The causes behind the prevailing risk factors in the Finnish housing finance markets

Similarities between the US subprime crisis in 2007-2009

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ABSTRACT

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ABSTRACT

The purpose of the thesis was to examine whether there are significant risk factors in the Finnish housing finance markets, and what are the possible causes behind them. The aim was also to research whether there are similarities between the US subprime crisis in 2007-2009. The risk factors associated with the Finnish housing finance markets have attracted a lot of public debate, which makes the topic very current.

The first part of the theoretical framework contains background information about the factors and causes of the subprime crisis. The second part includes the existing risk factors and phenomena in the Finnish housing finance markets. The focus in the Finnish housing finance markets is in the housing companies, as households are covered in the side. In the theoretical framework, the risk factors are examined from the two different aspects; Shareholders of the housing companies and the Finnish economy´s aspects. The research has been carried out as a qualitative literature review, for which extensive literature and electronic publications have been studied.

The results of the research show that there are significant risk factors in the Finnish housing finance markets. The most remarkable risk factor is the growing indebtedness of households and housing companies. The main causes behind increased indebtedness are; a loose financing structure in the new-built housing company debts, low-interest rate levels of the ECB, a growing number of the property investors, an attractive taxation environment for the property investors, and the aging housing company base built in the 60s and 70s.

Keywords Subprime Crisis, Housing Companies, Financing Markets, Risk Factors

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TIIVISTELMÄ

Master´s programme in Business Management and Entrepreneurship
Visamäki

Tekijä	Teemu Tossavainen	**Vuosi** 2019
Työn nimi	Suomen asuntorahoitusmarkkinoilla vallitsevien riskitekijöiden aiheuttajat -Yhteneväisyydet Subprime-kriisin 2007-2009 kanssa	
Työn ohjaaja	Ismo Vuorinen	

TIIVISTELMÄ

Tämän opinnäytetyön tavoitteena oli tutkia, löytyykö Suomen asuntomarkkinoilta merkittäviä riskitekijöitä sekä niiden mahdolliset aiheuttajat. Tavoitteena oli lisäksi selvittää, löytyykö riskitekijöistä yhteneväisyyksiä Yhdysvalloissa vuosina 2007-2009 puhjenneen Subprime-kriisin kanssa. Suomen asuntorahoitusmarkkinoilla vallitsevat riskitekijät ovat herättäneet julkisuudessa viime aikoina runsasta keskustelua, joten aihe on erittäin ajankohtainen.

Teoreettisen viitekehyksen ensimmäinen osa keskittyy Subprime-kriisin taustoihin sekä kriisiin johtaneisiin tekijöihin. Toinen osa sisältää tietoa Suomen asuntorahoitusmarkkinoilla vallitsevista riskitekijöistä sekä ilmiöistä. Suomen asuntorahoitusmarkkinoiden osalta keskitytään pääosin asunto-osakeyhtiöihin, mutta myös kotitalouksien tilannetta sivutaan. Teoreettisessa viitekehyksessä riskitekijöitä tutkitaan asunto-osakeyhtiön osakkeenomistajien sekä Suomen kansantalouden näkökulmista. Tutkimus toteutettiin kvalitatiivisena kirjallisuuskatselmuksena, jota varten perehdyttiin laaja-alaisesti aihetta käsittelevään kirjallisuuteen sekä sähköisiin julkaisuihin.

Tutkimuksen tulokset osoittavat, että Suomen asuntorahoitusmarkkinoilta löytyy merkittäviä riskitekijöitä. Riskitekijöistä merkittävimpänä voidaan pitää kotitalouksien sekä asunto-osakeyhtiöiden kasvanutta velkaantumista. Kasvaneeseen velkaantumiseen johtaneet tekijät ovat; As Oy uudiskohteiden rahoitusrakenteet, matala korkotaso, asuntosijoittajien kasvanut lukumäärä, houkutteleva verotusympäristö, sekä 60 -ja 70-luvuilla rakennettu ikääntyvä ja huomattava As Oy-kanta.

Avainsanat Subprime-Kriisi, Asunto-osakeyhtiöt, Rahoitusmarkkinat, Riskitekijät

Sivut 113 sivua, joista liitteitä 29 sivua

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1 INTRODUCTION

Between the years 2007 and 2009, there was a global financial crisis called the subprime crisis. The world financial markets went on chaos, and the whole economy was on the edge of collapsing. Many big financial institutions, including banks and insurance companies, went bankrupt all over the world, and the world economy drifted into a recession. In the subprime crisis, a significant amount of money was borrowed to the people, whose solvency ratio was not sufficient. Those loans were collateralized in the complicated financial instruments and sold in the financial markets all around the world as low-risks financial products. The US housing market was in a huge upswing, and the prices of the apartments developed to the record levels. Eventually, the price bubble burst out and hit like a hurricane to the whole world economy.

The construction industry in Finland has grown in recent years with the demand for housing investments and the development of the economy. There has been a so-called construction boom in the Finnish construction industry. The boom has brought unwanted phenomena and risks to the housing markets of Finland. The maturity periods of the loans and the lengths of the installment- free periods have stretched longer. The loan to value-ratios (LTV) of the new-built housing company debts are 70% or even higher. At the same time, there is ongoing segregation in the Finnish housing markets. The market prices of the older housing companies have decreased, and there have been difficulties in getting funding for the necessary renovations in many areas around Finland.

The list of the risk factors and the causes in the Finnish current housing finance markets is various, and the task of this thesis is to orientate on those. This thesis also explores whether there are similarities between the Finnish housing finance markets and the US subprime crisis in 2007-2009. The subject of the housing finance risk factors and its causes is very topical, and it has woken lots of conversation in the media.

1.1 Behind the curtain – Motivation factors towards to the selected subject

I have worked in the finance and banking sector for about ten years. I am interested in the world economy and financial markets. As I wondered about the subject for my Master´s thesis, there were two main factors it should contain. The first factor was that I should be interested in the subject itself. It would be educating and rewarding to write about the subject that I am genuinely interested in. The second motivation factor for me was that the subject should be current and on topic. I believe that by combining those two essential factors, will be crucial to success in writing my Master's thesis.

In the late of 2018, I was sparring with my colleague about the possible subject of my thesis. She said, “just read and follow writings in the news; the subject will find you.” After that hint, I noticed that the writings of the risk factors in the Finnish financing markets showed all over again in the news. I am working daily with financing risk assessments, so I was extremely interested in the current market risks of the housing markets. In Christmas time 2018, I read the blog text written by real estate broker, Roni Arvonen. The subject of the blog was about the subprime crisis and the similarities between Finnish housing markets (Arvonen, 2018). After I read the blog, the subject of my Master´s thesis was chosen

1.2 **Objective of the thesis**

The long-term objective of this thesis is to provide valuable information on the Finnish housing finance markets risk factors and causes for the governmental entities, institutes, and societies of Finland. This information of the thesis will help the decision-makers of the entities to create instruments and methods in the fight against the growing indebtedness and other significant challenges in the financial markets. The short-term objective of this thesis is to provide information to the above-mentioned entities, whether the Finnish economy is heading toward a national version of the “subprime-a-like” crisis.

The Theseus link of the thesis will be delivered by the author of the thesis to the various governmental entities, institutes, and societies.

1.3 **Research questions of the thesis**

In presenting the research question, the author should focus on finding the root of the problem. In defining the core of the problem, it is helpful to try to ask, “why?”. That helps the writer to separate the causes from the consequences. (Kauranen, Mustakallio & Palmgren, 2007, p. 35) In this thesis, the research question 1 was guided from the existing problem from the markets. The research question 2 was created from the financial crisis event from the past. The third research question is a combination of the previously mentioned questions. By mirroring the Finnish current housing market phenomenon and risk factors to the real financial crisis event from the past, it gives a more reliable picture of the possible concerns ahead.

Answers to the research objectives of this thesis are examined thought the following research questions:

- **Research question 1:** What are the risk factors in the Finnish housing finance markets?

    - What are the causes behind the risk factors in the Finnish housing finance markets?

- **Research question 2:** What were the risk factors and the causes in the US subprime crisis in 2007-2009?

- **Research question 3:** Are there similarities between current Finnish housing finance markets and the US subprime crisis in 2007-2009?

The research question one is the main research question of this thesis. The risk factors and conclusions of the subprime crisis will be used in the comparison between the Finnish finance markets.

The research questions will be answered through current and reliable information from literature, newspaper articles, reports, statistics, and podcasts. Examination of the objective of the thesis is a challenging and extensive task, but the availability of the existing data eases the investigation. In many articles, the primary sources are published by the governmental authorities. An encompassing number of the interviews given by specialists and professionals around the examined subject will be used as a source of the thesis. The interviews are mainly published in online sources.

Key concepts: Subprime Crisis, Housing Companies, Financing Markets, Risk Factors

1.4 Theoretical framework

The theoretical framework is divided into two different parts. It starts with the background and the born of the subprime crises. What happened, and what were the main reasons behind the crises? The conclusions of the Financial Crisis Inquiry Commission (FCIC) are used as a core for the subprime crisis section. The second part of the theoretical framework concentrates on the risk factors of the current Finnish housing finance markets. The theoretical framework seeks answers to the questions: what are existing risk factors of the Finnish current housing finance markets? Are there risk factors to be worried about from the perspective of the shareholders of the company or Finnish economy? What are the causes behind the existing risk factors?

The focus in the Finnish housing finance markets is in the housing companies, as households are covered in the side. The indebtedness of the households and their side-effects are strongly linked to the debts of the housing companies. The risk factors of the housing finance markets are primarily viewed from the shareholder's point of view but also from a broader economic perspective of the Finnish economy**.**

Both theoretical framework chapters include the statistics of the households and governments' indebtedness ratios. The chapters also include the statistics of the housing price development. Those statistics are

used to help in the comparison between the Finnish finance markets and the subprime crisis. The results and observations of the research are presented at the end of the thesis.

1.5 **Terminology**

The following chapter is about terminology, which is frequently used in this Master's thesis. The understanding of the terminology will help the reader to create a complete picture of the research provided by the thesis. The science-specific terms used in the thesis are actively used in everyday conversations of the considered subject.

CDO — Collateralized Debt Obligation is a complex structured finance product that is backed by a pool of loans and other assets and sold to institutional investors (Chen & Tardi, 2019).

CEO — Chief Executive Officer is the highest-ranking executive in a company, whose task is to make major decisions of the company and work as a link between board of directors and different operation parts of the company. CEO is the face of the company and is elected by the board and its shareholders. (Kenton, 2019a)

Charge for The Financial Costs

The long-term expenditures of the housing company, i.e., construction or renovation costs, are covered by a charge for the financial costs. Financial charge costs are usually collected monthly from the shareholders of the housing company. (Kuutilo & Pynnönen, 2018, p. 24-25)

CRA — Credit Rating Agency is a company that assesses the financial strength of companies and government entities. They focus on borrower's ability to meet principal and interest payments on their debts. (Corporate Finance Institute, n.d.)

Creditworthiness

Creditworthiness assessment is the process of choosing a customer, deciding whether to grant to the customer credit. Creditworthiness assessment also guides credit pricing: From a business point of view, higher risk loans should be higher priced to offset potential credit losses through pricing. (Makkonen, 2016, p. 115)

ECB — The European Central Bank is the central bank of the 19 European Union countries which have adopted the euro.

Their main task is to maintain price stability in the euro area and so preserve the purchasing power of the single currency. (ECB, 2019d)

EMU — The Economic and Monetary Union involves the coordination of economic and fiscal policies, a common monetary policy, and a common currency called euro. All 28 EU Member States take part in the economic union; some countries have taken integration further and adopted the euro. These countries make up the euro area. (European Commission, n.d.)

FCIC — The Financial Crisis Inquiry Commission was created to "examine the causes, domestic and global, of the current financial and economic crisis in the United States." The Commission was established as part of the Fraud Enforcement, and Recovery Act (Public Law 111-21) passed by Congress and signed by the President in May 2009. This independent, 10-member panel was composed of private citizens with experience in areas such as housing, economics, finance, market regulation, banking, and consumer protection. On January 27, 2011, the Commission delivered its report to the President, Congress, and the American people. (FCIC, 2011b)

Financial Risk

Financial risk is a term that can apply to business, government entities, the financial market, and the individual. This is the danger or possibility that shareholders, investors, or other financial stakeholders will lose money. Any risk is a hazard that produces unwanted results. Some more common and distinct financial risks include credit risk, liquidity risk, and operational risk. (Chen, 2019b)

Fed — The Federal Reserve System is the central bank of the United States. It performs five general functions to promote the effective operation of the U.S. economy and, more generally, the public interest. (Fed, 2019)

Federal Funds Rate

The Federal Funds Rate refers to the interest rate that banks charge other banks for lending them money from their reserve balances on an overnight basis (Chen, 2019a).

FICO — Fair Isaac Corporation's credit scoring system was created by Bill Fair and Earl Isaac in 1956 to help banks and department

stores calculate their customer's creditworthiness (Kagan, 2018a).

FIVA — Finanssivalvonta, or the Financial Supervisory Authority, is the authority for the supervision of Finland´s financial and insurance sectors. The entities supervised by the authority include banks, insurance, and pension companies as well as other companies operating in the insurance sector, investment firms, fund management companies, and the Helsinki Stock Exchange. (FIVA, n.d.)

GDP — Gross Domestic Product (GDP) is the monetary value of all the finished goods and services produced within a country's borders in a specific period (Chappelow, 2019).

Household Debt, total % of net disposable income

Household debt is defined as all liabilities of households (including non-profit institutions serving families) that require payments of interest or principal by households to the creditors at a fixed date in the future. Debt is calculated as the sum of the following liability categories: loans (primarily mortgage loans and consumer credit) and other accounts payable. The indicator is measured as a percentage of net household disposable income. (OECD, 2019)

Housing Company

A limited liability housing company is a limited liability company whose purpose, provided in its Articles of Association, is to own and control at least one building or part thereof in which at least half of the combined floor area of the apartment or apartments is reserved in the Articles of Association for use as residential apartments possessed by the shareholders (Limited Liability Housing Companies Act 1/2009 § 2).

Inflation — is a situation of a sustained increase in the general price level in an economy. Inflation means an increase in the cost of living as the price of goods and services rise. (Pettinger, 2017)

Interest — is the charge for the privilege of borrowing money, typically expressed as an annual percentage rate (Chen, 2018).

LTV Ratio — Loan to value ratio is an assessment of lending risk that financial institutions and other lenders examine before approving a mortgage. Assessments with high LTV ratios are at higher risk. The formula of the LTV ratio is calculated by

the mortgage amount divided by the appraised property value. For example, if the apartment debt-free price is €100.000 and the amount of loan is €85.000, the LTV ratio for that is 85%. (Hayes, 2019)

Maintenance Fee

The maintenance fee paid by the shareholders to the housing company covers the company's administrative expenses, heating, water, property maintenance and waste management expenses, the housing company's electricity bills, insurance premiums, and property tax. The amount of the maintenance fee is determined annually at the Annual General Meeting based on a budget drawn up made by the property manager and the board of the housing company. (Kuutilo & Pynnönen, 2018, p. 23)

Management Charge

One of the primary responsibilities of a shareholder in a housing company is to pay the company a management charge. The basis for consideration must be defined in the articles of association and is usually based on either the number of shares or the square meters of the apartment. The articles of association may specify that the consideration for commercial and office apartments is higher than for residential apartments. The management charge is usually subdivided into maintenance fee and charge for the financial costs. (Kasso, 2014, p. 35)

NPL A nonperforming loan (NPL) is a sum of borrowed money upon which the debtor has not made the scheduled payments for a specified period. Although the specific elements of non-performance status vary, depending on the loan’s terms, "no payment" is usually defined as zero payments of either principal or interest. The specified period also varies, depending on the industry and the type of loan. Generally, however, the period is 90 days or 180 days. (Segal, 2019b)

Payment Default Notice

The purpose of the default payment notice is to inform borrowers and other interest groups that the entity in question has not discharged its previous financial commitments. Default payment notice indicates there is a high risk for future receivables. (Consumers Union of Finland, n.d.)

RAKSU Group

RAKSU group is a construction business group headed by the Ministry of Finance, which assesses the cycle development of the business, infrastructure, and renovation business (Ministry of Finance, 2019a).

Subprime is a classification of borrowers with a tarnished or limited credit history. Lenders will use a credit scoring system to determine which loans a borrower may qualify for. Subprime loans carry more credit risk, and as such, will give higher interest rates as well. (Kenton, 2018)

Stagflation is a combination of stagnant economic growth, high unemployment, and high inflation (Amadeo, 2019a).

TRA97 The Taxpayer Relief Act of 1997 is one of the most significant tax-reduction acts in U.S. history. TRA97 legislation reduced tax rates and offered new tax credits for taxpayers. U.S. President Bill Clinton signed the Taxpayer Relief Act of 1997 on August 5, 1997. The new tax policy was widely applauded by the American public and has since provided billions of dollars in tax relief for both individual and business-owning taxpayers. (Kagan, 2018b)

USD The USD is the abbreviation for the U.S. Dollar, the official currency of the United States of America, and the world´s primary reserve currency (Ganti, 2019).

2 SUBPRIME CRISIS – INTRODUCTION

The language of Japan is written by logographs called “kanjis.” Word “crisis” in Japan language consists of two kanjis. The first kanji means “danger,” and the second one means “opportunity.” Time of the crisis could be an opportunity for those whose accounts are in the great shape of money to invest. (Seppänen, 2009, p. 65)

At the turn of the year 2007-2008, the public began to repeat the word “subprime.” The word “subprime” means below prime. It turned out that the whole mortgage market of the USA was filled with junk loans. Many households that didn’t have regular incomes, stable jobs, or savings to take mortgages had got one. Banks believed that the economy would continue to grow, and house prices would rise. It was thought that debt could be paid off with new debt if needed. The risks were believed to be under control, but that belief went severely wrong. (Patomäki, 2012, p. 42)

The subprime crisis caused one of the most significant financial crises in world history. Over 4 million homes were foreclosed, and 8 million jobs were terminated between 2007 and 2009 in the USA (Mian & Sufi, 2015, p. 2). The governments all over the world were forced to bailouts to save banks and insurance companies from bankruptcy (Sokala, 2009). According to The Financial Crisis Inquiry Commission (FCIC), which was called to examine the financial and economic crisis -the Subprime Crisis was avoidable (Conclusion of the FCIC, 2011a, p. 3).

The first chapter is about the early stages of Subprime crises. It will look in the 1980s when financial regulation started to revoke, and markets liberated significantly from the past.

The second chapter is about America's ownership society, which was launched by President Bush in the early years of his presidency in 2002. By using loose monetary policy, President Bushes and Republicans’ ownership society vision created a base for the upcoming economic catastrophe called a subprime crisis.

The third chapter is about the causes of the subprime crisis of itself. Failures in the financial regulations, the greediness of the investment banks, the jungle of the OTC products.

The fourth chapter handles the failures made by credit rating agencies. The official conclusions made by the FCIC are presented in the fifth chapter.

These chapters together create a comprehensive picture of the reasons and the factors that caused one of the most disastrous economic crises of world history so far.

2.1 The Birth of the Subprime crisis– Financial regulation starts to crumble

After the Great Depression in 1928 and the second world war in 1939-1945, there was a historical period of equality in developed countries. Tight regulations and restrictions were part of the world economy. Still, in 1928, in the United States, 10% of the population received 50% of all income. In the 1930s, the share of the wealthiest part decreased to 45% and 35% in the 1950s and 1960s. It was not until 2007 that the world economy returned to the same or even more unbalanced distribution of incomes as it did in the year 1928. (Piketty, 2016, p. 77)

In the 1970´s the inflation increased to the 10-15%/year, but still, economic growth stagnated, and unemployment grew. That long period of stagnation convinced decision-makers to change their opinion about prevalent monetary policy. The new public opinion was that central banks should be independent for policymakers and limit their activities to a slow and steady increase in money to ensure a low inflation rate of 1-2%. (Piketty, 2016, p. 96)

Many Americans felt their nations were in the economic downturn after the past presidencies of Richard Nixon, Gerald Ford, and Jimmy Carter. There was a reservation for the new sights and thoughts on how to guide America backtrack. Ronald Reagan was the answer to the questions. Reagan believed in market liberalization and deregulation. (Marttila, 2017) He had faith in so-called “supply-side economics”-theory, which was borrowed from nineteenth-century French economist Jean Baptiste Say. The main message of the theory was “supply creates demand.” (Coleman & Siracusa, 2002, p. 247) Reagan started to implement this “Reaganomics” policy by massive tax cuttings. President Reagan dropped marginal tax rates for all income categories, harmonized and simplified income, and corporate taxation, and eased capital and corporate taxation. In the Reagan period, capital tax revenue increased despite tax cuts, but the government debt increased. The main reason for that was an increase in defense spending. (Marttila, 2017)

In the 1980s, above mentioned tax-cutting policy stimulated the economy, developed GDP to ca. 4%, improved unemployment statistics (Appendix 1), and decreased inflation. An adaptative economy by Reagan created millions of new jobs and brought the USA back in the table of big boys. (Longley, Mayer, Schaller & Sloan, 2007, p. 42)

The late 1980s was the climax of financial markets deregulation. The markets were full of loose money waiting for borrowers. Banks and financing companies competed for the customers. Loans were granted to households for mortgages and consumer credits, and companies got cash for the investments. Apartment prices rose sharply as money was easily available, and the demand was strong. The basis for the new aged liberal monetary policy was founded. (Makkonen, 2016, p. 32)

2.2 On the way to the ownership society

The significant steps toward ownership society were taken as Democratic US President Bill Clinton signed the Taxpayer Relief Act of 1997 (TRA97). TRA97 is one of the most significant tax-reductions in the whole U.S. history. (Kagan, 2018b) The new tax reform changed the tax treatment of capital gains by introducing a separate tax scale for long-term capital gains. As a result, the highest tax rate on capital gains on assets decreased from 28% to 20%. The highest tax rates on capital gains on assets held for more than five years were reduced to the level 18% in 2001 and 15% again in 2003. (Eerola, 2015, p. 14) TRA97 increased the housing trade and created a basis for the capital movements in the housing markets.

The construction of the ownership society continued in the ERA of George W. Bush and republicans. They were willing to build up ownership society, where every citizen was justified to own house. In 17.6.2002 – the fresh President Bush announced target that the number of minority homeowners would increase by at least 5,5 million by the end of the decade. (Sokala, 2011) On October 15th, 2002, US President George W. Bush stated in his speech: “We can put light where there is darkness and hope where there is despondency in this country. And part of it is working together as a nation to encourage folks to own their own home” (Becker, Stolberg & Labaton, 2008) Henry Paulson, the former Secretary of Finance of the United States, explains in his book how homeownership was widely believed to help increase wealth in families, stabilize neighborhoods, create jobs, and promote economic growth (Ala-Nissilä 2010, p. 113).

US federally owned specialty financial institutions Freddie Mac, Fannie Mae, and Ginnie Mae, started to promote President Bush’s homeownership policy. They began to fund also citizens who had no income, no job, no assets. Those loans were called “NINJA”-loans. (Seppänen, 2009, p. 36)

The risk level for default was priced up in the level of rates. Subprime loan and NINJA-loan interest rate levels were 6-7% higher vs. prime-level interest rates. Interest rate levels of subprime loans indicated that the default risk for the subprime borrower was significantly higher than for the prime level debtors. Debtors whose rate levels were 6-7% were practically insolvent. Banks financed insolvent debtors for 110-125% of the value of the property. This ensured the debtor's ability to pay interest during the early years of the loan. (Seppänen, 2009, p. 35) There was a strong belief in the eternal rise in housing prices, and banks were not worried about the insolvency of borrowers as creditors were able to get rid of unpaid debts by selling real estate collaterals which price has increased favorable in housing markets (Makkonen, 2016, p. 33).

The liability level of the US rose from $4.670 billion to $10.190 billion between 2000 and 2010 (Figure 1). That means a 218% increase in 10 years. The same liability level rose effect was seen after President Reagan's deregulations in finance markets between 1980 and 1990. At that time, the liability level increased from $890 billion to $2.420 billion, which means over 270%. The increase was due to reckless lending policies created by the US government in the name of an ownership society.

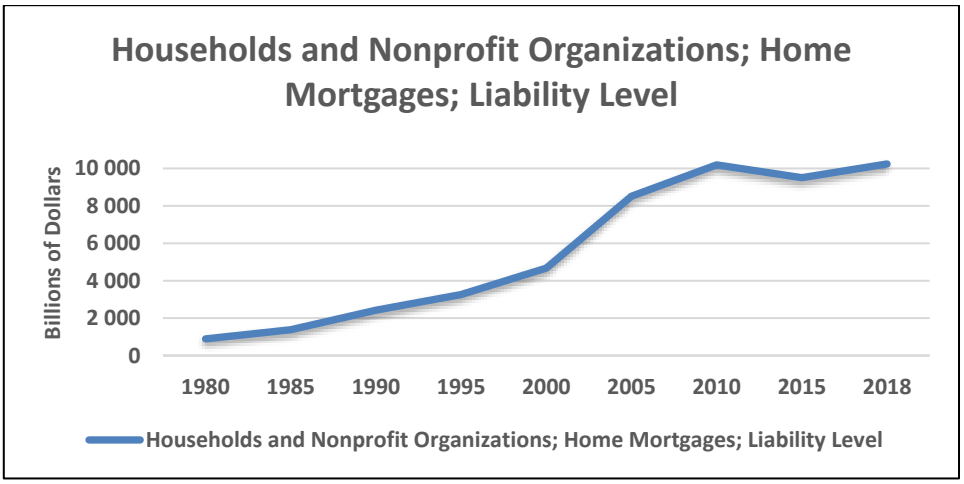

Figure 1 *Households and Non-profit Organizations; Home Mortgages; Liability Level (Board of Governors of the Federal Reserve System (US), 2019).*

Figure 2 below shows the development of US households' debts on the total of net disposable incomes 2000-2010. In the year 2002, when President Bush started to build up the previously mentioned ownership society, a ratio was 112,7%. A ratio started to accelerate growth after President Bush´s decision and reached its peak in 2007. In the same year, the subprime crisis started. The level grew by 30,9 percentage points during the five years' time, and households of the US were more indebted than in the whole history of the US.

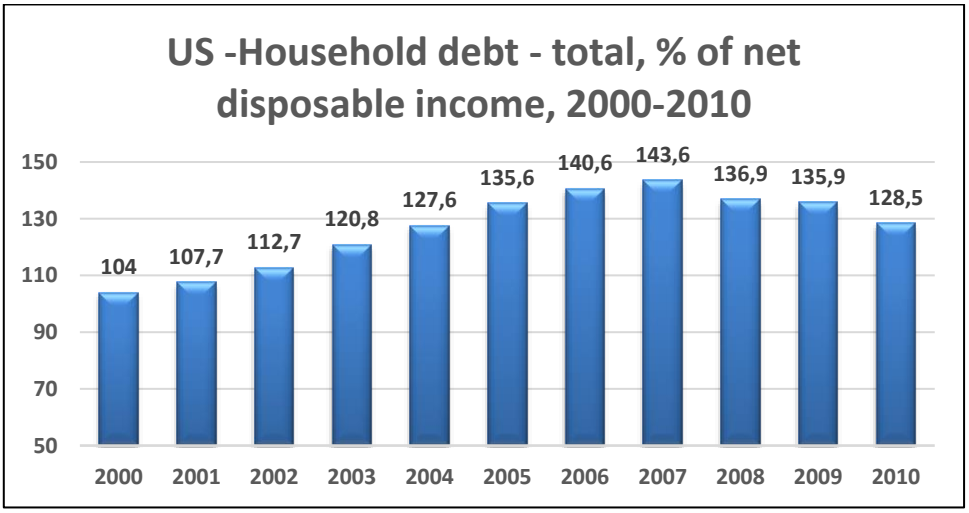

Figure 2 *US Household debt- total, % of net disposable income 2000-2010 (OECD, 2019).*

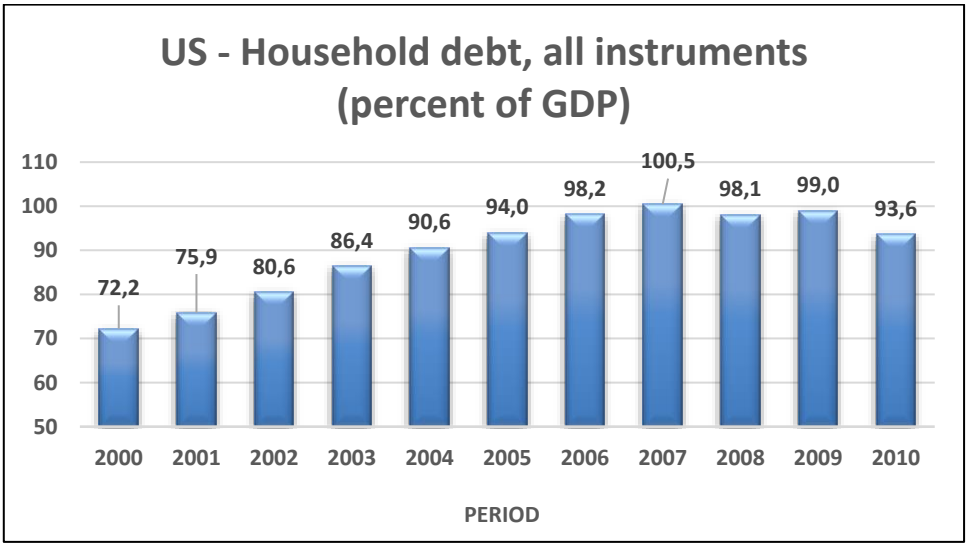

Figure 3 *US Households Debt to GDB 2000-2010 (IMF, 2019).*

In the year 2000 (Figure 3), the US household's debt percent of GDP was 72,2%. Just like in Figure 2, the peak was achieved in the year 2007. In 2007 the percent was 100,5%, which means that the debt of the households was higher than the value that the whole country produced in one year. The sum of the debt was all-time high, and the values of the assets dropped. Unemployment increased, business, and consumption froze.

