	81 (29%)	87 (31%)	26 (9%)
Amortering för att ha lägre levnadskostnader som pensionär	149 (52%)	58 (20%)	63 (22%)	14 (5%)
Kapitalförsäkring eller liknande	85 (30%)	97 (34%)	76 (27%)	25 (9%)
Privat pensionssparande	160 (56%)	65 (23%)	47 (16%)	14 (5%)

**Här följer ett antal påståenden. Välj ett alternativ på skalan 1-3. 1 = Instämmer och 3 = Instämmer inte.**

	1 Instämmer	3 Varken eller	2 Instämmer inte	Vet ej
Det är intressant med ekonomi.	223 (79%)	53 (19%)	4 (1%)	4 (1%)
Det är intressant med pensionsrelaterade frågor.	128 (45%)	108 (38%)	43 (15%)	5 (2%)
Jag kommer ha resurser nog för att upprätthålla den levnadsstandard jag vill ha som pensionär.	168 (59%)	66 (23%)	29 (10%)	22 (8%)
Jag kan påverka hur mycket pengar jag får som pensionär.	154 (54%)	86 (30%)	32 (11%)	13 (5%)
Jag har ansvaret för mitt pensionssparande.	233 (82%)	39 (14%)	8 (3%)	5 (2%)
Att tänka på pensionssparande gör mig stressad.	38 (13%)	87 (31%)	149 (52%)	10 (4%)

### **Finns det idag en tilltänkt övertagare av din fastighet?**

1. Ja	90 (31%)
2. Nej	145 (51%)
3. Ej aktuellt	52 (18%)

### **Finns det idag en tilltänkt efterträdare till din verksamhet?**

1. Ja	69 (24%)
2. Nej	174 (61%)
3. Ej aktuellt	44 (15%)

### **Har du investerat i en jordbruksfastighet som ett långsiktigt sparande?**

1. Ja, helt som ett långsiktigt sparande.	16 (6%)
2. Ja, delvis av den anledningen.	110 (38%)
3. Nej	161 (56%)

### **Har du investerat i skogsmark som ett långsiktigt sparande?**

1. Ja, helt som ett långsiktigt sparande.	20 (7%)
2. Ja, delvis av den anledningen.	111 (39%)
3. Nej	156 (54%)

## 5. Kunskap om pension

Här följer ett antal påståenden. Välj ett alternativ på skalan 1-3. 1 = Instämmer. 3 = Instämmer inte.

	1 Instämmer	2 Varken eller	3 Instämmer inte	Vet ej
Pensionssystemet är lätt att förstå.	30 (11%)	94 (34%)	145 (52%)	11 (4%)
Jag har goda kunskaper om pensionssparande.	86 (31%)	137 (49%)	46 (16%)	11 (4%)
Om jag haft bättre kunskap, vore jag mer aktiv i mitt pensionssparande.	76 (27%)	93 (33%)	89 (32%)	22 (8%)
Jag vet var jag kan lära mig mer om pension.	138 (49%)	94 (34%)	28 (10%)	20 (7%)
Jag vill förbättra mina kunskaper om pensionssparande.	55 (20%)	142 (51%)	71 (25%)	12 (4%)
Den allmänna kunskapen om pension är låg.	118 (42%)	100 (36%)	29 (10%)	33 (12%)
Att aktivt planera mitt pensionssparande är inte viktigt.	52 (19%)	76 (27%)	142 (51%)	10 (4%)
Många jag känner har idag inget pensionssparande.	59 (21%)	80 (29%)	28 (10%)	113 (40%)

## 6. Om information om pension

Här följer ett antal påståenden. Välj ett alternativ på skalan från 1-3.  
1 = Instämmer. 3 = Instämmer inte.

	1 Instämmer	2 Varken eller	3 Instämmer inte	Vet ej
När jag undrar något om pension vänder jag mig till pensionsmyndigheten.	85 (30%)	91 (33%)	83 (30%)	20 (7%)
När jag undrar något om pension vänder jag mig till oberoende rådgivare.	105 (38%)	81 (29%)	73 (26%)	20 (7%)
Jag pratar mycket om pension med min familj.	44 (16%)	106 (38%)	122 (44%)	7 (3%)
Med information anpassad till min situation skulle jag kunna planera bättre inför min pension.	92 (33%)	99 (36%)	57 (21%)	30 (11%)
Jag pratar mycket om pension med mina vänner.	18 (6%)	90 (32%)	165 (59%)	6 (2%)
Jag planerar att gå i pension på liknande sätt som den föregående generationen.	57 (20%)	78 (28%)	100 (36%)	44 (16%)
Jag hittar lätt den information jag behöver.	75 (27%)	132 (47%)	45 (16%)	27 (10%)
Vad mina vänner berättar om pensionssparande har större betydelse än information från andra källor.	21 (8%)	97 (35%)	127 (46%)	34 (12%)
Vad andra inom samma yrke som mig berättar om pensionssparande har större betydelse än information från andra källor.	33 (12%)	112 (40%)	100 (36%)	34 (12%)
Det är inte lämpligt att lita på information från internet om pension.	38 (14%)	131 (47%)	60 (22%)	50 (18%)
Det är lättast att ta till sig information om pension från vänner och kollegor.	37 (13%)	111 (40%)	99 (35%)	32 (11%)
Mina föräldrar har/hade en plan för sitt pensionssparande.	53 (19%)	40 (14%)	120 (43%)	66 (24%)