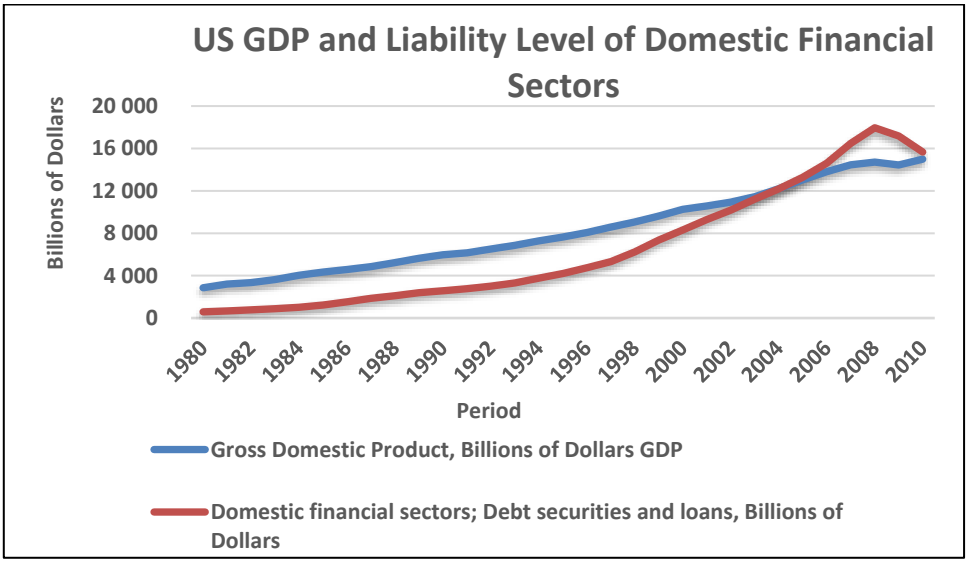

Figure 4 *US GDP and Liability Level of Domestic Financial Sectors (BEA & Board of Governors, 2019).*

Only households didn't owe debt. Investors had also used leverage in the financial markets. The liability level of households was in record levels, but the liability level of domestic financial sectors was even higher, almost $20.000 billion. The number was higher than the total gross domestic

product of the USA, which was ca. $14.000 billion. The five largest investment banks owed more than $ 4.000 billion (Patomäki, 2012, p. 45).

By comparing what a country owes with what it produces, the General Government Debt to GDP indicates a country's ability to pay back its debts. The higher the ratio climbs, the higher the risk of default becomes. In 2000-2009 United States debt-to-GDP ratio raised from 55 % to 90% (see Figure 5). General government debt as % of GDP exploded in 2007 as the financial crisis started, and big institutional entities run into payment difficulties. According to a study by the World Bank found that the countries whose debt-to-GDP ratios exceeds 77% for prolonged periods, experience significant slowdowns in economic growth. (Kenton, 2019b)

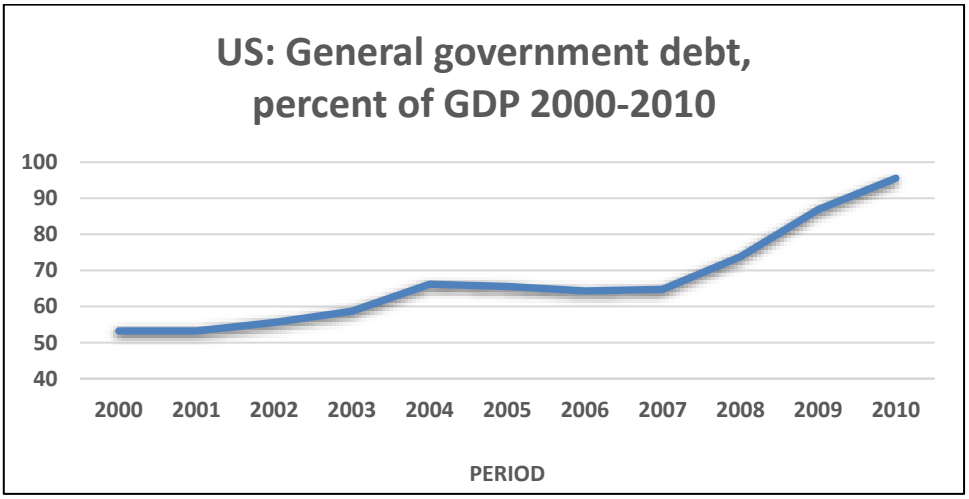

Figure 5 *General Government Debt: Total Public Debt as Percent of GDP 2000-2010 (IMF, 2019).*

When the IT-bubble exploded in 2000-2003, many wealthy investors entered in the housing markets. Housing market price rises accelerated from just over 10% to 20% a year. (Patomäki, 2012, p. 43) Also, fierce customer competition between banks and credit sales boosted housing markets in the United States, which increased their price by 80% between 2000 and 2006 (Figure 6). As a result of reckless lending policies by the US government, home prices in the United States rose year after year, allowing the debtor to move to a larger house after the previous one was sold. That was the pattern of how money was borrowed for the 10 million insolvent American families. (Seppänen, 2009, p. 35) Figure number x indicates that this mechanism worked until 2006, after which housing prices started to fall dramatically. When mortgage holders were unable to handle their debts, more and more houses appeared for sale. This led to a fall in house prices, and as a result, mortgage-based bonds that used to be considered as safe investments collapsed. The insurance companies which had insured derivative products, crashed down as the insolvency risk materialized. This led to general uncertainty across the financial markets, and no-one knew how far the risks had spread. (Makkonen, 2016, p. 34)

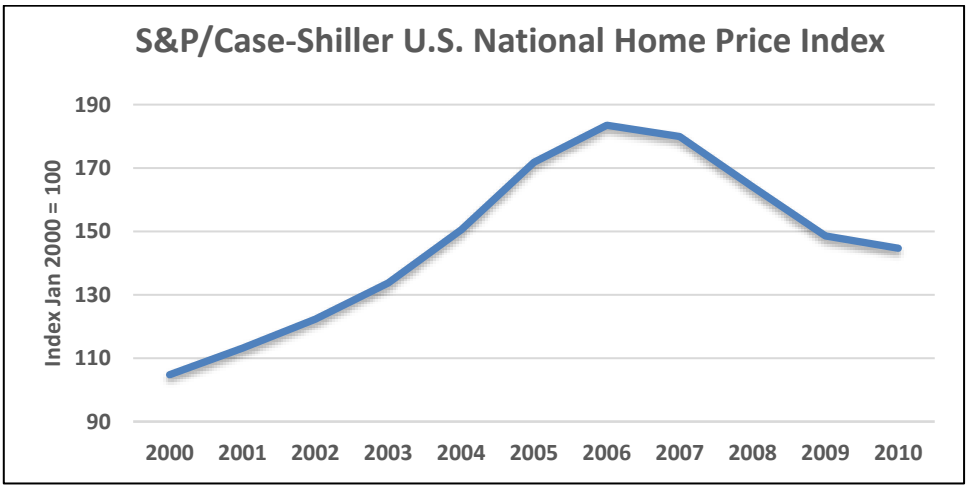

Figure 6 *U.S. National Home Price Index (Federal Reserve Bank of ST.Louis, 2019).*

In the fall of 2008, banks reclaimed 10.000 homes every day from American families. There were over 18 million empty apartments all over the country. Entire states were in debt. For example, in California Mountain House, zip code 95391-area had 1.856 households, from which 1.647 households' price of the house had fallen on the lower stage than the amount of loan. Many borrowers hit the keys of their home on the bank counter and gave their home to the bank rather than had the loan deal with high-interest rates and loan amortizations. (Seppänen, 2009, p. 37)

The financial crisis spread all around the world, and hundreds of millions of people were driven to extreme or relative poverty (Patomäki, 2012, p. 47). Bank's money faucets were closed, and money was no longer borrowed in the markets. Banks concentrated on securing their solvency. The liquidity crisis had taken over the markets, and the situation required state intervention. (Patomäki, 2012, p. 46)

States' monetary policy aims to control the amount and price of money. In the fall of 2008, monetary policy failed to put money into circulation, even though the FED lowered its interest rates to zero. When interest rates can no longer fall, monetary policy has come to an end, and the government's fiscal policy is under pressure to stimulate the economy. The financial recovery is needed, which means states debt taking and usage to help to trigger economic activity. (Seppänen, 2009, p. 12)

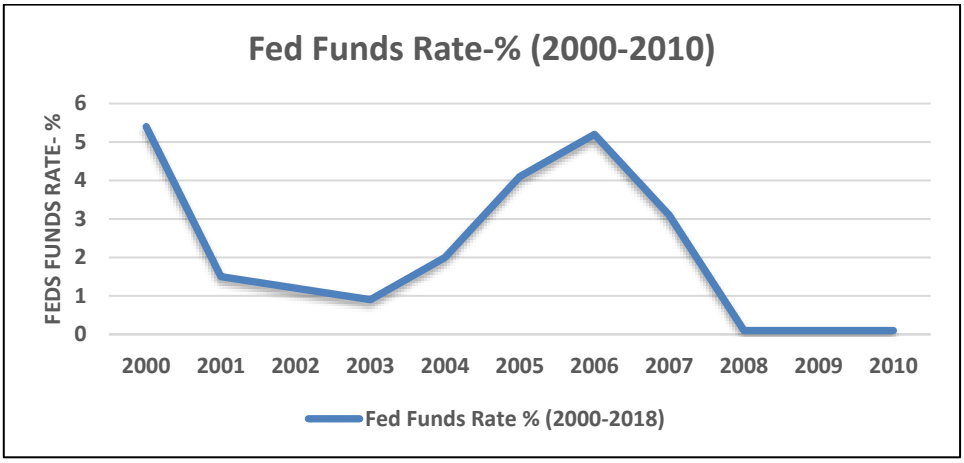

Figure 7 *Fed Funds Rate-% 2000-2010 (Macrotrends, 2019).*

World Trade Centre terror attacks in 2001 seized the financial markets, and in response, Fed started cutting rates, and the fed funds rate arrived at level 1% (Figure 7) in 2003 (Broström, 2011). The low federal funds rate aims to expand the money supply and encourage borrowing. Borrowing increases spending and investing in the markets. Low tax rates worked, the economy began to grow, and rate levels started to rose up in 2003. Later it turned out that the reparations of the Fed were overscaled. (Barnes, 2019)

After the bankruptcy of the investment bank, Lehmann Brothers, in September 2008, Fed and ECB started to fill liquidity shortfalls of private banks with substantial investments. They lent nearly €2 trillion new liquidity to private banks at zero interest rate and long-term maturities within a few months. (Piketty, 2016, p. 97) Nevertheless, many banks went bankrupt. Insurance company AIG, the biggest CDS issuer of the country, was bailed out by the government of the US. The biggest bank of the country, Bank of America, was also saved by the government. (Patomäki, 2012, p. 45) However, too big to fall-policy was not obeyed in every case as the bankruptcy of the Lehmann brothers showed. Lehmann brothers was the fifths largest investment bank of the US, and it was the largest bankruptcy in American history. (Juntunen, 2009, p. 7)

2.3 Investment banks, securitization and mass destruction weapons

The first investment banks were founded in the 19th century. The most well-known investment banks are, for example, Goldman Sachs, JP Morgan Chase, Barclays, Morgan Stanley, and Deutsche Bank. Investment banks have got their name from helping companies raise money from investors. Investment banks organize the issue and bond issues of their client companies and sell their shares and bonds on behalf of the companies. Investment banks deal only with large investors, like extremely wealthy

private managers and institutional investors, i.e., large funds that pool private investors assets. (Chang, 2014, p. 268-269)

Commercial banks have solvency regulations considering their capital. They must keep liquidated assets in their balance sheets against market volatilities. In a nutshell, a commercial bank must have own funds of a certain amount of different risk assets, like off-balance sheet items or investments. (Seppänen, 2009, p. 48) A significant difference between commercial -and investment banks was that the investment banks did not have solvency regulations and, therefore, no public oversight on it. They were entirely out of any regulation. Investment banks did not collect deposits from their customers. They borrowed the money from the other banks. This lack of regulation and supervision enabled investment banks to create complicated investment products to the markets starting from the late 1980s and growing at the beginning of the 2000s. (Seppänen, 2009, p. 24)

The complicated investment products included securitized debt and financial derivatives. Investment banks favored new financial instruments simply because the profits were higher than in old stock and bond sales. Investment banks made financial innovations, i.e., developing new types of debt instruments called “Asset-backed securities” (ABS). ABSs are big compound bonds that consist of thousands of individual loans, mortgages, car loans, credit card debts, student loans, corporate loans, anything. (Chang, 2014, p. 270) Another significant derivative product was called a Credit Default Swap (CDS). CDS is a two-party agreement (Appendix 2) on compensation if a counterparty becomes bankrupt or is otherwise unable to meet its commitments. In other words, CDS is an insurance contract against credit risks. (Lordon, 2010, p. 91-92) In the case of insolvency of borrowers, banks took insurance, which was sold by insurance companies and other banks by low prices (Seppänen, 2009, p. 24). Banks used this kind of derivative products to outscore their credit risks (Juntunen, 2009, p. 128).

The derivative products were traded in so-called OTC-markets (Over the Counter) bilaterally between banks, past stock exchanges. Derivative markets were opaque, and the states did not know what the banks were doing. (Seppänen, 2009, p. 25) The sales and development of the derivative products were boosted up by high provisions, bonuses, options, and abroad vacations. Bonuses were paid on sales and returns from the present year and possible from the following year. Stockbrokers were not interested in the financial risks on the markets. They picked up their bonuses and rewards before the economic catastrophe arrived in the global financial markets. (Juntunen, 2009, p. 35)

The most crucial investment product for the origins of the crisis was Collateralized Debt Obligations (CDO). CDO is a structured product and type of ABS, which pools different kinds of loans and slices them into

tranches of varying risk profiles (Appendix 3). The loans that CDO contains, maybe, for example, mortgage, -auto, - credit card loans, or corporate bonds. In the beginning, CDO´s contained low risky corporate debts and bonds. When the good quality loan packages finished, CDO products started to include the weaker grade of loans. To generate more profits, CDO products began to contain riskier loans. The moral hazard had conquered the markets. (Juntunen, 2009, p. 35) As the profit hunting increased, the same original financial commodity, which was rated by CRA´s by investment grades, began to bundle up in worse packages. CDO´s started to contain CDO´s which contained CDO´s and so on. (Seppänen, 2009, p. 39)

As Figure 8 shows, the CDO issuance was rising rapidly between Q1/06 and Q1/07. The total issuance of the global CDO markets was $108.013M in Q1-06 and $184.757M in Q1/07. There were over 76 billion CDO issuance increments in only four quarters. The trigger for the bank's liquidity crisis was an increase in subprime mortgage defaults, which was noted in February 2007. In the beginning, the insurance costs for the Investment grade (A-BBB) mortgages increased. In May 2007, Union Bank of Switzerland (UBS) shut down its internal hedge fund after suffering about $125 million of subprime-related losses. Later, the same month, Moody´s put downgrade review on the part of Subprime loan tranches. Downgrade review indicated that the rating grades of these tranches would be downgraded soon. That review increased the prices of the credit risk derivatives and turned down the prices for products tied to mortgages. (Brunnermeier, 2009, p. 82-83)

Figure 8 *Global CDO market for 2006-2007 (Thomson Financial, n.d.).*

CRA´s downgraded the subprime loan ratings, which tensed the financial markets in June and July 2007. At the same time, there was news about the troubles of Bear Sterns hedge funds, losses of the property builders, decrease of the housing sales numbers, and prices of the houses. The

subprime loan defaults started to concretize during the Q2 and Q3 2007. That practically stopped the issuance of the CDO´s, and the ratings of the CDO´s (Appendix 4) started to fall. (Brunnermeier, 2009, p. 83-84) At the beginning of September 2008, no-one wanted to buy CDO´s anymore. They were opaque and contained finance junk, and financing markets were unable to generate values for them. A major part of the investors wanted to get rid of their worthless investments, but there was no value and no trade. Banking stock prices crashed down, and it affected the downgrading of their credit ratings when assessing their solvency. The trust between banks started to crack up, which led the whole world economy toward chaos. (Seppänen, 2009, p. 41)

2.4 Failed supervision and moral loss of the credit rating agencies

Credit Rating Agency (CRA) is a company that assesses the financial strength of companies and government entities. They focus on borrower's ability to meet principal and interest payments on their debts. (Corporate Finance Institute, n.d.) The global Credit Agency-markets are dominated by three big CRA´s: Standard & Poor´s financial services, Moody´s investor's service, and Fitch Ratings. United States Securities and Exchange Commission (SEC) estimated that over 98% of all credit ratings were supplied by these three agencies at the time of the subprime crisis. (Ala-Nissilä, 2010, p. 114)

Table 1 Bond Rating Grades (Wathen, 2019).

Credit Quality	Moody's	Standard & Poor's	Fitch
Investment grade			
Prime	Aaa	AAA	AAA
High quality	Aa	AA	AA
Upper medium grade	A	A	A
Medium grade	Baa	BBB	BBB
Not investment grade (Junk bonds)			
Lower medium grade	Ba	BB	BB
Low grade	B	B	B
Poor	Caa	CCC	CCC
Highly speculative	Ca	CC	CC
Not paying/BK	C	C	C
Defaulted	C	D	D

The best companies, governments, and organizations can get AAA ratings. The AAA, AA, Aa, A, Baa, and BBB ratings are called Investment Grade ratings (see Table 1 above). Investment-grade bonds are safe and stable investments. Those are so-called safe havens for money. Below Investment Grade rated bonds are called Non-investment grade, High Yield, or Junk bonds. Bonds with low grades are more unstable and riskier but offer more profits. (Wathen, 2019) The most used credit score

technique is known as the FICO score (Appendix 5). The calculation is based on the borrower's credit payment history, credit utilization ratio, length of credit history, credit inquiry activity, and varied history of different types of credits. (Gitlen, 2019)

CRA´s played an essential role in the financial crisis. In the old times, triple-A credit ratings had been restricted to the most secure investments, such as the sovereign debt of a few rich countries and a small group of very stable companies (Chang, 2014, p. 272). AAA-grade was used to known as a "riskless" symbol for investment, but at the time of subprime crises, it was everything but that (Lewis, 2011, p. 62). "From 2000 to 2007, Moody´s rated nearly 45.000 mortgage-related securities as triple-A. In 2006 alone, Moody´s put its triple-A stamp of approval on 30 mortgages related securities every working day." (FCIC, 2011a, p. 11) As the serious delinquency rate statistics (Appendix 6) presents, the ratings estimated by the CRA´s went badly wrong.

The CDO-products sold by investment banks were rated by CRA´s. CRA´s didn't have the possibility to invest all debtors inside the bundled CDO packages, so they created different kinds of mathematical methods based on statistical history. The basis for the ratings was mainly secret. However, one known method was to investigate how many insolvent mortgage lenders were historically in a particular zip code area. However, the heated development of housing value distorted the reality of the assessments. In addition to errors in estimates, there was a policy that the issuer of the CDO pays the costs of the rating grade assessment to the CRA. This created the phenomenon, where issuers tendered out CRA´s. The best rating won the bid. The phenomenon was known as "rating-shopping." (Ala-Nissilä, 2010, p.114)

The competition between CRA´s was huge, and CRA´s also wanted to get their share of the value in the economic upswing markets. Rating shopping was a major conflict of interest between the issuer and CRA´s. It was comparable to a situation where a movie company pays to a movie reviewer who is going to give the best rating of the movie. (Ala-Nissilä, 2010, p. 114) In the year 2006, 44% of Moody´s turnover build-up from derivative products credit ratings and in the first half of 2007, ca. 53%. That was time just before the crash. Most of those products were rated healthy by Moody´s. (Lordon, 2010, p. 57)

Pension funds, insurance companies, and foundations had extremely strict rules that their investments must be rated as Investment grade-level, BBB/BBa, or better (Ala-Nissilä, 2010, p. 114). The CDO´s were secured by insurance companies. The risk of the CDO´s was removed from the banks to the insurance companies. Because of the above-mentioned moral hazards in the markets and badly misestimated mathematical patterns in ratings and insured investment products, extremely complicated CDO-products got Investment grades from the CRA´s. Pension funds, insurance

companies, foundations, commercial banks, and private investors bought triple-a-rated complicated CDO-products. CDO products were easy to sell because of their "riskless" Investment grade-ratings. From these AAA products, banks received more rate incomes than from traditional AAA securities. Followed by this, the market for structured debt products grew exponentially. (Chang, 2014, p. 272-273)

2.5 The conclusion report of the Financial Crisis Inquiry Commission (FCIC)

This chapter presents the most crucial single risk factors of the subprime crisis and the actual causes behind them. The most significant risk factors based on the previously presented information were; uncontrolled indebtedness of the households and the general government, securitization of the subprime loans, over-heated housing markets, and the loose regulation of the financing markets. These factors will be compared to the Finnish housing markets situation in chapter 4.

According to the report created by FCIC, the crisis was the result of human action and inaction. The report estimates that the Subprime Crisis was avoidable. (Conclusion of FCIC, 2011a, p. 3)

The conclusions of the FCIC report were the following:

1) Failures in financial regulation and supervision proved devastating to the stability of the nation´s financial markets.

2) Collapsing mortgage-lending standards and the mortgage securitization pipeline lit and spread the flame of contagion and crisis.

3) Combination of excessive borrowing, risky investments, and lack of transparency put the financial system on a collision course with crisis

4) The government was ill-prepared for the crisis, and its inconsistent response added to the uncertainty and panic in the financial markets

5) Systemic breakdown in accountability and ethics

6) Failures of corporate governance and risk management at many systemically important financial institutions were a key to this crisis

7) Over the counter, derivatives contributed significantly to this crisis.

8) Failures of credit rating agencies were essential cogs in the wheel of financial destruction. (FCIC, 2011a)

3 RISK FACTORS AND PHENOMENON IN FINNISH HOUSING MARKETS

The world economic situation today is perhaps more volatile and unpredictable than ever before in world economic history, which is an achievement given after the Great Depression of the 1920s & 1930s and the subprime crisis of 2007-2009 (Segal, 2009a). The trade war between China and the United States, negative long-term interest rate-levels in Europe, and possible Brexit have raised many question marks towards the world economy. One single tweet by the current US President Donald Trump could affect global stock prices and market developments. The world markets are intertwined in an increasingly complex way. The failure of one piece may trigger an uncontrolled chain reaction and domino effect, of which outcome is unpredictable even by the most sophisticated economists.

The world is changing, and so is the economy and the habits of the population of Finland also. The Finnish housing market is in transition that has brought with it a significant number of risk factors and undesirable phenomena. As a result of urbanization, jobs and services have been concentrated in growth centers, where the house prices have developed favorably due to the increased demand in the markets. In the case of deprived areas, the situation is the opposite. There are no jobs, services, and prices of the houses are falling. Finland is thus threatened by the so-called regional segregation.

As a result of urbanization, loose monetary policy, and the development of the Finnish economy, the Finnish construction industry has been booming up for the recent few years. For this reason, an increased number of houses has been built in Finland (Appendix 7). However, the construction boom has created new unwanted phenomena and significant risk factors for the Finnish housing markets that may trigger an uncontrolled negative series of events. The negative series of events may, at its worst, lead Finland to a prolonged economic downturn or recession. Are those risk factors real, or just the intimidation of magazine and media houses in the hope of getting as many clicks as possible? This chapter deals comprehensively with the existing risk factors and negative phenomena associated with the Finnish housing finance markets.

This chapter will take a look at the risk factors in the Finnish housing finance markets. The risk factors presented in this chapter are summarised in the frame at the end of this chapter. The list of risk factors will be analyzed in the conclusions chapter 4.

3.1 Monetary policy of ECB, low-interest rates and growing indebtedness

This section presents the information about European Central Banks (ECB) monetary policy and information about the Finnish households, housing

companies, and the general government's indebtedness ratios. The statistics are based on reliable and official sources of the ECB, IMF, OECD, Bank of Finland, and Statistics of Finland.

3.1.1 Monetary policy of ECB and interest rate levels

Since the birth of the European Monetary Union (EMU) on 1 January 1999, the euro area has had a common monetary policy (Tikkanen & Vartia, 2006, p. 100). The primary object of ECB´s monetary policy is to maintain price stability to create economic growth and jobs (ECB, 2019e). By influencing the amount of money in the economy, interest rates, and currency exchange rates, the ECB´s monetary policy affects the whole economy of Europe. The vital instrument of monetary policy is the interest rate. By raising the key interest rates, the monetary policy tightens, and by decreasing rates, the monetary policy eases. For example, if ECB acts to raise interest rates, corporates and households borrowing, investments, and consumption willingness will be reduced. This is what ECB usually does when it desires to control price rises or inflation. (Tikkanen & Vartia, 2006, p. 100)

ECB key interest rates consist of three different rates: the interest rate on the main refinancing operations, the interest rate on the marginal lending facility and the deposit facility rate. The most important of these, under normal circumstances, is the interest rate on the main refinancing operations. It is the interest rate at or near which the Euro system central banks lend money to their counterparties in their weekly credit operations. (Kontulainen & Suvanto, 2016, p. 73)

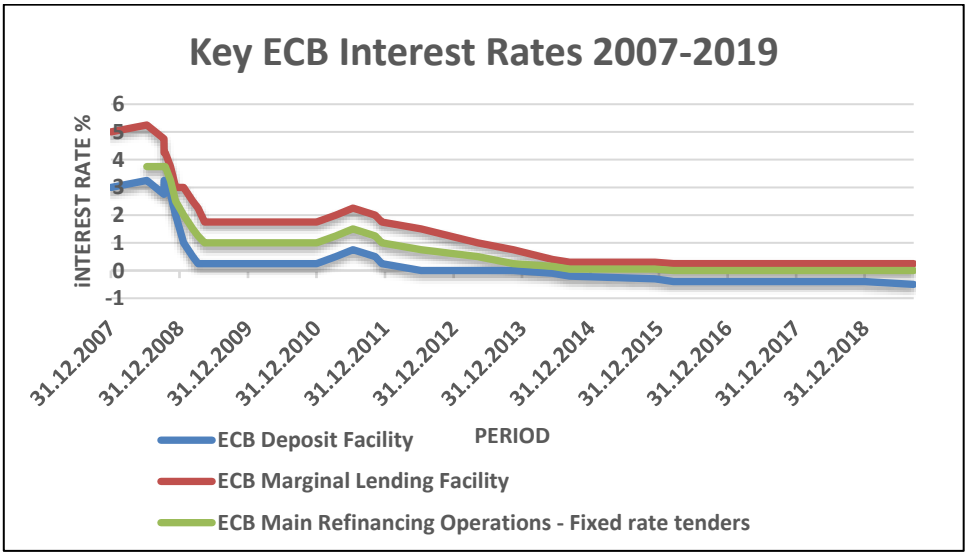

Figure 9 Key ECB Interest Rates (ECB, 2019c).

Figure 9 shows how the key interest rates of the ECB have developed between 31.12.2007-18.09.2019. In the year 2008, interest rates started

to fall in Europe as a result of the subprime crisis. Over ten years after the crisis, the rate levels are still down because of various factors. In 18.09.2019, ECB decreased Deposit Facility Rate to the new record level -0,50% (ECB, 2019b). According to monetary policy decisions made by the Governing Council of the ECB on 12.09.2019, ”the key ECB interest rates remain at their present or lower levels until it has seen the inflation outlook robustly converge to a level of sufficiently close to, but below, 2% within its projection horizon, and such convergence has been consistently reflected in underlying inflation dynamics” **(**ECB, 2019a).

3.1.2 Growing indebtedness of the households and housing companies

Increased indebtedness rates in the Finnish household’s economy, has caused a growing worried among the Treasury Ministry of Finland. The mandate of a working group led by Leena Mörttinen, Director General of the Ministry of Finance, wrote that uncontrolled credit growth could have serious economic consequences. There is a threat of a banking crisis, which, at its worst, will lead to a sharp contraction of the economy. (Niskakangas, 2019) Indebtedness is generally influenced by the prevalence of owner-occupied housing, lengths of mortgages, house price developments, housing volatility, and state-specific financing systems. (Finance Finland, 2019, p. 14)

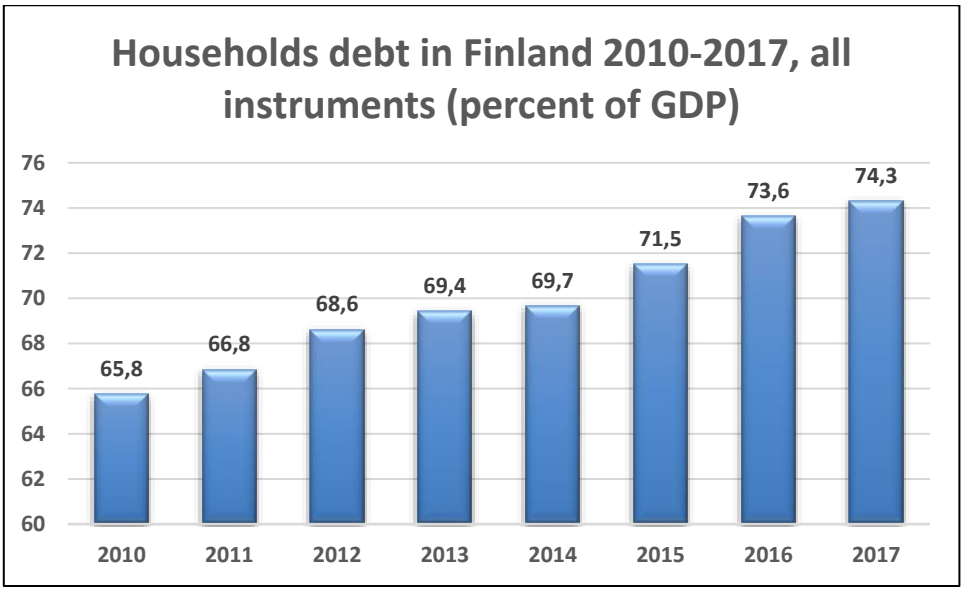

Figure 10 *Households debt in Finland 2010-2017, all instruments, percent of GDP (IMF,2019).*

Figure 10 indicates how the household’s debts on GDP, have developed in Finland between 2010 and 2017. As the figure indicates, the household’s indebtedness ratio to GDP has increased year by year until 2017. In 2010 the ratio was 65,8%, as in the year 2017 ratio showed a level of 74,3%, which means that the ratio has increased by 8,5 percentage points. The

indebtedness of the households has increased, and at the same time, the growth of GDP has slowed down, which has increased the ratio.