## Appendix 3: Summary sent to respondents

### Sammanfattning av studie om lantbrukares pensionssparande

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*Tack för att du svarade på enkäten om pensionssparande! Här följer en sammanfattning av studiens resultat samt de slutsatser som mitt examensarbete lett fram till.*

Pensionssystem är inte lätt att förstå och många av oss tycker att det är svårt att veta hur reglerna ska tillämpas på en individuell nivå. Samtidigt är det viktigt att ha finansiell säkerhet som pensionär. Människor som är anställda har en gynnsam säkerhet som ger dem både allmän- och tjänste-pension, generellt per automatik. Däremot blir problematiken större för egenföretagare att planera sin ålderspension. Speciellt i familjeföretag som har en stark koppling mellan företags finansiella ställning och den hos ägaren. Därför står de cirka 500 000 egenföretagare som finns i Sverige idag inför en oroande situation gällande det komplexa pensionssystemet. Därför fokuserar denna studie på lantbrukares planering av och beslutsfattande gällande pension.

Resultaten visar att det finns ett starkt samband mellan fastighetens belåningsgrad och lantbrukarens pensionssparande. Lantbrukare med en låg belåningsgrad på sin fastighet tenderar att spara mindre pengar i andra former (t.ex. aktier, allmän-, tjänste-pension och pensionsförsäkring) än de med en högre belåningsgrad. Resultaten indikerar också på ett samband mellan andelen arrenderad mark och lantbrukarens tendens att spara till pension i andra former än fastigheter. Den mest sannolika förklaringen till dessa samband är att det investerade medlen i lantbruksfastigheter är lantbrukarnas sätt att pensionsspara.

Utbildningsnivå har ingen påverkan på hur aktiva lantbrukare är i beslutsfattande om pensionssparande. Istället visar studien ett samband mellan lantbrukarens intresse för företagsrelaterade frågor och deras kunskap om pensionssparande. Dessutom mer kunskap de anser sig besitta, desto mer villig är de för att söka efter mer information inom ämnet. Alltså, individernas intresse korrelerar med deras kunskap som i sin tur gör att de är mer benägna att söka mer information. Ett intresse är därför av stor vikt för att aktivt planera hur de ska pensionsspara. Dock gör komplexiteten i pensionssystemet att människor tenderar att vara mindre aktiva i sitt beslutsfattande. Att pensionssystemet upplevs var svårt att förstå är troligen en följd av det stora antalet beslut för individen att ta ställning till. Detta problem kan göra att personer skjuter problemet framför sig eller inte fattar något beslut alls.

Ytterligare en tydlig slutsats av denna kartläggning är att väldigt få lantbrukare pratar om pensionsrelaterade frågor med familj eller vänner. En trolig följd av det låga informationsutbytet inom familjen är att föräldragenerationens sätt att hantera sin

pension inte har någon påverkan på hur aktiva beslut deras barn fattar beslut gällande sitt pensionssparande. Anledningen till att få delar med sig av sina tankar om pensionssparande är sannolikt att det är ett privat och ofta känsligt ämne.

Enbart 31 % av er respondenter har angett att ni har en tilltänkt efterträdare till verksamheten för tillfället. Med tanke på att medelåldern var relativt hög, vilket stämmer bra överens med medelåldern för lantbrukare i Sverige generellt, ger det en oroväckande bild av framtiden för svenskt lantbruk. Studien undersöker huruvida existensen av en efterträdare påverkar hur aktivt lantbrukaren fattar beslut gällande sitt pensionssparande. Resultatet visar att det inte finns något samband mellan om en tilltänkt efterträdare finns för tillfället och lantbrukarens pensionssparande. Dock bevisar resultatet att en efterträdare påverkar vilken tidpunkten lantbrukaren kan tänka sig att bli pensionär på heltid och därmed när en generationsväxling kan tänkas bli av.

*Uppstår vidare funderingar är ni välkomna att läsa mer i den fullständiga uppsatsen. Under hösten kommer den att publiceras av SLU. Den finns då tillgänglig att ladda ner. Klicka på [här](#) för att komma till hemsidan för publicerade examensarbete vid SLU. Självklart går det även bra att höra av er till mig!*

*Väl mött!*

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