According to the economic outlook created by the Bank of Finland on 11.06.2019, Finnish economic growth will slow down in the next three years. That is due to international and domestic factors. Investments of the companies are on tight currently due to the prevailing uncertainty of the markets. Finland exports a lot of machines and equipment, and it is expected that the demand will decrease in the future. Finnish households are also more cautious than in recent years. Households are saving money for rainy days and are holding out the big investment decisions. Housing construction has been supporting the Finnish industry for a long time, but now it is fading out. The number of unsold apartments has also started to grow. (Bank of Finland, 2019b)

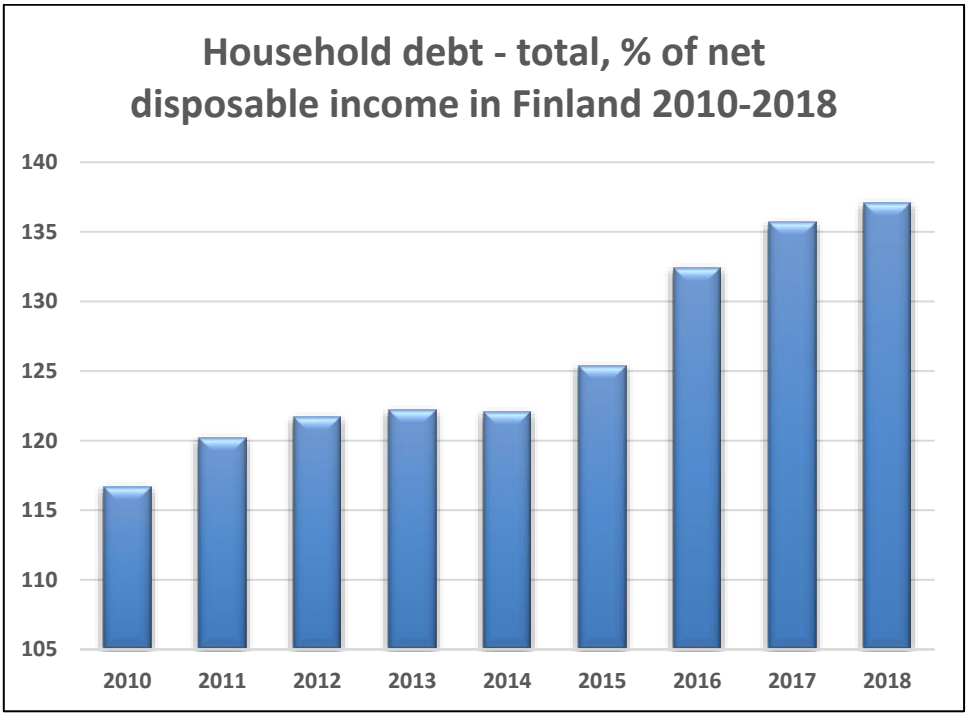

Figure 11 *Household debt- total, % of net disposable income in Finland 2010-2018 (OECD, 2019).*

Household indebtedness is measured by comparing household debt with the annual disposable income. As Figure 11 above tells, the household debt of net disposable income-ratio has increased year by year in the 2010s. In 2010 the ratio showed 110,8%. In Q2/2019, the ratio had risen by 15,5% to the level of 128%. Thus, households have debts for ca. 16 months of net disposable income.

Figure 12 below shows the number of Finnish household's debts in 2010-Q2/2019. The housing company debts of the households on the figure are included in the total sum of the household's debts. The household's debts in total were €108.496 million in 2010, as in Q2/2019, the amount was

€152.920 million. That is €44.424 million and a 40,9% increase in under ten years. Housing company debts of the households were €4.221 million in 2010. In Q2/2019, the number was €16.768 million, which is over €12.547 million and a 297,3% increase. Almost a 300% increase in under ten years period is enormous, which evokes plenty of possible concerns. Housing company debts have expanded rapidly as new-built housing companies are regularly sold, including large housing company debts. That model lowers the sale price of the apartments but makes the housing companies debt-ridden. The increase of housing company debts may also have blinded people´s perception of their real indebtedness. (Niskakangas, 2019)

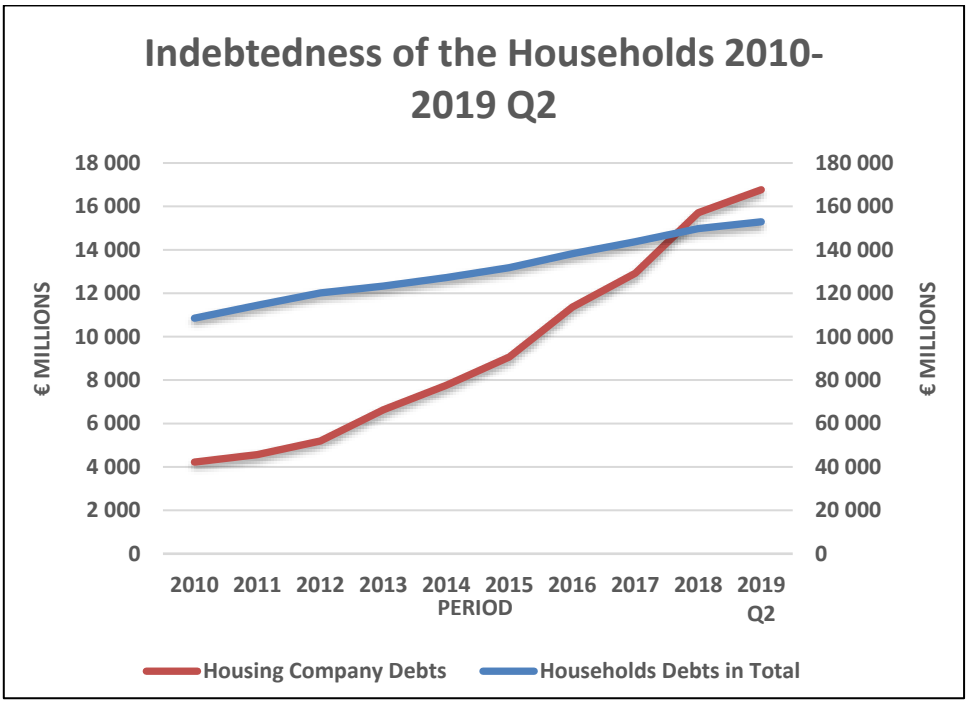

Figure 12 *Indebtedness of the Households 2010-2019 Q2 (Statistics Finland, 2019e).*

Mika Lintilä, the Treasury Minister of Finland, is worried about the indebtedness of the Finnish households. "The indebtedness rates are statistically at all-time high in Finland, and 8,1% (Appendix 8) of the adult population has a default payment notice," says Lintilä. Now the interest rates are low, and people are applying debts, but the interest rates will rise at some point, and people should be prepared for that, Lintilä adds. (Valkama, 2019) The number of default payment notices has increased in Finland, but according to a press release published on 18.09.2019 by FIVA, the amount of non-performing loans in the Finnish banking sector (Appendix 15) is among the lowest in Europe (FIVA, 2019a).

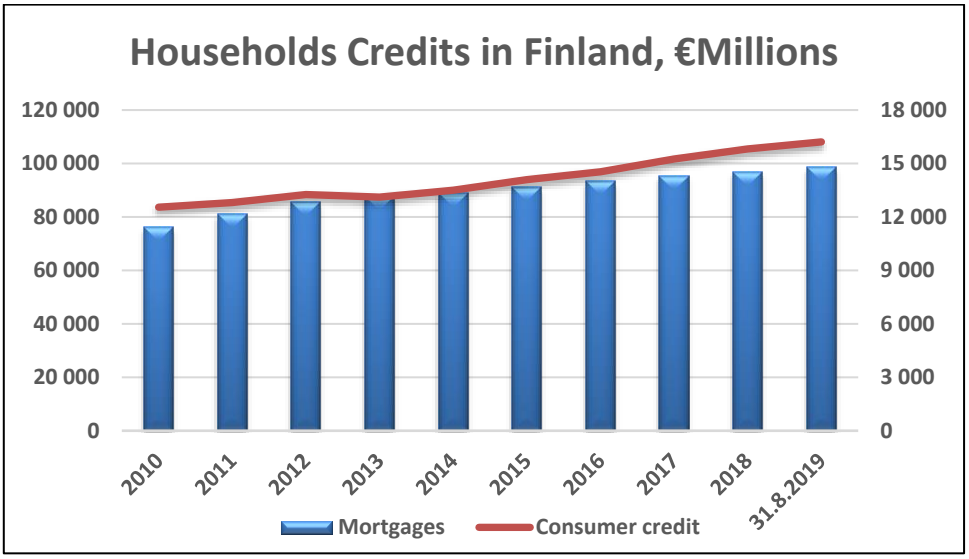

Figure 13 *Households Credits in Finland, €Millions (Bank of Finland, 2019c).*

Figure 13 above indicates that the number of mortgages has increased by €22.391,4 million and 29,4% between 2010 and 31.08.2019. The consumer credits have increased by €3.665,96 million and 29,2% during the corresponding period**.** According to the report of Finance Finland, there were 71,6% of the Finnish population living in owner-occupied houses at the end of 2018. The corresponding share in the year 2008 was 73,2%, so over the decade, rental housing has become slightly more common at the expense of owner-occupied housing. (Finance Finland, 2019, p. 14) According to the working group of Mörttinen, the level of household mortgages will achieve €100 billion during the next year (Niskakangas, 2019).

The Bank of Finland reported that new unsecured consumer credits were applied in May 2019 (Appendix 9) more than ever before in one month, the total sum was €290 million (Suorsa, 2019). According to the Bank of Finland, there are foreign digital banks that have gained a foothold in Finnish consumer credits markets. The bank of Finland estimates that the loan portfolio has more than tripled in just over two years period and exceeded the €2 billion mark. (Niskakangas, 2019)

In the year 2010, the average interest rate-% in the consumer credits was 4,78% (see Figure 14), while in 08/2019, the rate had fallen a bit to the level 4,7%. In 2010 the mortgages interest rate-% was 2,05% and in 08/2019 0,93%. The difference had over halved by 1,12 percentage points. The consumer credits have high-interest rate-levels in comparison to mortgages. The risk of consumer credits is priced up in the interest rate-%. Those unsecured consumer credits have higher default risk than mortgages with house securities. The large part of defaults is from unpaid consumer credits. (Finance Finland, 2019, p. 14)

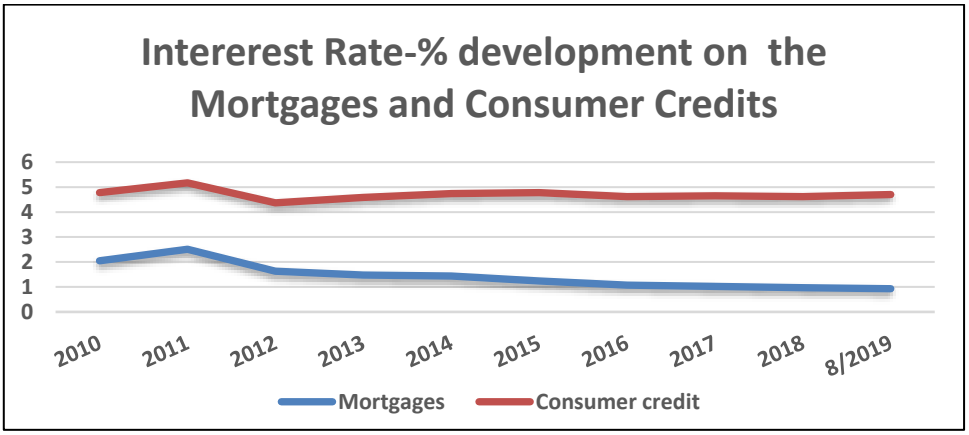

Figure 14 *Interest Rate% Development on the Mortgages and Consumer Credits 2010-8/2019 (Bank of Finland, 2019c).*

Figure 15 shows what has been the development of the number of housing company loans and interest rate levels between 2010 and 8/2019. The statistics above include the housing company debts taken by companies and other entities. The total of housing company debts in 2010 was €12.505,98M, while on 31.08.2019, the sum was €34.082,14M. That makes €21.576,16 million and a 172,5% increase. The interest rate levels were on their highest in 2011 at 2,7%. The rate level has since fallen and was at its lowest in 8/2019, showing 0,96%. The interest rate level has dropped by 1,74 percentage points in that period. According to the banking report 2018 created by Financing Finland, the amounts of housing company debts are most challenging to report and follow of indebtedness items. (Finance Finland, 2019, p. 14)

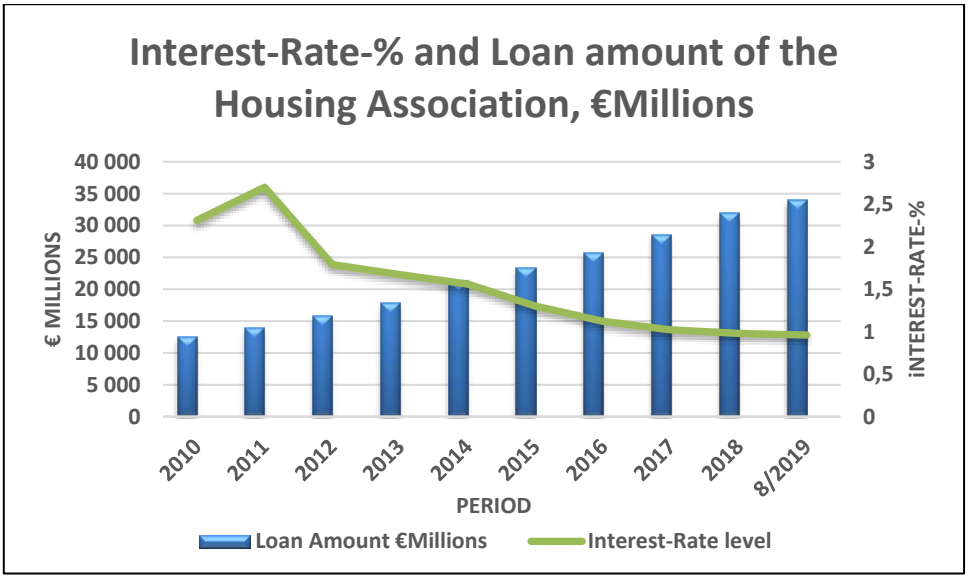

Figure 15 *Interest-Rate-% and loan amount at the Housing Associations (Bank of Finland, 2019c).*

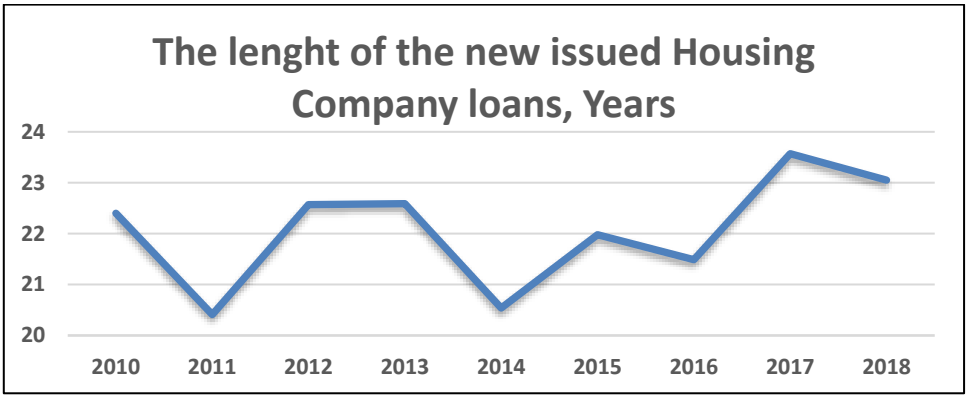

Figure 16 *The length of the new issued Housing Association loans, years (Bank of Finland, 2019c).*

Figure 16 above shows the development of the housing companies' new issued debts loan times 2010-2018. In 2011 the maturity was at their lowest on the level ca. 20 years and five months. In the year 2018, the average of a newly issued housing company loan maturity was ca. 23 years and one month. The maturity had increased by ca. 2 years and eight months. The trend of maturity is rising. The loan installments-free periods at the beginning of the new-built housing companies is the main cause of the longer loan times of the housing company debts.

If the rise in asset prices caused by low-interest rates is expected to continue for a long time, both borrowers and banks are prepared to take higher risks. At the same time, low-interest rates drive investments in riskier assets. Increased risk appetite causes banks to loosen up their lending policy, which further accelerates household and corporate indebtedness and rising asset prices. A positive self-reinforcing spiral is emerging where corporate and household indebtedness increases output and employment. (Kontulainen & Suvanto, 2016, p. 100)

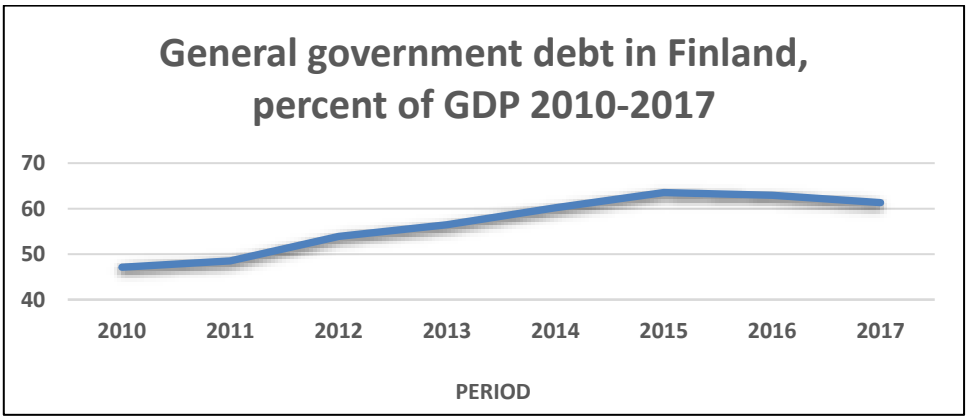

Figure 17 *General Government Debt in Finland, percent of GDP 2010-2017 (IMF, 2019).*

FFigure 17 shows that the general government debt of Finland has increased during the 2010s. In the year 2010 general government debt

ratio was 47,1% and reached its peak at 63,5% in 2015. However, after the year 2015, the ratio has decreased, and in 2017 it was at level 61,3%. The direction of the Finnish general government debt trend is seen as a positive and welcomed development.

3.2 **Pitfalls of the rental plots**

Most of the new-built construction is focused on growth centers with high land and construction costs (Keskitalo, 2018, p. 2). The housing company may be located on its plot or on a rented plot. The housing company on a rented plot pays rent to the landowner. The landlord can be, for example, a municipality, a city, an investment fund, or a private landlord. (Makkonen, 2016, p. 66) An owned plot is a cheaper option than a rented plot because you don't need to pay rent for the land. Care should be taken, particularly when the lease period for the property is about to expire. Then the housing company needs to renew the rent contract with the landowner. The new contract might be ten times more expensive than the previous one. Such a rise in rent price will significantly increase the maintenance fee of the housing company. A long-term rental agreement is signed between the housing company and the landowner. The typical length for the rental agreement is 50 years. (Kaarto, 2015, p. 99)

An optional lease plot is an arrangement whereby the owner of the housing stock can choose whether to acquire a stake corresponding to his ownership in the land or to retain the corresponding stake in the lease. If the land is leased, the share is liable to pay a separate rent. The arrangement is based on contracts and the articles of association, but in practice, the concept of an optional plot of land appears to be relatively well established. (Makkonen, 2016, p. 73-74)

Usually, it is possible to pay off a portion of a plot of land in an apartment sale. Those shareholders who do not pay off their share of the land at the time of the sale will continue to pay the so-called land consideration. If desired, the housing company can determine what the terms of the sale would be if the plot were fully redeemed. (Kuutilo & Pynnönen, 2018, p. 26) When a housing company exercises its option to purchase, the land is partially transferred to the housing company. Thus, the land is, in fact, jointly owned by the housing company and the landlord in proportion to the purchase option exercised by the housing company. To the extent that the landlord owns the land, the housing company is liable for the corresponding share of the rent. (Makkonen, 2016, p. 73-74)

Many shareholders of the housing company which lie in the rental plot, have trouble to internalize that, the monthly paid charge for the rental plot has no effect on the redemption price of the plot. Kati Piilo, the Lawyer of Osuuspankki, concretizes the dilemma in this way, "if you redeem your plot within five years, its price may have risen, but in addition, you have paid the rent for the entire five years." If a home buyer does not redeem

the plot at the time of sale, it can be challenging to estimate what it will cost in the future, says Piilo. The lawyer points out that there is also a risk in rental plots that an individual home buyer is unable to anticipate in practice. What happens if another shareholder is unable to redeem the land or pay his rent? Piilo reminds that shareholders do not buy their land for themselves. The shareholder pays the housing company an agreed consideration for the ownership of the plot. Thus, if someone is unable to pay their share of the land, the company is ultimately responsible for renting or redeeming the remaining land. The company's responsibilities are on shareholders, including those who have already paid their share. (Taipale, 2019a)

In the Kaleva district of Tampere, there is a large block of flats that locals call the Great Wall of China. The Wall consists of five different housing companies. Housing companies are located on the rental plots owned by the city of Tampere. Some of the rental contracts are on due, and the prices are increasing. In 2016, the rent for the first building of the Great Wall was raised to €98.000 a year from €44.000. For newer houses, one is raising from €11.975 to €31.747/year and the other from €10.500 to €119.660/year. The rent increases are thus up to 11 times higher than the previous. The rise of the rental contracts will affect straight on the monthly charge of the maintenance fees. In a three-person apartment, that kind of increase means over €100 extra cost /month. In an interview with Aamulehti, Kaija Lento, the Property Manager of the housing companies of the Wall, thought how buyers might react to different care fees. “If one of these houses has a one-bedroom apartment for sale and another one has a one-bedroom apartment for sale, no one will buy an apartment from these houses when the maintenance fees go up in the clouds by renting plot increases.” (Niinivuo, 2018)

There are housing companies located on plots owned by plot funds, where the housing company cannot redeem the land. One of those housing companies is As Oy Vantaan Sikaani, located in Martinlaakso, Vantaa. The housing company pays €2,5 /m2 to the plot investor. The rent increases twice a year according to the cost of living index, but for the first 13 times, the increase is a least 1,25 percent, which makes a total increase of 17,5% in the rent over a six-year period. According to Juha Metsälä, the CEO of the Pohjola Rakennus, the project was put out to tender, and the result was the cheapest one at the moment. (Rakennuslehti, 2018)

The land lease agreements for the plots owned by the City of Helsinki will expire on a total of about 750 plots between 2020 and 2021. Some of the land lease agreements that expire between 2020 and 2021 were signed some 50 years ago, and some have been renewed in the 1970s or 1980s. Due to such contractual conditions and the sharp increase in the value of properties in the Helsinki region over the last few decades, the rents under the contracts ending in 2020 and 2021 have remained very low compared to the current reasonable level of land rent. (City of Helsinki, 2019a) This

means that when new contracts are renewed, new rents are likely to be significantly higher than under existing leases. However, the new level of rent is always set at a reasonable level in relation to the market price level of the real estate in each area. A ten-year transition period is proposed for the new tenancy, which will make it easier to adjust to the new tenancy level. During the transitional period, new rents will be charged in stages. In the first year, the rent is 50%, and in the following years, it is increased by 5%-points. In this case, the new lease will not become fully effective until ten years after the start of the new lease. The lease term for new leases is approximately 50 years. (City of Helsinki, 2019b)

3.3 **Segregation and the price development of the Finnish housing markets**

At present, there is a global trend in the labor markets where economic activity, innovations, and people are centralized to the cities. Environmental pollution and challenges in housing markets are the flip sides of the urbanization. The segregation of the housing markets is an important and current topic from the perspective of the national economy of Finland. FIVA mentioned housing segregation as a significant risk factor in the Finnish housing market on its 23.5.2018 published press release. (FIVA, 2018a) Demand for the housing is at a high level in net migration areas, while houses in migration loss areas are losing values. In net migration areas, housing production has not responded to the demand, which has raised housing prices up. The cost of living might be so high that it is not economically viable to move to the net migration area. (Keskitalo, 2018, p. 1-2)

3.3.1 Segregation

In loss migration areas, the housing company may have trouble accessing finance for the necessary renovations, like the pipe repair. The bank may refuse to finance the entire cost of the renovation, or it may refuse to finance the renovation at all. Getting a loan is challenging, especially when the cost of the renovation exceeds the value of the property, the housing company is small-sized, or one party owns a significant stake of the whole housing company. The farther the small housing company is located on net migration areas, the lower the received loan amount likely is. If the housing company has trouble receiving a banking loan, the shareholders of the housing company may apply for a personal loan from the bank. (Heinonen, 2016, p. 53) Real estate agent Seppo Hyvärinen from Huoneistopiste, reminds that housing companies may collect the repair money in advance instead of financing the repair entirely with a loan. Housing companies may set up a fund to raise capital through additional management charges. According to Hyvärinen, many property managers have started to guide housing companies in this direction during the 2000s. (Lavia, 2019) Problems in accessing loans may also arise if a housing company attempts to carry out several overdue repair projects over the years. In this case, the

size of the renovation project and the loan amount may become too large in relation to the solvency of the housing association and the value of the security. (Heinonen, 2016, p. 53) According to ROTI-report 2019 (Rakennetun omaisuuden tila), home and large property neglect cost €3,4-5,7 billion annually. Neglecting the built environment costs €3,4 billion annually in direct impacts such as water leaks, energy loss, and extended transport times. Including lost working hours, competitiveness, and business opportunities, costs increase to €5,7 billion annually. (Rakennetun omaisuuden tila, 2019, p. 5)

According to Kim Malmivaara, Director of Rehabilitation Services, Raktsystems Engineering Office, haste, ignorance, and neglect are often the challenges of property management in Finland. “Almost all of our 1,1 million private homes are outside regular and professional property management”, says Malmivaara. According to Malmivaara, most of Finland´s building stocks are from the 1960s and 1980s. The buildings are middle-aged, but a large part of the technical components or systems of the property are already at their service lives end. A well-planned repair strategy includes the right actions done at the right time. Anticipating on big and heavy repairs will save money. (Törmänen, 2019)

Many banks have tightened up loan marginals for the housing companies which are owned by investors. In spring 2018, Nordea tightened up the loan conditions for the housing companies if more than 30% of the housing stock is in the hands of investors. According to Sari Takala, the Lending Director of Danske Bank, attention is paid to the number of investors. “The large number of investors influences on pricing level, loan to value-level, on repayment conditions, and on the bank´s willingness to finance in general.” According to Hypo´s Banking Chief Sami Vallinkoski, their message is similar to previously mentioned banks. “The range of housing loan margins has increased during the year, especially for housing companies that are heavily investor-driven. Economically and technically well-managed resident-owned companies get a cheap loan as usual. At the other end of the spectrum, companies may find it difficult to obtain financing at all, at any marginal”, Vallinkoski says. (Kujala, 2018)

The regulatory capital requirements for the banks tightened following the 2008 financial crisis, says Keijo Posio, CEO of Pohjolan Osuuspankki. It made the banks tighten the terms of the loan. “In the past, it could have been considered that a downtown housing company would go for sale in case of difficulties. Now the collateral value is calculated more mathematically. For example, in Osuuspankki, the collateral value of an apartment in renovation situations is 40% of the average price per square meter in the area”, says Posio. As individual shareholders often have loans for their own homes, the collateral value is reduced to only 40 dues to overlapping loans. (Lavia, 2019)

According to the bank´s standard rule of thumb, a housing company may not lend more than half of its average price per square meter. The cost of the pipe renovation might easily be, for example, 800€/m2. In that case, at a price of less than 1.500€/m2, it might be difficult to have full financing for the renovation. According to Hypos Vallinkoski, the cost for the pipe renovation might be 1.000€/m2, which would require 1.500-2.000€/m2 price to get funding. According to Statistics Finland, there are over 212.000 dwellings below 1.500 €/m2 built in the 1970s. There are a particularly large number of such dwellings in Turku, nearly 13.000. The next largest numbers are in Jyväskylä, Lahti, Tampere, and Kouvola. The worrying observation is that the greater part of the previously mentioned cities is net migration areas. (Parviala, Rissanen & Juutilainen, 2017)

If the housing company is in bad condition, it can be exhausted in extreme cases and then dismantled, says Antti Perkkiö, The CEO of Kiinteistötahkola Rovaniemi. According to Perkkiö, if the property is owned by the housing company, it can be sold after the demolition. The rental plot must be returned empty, and in the worst case, a loan must be taken for demolition, adds Perkkiö. (Lavia, 2019) According to the Hypos Sami Vallinkoski, the destruction of the housing company might be rational if the housing company in poor condition has an excellent location. One way to handle the renovation is to execute it at the lowest possible cost, giving 15 years extra time to prepare for a complete repair, says Vallinkoski. (Parviala, 2017)

There are already several examples of the housing companies which have not received financing from the banks for the renovations. A terraced house housing company in popular Palokka´s residential area in Jyväskylä was demolished due to moisture damages. The price for the renovation was calculated on €1,25 million. Bank offered a loan for ca. 600.000€ renovation. No one of the residents was ready to put more of their own money into the renovation, as previous loans were still due. The result was that the plot was sold to a construction company, and houses were demolished. According to Minna Koivuniemi, one of the residents received 20.000€ from the plot sales, which she used on her mortgage payments. After the amortization of the mortgage, she had still 70.000€ to pay for the bank. (Puurunen, 2018) Michael Lindgren from Kymen Isännöitsijät Ry, said, “I know several housing companies in Kouvola, to which banks have stated that they will not offer a loan and such cases where the housing company had to reduce the content of the renovation because enough loan is not granted” (Lindgren, 2018).

A housing company called Otavallanhovi in the centrum of Tampere was demolished because molds were found under the floor during the pipe renovation in 2015. The costs for the renovation were estimated to €4,5-5 million because all structures that might be contaminated by the molds would have been dismantled. Aamulehti reported in June 2017 that the market price of apartments was around 3000€/m2 before the molds were

detected. For example, a 100m2 apartment would have a debt of 275.000€, which is about 92% of the estimated market value of the apartment. (Lampi, 2018) It is likely that similar cases will continue to occur when the housing companies built in the 1960s and 1970s begin to be renovated. As the previous case show, the possible demolishment is not location bounded. The housing company's demolition decision-making was eased by the new law reform in 01.03.2019. The housing company´s shareholders meeting may decide by a qualified majority of 4/5 to dismantle and rebuild. (Finlex, 2019)

3.3.2 Price development of the Finnish housing companies

According to the Finnish Patent and Registration Office, there were 88.517 housing companies in Finland in 2.7.2019 (PRH, 2019). In 2018 ca. 50% of the Finnish population (Appendix 10) were living in a block of flats or terraced house apartments. Among the households (Appendix 11), the percentage was almost 60% and still growing. There has been demand for to single or two-room block of flats apartments, as the single living citizens (Appendix 12) are preferring those housing models. The financial growth of Finland, low-interest rate levels, urbanization, and growing demand for the block of flats have created a favorable basis for the construction industry.

According to Statistics Finland (Appendix 13), in the year 2018, the number of new-built housing starts was at the highest level in 25 years. Especially a lot of block of flats was started (Finance Finland 2019, p. 4). Behind the popularity of block of flats is the law of demand and supply. It is being built for which there is demand. The popularity of the new dwellings has mirrored the price development of the older dwellings. This chapter examines how the prices of the new-built and older dwellings in housing companies have developed in Finland in the 21st century.

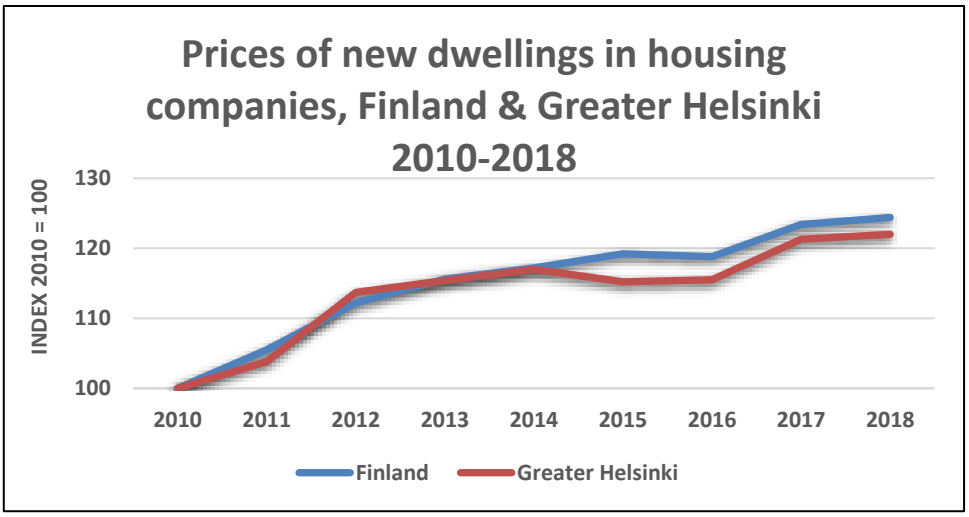

Figure 18 *Prices of new dwellings in housing companies, Finland & Greater Helsinki 2010-2018 (Statistics Finland, 2019a).*

Figure 18 above indicates how the prices of new dwellings in housing companies have developed in Finland and Greater Helsinki between 2010-2018. The used benchmark index in the year 2010. As the figure indicates, the development has been relatively flat. In Finland, the increase is 24,4% and in Greater Helsinki 22,2% between the corresponding period. Thus, the figure indicates that the price development in Finland has been higher than in the Greater Helsinki. The price development of the new dwellings in the housing companies had evened after the year 2010-2012 when the prices increased by almost 15%. In the light of this price trend of the new dwellings of the housing companies, there are no signs of the price bubble in the Finnish housing markets.

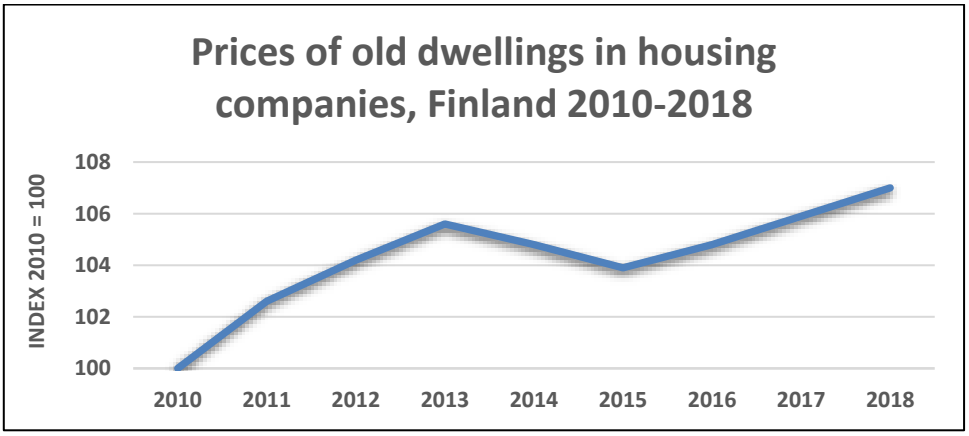

Figure 19 *Prices of old dwellings in housing companies, Finland 2010-2018 (Statistics Finland, 2019b).*

Figure 19 presents how the prices of old dwellings in housing companies have developed in Finland 2010-2018. The used index is based on the year 2010. The index indicates that the prices have increased by only 7% in the eight years. The housing companies' old dwelling price development suggests that there are no signals of the overheated markets that come to the price development.

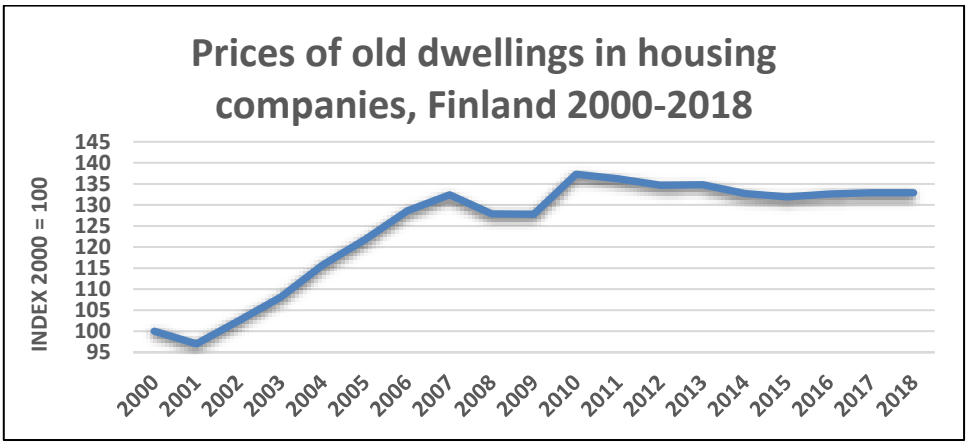

Figure 20 *Prices of old dwellings in housing companies, Finland 2000-2018 (Statistics Finland, 2019b).*

Figure 20 above shows that the price of old dwellings in Finnish housing companies increased by 37,3% between 2000 and 2010. However, the increase has since stabilized and have even decreased in the year 2018. The difference between 2010 and 2018 is – 4,4 percentage points. 2000-2018 the price development is 32,9%.

3.4 Lack of stress tests in housing company debts and Finnish rating risk in the international monetary markets

Financial Supervisory Authority (FIVA) recommends that during a period when interest rates are low, it is advisable to use an interest rate of at least 6% in the loan amortization calculations (FIVA, 2018b). That calculation is better known as the stress test of loan interest rates. Stress test calculation is presented in appendix 14. “The stress test indicates whether the borrower’s economy can withstand an interest rate increase of 6% and a maximum repayment term of 25 years”, says Hanna Putkuri, Senior Economist at the Bank of Finland (Kujala, 2017). The risk of interest rate fluctuations is not significant to the borrower’s solvency until the amount of credit is significant (Makkonen, 2016, p. 118).

FIVA requires that when assessing the solvency of a mortgage customer, the lender must consider the effect of the increase in interest rates also in the housing companies' financial cost charges. FIVA clarified credit granting criteria and risks related to credit institution's construction financing and housing loans in March-May 2018. Regarding stress tests, FIVA made an observation in their Summary Report 23.5.2018. The possible rise in the interest rates is not considered in the housing companies' financial cost charges when assessing the customer's solvency. According to Anneli Tuominen, The Director of the FIVA, in its audits, FIVA shall pay increasing attention, to ensure that the housing company debts are also adequately considered in the customer´s stress test. Excluding the financial costs charges from the stress test calculations underestimates the negative impact on the solvency of a rise in interest rates, especially it the client´s amount of housing company debt is significant. (FIVA, 2018a)

In the summer of 2018, Moody´s international CRA warned of the risks involved in Finnish housing company debts. Moody´s paid attention to the growth of mortgage loans and how they are used by professional investors. As housing company’s debt ratios rise, so do the risks. Moody´s also paid attention to how the investors get a loan through housing companies at a lower cost. Moody´s mentioned how housing company debts obscure household´s perceptions of the actual debt-driven nature of housing. According to Moody´s, the risks of housing company loans are underestimated. (Herrala, 2018)

It is said, “when Moody´s coughs, Finnish colds.” According to Ari Pauna, the Finnish housing company system is dependent on international CRA´s and investors. If housing company mortgage bonds are transformed from

investment grades into the high yield grades, CRA´s can significantly increase the capital requirements for the housing company mortgage bonds. As a result, housing companies generally must pay higher interest rates on their loans. The higher price means higher costs for the shareholders. A scenario like that, it is talked about hundreds of millions of euros per year, says Pauna. (Tervola, 2018b) In YLE´s Politiikkaradio 01.06.2018 podcast, Pauna noted that, as the subprime crises begun, housing company financing almost ended in Finland. Only Osuuspankki and Finnish Mortgage Association, funded housing companies, but the international banking institutes closed their money faucet, as Finnish housing companies were estimated as real estate investment risks. (Yle Areena: Politiikkaradio, 2018)

According to Timo Metsola, the Founder of Vuokraturva Oy, since the subprime crisis, a great deal of effort has been made in Finland to convince the international CRA´s of Finnish housing companies' risk-freeness. CRA´s been told that Finnish people buy apartments for themselves, and that is the reason why the interest should be lower in housing company debts than in the investment company loans. If there will be troubles in the Finnish housing company debts, the rise of the interest level will affect on the whole housing company sector of Finland, says Metsola on YLE´s politic radio, broadcasted in 01.06.2018. (Yle Areena: Politiikkaradio, 2018)

What comes to the similarities between Finnish housing markets and subprime crises, Metsola says, the subprime crisis in America happened in circumstances where no one considered whether a debtor had debt payment capabilities. It was possible to pay homes with large mortgages. In Finland, new-built housing company loans have a 70% financing rate, and no one looks at whether the buyer could pay the installments of the loan. Because of that, Finnish housing company debts have the same kind of situation that the United States had during the subprime crisis, Metsola says. (Parviainen, 2018)

3.5 **The Growing number of house investors**

In recent years, the popularity of housing investment has grown year by year in Finland. According to calculations of Hypo, household investors, and professional investors each have debts of about $10 billion, which makes $20 billion total debt (Kalliosaari & Koskinen, 2019). What are the factors behind the popularity? In the early 2000s, the possibility to receive debt became easier, interest rates fell significantly, and loan periods increased (Kaarto, 2015, p. 204). As the interest rates are low and investment options to the interest bounded products are limited, investor´s capital is searching for other options for low-risk investments to generate returns. Housing investments has been the answer to the demand.

Chairman of the Finnish Association of Housing Investors, Marko Kaarto, says, “Interest rates are very low, which is why leverage benefits the homeowner and raises the equity for the homeowner” (Mansikkamäki, 2016). Investment in housing is not anymore, the right only for the companies or institutes. Private persons are increasingly investing their wealth in apartments. Investing in apartments and real estate is seen nowadays as long-term planning to build wealth. (Keskitalo, 2018, p. 2) According to Chief Economist of Hypo Juhana Brotherus, over half of the new build apartments are currently getting in the investor's housing portfolios, as they are looking for a better than zero return on their investments (Mortgage Society of Finland, 2019).

FIVA requires that the ownership structure of a housing company is regularly considered when assessing the risks of housing company debts. Limiting significant shareholdings in investor-owning and stricter terms for investor-driven housing companies can generally be considered as appropriate risk management. (FIVA, 2018a) In practice, that means that if the owners of the housing company are investors, such as capital funds, the housing company´s future loans are more expensive and loan conditions weaker. That is because banks see higher risks in the housing companies where the ownership has narrowly diverged. According to Brotherus, troubles can also arise when an investor in distress begins to sell apartments in a housing company. “If 30 apartments of the housing company appear for sale, it might be difficult to get your apartment on sale for a good price”. (Kalliosaari & Koskinen, 2019)

The price of the loan is related to the concentration of ownership. According to Samu Kurri, Department Manager of FIVA, it is about sharing risk in a housing company. The more diversified ownership, the more diversified risk. The more concentrated the ownership, the more critical the position and actions of the major shareholder are. Brotherus says that, if the number of investors is less than 20% housing company, the significance is small. More than 50% of investor ownership means that the housing company is already more of an investment loan than a household loan. (Ranta, 2018)

The membership development of the Finnish Landlord Association in recent years indicates that interest in housing investments have increased. In the fall of 2019, the membership of the 20-year-old association has grown from a couple of hundred to nearly 20,000 members. (Finnish Landlord Association, n.d.) In August 2018, there were about 14,000 members in association, so in just over a year, the membership has grown by about 6,000 members (Finnish Landlord Association, 2018).

Kela, the social insurance institution of Finland, offers the general housing allowance to low-income households. It is available for both rental and owner-occupied homes. At the end of the year 2018, a total of 849.648 people was covered by housing allowances, which is 15% of the whole

population. From that number, 376.500 were under the general housing allowance. Expenditure of the general housing allowance was €1.489 million. There was an 18% increase compared to the previous year. (Kela, 2019). According to Housing Assistance Statistics 2018 of Kela, 96% of general housing allowance recipients are living in the rental apartments (Kela, 2019, p. 13). Ca. 60% of those were privately funded apartments (Kela, 2019, p. 30). According to Signe Jauhiainen, the Leading Economist of Kela, "privately funded rental housing has increased all the time as the supply of privately funded rental housing has increased, while ARA housing has been built less" (Finnish Landlord Association, 2019, p. 28).

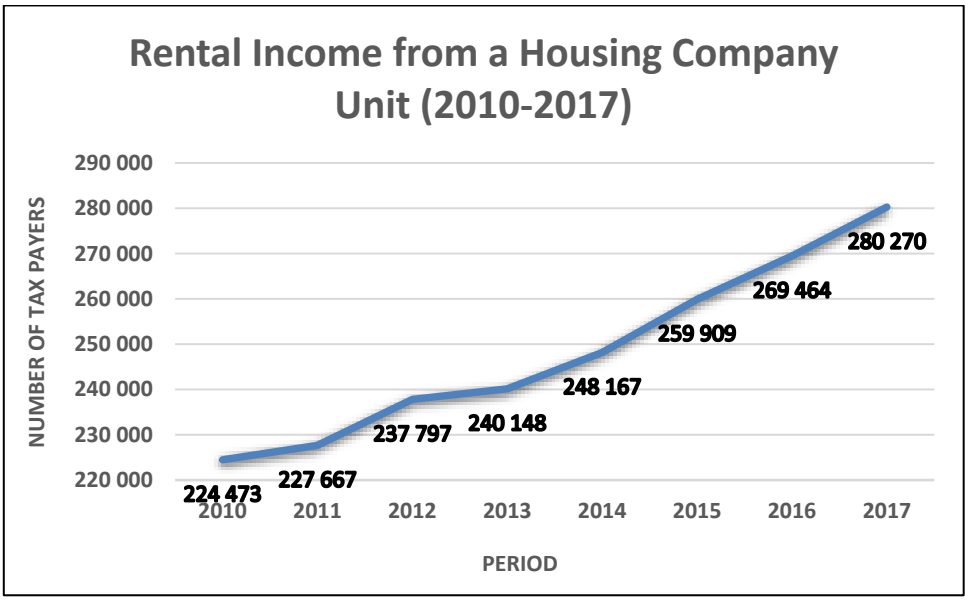

Figure 21 *Rental Income from a Housing Company Unit 2010-2017 (Tax Administration, 2019).*

Figure 21 above indicates how many taxpayers received rental incomes from the housing stock apartments in Finland between the years 2010 and 2017. The rise between the years 2010 and 2017 is 55.797 new housing stock investors, in % it means ca. 24,85% increment. The annual growth for the whole period is ca. +3,22%. The figure indicates that the number of new investors between the years 2014 and 2017 has risen by 32.103. The number of housing stock investors has annually increased by ca. 10.000 investors between the years 2014 and 2017. That means ca. 13% rise in percent from that period and +4,14% rise annually. The accelerated annual growth in recent years indicates that the interest in housing investments has risen among Finish taxpayers.

Foreign home equity investors arrived in the Finnish housing markets more strongly a couple years ago. In addition to competitive yield incomes, international apartment investors are also interested in looser lease regulation in Finland than in other European countries. Foreigner investors see Finland as a stable economy with a well-functioning housing market,

says Olli-Pekka Mustonen, Head of Research, Newsec Advisory in Finland. (Newsec, 2019) According to Mustonen, "In 2018, the sales of housing portfolios by foreign investors already tripled compared to the previous year. Growth has continued". Unlike many domestic investors, foreign investors are also interested in investing in migration loss cities. Olo asunnot is a company established in Finland 2017. It already owns almost 5.000 apartments all around Finland. It is owned by a British company called Round Hill Capital. According to Newsec and real estate services company JLL, it is estimated that foreign housing investment in Finland is worth around €2 billion. The estimated number of dwellings is between 16.000 and 17.000. (Kortelainen, 2019)

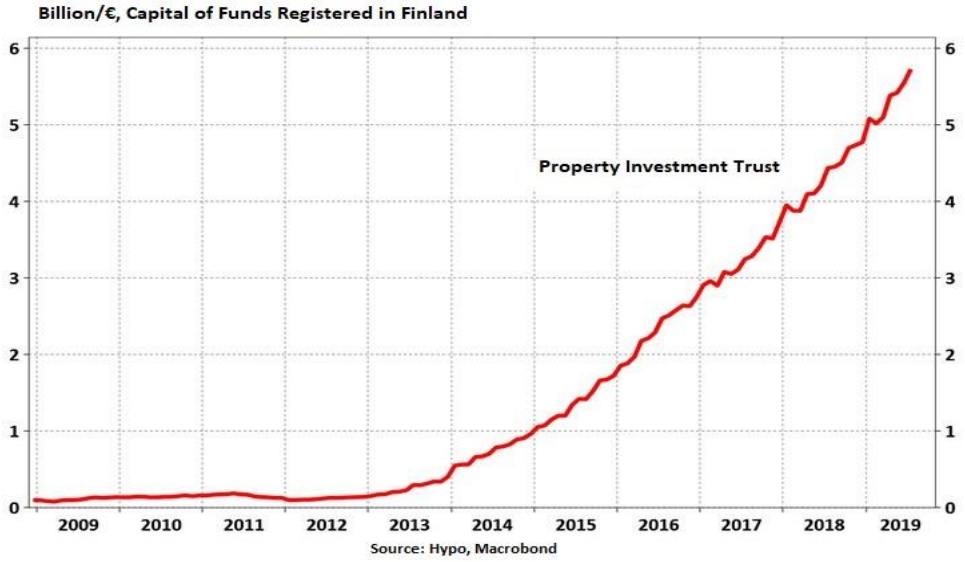

Figure 22 Capital of Funds Registered in Finland (The Mortgage Society of Finland, 2019).

As the Figure 22 indicates, the capital of property investment trusts registered in Finland has increased from almost zero to €6 billion within a few years. According to the Bank of Finland, net inflows in the property investment trusts was a €1 billion in 2018. Most of the investments flowed mainly to Finland. The largest investors were companies, insurance companies, and households. Household investments in property investment trusts were about one-third of the whole investment stand. (Bank of Finland, 2019a)

In the last ten years, securitization with real estate assets has risen alongside traditional real estate holdings in Finland. The volume of the investments is not high, but the trend is toward to northeast. According to Petri Roininen, CEO of Investors House PLC, a large amount of the newly built apartments and housing sales have ended up in the balance sheets of the housing funds. (Roininen, 2018, p. 13) Roininen believes that the growing popularity of property investment trusts is a sign that the securitization of the built environment is just in the beginning (Roininen, 2018, p. 26).

3.6 **Unpaid charges of the financial costs**

The rapid growth of housing company debts has increased the indebtedness of Finns without the change being reflected in mortgage statistics. Large housing company debts in new-built housing companies have raised a new significant risk scenario. What happens if a shareholder of the housing company fails to pay the charge of the financial costs? Owners of the new-built housing companies may have trouble with large housing company debt if the other shareholders do not pay their shares of them. The debt will then be paid by the rest of the shareholders. So far, there have not been troubles on the larger scale with housing company loans, which is not a surprise, as the housing market and employment have developed favorably during the time as mortgage loans have grown. (Niskakangas & Kortelainen, 2019)

According to Juhana Brotherus, the Chief Economist of Hypo, the large number of investors in the housing company may create a high risk to other residents of the housing company. If the investor is not able to pay his responsibilities, the charges such as maintenance fees and debts falls on the shoulders of other shareholders, says Brotherus. (Kalliosaari & Koskinen, 2019) In the worst-case scenario, unpaid charge for the financial costs could lead to the insolvency and bankruptcy of the housing company. In that scenario, the bank who has financed the housing company could take over the housing company and sell it on the markets. The housing company's shareholders who have paid the duties for their housing properly or even paid their entire share of the housing debt would lose their apartments. According to Samu Kurri, the Head of Institutional Supervision of FIVA, the previously mentioned scenario is unlikely but possible. The lighter troubles are more likely to happen; for example, if a shareholder fails to pay its commitments, the payments will fall to the other shareholders. (Niskakangas & Kortelainen, 2019)

The housing company has statutory coercive measures to handle out the negligence of a shareholder or other occupants of the apartment (Kasso, 2014, p. 89). If a shareholder defaults on financial charge costs, the housing company can start to inherit it. If that procedure fails, the Annual General Meeting may be convened to make a takeover decision of the apartment for three years at a time. After that, the apartment is possible to set for rent. Even if the company takes possession of the apartment, the ownership remains with the shareholder. (FIVA, 2018c)

According to Sales Manager, Tanja Pajunen from Osuuspankki, previously mentioned apartment takeovers are complicated, lengthy and expensive processes. The possible takeover situations are more likely to happen in housing companies where there are many investors, and ownership has not diverged. (Taipale, 2019b) Katriina Sarekoski, a Lawyer from Uusimaa Real Estate Association, says that in the year 2018, there have been several cases in which a new shareholder has failed to pay financial charge costs

soon after the amortization-free periods has ended (Appendix 16), and amortizations started. Almost without exception, those defaults have come from housing investors, said Sarekoski. (Sarekoski, 2018)

3.7 Attractive tax environment, and possible tax cuts for the new-built housing company loans

Rental income is considered capital income and taxed according to your tax rate for capital income. Up to 30.000€ tax rate for capital income is 30% and over that 34%. (Tax Administration, 2018b) The flat owner is justified to deduct maintenance charges for the period the flat is for rent. Maintenance charges paid to housing co-operatives for flats that are let out can be deducted from rental income. Capital charges include charges for repair and capital costs. The deductibility of capital charges depends on how capital charges are recorded in the housing companies operative´s books. Capital charges that are marked as revenue of the housing companies' books can be deducted from rental income. Capital charges that are placed in reserve in housing co-operatives' books cannot be deducted from rental income. In these cases, costs are added to the buyer's expenses and considered in capital gains when the flat is ultimately sold. (Tax Administration, 2018a)

Current tax treatment is attractive to the debtors, and that has encouraged investors to invest, especially in new-built housing companies, and use housing company debt as leverage. However, the tax treatment might change in the future. The Finnish government is exploring the possibility of reforming the taxation of housing companies. Finnish 2019 Government Program reads as follows;" An investigation will study the prospects for reforming the taxation of housing investment by limiting the right to deduct housing company loan premium repayments from rental income. The debt ratio has risen to over 80 percent in many new housing companies due to this tax benefit." (Finnish Government, 2019b)

According to Juhana Brotherus, the reform will hit foremost to the investors of the new-build dwellings (Appendix 17), but it will also affect loans from old housing companies. If a housing investor borrows mortgage from a bank and buys a house, the mortgage interest can be deducted as a foreclosure loan, but the loan amortizations are non-deductible. However, the loan can also be borrowed through a housing company, whereby the loan distributed to the housing stock owners of the housing company according to the number of shares or squares. Loans taken through housing companies are different from loans taken through banks, as these loans can be deducted from both the interest and the amortization of the loan. That is the reason why the loan through housing companies are better for housing investors. For example, if the incomes are €3000/year, in standard investment loans through banks, you will have to pay 30-40% in capital tax. If the loan amortizations were €3000/year thorough housing company loan, the tax consequence is zero. According

to Brotherus, the phenomenon has led to very high financing rates in housing company loans. Even 80% of the value of the apartment can be housing company loans. This is alarming because housing companies have long loan maturities, which increase the repayment risks of the loans. If the tax advantage realizes, demand for the new properties might fall, and house prices may start to decline, says Brotherus. (Parviainen, 2019)

According to Joonas Orava, Investment Director of Finnish Housing Adviser LTD, some new housing companies have long repayment breaks. If the tax advantage disappears, the effect on the investor's cash flow could be significant. For an investor, this can be as much as €100-200/month, and if there are more apartments in their portfolio, the impact on cash flow only increases, says Orava. (Koponen, 2019) The possible changes in taxation may also affect more widely in construction and housing markets, according to SME Financing Chief Heikki Peltola from Osuuspankki. In recent years, a lot of new housing company construction projects have been built on housing company loans taken by home investors. According to Peltola, there is a possibility that some projects cannot be started without enough apartment reservations. If the right to deduct the new housing company loan from rental income disappears, it may be reflected in the higher rental level of the dwellings, states Peltola. (Huhtinen, 2019)

3.8 **Summary of the risk factors in the Finnish housing markets**

Based on the examined information in chapter 3, there are significant risk factors in the Finnish housing finance markets. The following list of the risk factors in Finnish housing markets is being analyzed in chapter 4.

The most significant risk factors in Finnish housing finance markets are:

1. The growing indebtedness of the households and housing companies.
2. Rental plots of the housing companies.
3. Segregation and the price development in the Finnish housing markets.
4. Finnish rating risk in the international monetary markets.
5. Non-performing charges of the financial costs.
6. Possible changes in legislation.

The following risk factors below are a part of the growing indebtedness factor and are presented as a part of the indebtedness factor in chapter 4.

- ✓ Low-interest rates.
- ✓ The growing number of investors.
- ✓ Loose monetary policy (including High LTV-ratios, long debt maturities, and installment-free periods).
- ✓ Attractive tax environment.
- ✓ Increased number of payment notices.

4 CONCLUSIONS

The main goal of the research was to investigate whether there are significant risk factors in the Finnish housing finance markets, and what are the causes behind them. The aim was also to investigate whether there are similarities between the US subprime crisis in 2007-2009. The amount of examined information was encompassing, and plenty of data was transferred to the appendices of this thesis. This chapter of the thesis focuses on presenting the key findings of the research. The key findings are analyzed from the base of information showed in chapter 2 and 3. In the light of the main goal of the research, it can be concluded that the information presented on the theoretical framework in the chapter 2 and 3, provided an excellent basis for achieving the primary goal of the research.

This chapter consists of five different parts. The key findings of the thesis are presented in the three first parts. The fourth part summaries the key findings together. The fifth part contains the last words of the researched subjects. The key findings of the thesis are divided into three different groups according to the structure of the research questions: the causes behind the risk factors in the Finnish housing finance markets, the main risk factors and the causes in the US subprime crisis in 2007-2009, and the similarities between Finnish current housing markets and the US subprime crisis.

The summary list of the risk factors in the Finnish housing finance markets in chapter 3.8 is being used as a guideline in part one. The theoretical framework in chapter 2 and the conclusion report created by the FCIC in chapter 2.5 are being used as a frame for part two. In the third part, the most significant risk factors of the subprime crisis are being compared to the Finnish current housing market situation. The most significant risk factors presented in chapter 2.5 are being used as a guideline for the comparison.

4.1 The risk factors in the Finnish housing finance markets and the reasons behind them

In this chapter of the thesis, the most significant risk factors of the Finnish housing finance markets are being analyzed from the perspective of the Finnish economy and shareholders of housing assets. The aim of the analyzation is to find the causes and origins behind the existing risk factors.

4.1.1 The growing indebtedness of the households and housing companies

As shown in chapter **3.1.2**, the Finnish indebtedness ratios are growing and in a worrying direction. Figure 23 shows that the indebtedness of the

housing companies increased by €12.547 million, and by 297% between 2010 and Q2/2019. The indebtedness of the households increased by €44.424 million and by 41% in 2010-Q2/2019. The reasons behind the growing indebtedness are diversified and consist of several factors.

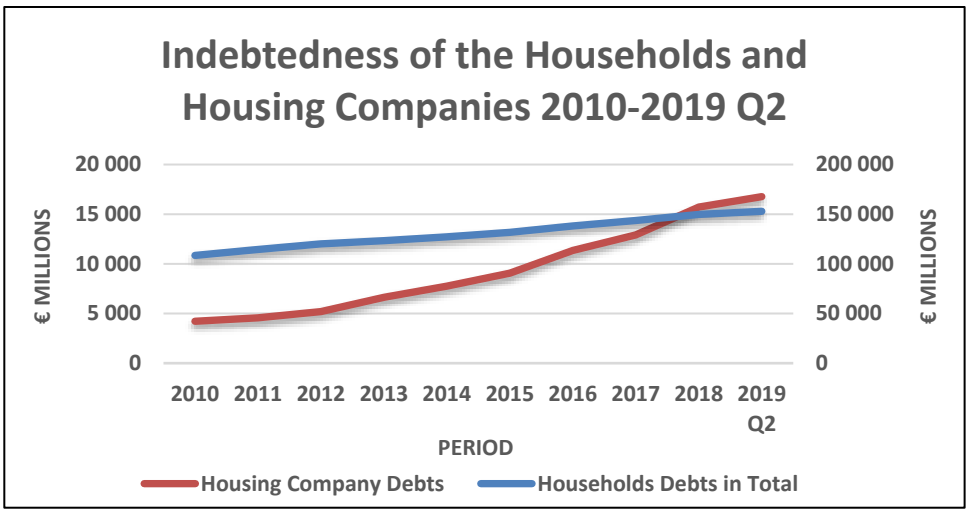

Figure 23 Indebtedness of the Households 2010-2019 Q2 (Statistics Finland, 2019e).

Figure 24 demonstrates the causes behind the increased indebtedness level of the housing companies and households in Finland are. Analyzation of Figure 24 concentrates mainly on the indebtedness of housing company debts, but there is also a strong interaction between the household's and housing companies' indebtedness. As Figure 24 shows, the main reasons behind the increased indebtedness are low-interest rate levels, a growing number of investors, an attractive taxation environment for the investors, aging housing company stock, and loose monetary policy of the new-built housing company debts.

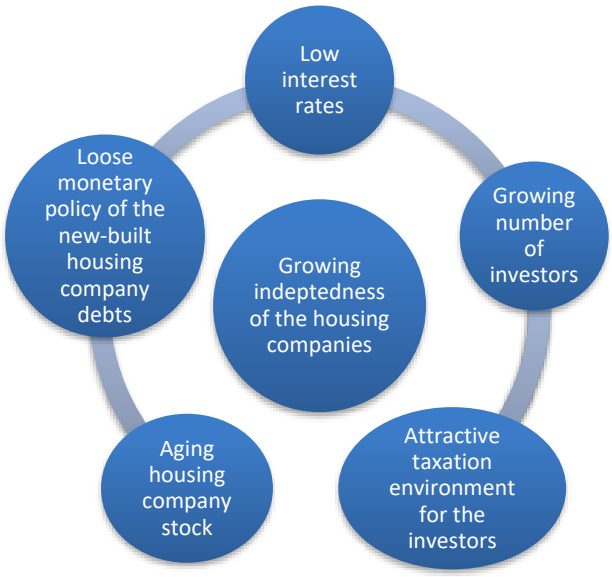

Figure 24 *Circle of the growing housing company indebtedness.*

Low-interest rate levels are attractive from the debtor's point of view. As the money is on "sale," the significant part of the installments is going directly on the amortization of the debts. The inexpensive capital in the markets encourages households and companies to run into a loan. As the interest rate levels of ECB are low (see Figure 9), it is natural that the investors are looking for alternative possibilities for their low producing fixed-income assets. Investing in housing companies is seen as a nominally low-risk investment. The steady cash flow on a monthly basis also attracts investors to the housing markets. The low-interest-rate levels offer favorable starting points to use leverage in housing investments.

The new-built housing companies are especially in favor of investors. According to Sami Pakarinen, the Chief Economist of the Construction Industry, it is estimated that one-third of the new production apartment buildings have gone to the investors (Rakennusteollisuus ry, 2017). The financing structure of the new-built housing company debts is extremely tempting from the investor's perspective. The financing structure of the new-built housing company debts usually consists of a long installment free period, long debt maturities, and low equity requirements. Lengths of the amortization free periods are usually two to five years long. The lengths of the maturities up to 25-30 years, and LTV ratios over 70%. According to Kristiina Tuomikoski, Macro-stability expert of Bank of Finland, over a third of new-built housing companies are sold with a housing company debt over 70% (Tuomikoski, 2019). Jukka Kero, the Chief Economist of the Real Estate Association, said that at the beginning of the 2000s, the housing company debt was around 25%, today the percentage is 75 (Oksanen, 2018).

The amortization-free periods in the new-built housing company debts makes it possible that the shareholder collects the incomes from the tenant and realizes the dwelling after the amortization-free period ends. The problem appears when several shareholders have the same strategy. In that kind of situation, it is likely there will be more supple than demand, which will decrease the market value of the house. The other interesting point of view is that as the amortization-free period ends, it is possible that the debt amount of the housing company has not decreased by a single euro, and the company is 2-5 years older. If the price development of the company has not been favorable, it is possible that the LTV ratio has weakened even from the start.

According to Ari Pauna, the Managing Director of the Finnish Mortgage Association, the financing structure to the new-built housing company debts is the result of the negotiations between the banks and the construction companies (Tervola, 2018b). That creation has revoked plenty of interest among the investors and households. The consequences of the creation are now seen in the all-time high indebtedness statistics (see Figure 23) of the Finnish households and housing companies. Approximately 550.000 house of blocks apartments were built in the 1960s

and 1970s in Finland (Kankare, 2011). Those housing companies and apartments are now at the age of significant renovations, which means more growing indebtedness for the Finnish economy.

The existing financing structure in the new-built housing company debts enables that no-one knows the solvency ratios of the shareholders. If the shareholder has paid the own equity share of the debt-free price, no-one will complete the solvency ratio calculations of the shareholder. It is possible that the solvency ratio of the shareholder is round zero. As part of this in 23.5.2018, FIVA reported that financial cost charges of the housing companies were not considered in the stress test calculations by the banks (FIVA, 2018a). This is extremely concerning fact from the perspective of the upcoming loan installments of the housing company. That kind of failure and negligence by the financing institutes were among the main reasons behind the born of the subprime crisis in 2007-2009.

As it was quoted by Mika Lintilä before in chapter 3.1.2, “The indebtedness rates are statistically at an all-time high in Finland, and 8,1% (Appendix 8) of the adult population has a default payment notice. Now the interest rates are low, and people are applying debts, but the interest rates will rise at some point, and people should be prepared for that.” (Valkama, 2019) As there are all-time high indebtedness ratios, and default payment notice ratios at the time of low-interest rate levels, what will happen when the interest rate levels increase? It is likely that the Finnish economy will face significant challenges in the future if the indebtedness ratios are still at a high level when the interest rate levels start to increase.

As the interest rate levels of ECB are not in the control of the Finnish state administration, the great responsibility of the disturbances Finland is facing goes to the government’s fiscal policy and to the labor markets (Tikkanen & Vartia, 2006, p. 103). However, according to the economic outlook created by the Bank of Finland on 11.06.2019, Finnish economic growth will slow down in the next three years (Bank of Finland, 2019b). The first signs of the turnover are already seen as the construction companies are boosting up their property sales with questionable methods (Appendix 18). This equation will bring furthermore challenges to the Finnish economy and debtors if the increases will happen in interest rate policy in the coming few years.

As mentioned in chapter 3.5, the number of foreign home equity investors are interested in the loose regulation in Finland. According to Olli-Pekka Mustonen, Head of Research, Newsec Advisory in Finland, “In 2018, the sales of housing portfolios by foreign investors already tripled compared to the previous year. Growth has continued.” (Kortelainen, 2019) In the year 2012 (see Figure 22), the sum invested to the capital investment trusts was near zero, but in 2019 the capital of funds has increased to close €6 billion. According to Newsec and real estate services company JLL, it is estimated that foreign housing investment in Finland is worth around €2

billion. The estimated number of dwellings is between 16.000 and 17.000. (Kortelainen, 2019)

The Finnish attractive taxation environment is also calling investors to the housing markets as a shareholder is capable to deduct maintenance costs, loan interests, and other housing costs from the rental incomes. In new-built housing companies, it is also possible to deduct the loan installments from the rental incomes. That is a massive benefit for the house investors, which attracts the increasing number of international investors to the Finnish housing finance markets. In Finland, the property investor boom is a new phenomenon, but academic information on the role of investors in the housing market has been obtained from the US housing market in the subprime crisis. “Surprisingly, it has been noticed that in the subprime crisis, credit losses did not come from low-income families who bought their homes but from the investor side,” says the Chief Economist of Hypo Juhana Brotherus. It is known in the UK that homeowners typically buy during the financial upswing and sell during the downturn, which intensifies price volatility. (Ranta, 2018) As the interest rate levels start to increase, there is a risk that the international investors will direct their investments from the capital investment trusts elsewhere. The question is, who's buying after that?

4.1.2 Rental plots of the housing companies

As was shown in chapter 3.2**,** in just the City of Helsinki, there are about 750 land lease agreements expiring between 2020 and 2021 (City of Helsinki, 2019a). This proves there are thousands of rental plots in which contracts are expiring all around Finland in the next few years. It is likely that the prices of the contracts will increase significantly, as the examples in chapter 3.2 showed. In the housing companies, the price increases of the rental plots will be paid from the shareholder's wallets. That means that there will be more expenditures insight and less capital left to the consumption. The price increase of the rental plots might affect the shareholder's desire to sell their dwellings if there are no possibilities to survive from increased monthly costs. The rent level differences between neighbor housing companies are also worrying phenomena on the markets as the example of Tampere´s Kaleva showed in chapter 3.2. The price differences of the rental plots between neighbor housing companies might be near to €100.000/year. This increases the inequality between the housing companies in the same location and streets.

4.1.3 Segregation and the price development of the apartments

FIVA mentioned in its press release 2018 that the segregation is a significant risk factor in the Finnish housing markets (FIVA, 2018a). The prices of the houses are increasing in the net migration areas while in the migration loss areas, the prices are dropping. The segregation follows the

global trend where the services and labor markets are centralizing to the bigger towns. It is challenging to fight against the inevitable phenomenon with limited resources of the nation. It is likely that the segregation keeps going and centralizing to the biggest cities of Finland in the future also.

Along with the segregation has arrived the phenomenon where the housing companies have not managed to get funding for the necessary renovations. The price developments in several areas around Finland are decreasing. In many cases, the price of the renovation is higher than the housing company itself. The unfortunate fact is that in that kind of case, it is cheaper to demolish the existing property than fix it.

4.1.4 Finnish rating risk in the international monetary markets

According to Ari Pauna, the Managing Director of the Finnish Mortgage Association, the Finnish housing company debts are rated as investment grades by the CRA´s in the international monetary markets. The rating is based on the trust of the Finnish housing companies' payment capability and solvency ratio. If there appears to be payment difficulties in the debts of housing companies, CRA´s might decrease the Finnish mortgage bonds rating into the high yield grades (see Table 1). This means that the capital requirements for the Finnish housing company mortgage bonds will increase significantly. As a result, housing companies must generally pay high-interest rates on their loans. (Tervola, 2018b) The rise of the interest level will affect on the whole housing company sector of Finland, says Timo Metsola, the Founder of Vuokraturva Oy, on YLE´s politic radio, broadcasted in 01.06.2018. (Yle Areena: Politiikkaradio, 2018) The interest costs followed by this are in hundreds of millions euros/year, says Pauna (Tervola, 2018b).

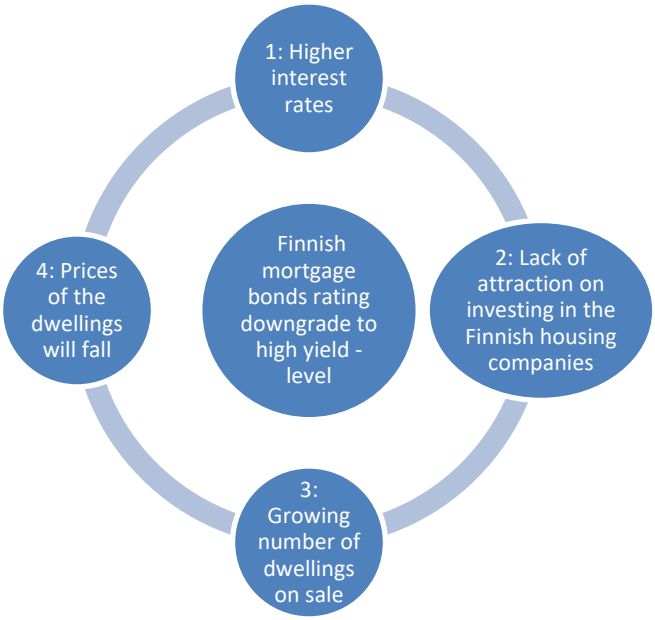

Figure 25 The Scenario followed by the Finnish mortgage bonds rating downgrading.

Figure 25 demonstrates what is likely to happen if the Finnish mortgage bonds rating level would be decreased to a high yield level. As the interest rates of the housing companies' debts increases, the costs will be collected from the shareowners of the housing company. An increase in housing companies interest rate levels will affect negatively on dwellings as an investment. That might launch a negative chain-reaction in the Finnish housing markets, where there are plenty of dwellings in the markets, and limited demand as people and companies doesn't see Finnish housing company dwelling anymore as an attractive investment.

4.1.5 Non-performing charges of the financial costs

If a shareholder fails to pay its commitments, the payments will fall to the other shareholders (see Chapter 3.6). This is a significant risk in the housing companies where one or two shareholders own the most of the housing companies' capital stocks. The rest of the shareholders might not be able to carry out those extra payments. In a scenario like that, the risk is that the housing company will fall insolvent and bankruptcy. The bank who had financed the debts of the housing company will take control of the whole capital stocks. The shareholders who had completed their financial costs or are even free from the debts will lose their stocks and invested capital in the apartment. It is likely scenarios like that will be seen in the future as the interest rates level will increase, or other surprising development will happen in the economy.

4.1.6 Possible changes in legislation

As presented in the chapter 4.1 before, the Finnish taxation is attractive from the housing investors perspective. However, it is possible that the changes will happen in taxation, which will affect negatively on the housing investors yearly cash-flow. For example, in chapter 3.5 was presented that Kela, the social insurance institution of Finland, offered near €1,5 billion of general housing allowances in 2018. Near 850.000 people were covered by the housing allowances. General housing allowances are used toward housing costs. The possible political decision to reduce the level of the general housing allowance would straight affect negatively to the prices of the private landlords renting levels. That will directly affect the popularity of housing investments. The national and international housing investors may, in that case, look better investment options for their capitals. Again, this might launch a chain reaction where there is more supply than demand in the housing markets.

4.2 **Subprime crisis in a nutshell**

According to the conclusions made by the FCIC, the crisis was avoidable and was a cause of human action and inaction (FCIC, 2011a, p.3). The loose monetary policy by Fed included low-interest rates and widely available capital in the markets. Money was loosely loaned to citizens in the name of the government's home ownership policy, and the rise of dwellings increased day by day. The high-risk subprime loans were securitized by the unregulated investment banks in the complicated financial products and sold to the worldwide financial markets. The high-risk level products were badly misrated by the CRA´s. Because of that, financial institutes like insurance companies and banks were able and eager to buy those products. The insurance companies insured the properties and receivables inside the financial products. (FCIC, 2011a)

When it appeared that the subprime borrowers were unable to carry out their loan amortizations and interest, the bubble started to burst out. A growing number of the dwellings became on the markets, and suddenly there was no one buying. The prices of the dwellings started to decrease quickly. The values of the subprime bounded financial instruments started to decrease at the same time, and the crisis has spread throughout the whole world. Many institutional actors went to the bankruptcy of close to it, and the State intervention was needed. The price tag of the crisis became astronomical and affected globally. (FCIC, 2011a)

4.3 **Similarities between the Finnish housing finance markets and the subprime crisis**

In this chapter of the thesis, the most significant risk factors of the subprime crisis are compared to the Finnish current housing company market situation. Based on the information of the chapter 2, the most significant factors of the subprime crisis were uncontrolled indebtedness of the households and the general government, securitization of the subprime loans, over-heater housing markets, and the loose regulation of the financing markets. The aim of this chapter is to find out whether there are similarities between the Finnish housing finance markets and the subprime crisis in 2007-2009. The statistics of Finnish and the US economic situation are used in comparison to ease the analyzation.

4.3.1 Indebtedness

Figure 26 indicates how the household debt /GDP has developed in the US and Finland between 2000 and 2017. The start level of the US in 2000 was 72,3% and reached its peak in 2007 at level 100,5%. The increase in % was ca. 28%. Since 2007 US household's debt/GDP had decreased, and in the year 2017 level was 79,8%, which means ca. 20% decrease from the year 2007. The start level of Finland in 2000 was 33,9%, and it has increased since that. In the year 2017, it reached its peak at level 74,3%, which means

over 40 percentage points increase. It is 12 percentage points more than in the USA between 2000-2007, on the time the subprime crisis was built.

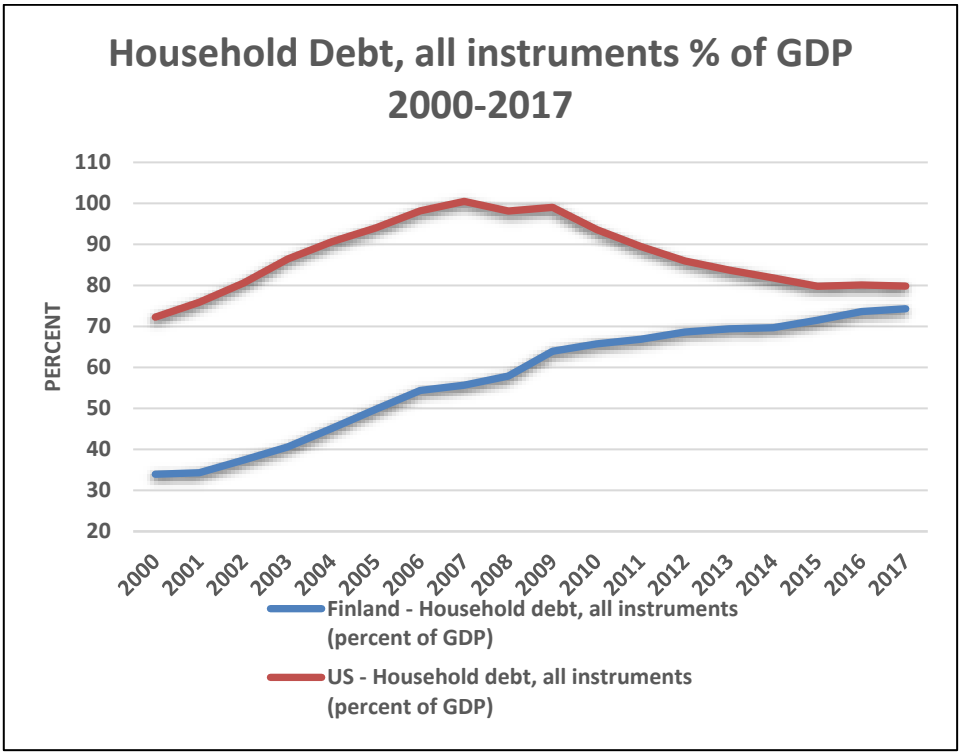

Figure 26 Household Debt, all instruments % of GDP – Finland vs. US (IMF, 2019).

In the year 2000, the difference between household debt/GDP of the US and Finland was ca. 38 percentage points. In the year 2017, the difference was only 5,5 percentage points. That result indicates that the development of the US and Finnish household debt/GDP have moved in opposite directions. US household debt/GDP has decreased, while in Finland, it has increased. That means that US GDP has strengthened to household debt, while in Finland, GDP compared to household debt have weakened.

The development of the Finnish household debt/GDP-ratio development is alarming. The ratio has weakened since year 2000, and there is no change of direction insight in the following years, as the Finnish economic growth will slow down in the next three years, and the indebtedness ratio of the households keeps going up (Bank of Finland, 2019b). The development of the GDP has not managed to follow the growth of the household's indebtedness. Figure 26 indicates that the Finnish household debt/GDP-ratio is likely to overtake the US ratio in the coming years.

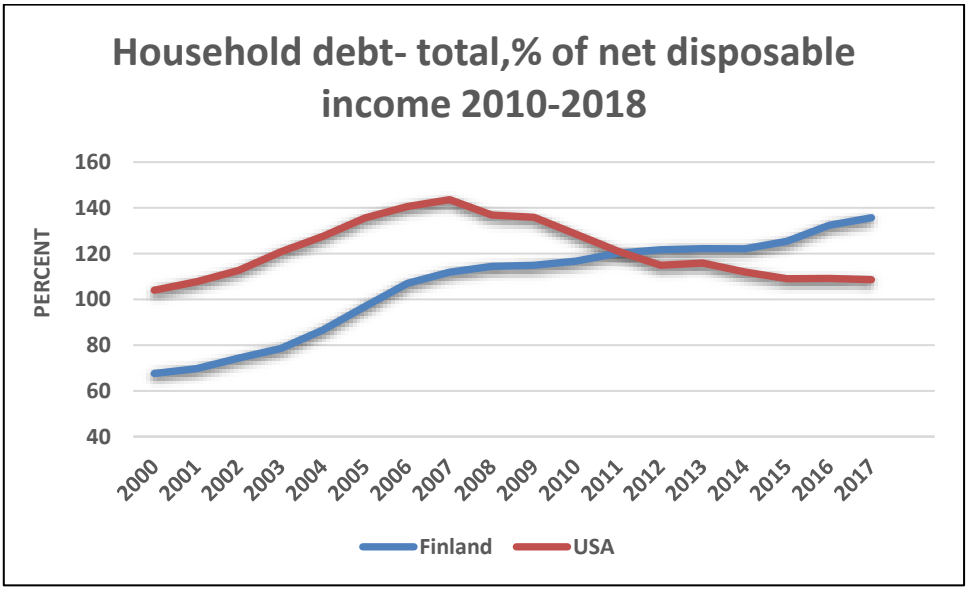

Figure 27 *Household debt-total, % of net disposable income 2010-2018 (OECD, 2019).*

Figure 27 above shows how the household debt (HD)/net disposable income (NDI) has developed in Finland and the US between the years 2000-2017. In the year 2000, the US HD/NDI-ratio was 104% and reached its peak in 2007 at level 143,6%. There was almost 40 percentage points growth. In 2018 the level was 108,6%, which means 35 percentage points decrease. US HD/NDI-ratio was only 4,6 percentage points higher in 2018 than in 2000. In the year 2000, the Finnish HD/NDI ratio was 67,6%, and it has increased until 2017. In 2017 the level was 135,7%, which is 68,1 percentage points increase and nearly 30% higher than the rise in the USA between 2000 and 2007. The Finnish HD/NDI-ratio means that on average, Finnish households are in debt for about 16 months of disposable income, while in the year 2000 corresponding result was eight months.

HD/NDI-ratio was over 36%-units higher in the USA in the year 2000. In the year 2017, Finnish HD/NDI-ratio was 27,1%-units higher than the US. In the year 2011, Finnish HD-NDI-ratio crossed the level of the US. The result of Figure 27 obeys the same trend as the Figure 26. The development of Finnish household indebtedness is on worrying level and direction.

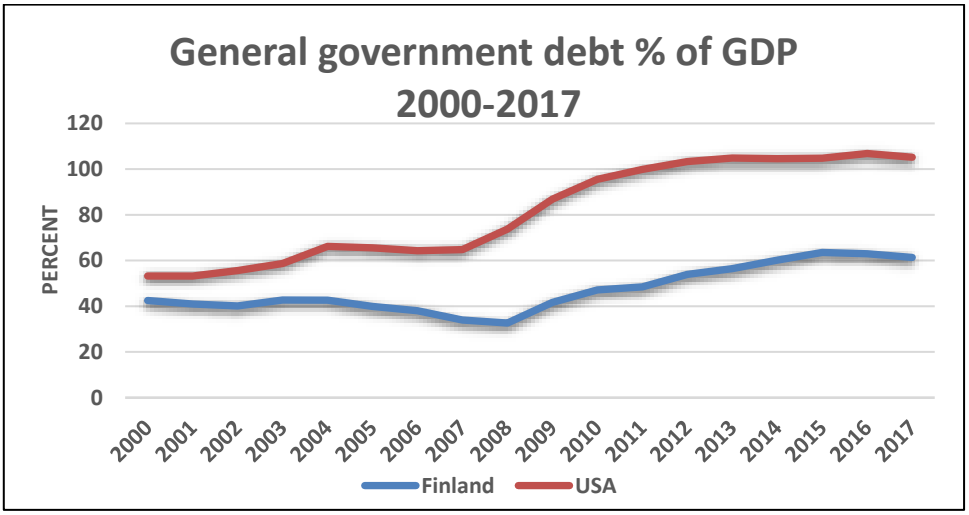

Figure 28 *General government debt % of GDP 2000-2017 (IMF, 2019).*

The development of Finnish and The US general government debt (GGD)/GDP are shown in Figure 28. The figure shows that the US GGD/GDP ratio was 53,2% in the year 2000 and 105,2% in 2017. The ratio has almost doubled in that period. The most significant increase was seen right after 2007 when the subprime crises started.

The development of the Finnish GGD/GDP-ratio has been a more moderate level in the corresponding period. In the year 2000, the ratio level was 42,5% and 61,3% in the year 2017. It means a ca. 44,2% increase. In General government debt-comparison, the Finnish economic situation seems to be stable.

4.3.2 Securitization

As showed in chapter 2.3, the securitization of subprime loans was a crucial factor in the born of the subprime crisis. The thousands of Billion dollars were securitized in different and complicated financial products. The securitization with the real estate assets has risen in Finland in the last ten years, as it was shown in chapter 3.**5**. According to Petri Roininen, CEO of Investors House PLC, the growing popularity of property investment trusts is a sign that the securitization of the built environment is just in the beginning (Roininen, 2018, p. 26).

The growing popularity among the property investment trusts is the sign that the financial institutes should be on alert. As the punch of new-built housing companies is included in the property investment trusts, it is crucial to guarantee the solvency ratio of the debtor. If the trust itself is the debtor, who guarantees the cashflow for loan amortizations if some of the new-built housing company projects fail. In that scenario, the trusts rental income will suffer, and there might be troubles in loan payments. It is also doubtful that the investors and the shareholders of the trusts will

invest more capital in the trust, which is not producing profits. In the worst scenario, the financier of the trust may suffer credit losses.

However, it seems that the volumes of the securitized real estate assets are relatively small in Finland, as shown in chapter 2.3. Even so, the financial institutes should pay extra attention to the existing risk factors on financing the securitized vehicles.

4.3.3 Price development of the dwellings

Figure 29 indicates how US housing prices developed between 2000-2010. The used benchmark index is January 2000. The figure shows that prices increased by over 80% between 2000-2006. At that time, the US housing markets were overheated. The prices started to drop after 2006 and were dropped ca. 40 percentage points in 2010.

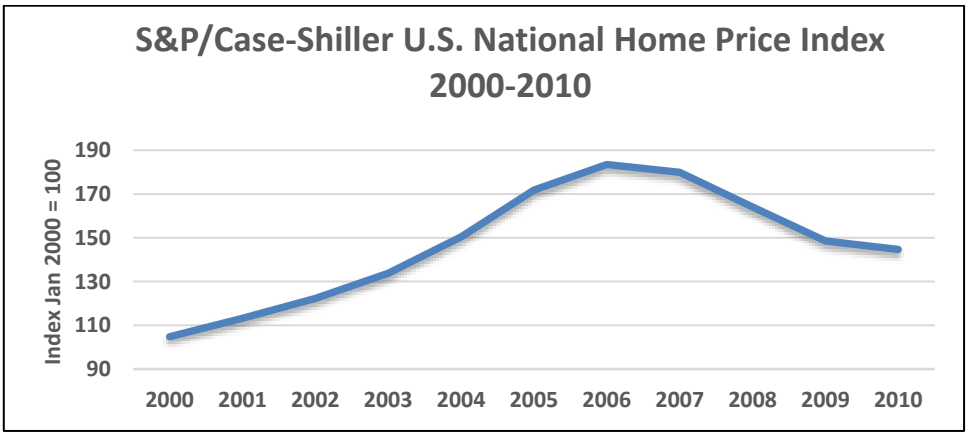

Figure 29 *S&P/Case-Shiller U.S. National Home Price Index (Federal Reserve Bank of ST.Louis, 2019).*

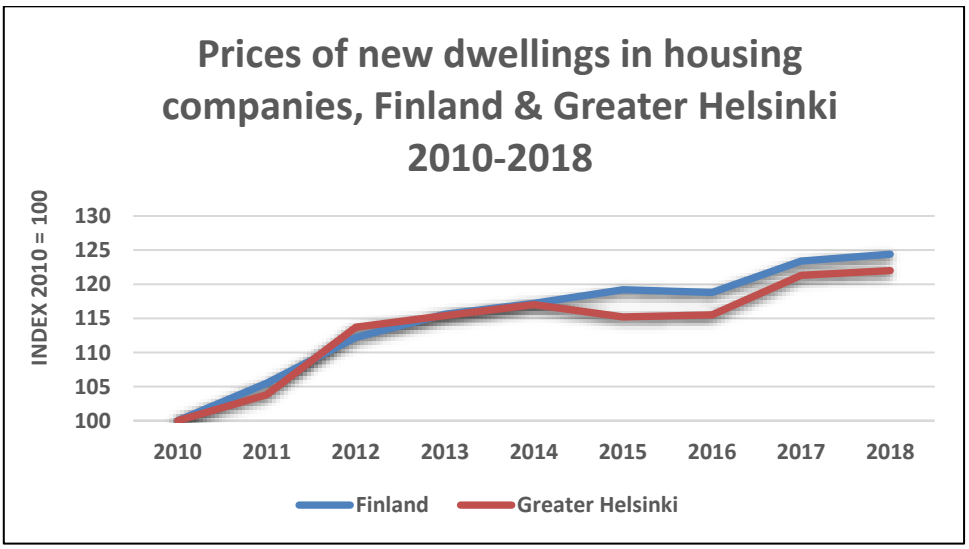

Figure 30 *Prices of new dwellings in housing companies, Finland & Greater Helsinki 2010-2018 (Statistics Finland, 2019a).*

Figure 30 indicates how the prices of new dwellings in housing companies have developed in Finland and Greater Helsinki between 2010-2018. The Greater Helsinki is used in the comparison as a reference. The used benchmark index in the year 2010. As the figure indicates, the development has been relatively flat. In Finland, the increase is 24,4% and in Greater Helsinki 22,2% between the corresponding period. The price improvement is moderate when comparing to the US situation between 2000 and 2006. From that point of view, there is no significant reasons to be worried about the Finnish new dwellings price development.

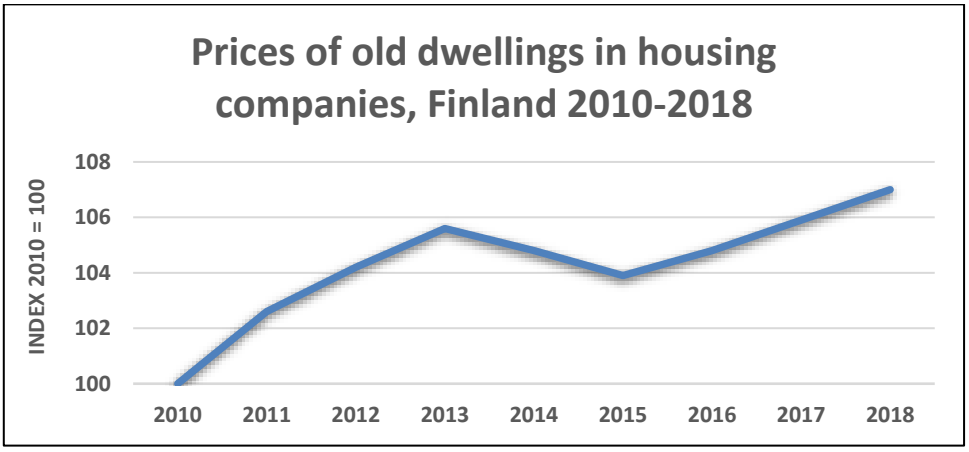

Figure 31 *Prices of old dwellings in housing companies, Finland 2010-2018 (Statistics Finland, 2019b).*

FFigure 31 presents how the prices of old dwellings in housing companies have developed in Finland 2010-2018. The used index is based on the year 2010. The index indicates that the prices have increased by only 7% in the eight years. The housing companies' old dwelling price development suggests that there are no signals of the overheated markets that come to the price development.

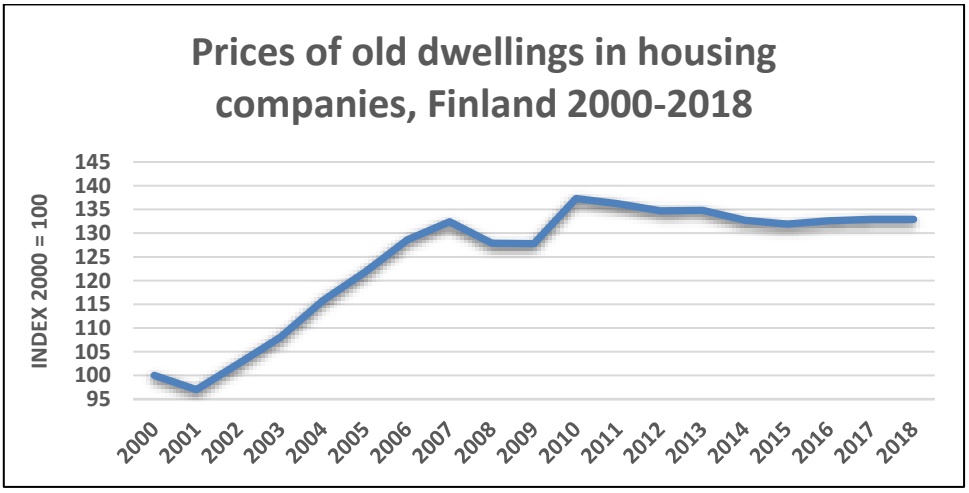

Figure 32 *Prices of old dwellings in housing companies, Finland 2000-2018 (Statistics Finland, 2019b).*

Compared to the previous result, changes significantly when the period is changed to 2000-2018, and the used index in the year 2000 levels. Figure 32 shows that the price of old dwellings in Finnish housing companies increased by 37,3% between 2000 and 2010. However, the increase has since stabilized and have even decreased in the year 2018. The difference between 2010 and 2018 is – 4,4 percentage points. 2000-2018 the price development is 32,9%.

By comparing the US housing price development during the subprime crisis between the Finnish current housing finance markets price development, the conclusion can be made that it is unlikely that the Finnish housing markets are overheated from the price aspect. The prices of the housing company dwellings in Finland have developed moderately on comparing to the US housing markets in 2000-2007.

4.3.4 Loose regulation

Significantly equal factor between the subprime crisis and Finnish new-built housing companies' current situation is the loose regulation of the lending policy. In the subprime crisis, money was loaned for everyone who was eager to apply it. What comes to new-built housing company markets in Finland, the situation is similar (see chapter 4.1). The maturity periods of the loans are long, as are installment-free periods too. The LTV ratios are over 70%, and no-one is following the solvency ratios of the shareowners. Timo Metsola, the Founder of Vuokraturva Oy, stated, "What comes to the similarities between Finnish housing markets and subprime crises, the subprime crisis in America happened in circumstances where no one considered whether a debtor had debt payment capabilities. It was possible to pay homes with large mortgages. In Finland, new-built housing company loans have a 70% financing rate, and no one looks at whether the buyer could pay the installments of the loan." (Parviainen, 2018)

4.4 **Summary of the conclusions**

From the base of the previously presented findings, it can be concluded that there are serious threats and risk factors existing in the Finnish housing finance markets. The conclusions are summarised according to the order of the research questions: the causes behind the risk factors in the Finnish housing finance markets, the main risk factors, and the causes in the US subprime crisis in 2007-2009 and the similarities between Finnish current housing markets and US subprime crisis.

The most significant risk factor of the Finnish housing finance markets is the growing indebtedness of the households and housing companies (chapters 3.1.2 & 4.1.1.) The existing financing structures of the new-built housing companies create significant risk factors from the perspective of

the repayment of the debt. Long maturity periods, long installment-free periods, hight LTV ratios, and unregulated solvency ratio calculations of the shareholders are creating significant risk elements. The consequences of the unregulated new-built housing companies financing structures are affecting the other shareholders, banks, and ultimately to the whole housing company base of Finland. The notable risk scenario is that if there appear to be payment difficulties among the housing companies, the CRA´s may downgrade the Finnish mortgage bond ratings to a high yield level (chapter 4.1.4). That will affect the whole housing company sector of Finland, and the costs are in hundreds of millions/year (Tervola, 2018b).

The other significant causes behind the growing indebtedness are the low-interest rate level of the ECB, a growing number of housing investors, an attractive taxation environment for the house investors, rental plots of the housing companies, and the aging housing company base built in the 60s and 70s. The growing number of investors has created a dependency between Finnish housing markets and housing investors. One-third of the new production apartment buildings have gone to the investors (Rakennusteollisuus ry, 2017). There are several things that could lower the house investor's interests in a moment: Key interest rate increase decision made by ECB, negative changes in house investments taxation, or stricter regulation in new-built housing companies financing structures, to be mentioned. Every of the previously mentioned factors is likely to affect negatively on the Finnish housing markets. It is likely that many house investors would react and search for alternative options from the financing market for their capitals. That would cause a situation where there is more supply than demand in the markets. That would affect decreasingly to the prices of the housing markets.

The segregation (see chapters 3.3.1 & 4.1.3) between different areas around Finland is a current challenge. Along with the segregation has arrived, the phenomenon where the housing companies in certain has not managed to get funding for the necessary renovations as the prices of the renovations are higher than the dwellings. This phenomenon affects its parts to urbanization and migration centralization in the bigger cities.

According to Suomen Asiakastieto Oy, there were 385.700 persons with payment defaults in Finland 30.9.2019, and 8,1% of the adult population in Finland is having payment defaults. (Urpelainen, 2019; Räisänen, 2019) The number of payment defaults is all-time high, at the time when the interest rate levels are low. Behind this is a lack of regulation of the financing markets as the money is easily available and loaned. The payment defaults may explode at the time of worsening economic situation or increased rate levels.

In the battle against the indebtedness, the Finnish Government is processing the national positive credit register. It works as a database, where the lenders can see in real-time borrower’s loan amounts and

income information. The purpose of the register would be to provide more information on the borrower's creditworthiness compared to the current system, where the lender only receives information on possible defaults. The lender could better assess the consumer's ability to pay, which would help to control over-indebtedness. (Strömberg, 2019.) According to the Finnish Government, the national positive credit register will be introduced during the term of the current board, which indicates the register will be ready in the year 2023 (Finnish Government, 2019a).

According to the conclusions made by the FCIC, the crisis was avoidable and was a cause of human action and inaction (FCIC, 2011a, p.3). Subprime crisis happened in the market atmosphere when the markets were deregulated, and the greediness of the humankind drove over the sense and understanding. Uncontrolled indebtedness of the households and general government, securitization of the subprime loans, over-heated housing markets, the loose regulation of the financing markets, and common moral hazard on the markets were among the most important factors in the born of the subprime crisis. (see chapters 2 & 4.2)

From the perspective of the Finnish current housing finance markets, there are two significant similarities between the US subprime crisis: high indebtedness level of the households and loose regulation in the new-built housing companies financing structures. The Finnish households debt/GDP ratio (Figure 26) has increased the 2000s and is reaching out to the indebtedness level of the US households. It is like that in the following few years, Finnish household's debt/GDP ratio is higher than in the US. The more prominent observation is that the Finnish household's debt/net disposable income ratio has crossed the level of the US in 2011 (Figure 27). Since the Finnish ratio has increased, and the ratio of the US decreased. In few coming years, it is likely that the Finnish household’s ratio (135,7%) will reach the peak that the US had in 2007 (143,6%). That was the year the subprime crisis escalated.

The loose regulation in the new-built housing company debts is similar to the loose financing policy of the subprime crisis. Long maturities of the debts, long installment-free periods, high LTV ratios, and lack of the solvency calculations of the shareholders (chapter4.1.1 & 4.3.4). The surprising fact is that the solvency ratio of the debtors in the new-built housing companies remain unknown. The Finnish new-built housing companies are used as a bank, where no-one is interested in the solvency ratio of the shareholder. That is a strong similarity between the subprime crisis. It is likely that payment troubles will occur in the future as the installment-free periods are over (see chapter 3.6) in the new-built housing company debts.

Leena Mörttinen, Director General of the Ministry of Finance, has stated that uncontrolled credit growth could have serious economic consequences. There is a threat of a banking crisis, which, at its worst, will

lead to a sharp contraction of the economy. (Niskakangas, 2019) In the light of the results presented in this thesis, it is easy to agree with Mörttinen. According to the economic outlook created by the Bank of Finland on 11.06.2019, Finnish economic growth will slow down in the next three years (Bank of Finland, 2019b). The economic slowdown and growing indebtedness are concerning factors from the perspective of the Finnish economy. The risk factors which are mentioned in this thesis are in strong correlation with each other. It is likely that at some point, one of them will realize and start an unpredictable chain-reaction. The results of the chain-reaction are hard to predict. Whether or not the economic consequences are likely to be devastating.

4.5 ” If you owe a million…”

Since the era of deregulation started, the big financial crises have followed each other. 1987 collapse in Wall Street, savings and loan crisis in real estate and US savings banks 1990, the first crisis in European currency system in 1992, American obligation collapse in 1995, international finance crisis in Hongkong, Thailand, and Korea in 1997, second international financial crisis in Russia and Brazil in 1998, IT -bubble 2000-2003 and finally Sub Prime crisis in 2007-2009. (Lordon, 2010, p. 20) In every above-mentioned economic crisis, Laissez-faire ideology has conquered the markets all over again. Laissez-faire ideology is the trend of a free market economy. It has a belief in market fundamentalism, which means that when the markets can operate freely, they will take care of themselves. Unfortunately, time after time, it is forgotten that people who act in the market are trying to work in their interest. (Juntunen, 2009, p. 47-48)

“If you owe a million, you have a problem. If you owe the bank a billion, the bank has a problem. If the banks owe 50 billion, we all have a problem.” (Hänninen & Hänninen, 2015, p. 38) As it was seen in the subprime crisis, during the economic boom, everyone wants to get rich. The same kind of phenomenon might be on background in the born of the new-built housing company debt vehicle, as the construction companies and financial institutes were in the same negotiation table. However, what we have learned from the financial crisis from the past? It is essential for the funding markets that markets are as clear, predictable, and reliable as possible. The credit risks of the financing products and debts should be easily evaluated. The collaterals for the loan should be good, and solvency ratio of the debtor, at an adequate level in relation to the credit granted. Regulation is not a swear word, and transparency is the keyword. That should not be forgotten in the financing business.

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Appendix 1

FED FUNDS RATE-%, UNEMPLOYMENT%, INFLATION% (1980-1989)

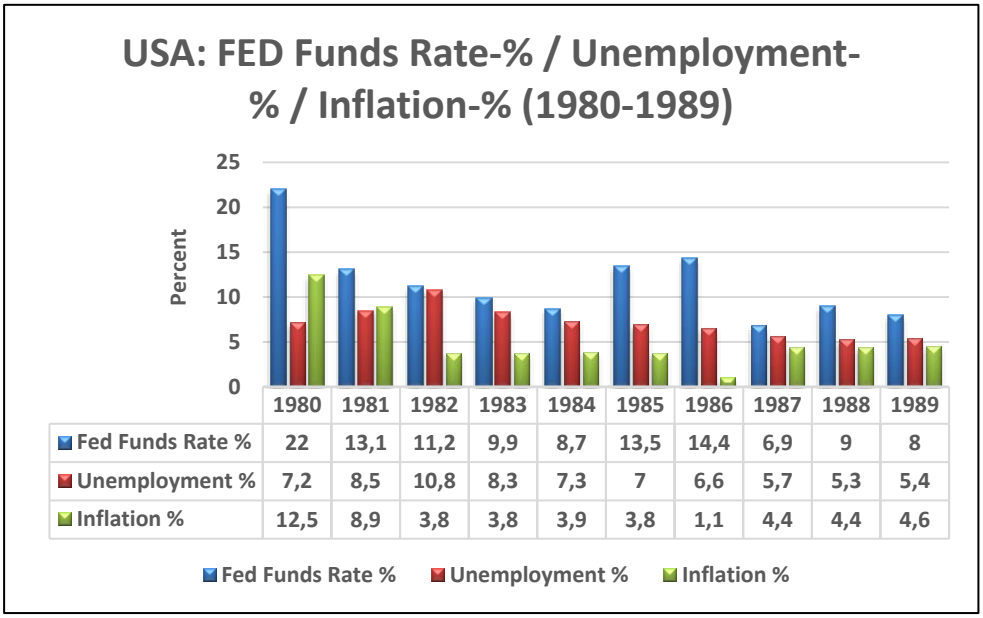


Figure 33 *USA: FED Funds Rate-% / Unemployment-% / Inflation-% 1980-1989 (Amadeo, 2019b; Macrotrends, 2019).*

In a consequence of Reagan´s monetary policy, the economy of the USA rallied up during the Reagans ERA between 1981-1989. Fed Funds rate decreased from stagflation level 22% to 8%, unemployment ratio developed from 7,2% to 5,4% and inflation 12,5% to 4,6% under Reagans ERA. (See Figure 33)

Appendix 2

CREDIT-DEFAULT-SWAP EXAMPLE

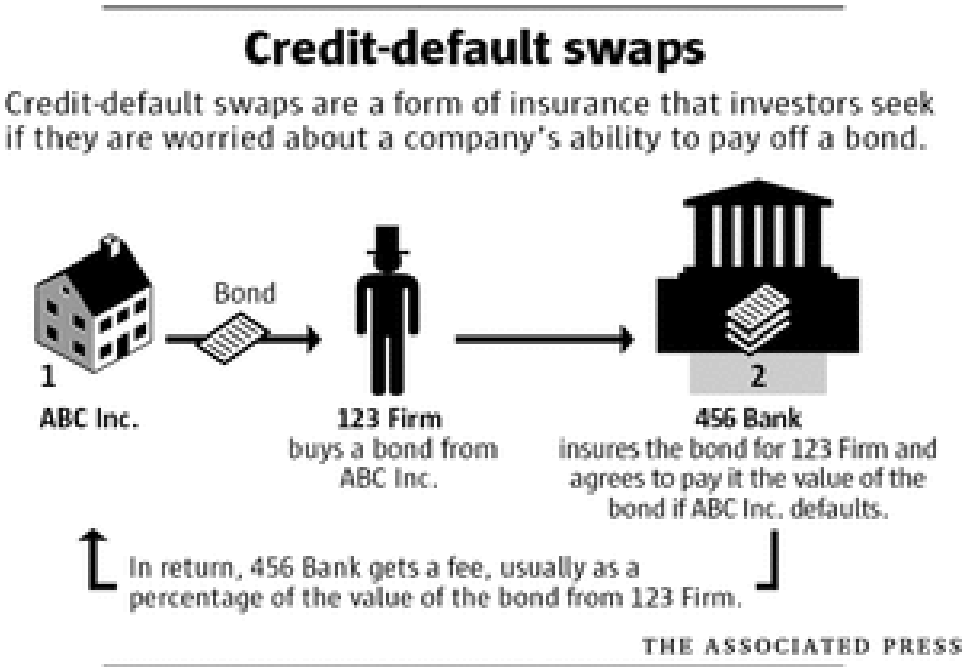


Figure 34 Credit-Default-Swap Example (Simon, 2008).

ABC Inc. needs money for the investments. ABC Inc issuances bond on the markets. 123 Firm buys the bond, but 123 Firm also wants the insurance against ABC Inc.'s default. Investment bank insures the bond and agrees to pay the value of the bond to the 123 Firm if the ABC Inc defaults. The 123 firm pays an annual insurance fee to the 456 Investment bank. If things go well, the protection seller (investment bank 456) will be paid the fees by protection buyer (123 Firm). 456 Investment bank does not need to invest any own capital on this phase. This is the reason why these products are called unfunded products. Investment bank needs to invest its own capital only in the case that ABC Inc. will get the default. The weaker the bond behind the bond issuance is, the higher the default risk and cost of the insurances are. The insurer needs to set aside its own capital to be able to clear out of the potential credit transactions. But in this case, 456 Investment bank was out of any kind of solvency regulation. Investment banks may determine their own level of capital by itself. (Lordon, 2010, P. 93-94)

Appendix 3

STRUCTURE OF THE COLLATERALIZED DEBT OBLIGATION CDO

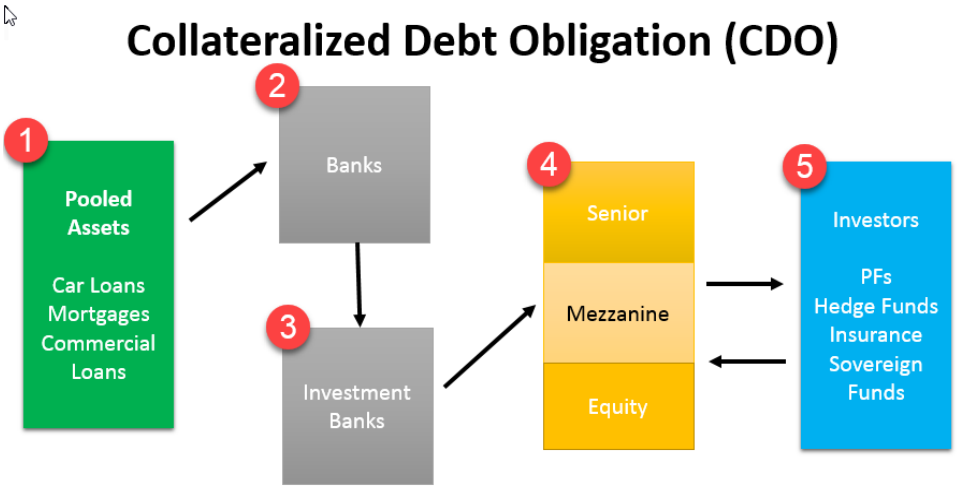


Figure 35 *Structure of The Collateralized Debt Obligation CDO (Bhosale, n.d.).*

In the first phase, banks are pooling assets like car loans, mortgages, and commercial loans. In the second spot, banks start to bundle various debt assets like corporate loans, corporate bonds, mortgages, and other previously mentioned loan types. The risk was believed to be reduced when the investment product consisted of thousands of different loans. (Patomäki 2012, 43.) The common belief of the markets was that even if a few of these loans failed, not everyone who received a mortgage would make default. (Hänninen & Hänninen, 2015, p. 11)

In the third phase, bank sells those bundled portfolios to the investment banks. In the fourth spot, those bundled packages are sliced into investable tranches. Tranches are arranged by a grade of riskiness. In this picture, trances are Senior, Mezzanine, and Equity. Senior is the safest and the first one to receive pay-outs. On the other hand, the interest rate level is lowest. Mezzanine includes moderate risk bundles. The interest rate level is a bit higher than in the Senior one. Equity is the riskiest and has the highest interest rate level. The pay-outs are made after Senior and Mezzanine have had theirs. (Bhosale, n.d.)

In the fifth phase, these Senior, Mezzanine, and Equity tranches are sold to the investors. The Senior tranches were usually sold to institutions. The institutions included, for example, pension funds that were supposed to secure American pensions through stock exchanges and other financial markets. (Patomäki 2012, p. 38) Mezzanine was usually sold to commercial banks. Commercial banks were not interested in product risk because insurance companies had insured the products and had taken the default risk of the loans in the CDO products. (Juntunen, 2009, p. 33 & 44) Equity tranches were sold to risk investors like hedge funds (Lordon, 2010, p. 77).

Appendix 4

GLOBAL CDO RATINGS

CRA´s often use statistic-based credit scoring techniques to assess the credit risk of a project. The result of the credit scoring indicates the probability of default. The usage of credit scoring methods alone is not enough. The assessment of creditworthiness must also be based on the consumer´s income and other economic factors. The goal is to find out the factual payment capability of a customer to be able to pay off credit and not just focus on the risk of insolvency. (Makkonen, 2016, p. 118-119)

Table 2 Global CDO Ratings Transitions, 2009 (EOI, 2010).

Fall from grace

Global CDO ratings transitions, 2009

% of total in initial ratings category

Initial rating \ Final rating	AAA	AA	A	BBB	BB	B	CCC	<CC
AAA	46.9	11.8	12.5	13.1	5.7	2.3	4.2	3.7
AA	0.2	37.2	7.8	13.9	13.6	7.1	9.0	11.3
A	0.3	0.1	25.9	10.6	14.8	10.2	8.1	30.1
BBB	0.0	0.1	0.1	23.6	14.2	19.6	12.7	29.6
BB	0.0	0.0	0.2	0.2	17.9	31.5	20.6	29.6
B	0.0	0.0	0.0	0.0	0.2	20.1	28.1	51.6
CCC	0.0	0.0	0.0	0.0	0.0	0.4	34.4	65.3

Source: Fitch

Table 2 above shows how the global CDO rating changed in the year 2009 after the subprime crisis. 46,9% of the AAA-rated CDOs maintained their triple-A ratings, and 53,1% were downgraded. From A-rated CDO´s only 25,9% maintained A-level ratings, and 73,8% were downgraded to the level BB or weaker. From BBB-level rated, CDO´s 23,6% maintained grades, and 76,1% were downgraded to the junk-bond level grades. From BB-rated CDO´s, only 17,9% kept their ratings, and even 81,7% were downgraded.

A remarkable observation is that the CDO´s rated as AAA or AA maintained their ratings way better than A or weaker rated CDO´s. The worth of attention is that 30,1% from A-level rated CDO´s were downgraded to the weakest CC-level grades. That kind of downgrade-percentage indicates a severe error in estimates in CDO ratings and calls into question the reliability of the entire rating mechanism and the agencies behind them, the CRA´s it's selves.

Appendix 5

CREDIT SCORE RANGE -FICO CLASSIC RANGE 300-850

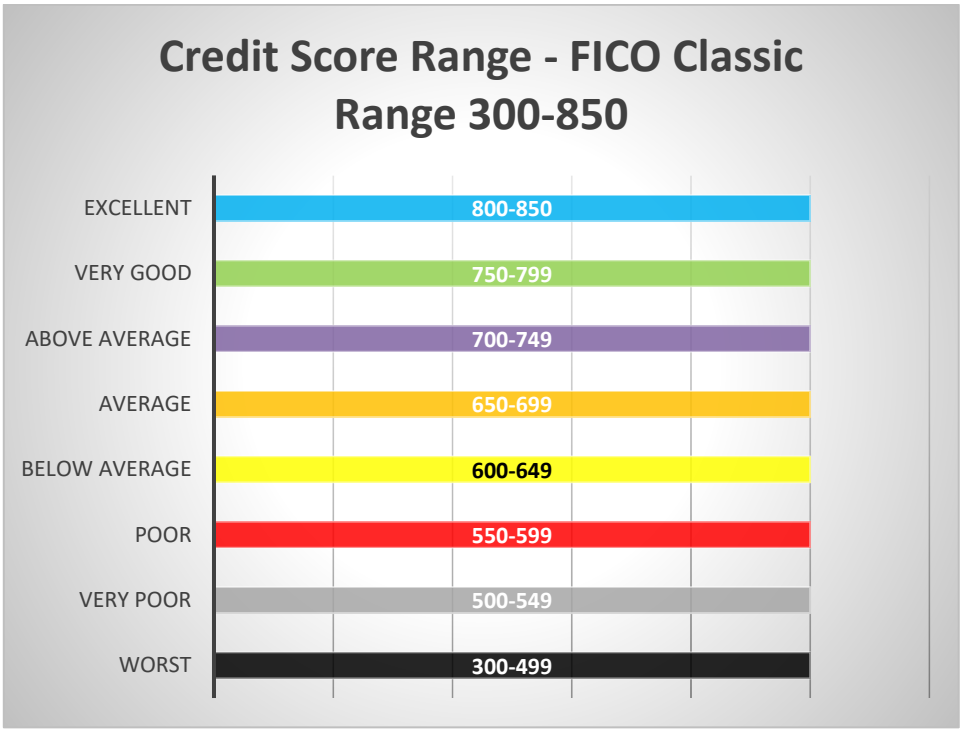


Figure 36 *Credit Score Range – FICO Classic Range 300-850 (Slidell Chamber of Commerce, 2017).*

The most used credit score technique is known as the FICO score. The calculation is based on the borrower's credit payment history, credit utilization ratio, length of credit history, credit inquiry activity, and varied history of different types of credits. FICO score is ranged from 300 to 850 (see Figure 36 above). A score of 300 is the worst score, and the level of 850 is the best one. Scores between 740 and 850 are prime-level scores. Subprime level scores are scores below 650. The lower the score, the higher the default risk. (Gitlen, 2019)

Appendix 6

SERIOUS DELINQUENCY RATE OF SUBPRIME LOANS 2005-2007

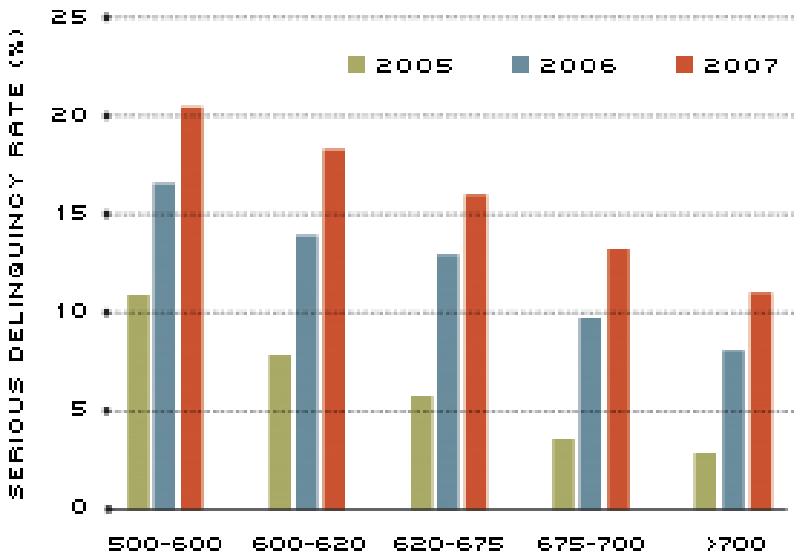


Figure 37 *Serious Delinquency Rate of Subprime Loans 2005-2007 (Demyanyk, 2008).*

Figure 37 above indicates how the serious delinquency rate changed for the five groups of borrowers who had FICO credit scores when their loans were made. The data of the figure is based on First American Core Logic Loan Performance-data. The loans were taken in 2005-2007. A mortgage loan is seriously delinquent if a borrower has missed more than two months loan payments, has defaulted on the loan, or if the property collateral has gone into foreclosure. (Demyanyk, 2008)

Despite the credit scores, the serious delinquency rate-% had risen in every credit score-class after the first year. In the lowest credit score rate 500-600, the serious delinquency rate almost doubled in 2005 -2007. In the best credit score class > 700, the serious delinquency rate was nearly four times higher in 2007 than two years before in 2005. The best credit score level in 2007 was at the same level as the worst one in 2005.

Appendix 7

BUILT APARTMENTS IN FINLAND 2007-2018

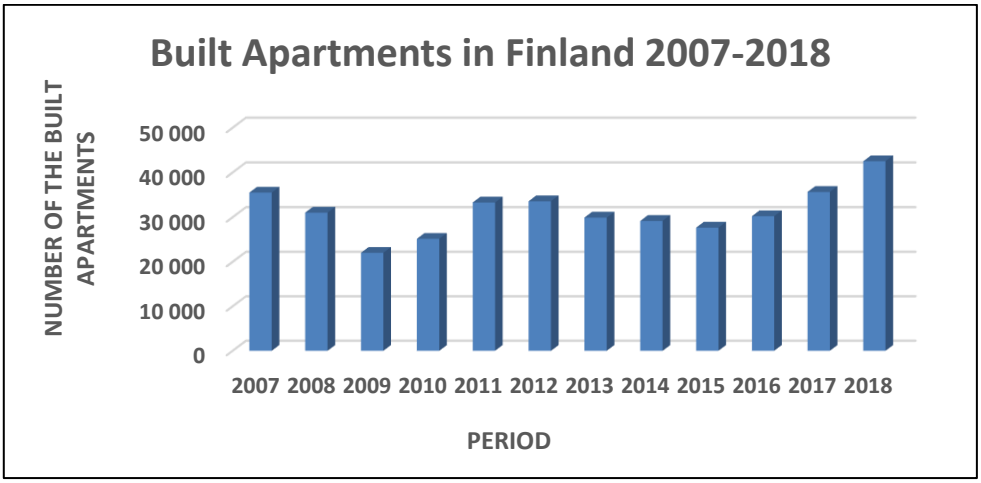
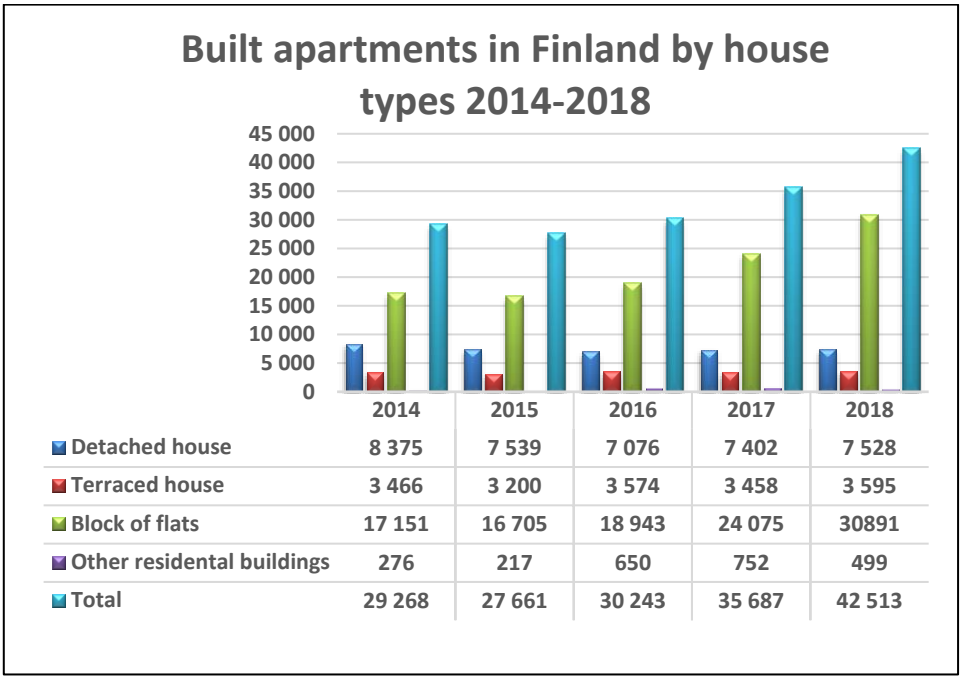


Figure 38 *Built Apartments in Finland 2007-2018 (Statistics Finland, 2019c).*

As Figure 38 above shows, the Finnish construction industry has been in the growth in recent years. After the subprime crises in 2009, the construction industry was in the ropes for a while but revived quickly with the positive development of the world economy. According to Statistics Finland, the number of built apartments reached over 40.000 in 2018. In 2018 the number of built apartments was 42.513, which is an increase of over 92% compared to the number of 22.042 built apartments in 2009.

Figure 39 shows that new-built construction has focused primarily on a block of flats apartments, which have increased by 80% since 2015, while terraced houses and detached house- building has decreased a bit or stayed at a steady level in recent years. The loose monetary policy, among urbanization, is behind the demand for the block of flats building. According to Sami Pakarinen, the Chief Economist of the Construction Industry, it is estimated that one the third of the new production of apartment buildings has gone to the investors. Investors not only build whole apartment blocks but also buy apartments from the building companies' own supply, says Pakarinen. (Rakennusteollisuus ry, 2017)



	2014	2015	2016	2017	2018
Detached house	8 375	7 539	7 076	7 402	7 528
Terraced house	3 466	3 200	3 574	3 458	3 595
Block of flats	17 151	16 705	18 943	24 075	30891
Other residental buildings	276	217	650	752	499
Total	29 268	27 661	30 243	35 687	42 513

Figure 39 *Built apartments in Finland by house types 2014-2018 (Statistics Finland, 2019c).*

According to the RAKSU group´s autumns 2019 report of the cycles in the construction industry, continued economic growth and low-interest rates have supported demand for the construction business, and there is no prospect of a sudden reduction in the number of construction projects (Ministry of Finance 2019b, 11). However, the construction of new apartments is expected to decline fast, because building permits granted for apartments have decreased by almost 20% from January to July. According to the RAKSU Groups estimate, there will be 37.000-38.000 housing starts in 2019. The estimate for the year 2020, is that there will be thousands of new constructions starts less. The RAKSU Group estimates that employment in the construction industry will fall during next year as construction production decreases. (Ministry of Finance, 2019b, p. 5)

Appendix 8

PERSONS WITH PAYMENT DEFAULTS IN FINLAND

The statistics of Suomen Asiakastieto indicate that the number of persons with payment defaults has kept rising in the 2010´s. According to Jouni Muhonen, Business Director of Suomen Asiakastieto Oy, “It is important to understand that the real problem is the so-called multi-indebtedness. The same persons have mortgages, consumer loans, credit cards, monthly fee services, etc. Surprisingly many Finns also have a problem with gambling, where money is recklessly spent.” (Suomen Asiakastieto, 2018)

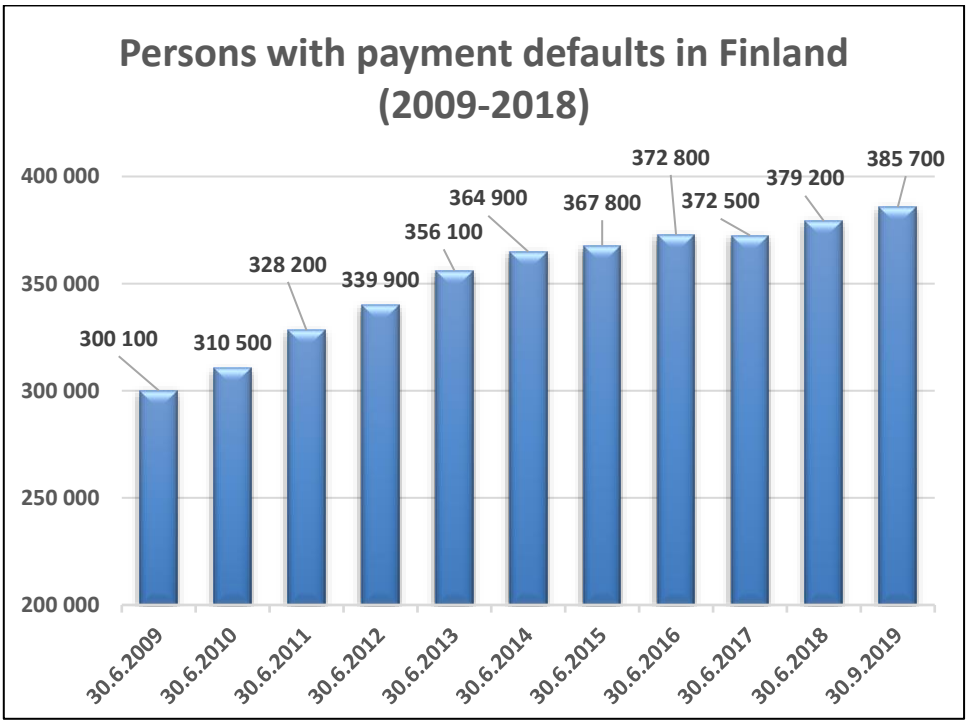


Figure 40 *Persons with payment defaults in Finland 2009-2018 (Erkkilä, 2018; Räisänen, 2019).*

According to Suomen Asiakastieto Oy, there were 385.700 persons with payment defaults in Finland 30.9.2019. At the time of the subprime crisis 30.6.2009, the number of persons with defaults was 300.100. The difference between 06/2009 and 09/2019 has increased by 85.600 persons with payment defaults, which means 28,5%. According to Asiakastieto Group, 8,1% of the adult population in Finland is having payment defaults. (Urpelainen, 2019; Räisänen, 2019)

Based on the existing data, it seems that the number of persons with payment defaults will continue to grow, Muhonen estimates. “Currently, many over-indebted consumers are seeking more and more credit, says Muhonen in the press release of Suomen Asiakastieto Oy. “It is important that they are identified during the loan application process so that no new credit is granted. The risk of escalation is far too great for the lender, society, and the debtor itself. The national positive credit register, which is

only on the planning table, has no time to come to a solution," Muhonen continues. (Räisänen, 2019) According to the banking report 2018 published by Finance Finland, the most significant share from the payment default notices comes from the unpaid consumer credits (Finance Finland, 2019). In 8/2019, The number of household consumer credits was €11.562 million. It has increased by 37,3% and €3.143 million between 2010 and 8/2019. (Bank of Finland, 2019c).

Appendix 9

HOUSEHOLDS CONSUMER CREDITS, €MILLIONS

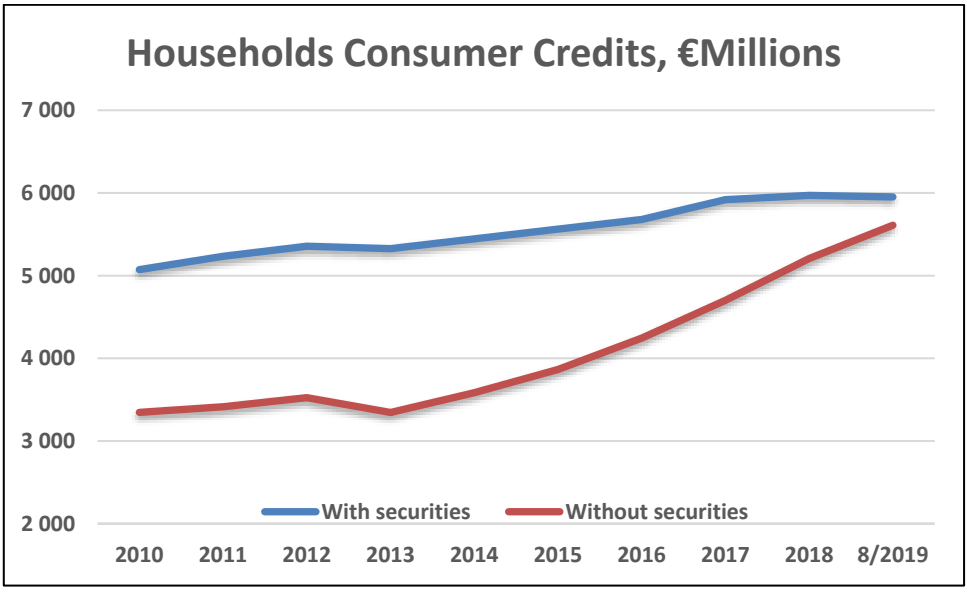


Figure 41 *Households Consumer Credits 2010- 8/2019, €Millions* ***(Bank of Finland, 2019c).***

Figure 41 shows how households consumer credit sums with and without securities have developed in 2010-8/2019. In the year 2010, the total amount of household's consumer credits was €8.418,94 million, while on 31.08.2019, it had increased to €11.561,52 million. That is €3.142,58 million and a 37,3% increase. The number of consumer credits with securities in 2010 was €5.072,63 million, and in 08/2019, it was €5.951,61 million. That means €879,98 million and a 17,3% upswing. In 2010 the sum of household consumer credits without securities was €3.346,31 million, and in 08/2019, the amount had risen to €5.609,91 million. It means €2.263,6 million and a 67,6% increase. The increase of unsecured consumer credits has been rapid. Unsecured consumer credits are marketed by the easy and quick application process and used for upgrading the quality of daily life by financing hobbies, vacations, and unexpected expenses (Niskakangas, 2019).

Appendix 10

POPULATION DIVIDED BY HOUSE TYPES IN FINLAND (2010-2018)

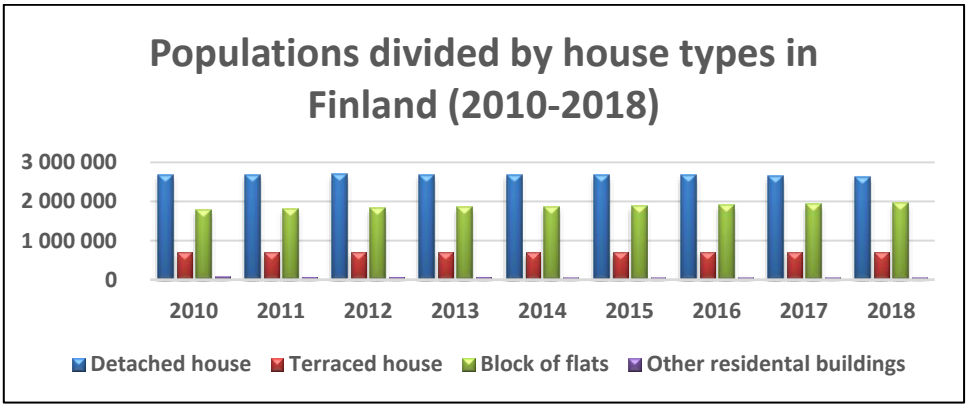


Figure 42 *Population divided by house types in Finland 2010-2018 (Statistics Finland, 2019d).*

As Figure 42 shows, there is no significant change in dividing between different housing types. The most popular housing type in Finland is a detached house. The second is the block of flats and third terraced houses. In 2010, in detached houses were living 2.685.987 citizens, in a block of flats 1.789.674 and in a terraced house 700.215. In the year 2018, the number was 2.638.241 in detached houses, 1.966.304 in a block of flats, and 712.016 terraced houses. The popularity among detached houses had fallen by 47.743 and increased by 176.630 in the block of flats and by 11.801 in a terraced house. According to Statistic Finland, the total population of living in different housing types had grown by 125.960 in 2010-2018, which is an increase of 2,4%.

Table 3 *Percent of Finnish population living in different house types 2010-2018 (Statistic Finland, n.d.).*

House type	2010	2011	2012	2013	2014	2015	2016	2017	2018
Detached house	51,0 %	50,9 %	50,7 %	50,5 %	50,3 %	50,0 %	49,6 %	49,3 %	48,9 %
Terraced house	13,3 %	13,3 %	13,3 %	13,2 %	13,2 %	13,2 %	13,2 %	13,2 %	13,2 %
Block of flats	34,0 %	34,2 %	34,4 %	34,7 %	35,0 %	35,3 %	35,7 %	36,0 %	36,5 %
Other residental buildings	1,7 %	1,6 %	1,6 %	1,5 %	1,5 %	1,5 %	1,5 %	1,4 %	1,4 %

Appendix 11

HOUSEHOLDS DIVIDED BY HOUSE TYPES IN FINLAND (2010-2018)

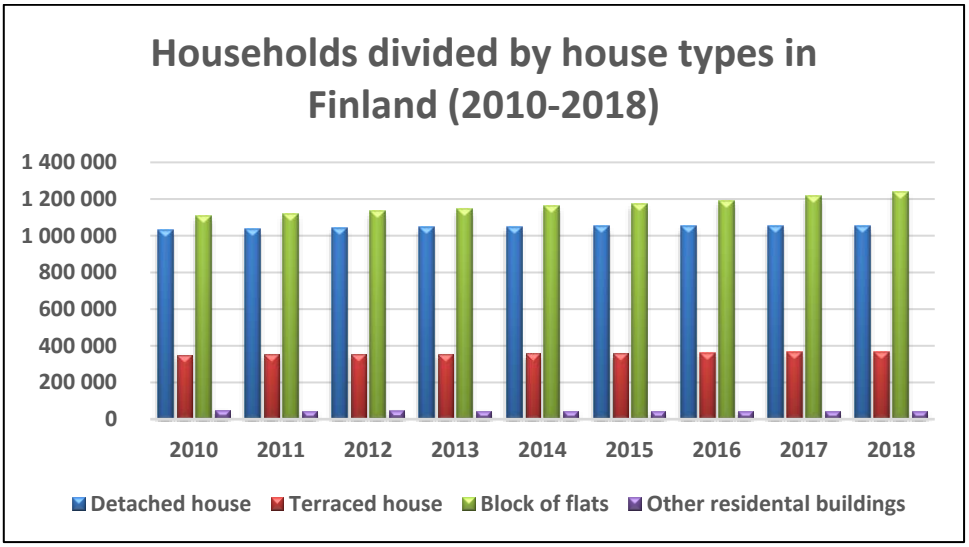


Figure 43 *Households divided by house types in Finland 2010-2018 (Statistics Finland, 2019d).*

According to Statistic Finland, there were 2.537.197 households living in different house types in Finland in 2010. The number of households increased to the level of 2.705.499 in 2018. That is 168.302, an increase in households, which means 6,6%. The number of households has raised more than the population, 2,4%, which indicates there are more one-person households than in the year 2010. According to Anneli Saarikko, the Minister of Family Affairs and Social Services of Finland, the proliferation of single living is associated with a major societal change, with other visible signs of falling birth rates and aging populations. In the life cycle, living as a single focus´s on the beginning and end of adulthood. (Saarikko, 2018) "A single student nowadays receives more housing support than before, so living alone is more attractive," says Mirja Peltonen from the Legal Unit of KELA (Lindholm, 2019).

Table 4 *Percent of Finnish households living in different house types 2010-2018 (Statistic Finland, n.d..).*

House type	2010	2011	2012	2013	2014	2015	2016	2017	2018
Detached house	40,6 %	40,5 %	40,4 %	40,2 %	40,1 %	40,0 %	39,7 %	39,4 %	39,0 %
Terraced house	13,9 %	13,9 %	13,8 %	13,8 %	13,7 %	13,7 %	13,7 %	13,6 %	13,6 %
Block of flats	43,6 %	43,8 %	43,9 %	44,1 %	44,3 %	44,6 %	44,9 %	45,3 %	45,8 %
Other residental buildings	2,0 %	1,9 %	1,8 %	1,8 %	1,8 %	1,8 %	1,7 %	1,7 %	1,6 %

Appendix 12

SIZE OF THE HOUSEHOLDS IN BLOCK OF FLATS APARTMENTS IN FINLAND (2000-2018)

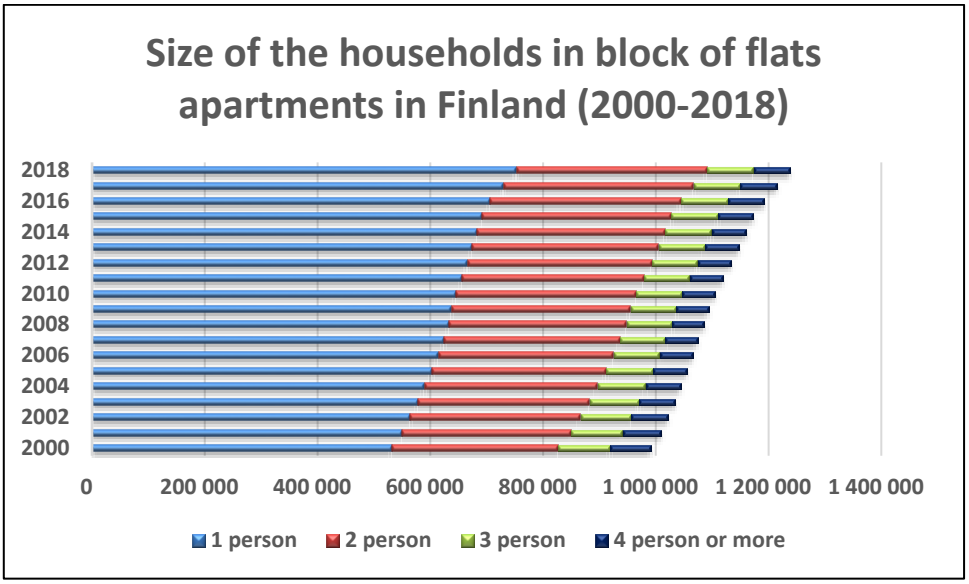


Figure 44 *Size of the households in a block of flats apartments in Finland 2010-2018 (Statistics Finland, 2019d).*

Figure 44 shows how the size of the households is dealt with in the block of flats apartments. As the statistics indicate, the most significant part of the block of flats apartments is lived by 1-person households. In 2018, 1-person households formed 60,8% of the whole block of flats apartment base. 2-person households formed 27,3% of the entire base. In the year 2000, the same percentage was 53,7% and 29,6%. That means that the number of 1-person households had increased, and 2-person households decreased in proportion to the whole block of flats base between the years 2000 and 2018.

In the year 2000, there were 532.528 1-person households living in a block of flats apartments. The same number in the year 2018 was 753.152, which means an increase of 220.624 households and 41,4%. In the year 2000, there were 293.625 households living in the block of flats and 337.717 in the year 2018. That is an increase of 44.092 households in total and 11,5%.

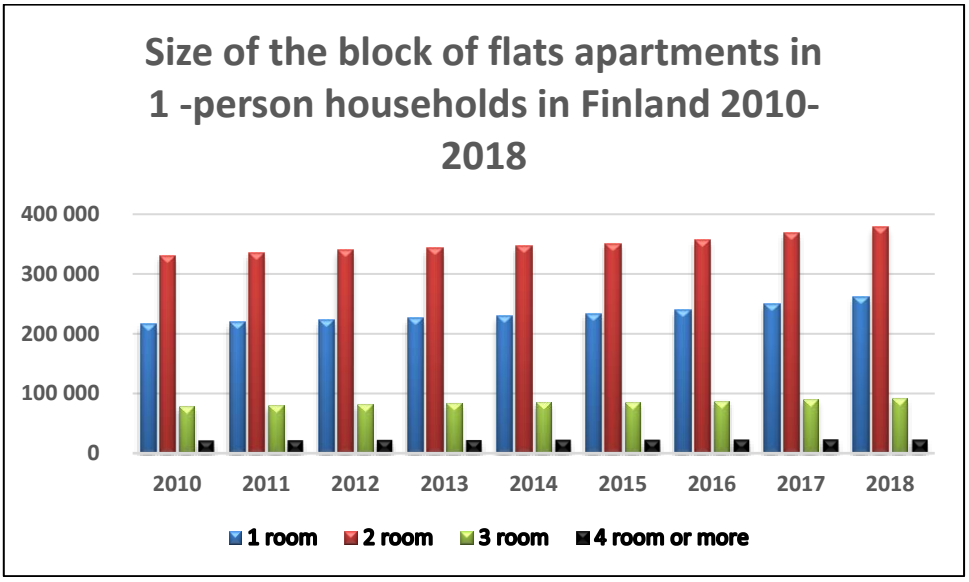


Figure 45 *Size of the block of flats apartments in 1-person households in Finland 2010-2018 (Statistics Finland, 2019d).*

Figure 45 indicates how the size of a block of flats apartments was divided in 1-person households between 2010 and 2018. As the figure shows, the major part of the apartments was 2 rooms or 1 one-room apartment. In the year 2010, the number of 1-person households in one-room apartments was 216.244, which was 33,5% from the whole base. From two rooms apartments, the number was 330.653 and 51,2%. In the year 2018, there were 261.170 one room and 378.248 two-room apartments. The percentages from the whole base were 34,7% and 50,2%. The relative share of two-room apartments had fallen from the total housing stock, but the number has increased by 47.595 and by 14,4%. The relative share of one-room apartments had risen instead. The number has increased by 44.926 and by 20,8%. According to Statistics Finland, in recent years, one-room apartments have been gaining popularity as housing types, especially in growth centers, where the average number of people in the households has decreased, and single-person households have become more common (Kannisto, Kokkonen, Korhonen & Vuorio, 2019).

Appendix 13

HOUSING STARTS BY HOUSE TYPES IN FINLAND 2015-2019

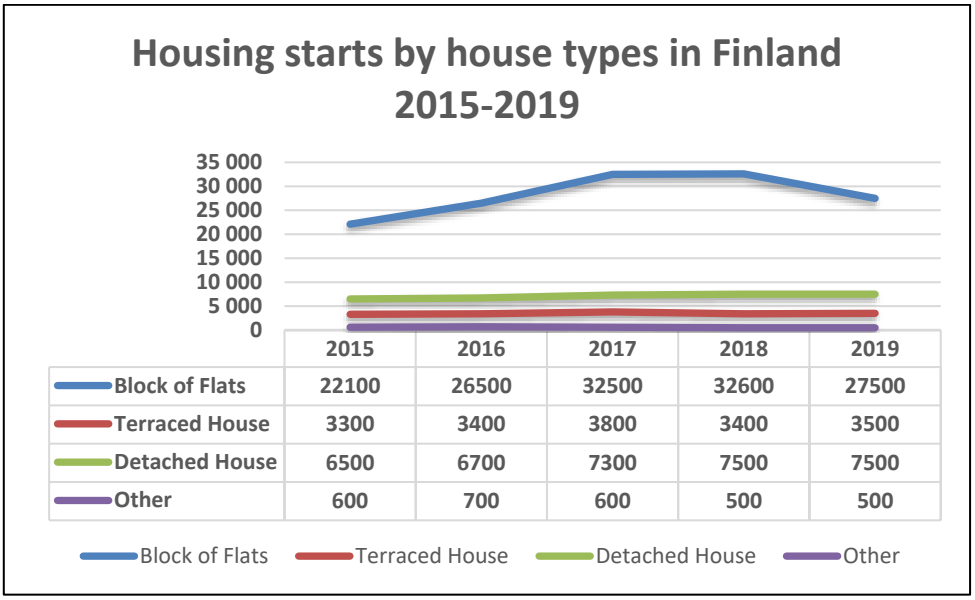


Figure 46 *Housing starts by house types in Finland 2015-2019 (Confederation of Finnish Construction Industries RT, 2019).*

Figure 46 above shows that the trend of a block of flats starts has been rising between 2015-2018. In the year 2018, there were 10.500-block of flats housing type starts more than in 2015, which is 47,5%. In the year 2019, the block of flats starts turned down to level of 27.500, which means 15,6% less than in the previous year. The start of the row-houses has maintained the yearly level between 3300 and 3800, while the start of the detached houses has risen from 6.500 to 7.500 housing starts, which is an increase of 15,4%. According to the previously mentioned estimate created by RAKSU Group, the reason for the decrease of housing starts is the lower number of granted building permits (Ministry of Finance, 2019b, p. 5)

Appendix 14

STRESS TEST CALCULATION

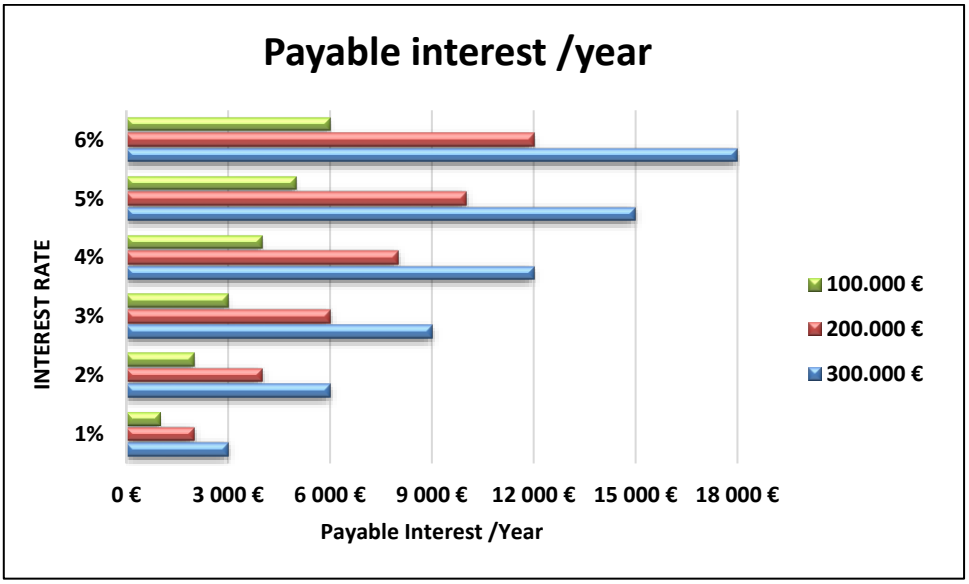


Figure 47 Payable Interest/year.

Figure 47 shows how the change in the interest rates affects the annual interest payments at a loan amount of 100.000 -300.000€. An increase of one percentage point in the interest rate affects € 3,000 a year when the loan amount is € 300,000. The higher the loan amount, the more significant the one percentage point increase in paid euros is annual.

Appendix 15

NON-PERFORMING ASSETS IN FINNISH BANKING SECTOR (30.6.2018 & 30.6.2019)

Table 5 Non-performing assets/ 30.06.2018 (FIVA, 2019b).

30.6.2018	Credits (€)	Total non-performing assets	Total non-performing assets, % of credits
Total	**277 026 415 221 €**	**4 281 691 242**	**1,5 %**
Non-financial corporations	**85 907 587 406 €**	**1 703 803 865**	**2,0 %**
Households	**129 144 850 557 €**	**2 572 172 409**	**2,0 %**
Public entities	**12 670 925 307 €**	**234 987**	**0,0 %**
Credit institutions	**45 313 700 036 €**	**0**	**0,0 %**
Other financial institutions	**3 989 351 915 €**	**5 479 980**	**0,1 %**

Table 6 Non-performing assets/ 30.06.2019 (FIVA, 2019b).

30.6.2019	Credits (€)	Total non-performing assets	Total non-performing assets, % of credits
Total	**441 907 372 787 €**	**7 439 686 795 €**	**1,7 %**
Non-financial corporations	**173 261 603 420 €**	**4 282 000 698 €**	**2,5 %**
Households	**225 935 420 359 €**	**3 044 718 633 €**	**1,3 %**
Public entities	**17 364 029 489 €**	**2 962 460 €**	**0,0 %**
Credit institutions	**17 537 995 560 €**	**1 136 €**	**0,0 %**
Other financial institutions	**7 808 323 959 €**	**110 003 868 €**	**1,4 %**

Table 6 shows the total amount of credits and total non-performing assets / 30.06.2018. Table 5 shows the same data from 30.06.2019. The tables show that the total amount of credits has increased by ca. 165 billion and 59,9% in one year. The credits of households have increased by ca. 96,8 billion and 74,9%. According to Torsten Groschup, Senior Risk Expert of FIVA, the vast differences between numbers in 30.6.2018 and 30.6.2019 are due to Nordea´s move to Finland on October 1, 2018 (Groschup, e-mail 10.11.2019).

According to a press release published on 18.09.2019 by FIVA, the amount of non-performing loans in the Finnish banking sector is still among the lowest in Europe (FIVA, 2019a). Especially in Southern-Europe, non-performing loans (NPLs) are at alarming levels in many countries. The EU authorities are working to reduce these issues by the NPL action program. (Finance Finland, 2019)

Appendix 16

EXAMPLE OF THE HOUSEHOLDS SOLVENCY RATIO

In the following fictional example, a young, academically educated couple has saved €60.000 for their first own house. The total incomes of the couple are €5.000/month. A couple has decided to purchase their common new-built apartment from the housing company As Oy Helsingin Sompasaaren Tyyni, address Aallonhalkoja 5 and 7 B 47, Helsinki, Kalasatama. A couple has a dog, and they are dreaming about an addition to the family in the future, so they need a couple of extra squares. The size of the apartment is 72,5 housing square meters. The housing company is new-built company, and it lies in the rental plot. There is a possibility to buy out a piece of the plot for the price of €117.450. The cost of the plot is high, and the rental contract of the plot is not expiring until 26.9.2068, so the couple thinks there is no need for the purchase of the plot now. They decide to pay €403,83 monthly charge of the rental plot.

The debt-free purchase price of the apartment is €493.000. The selling price is ca. 32% of the debt-free purchase price, which makes €158.000 and €335.000 for the housing company debt. The housing company debt has a 2 years installment-free period from the completion of the apartment and housing company. Couple must pay only interest of the housing company debt from the period of the first two years, which makes €328,30/month. The cost of the maintenance fee cost is €315,38/month.

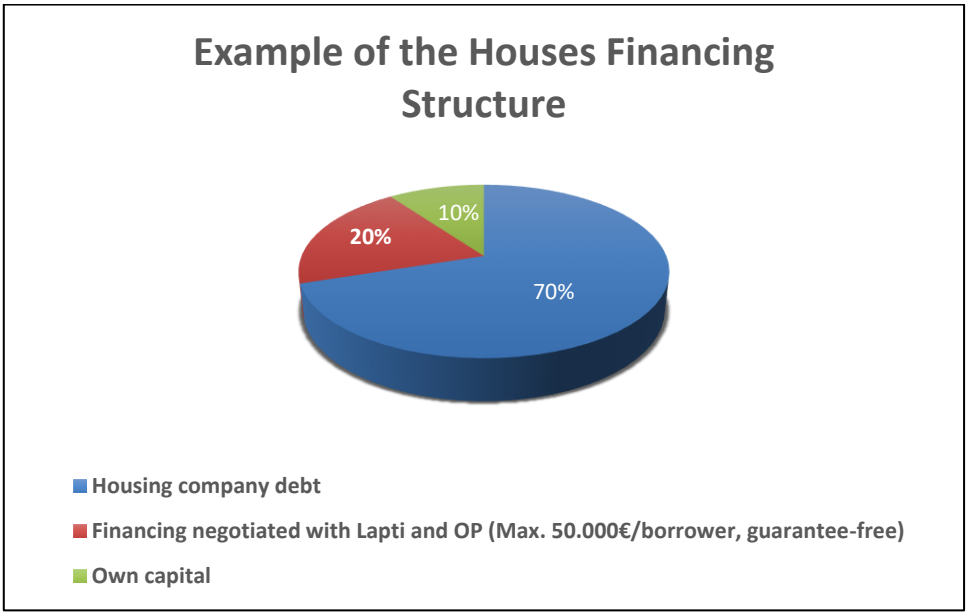


Figure 48 *Example of the possible Financing Structure offered by Lapti Group Oy (Lapti Group Oy, n.d.).*

The young couple has only €60.000 own capital, so they are short of €98.000. Lapti Groups Oy, the construction company of the As Oy Helsingin Sompasaaren Tyyni, has a resolution for the dilemma. Lapti Group Oy has

negotiated the financing contract with Osuuspankki Finance. Osuuspankki finance is ready to finance up to €50.000 /borrower without guarantees if the customer of Lapti needs financing for the own part of the capital. As Figure 48 shows, the structure for the financing model is 70% housing company debt, 20 % consumer credit debt granted by Osuuspankki and 10% own capital.

According to the sales manager of Lapti Group Oy, the financing process usually goes as follows. The sales manager of the Lapti sends Osuuspankki´s loan application link to the potential purchaser of the apartment. Purchaser fills the application to Osuuspankki. Osuuspankki handles the application through their credit process, and the bank informs the borrower how much he or she can apply for a loan. If the deal is sealed and the loan granted, the finance company performs a granted loan amount by a bank transfer straight to the Lapti´s account and sends an invoice to the borrower. The arrangement fee for the loan is €80, and reference-interest rate-% is 3,75% bounded to the 10-year fixed rate. The loan period is usually 8 to 10 years. According to the sales manager of Lapti, the interest of the Osuuspankki for the arrangement is to diversify the shareholder risk in the housing company and earn interest profits from the loaned money. The figure below shows the conditions for the 20% shares consumer credit.

Figure 49 *Key Figures of the consumer credit contract dealt with Lapti Group Oy and Osuuspankki.*

Figure 50 As Oy Helsingin Sompasaaren Tyyni – Housing Costs /Month (Lapti Group Oy, 2019). represents how the living costs are distributed between the installment-free period and the installment period. The installment of the OP Finance is calculated by using the loan calculator of the Osuuspankki and 10-year loan period with a 3,75% interest rate (Osuuspankki, n.d.).

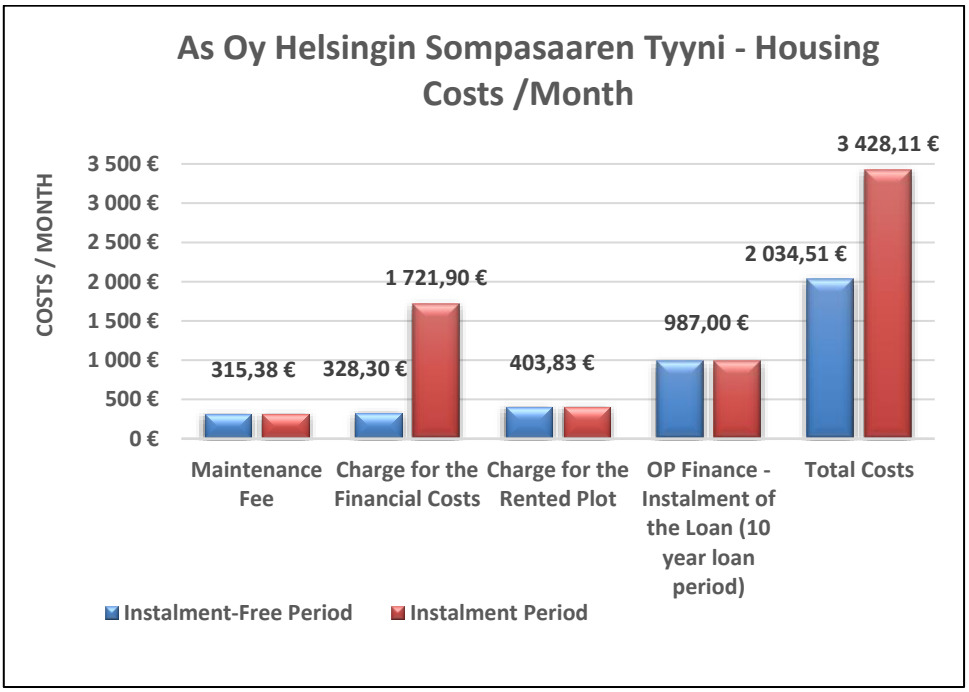


Figure 50 *As Oy Helsingin Sompasaaren Tyyni – Housing Costs /Month (Lapti Group Oy, 2019).*

As Figure 50 shows, the charge for the financial costs rises when 2 years installment-free period ends. The difference between the installment-free and installment period is €1.393,60 /month. Total monthly costs increase from €2.034,51 to €3.428,11 /month. Such a dramatic rise in the monthly costs may cause payment problems in the household's personal economy. If the incomes of the couple will withstand the increase of the monthly costs after the installment-free period, it is likely that problems will arise when something changes in the couple's economy, which will decrease the incomes, for example, unemployment or maternity leave. The reason why changes in couples' incomes are challenging in this example is that there is no bank to talk to when something surprising happens in the incomes. If the loan €335.000 would be taken from the bank, it is likely that the bank would grant an amortization free period for the loan if something surprising happens in the household's economy. But because the €335.000 loan is taken through housing company loan, such an arrangement is not possible. The only loan the couple might ask amortization-free is the consumer credit financed by Osuuspankki.

The couple might try to negotiate a loan from the bank and pay off both existing loans. However, that might be difficult because the loan sum is as high as €433.000€ and the value of the apartment is €493.000€, which makes ca. 88% financing rate. The financing rate itself is not the problem. The problem is that the incomes of the couple might not withstand the stress-tested calculations. According to Aktia Bank, as a guideline, housing costs, (including, for example, debt installments, stress-tested interests,

management charges, water and electricity charges) should account for up to 45% of net monthly income (Aktia, n.d.).

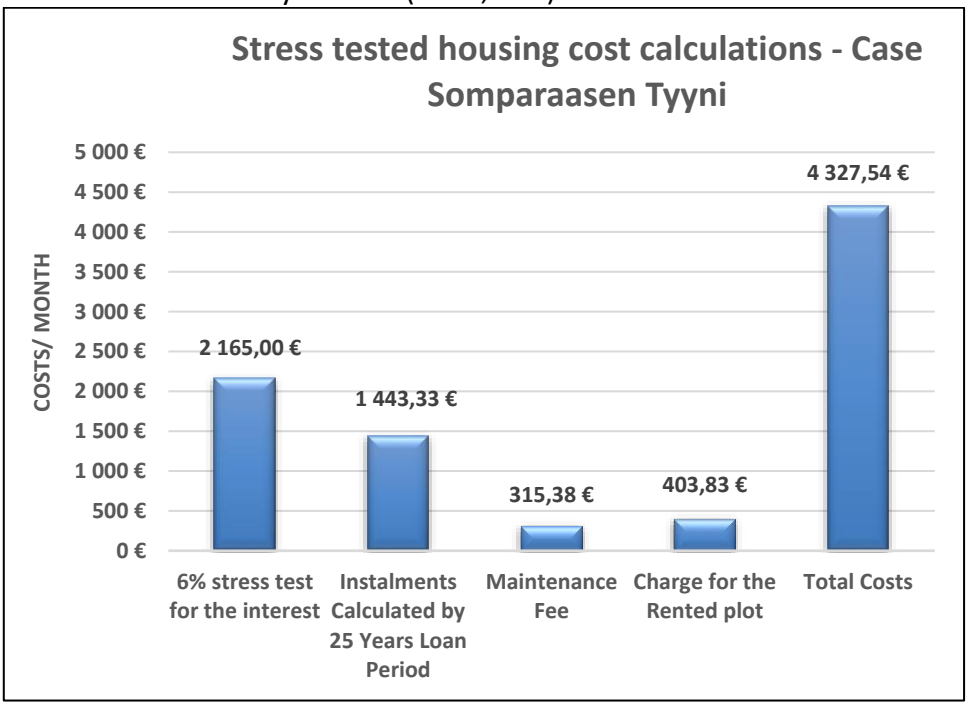


Figure 51 Stress tested housing cost calculations -Case Sompasaaren Tyyni

Figure 51 shows, the total monthly costs are 4.327,54€. The calculations don´t include typical costs of living like electricity, water, or possibly monthly paid parking lot rental. The calculation indicates that the monthly net incomes of the couple should be €9.616,76 when 45% of the housing costs are €4.327,54€. The bank might be reluctant to offer the financing for the young couple, because the loan period is likely to start with an installment-free period, and the stress-tested housing cost calculations are too high in proportion to households' incomes even if both of them have steady jobs. The only option for the couple in the example is likely to be selling the apartment, and because they are in a hurry, it is expected that the selling price will be lower than the purchasing price.

In this example, the price of the bought apartment was too costly in proportion to the households' incomes, which turned out when something surprising happened in the couple's incomes and the installment-free period of the housing company debt ended. The loan calculations of the housing company debt were not stress-tested in any phase of the buying process because there were no financing negotiations with the bank.

Appendix 17

SENSITIVITY ANALYSIS OF THE TAX CHANGES IN HOUSING COMPANIES DEDUCTABILITY RIGHT

In new-built housing companies, the amount of housing company debt is usually between 55-85% from the debt-free price. For example, in the following case- As Oy Helsingin Koskelan Tammi, Koskelantie 64 B 79, 00610 Helsinki, 47m2 flats debt-free price is €305.000. Sell price is €129.512,99 and housing company debt €175.487,01, which is ca. 57,5% of the debt-free price (See Table 7 below). (Oikotie, 2019)

Table 7 *Key Figures 1 As Oy Helsingin Koskelan Tammi – Koskelan tie 67 B 79, 00610 Helsinki (Oikotie, 2019).*

Key Figures 1 /As Oy Helsingin Koskelan Tammi - Koskelan tie 67 B 79, 00610 Helsinki	***Price***
Debt-free price	*€305 000,00*
Sell price	*€129 512,99*
Housing company debt	*€175 487,01*

As Oy Helsingin Koskelan Tammi is a new-built company and it is meant to be completed in 2021. The amortizations of the housing company debt start two years after the end of the construction period until that shareholder pays only interest of the housing company debt. The charge for financial costs from the installment free period is 131,62€, and after that 767, 44€ /month (see Table 8 below). An investor is interested in the apartment and is planning to rent the apartment with 900€/month to the tenant.

Table 8 *Key Figures 2 As Oy Helsingin Koskelan Tammi – Koskelan tie 67 B 79, 00610 Helsinki (Oikotie, 2019).*

Key Figures 2/As Oy Helsingin Koskelan Tammi – Koskelantie 64 B 79, 00610 Helsinki	***€/ Per/month***
Rent incl. water	*€900,00*
Water	*€20,00*
Maintenance fee incl. rental plot fees	*€357,20*
Charge for financial costs installment free period	*€131,62*
Charge for financial costs installment period	*€767,44*

The charge for the financial costs for the installment period is estimated and calculated by 0,90% housing company debt marginal and ca. 21 years

housing company debt period. Housing company has recorded the housing company debt payments as a revenue on its books, so the housing company debt payments are deductible from rental income.

Table 9 below indicates how the incomes and expenses of the apartment are dealt with during the installment-free and installment periods with the above-mentioned income and cost levels /year. The calculations below show that by this kind of income and cost structure, the time of installment free period is profitable by €3.285,91/year. After the installments of the housing company debt starts, the incomes will turn unprofitable by –€2.054,98/ year. It means that the apartment owner needs to put its own money ca. €171/month to get the necessary expenditures covered.

Table 9 *Cost structure, installment-free period vs. installment period – Case As Oy Helsingin Koskelan Tammi – Koskelan tie 67 B 79, 00610 Helsinki (Oikotie, 2019).*

Income /Expense type/ Year	*Installment -Free Period*	*Installment Period*
Rent /year (incl. Water)	10800,00	10800,00
Water	240,00	240,00
Maintenance fee	4286,40	4286,40
Charge for financial costs (deductable)	1579,44	9209,28
Incomes before taxes	4694,16	-2935,68
Taxes 30%	1408,25	0,00
After taxes	3285,91	-2935,68
Charge for financial costs (non-deductable)	0,00	0,00
30% Decifit compensation for capital income	0,00	880,70
Net Income	**3285,91**	**-2054,98**

Table 10 *Sensitivity analysis with different tax deduction-% – Case As Oy Helsingin Koskelan Tammi – Koskelan tie 67 B 79, 00610 Helsinki (Oikotie, 2019).*

Income /Expense type/ Year	*If 75% of CFC is deductible*	*If 50% of CFC is deductible*	*If 0% of CFC is deductible*
Rent /year (incl. Water)	10800,00	10800,00	10800,00
Water	240,00	240,00	240,00
Maintenance fee	4286,40	4286,40	4286,40
Charge for financial costs (deductable)	6906,96	4604,64	0,00
Incomes before taxes	-633,36	1668,96	6273,60
Taxes 30%	0,00	500,69	1882,08
After taxes	-633,36	1168,27	4391,52
Charge for financial costs (non-deductable)	1726,74	4604,64	9209,28
30% Decifit compensation for capital income	190,01	0,00	0,00
Net Income	**-2170,09**	**-3436,37**	**-4817,76**

Table 10 shows how the possible new tax treatment considering the deductibility of charges for financial costs (CTF) would affect net incomes. The outcomes are calculated if the deductible percentage of CTF is 75%, 50%, and 0%. In a 75% percent example, 75% of the CTF is deductible, so 25% of the CTF must be paid after taxes. In a 75% scenario, the net income of the apartment is unprofitable by -€2.170,09/year. If CTF deductibility were 0%, the net incomes would be unprofitable by -€4.817,76/year, which means that that apartment owner needs to invest its own money ca. €401/month to get the necessary expenditures handled. In every scenario, the income of the investment won't be enough to cover the expenses, which had turned the table if we looked at the time when CTF was on installment free period on Table 9. The only scenario when the incomes were higher than expenses, was the time of installment free period. Notable is that CTF is calculated at the 0,90% interest rate. When the interest rates rise, the profitability will be even worse. It is also possible that the occupancy rate is not always 100%. The apartment may be vacant for a moment during tenant change, which decreases cashflow.

Appendix 18

WAYS TO BOOS UP THE NEW PROPERTY SALES

Ways to boost up the new property sales

As it was mentioned before in the summary of the subprime crisis section, “During the economic growth boom, everyone wants to get rich quick.” The same kind of phenomenon is currently running on the Finnish construction industry as every company in the industry wants to get their share of the cake. The profits are limited in the hard-competitive markets, which means that construction projects must get ready on time to be able to start the next one. “Time is money,” as the saying goes. In new-build apartments, there is always a risk that the apartments will not go on sale on the markets, which will delay the start of the forthcoming building projects. Construction companies have created a different kind of tricks to boost up the sales of the new-build apartments. The following chapter is dedicated to those tricks that are appearing in the Finnish housing markets.

High loan to value percentages in new-built housing company debts

Loan to value (LTV) ratio is an assessment of lending risk that financial institutions and other lenders examine before approving a mortgage. Assessments with high LTV ratios are at higher risk. The formula of the LTV ratio is calculated by the mortgage amount divided by the appraised property value. (Hayes, 2019) For example, if the apartment debt-free price is €100.000, and the amount of loan is €85.000, the LTV ratio is 85%.

New-built properties attract buyers at a low sale price, and housing company loans might cover up to 75 percent of the total price of a home. According to Jukka Kero, the Chief Economist of the Real Estate Association, at the beginning of the 2000´s the housing company debt was around 25%, today the percentage is 75. In addition to own personal loan, such a loan amount involves significant risks. If one shareholder runs into trouble and fails to pay his share of the monthly costs, his share of the housing company loan may fall to the other shareholder´s neck. The risk of a single shareholder falling is very high in small housing companies with large apartments, says Kero. (Oksanen, 2018)

The popularity of housing company loans has increased since 2014. In the year 2018, more than nine out of ten new-built apartments had some level of a mortgage loan, writes Macro-stability expert Kristiina Tuomikoski of Bank of Finland, in her blog. According to Tuomikoski, in new-built housing companies, the amount of big housing company debts is higher than before. A big housing company debt is a debt that is more than 70% of the debt-free price of a home. There are regional differences between big

housing company debts. “Especially Oulu, Tampere, and Oulu stand out, in these cities more than half of the new homes are sold with big housing company debt,” Tuomikoski writes. In Helsinki, over a third of new-built companies are sold with a housing company debt of over 70%. (Tuomikoski, 2019)

Installment-free periods in new-built housing company debts

Housing company debts negotiated by construction companies and banks often have a 3-5-year installment-free period. During the installment-free period, only interest is paid on the housing company loan. When the installment-free period ends, and the charge for the financial costs includes the installments, the cost of living increases significantly. (Tervola, 2018b)

In the new-built housing company As Oy Vantaan Maalisuora, built by SRV, offers five years installment-free period for the housing company debt after the building has been completed. The housing company debt is financed by Aktia Pankki Oyj. The financial charge costs from the installment-free period are €0,17/owned share/month. After the installment-free period ends, the corresponding cost is €1,10 /month, which makes it over six times higher /month. The interest rate of the financial charge cost is calculated by using an interest rate of 2%. (SRV, 2019a)

Ari Pauna, the Managing Director of the Finnish Mortgage Association, criticizes banks and construction companies for doing high-risk housing business with a housing company system. According to Pauna, the pattern of the financing structures for the housing company debts is the result of negotiations between the bank and the construction companies. The long-term installment-free period is intended to accelerate the sale of new properties, says Pauna. (Tervola, 2018b) Installment-free periods should be used as a risk control method, says Pauna (Vänskä, 2017).

In an interview conducted by Iltalehti 27.3.2018, Jukka Rantanen, the CEO of Sp-kodit, believes that there is a time bomb connected to the debts of housing company loans. “In a few years, we will see desperate situations and litigations, with claims for damages, as mortgage repayments begin to rise after installment-free periods and financial compensation rises to several thousand euros per month. It comes as a surprise to many,” says Rantanen. Rantanen believes that many house owners are trying to sell their homes before the management fees go up. He has heard, for example, that the 100 m2 apartment on the metro area of Espoo, the monthly management charges will increase to the level of €5.500 after the installment-free period ends. In Oulu, the costs will rise to the level of €1.400 in a single apartment, says Rantanen. Rantanen highlights to Iltalehti that he or the company he represents has not done actual analysis

at the housing company level of the previously mentioned cases. (Koskinen, 2018)

There are also divergent opinions on what comes on the risks associated with housing company loans. According to Jukka Rantanen, the CEO of the Sp-Kodit, it is not possible that repaying housing company loan comes as a surprise to anyone. “It is a completely absurd idea that a housing company loan repayment of up to €5.000 would be due to someone unexpectedly, as it is written in recent days in the newspapers. The unpaid housing company loan of another shareholder does not fall uncontrollably on anyone's neck,” writes Rantanen on his blog. (Rantanen, 2018)

Promotional campaigns of the construction companies

In July 2018, the tower house named As Oy Vantaan Astrum was built and finished in Vantaa´s Korso by Lujatalot Oy. The housing company contained 120 apartments, of which 50 were still unsold at that time. Lujatalot Oy aimed to speed up the sales by paying a 2% transfer tax on behalf of the buyer. For example, in the case of a 31m2 apartment, which price was €181.500, the benefit was €3.630. Apartments all over Finland were included in the transfer tax-campaign of Lujatalot Oy. The apartments in the campaign were selected by the areas in which the sales needed to get accelerated. According to Marja Kuosma, Skanska Home Sales and Marketing Director, that was a standard promotion and competition of the customer's attention. (Suojanen, 2018) The construction companies tend to boost trade of the dwellings through promotional campaigns rather than stamping prices down. “Falling prices is a difficult equation for the builders. This means that the builder would take away the discount from his profit,” says Erkki Heikkinen, CEO of Kiinteistömaailma Oy. (Jääskeläinen, 2018)

Stock listed construction company SRV offers to pay 12 months maintenance fees on behalf of the purchaser of Asunto Oy Vantaa´s Varikonaarre if the trade is completed before 31.12.2019. In the case of the 64m2 triangle of the housing company, the benefit is worth €3.192. (SRV, 2019b) A free period campaign that ended on August 31, 2019, the stock listed construction company YIT supported first-time house buyers by offering to pay 12 months maintenance charges for the financial costs. Depending on the apartment, it was an advantage worth thousands of euros (TM Rakennusmaailma, 2019).

The ready-to-move new-built housing company called Vantaa´s Vespa has only a few apartments available. Two of those apartments are pre-decorated. Skanska Kodit Oy offers furniture’s into the bargain when the trade is completed before 31.12.2019. The value of the furniture can be up to €10.000. Alternatively, the same discount can be added as a discount on the price of the apartment. (Skanska Kodit Oy, 2019)

In February 2018, SRV launched a new model for housing pricing. SRV

offers two different pricing policies for all its new-built housing companies, depending on whether the buyer wants to use a housing company debt or not. If an apartment buyer has wealth or personal loan, the debt-free price of an apartment can be one or two percent lower than the housing company debt model. The background of this model is that if a buyer has own capital, it lightens SRV´s need for the funding, says Juha-Pekka Ojala, CEO of SRV. According to Ojala, the buyer should calculate which of the financing options is more sensible. “As your circumstances change, you are able to negotiate loan terms with your bank.” In housing company debts, it’s not possible to negotiate with banks about amortization free periods or loan changes from the perspective of shareholder of the housing company. (Hakola, 2018)

Financing methods

In March 2018, FIVA became interested in construction company Lehto Groups' new financing model called Lehto Raha. Lehto Raha's financing concept was created in collaboration with Nooa Säästöpankki. Lehto Raha was launched to the customers who are buying an apartment. The service is not available to investors. In this model, the home buyer first lies in the apartment by renting for a year by paying 5% of the debt-free purchase price. The rent collected during the year will later be used as savings when buying the apartment. Pasi Kokko, the responsible of Lehto Group´s apartment service area, says that the basic idea behind the launched model is Lehto Group´s desire to be an innovator in the construction industry. (Tervola, 2018a; Lehto Raha, n.d.)

In December 2018, Taloussanomat of Iltasanomat wrote that Lehto Group started to offer housing companies the opportunity to finance their pipeline renovation by selling building rights to the refurbishment. Lehto Group is looking for housing companies as customers, whose buildings were built on loose plots in the 1960s and 1970s. Lehto is particularly interested in the suburbs of the Helsinki metropolitan area, with good transport links and public transport. According to Jukka Viljanen, sales director of Lehto Group, “in principle, everything inside the Ring 1 is interesting.” (Okkonen, 2018)