UNIVERSITY OF LJUBLJANA
FACULTY OF ECONOMICS

MASTER'S THESIS

ECONOMIC DEVELOPMENT AND INEQUALITY IN SLOVENIA DURING THE RECENT ECONOMIC CRISIS

Ljubljana, November 2015 JURE PETERNELJ

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INTRODUCTION

In times of economic crisis, the economic sphere is flooded with ideas and theories that would answer some of the questions related to poor economic performance. The reasons for it are being sought, consequences are being analysed or solutions for escaping it are being suggested. In relation to the recent financial crisis, income inequality has been frequently mentioned. Some saw it as one of key reasons for the crisis and now recovery from it, mainly through unsustainable loans of middle-income households and an under-consumption effect. For others, it has been seen as a consequence of financial crisis due to increasing unemployment and different economic performance effects through income classes. While for some, it has nothing to do with the economic development.

The topic of economic crisis has been a subject of countless articles and debates. Economic crisis in relation to inequality is also not a novelty in the world of economy. However, the relation between economic crisis and inequality has not been dealt with sufficiently for Slovenia, especially during the recent crisis. During the past 7 years the macroeconomic environment has been quite problematic in Slovenia, as GDP dropped by 6 % in 2009 alone. In that same year prices grew for 1 %, while net earnings dropped for 0.5 %. Additionally, unemployment rate has been increasing for three consecutive years and exceeded 10 % in 2013. The fall in economic activity at this level could prove to have some sort of relation to inequality. Inequality indicators show that inequality has been very dynamic during the economic crisis. From 2009 to 2010, Gini coefficient increased from 22.7 to 23.8. In the same year, income ratio of 20 % of the highest income classes compared to 20 % of the lowest income classes, increased from 3.2 to 3.5 and share of population living at risk of poverty from 11.3% to 12.7 %.

These basic measures alone indicate that some correlation between economic development and inequality in Slovenia is highly plausible: decline in economic activity could be related to increasing inequality, since the crisis had a differing impact on various groups of people. In light of these facts, key research questions that will be addressed were set:

1) How is inequality linked to economic development? Is it indeed negative and why?
2) What happened with inequality during the crisis in the EU and Slovenia?
3) What are the detailed characteristics of inequality in Slovenia?
4) What was the relationship between inequality and life quality in Slovenia?
5) What policy measures can be used to mediate the negative impacts of growing inequality, but still support economic recovery?

It is expected, from overviewed empirical and theoretical contributions, that inequality is to some extent related to economic development. The prevailing opinion on the subject is that

inequality has negative effects on economic growth. It is also believed that in times of crisis, especially if unemployment levels rise, inequality is bound to increase. Based on a very poor Slovenian economic performance and one of the highest unemployment rates in EU, it is very likely that Slovenia had higher increases in inequality than most of EU countries. High unemployment rates are expected to influence poverty rates the most. Due to different effects of the crisis on different household income groups, the differences in the quality of life among these groups are expected to increase. If indeed inequality has significantly increased during the crisis, the effects will be seen in quality of life perceptions. Because this topic is widely discussed and perceived as very important, policy measures recommendations with the goal to mitigate the effects of inequality and boost the economic growth at the same time should be available. An overview of major organisations should offer some exact policies that could work well for Slovenian future growth.

To answer key research questions of the thesis, two core methods of research will be used. Description, analysis and synthesis will be provided on key theoretical contributions through time, empirical studies reports, internationally recognized inequality measures and policy measures that are recommended for the crisis that Slovenia is facing. Additionally, empirical analysis based on data processing of income inequality, economic development and quality of life indicators will be conducted.

The structure of the thesis is as follows. Firstly, a definition of inequality is provided. To understand it, historical overview of theoretical contributions is presented. Theoretical contributions are complimented with an overview of existing empirical studies on the topic. First chapter concludes with an emphasis on the correlation between inequality and economic development. Four different views on the topic based on relation stand point and interconnectedness are presented. Second chapter focuses on inequality measures that are being used on an international level and are most often used when analysing economic development and inequality. Thesis continues with an overview of the effects of economic crisis on inequality and life quality in Slovenia. Firstly, macroeconomic environment and inequality measures are analysed in Slovenia and European Union. Secondly, different correlations are tested with focus on determining the relation between inequality and economic development in Slovenia. Chapter concludes with an overview of inequalities in the quality of life among Slovenian population. Last chapter presents different policy measures that have higher probability of reducing inequalities and support economic recovery. In conclusion, key findings will be summarized.

1 CONCEPT AND HISTORIC OVERVIEW OF INEQUALITY

As the topic of this work is inequality and its relation to economic development, the concept of "inequality" and historic development of theory covering this concept is analysed in more details. Firstly, current definition of inequality according to several economists is provided.

1.1 Definition of inequality

Today there is not a clear consensus on a definition of inequality. Ray (1998) defines inequality as disparity which allows material choices to some and deny the same choices to others. Fotros and Maboudi (2011) defined it as differences, disparities and variations in the distribution of income, consumption, wealth, and saving between groups of individuals. Definitions are very broad and differ according to type of inequality. When referring to inequality in correlation with economic development, there are three most usual types: income, earnings and expenditure inequality.

Most commonly used in inequality relation to economic development research is **income inequality**. Organisation for Economic Cooperation and Development (hereinafter OECD) (2012a) sees it as a clear display of quality of living differences in a country, as high income differences indicate a waste in human resources in form of high unemployment or a lot of population being caught in low-paid and low-skilled jobs. World Bank (2000) on the other hand emphasises that there is more to understand than income p.c. to get an idea of the standard of living. Mainly poverty rates and (in)equality of income distribution have to be taken into account. The concept of **earnings inequality** is quite similar to income inequality. The difference is only in calculation. Income inequality includes tax, transfers as well as all sources of household income. It is also adjusted to household size and includes the non-working house members like children and the elderly. On the other hand, earnings inequality includes only permanent employees salary before taxes and transfers (Brady, 2009). **Expenditures inequality** on the other hand does not deal with income, but focuses on expenditure of the unit analysed.

When discussing inequality, it should not be mistaken for poverty. Inequality includes differences in living standards across a total population, while poverty focuses only on the part of population where standard of living is below a threshold level - known as poverty line. However, level of inequality will have effect on poverty rates. (McKay, 2002).

1.2 Historic overview of the theory of inequality

The question of (in)equality has emerged in the early stages of human history. First emergence of inequality dates back to the start of agricultural society around 10.000 years

ago. As agricultural advances enabled larger societies to evolve and the cooperating group increased over 100-200 people, people needed to adjust to the demands of face-to-face sociality. As a solution, society came up with a hierarchical organization, where chain of command was organizing and integrating the people. This sort of organization will lead inequality among group members (Turchin, 2012).

Few thousand years after the emergence of inequality, the first studies of concept of equality came from the **Greeks of the classical age**. Plato (1871) saw the optimal situation, where there would be no extreme poverty and no excess wealth. He saw the role of a legislator to determine the limit of poverty or wealth. Plato's student Aristotle was engaged in more systematic explorations of equality in several of his works. In *Ethics* he wrote that society should focus on equal distribution where no one has more or less then they should according to what they have done or what is their social position (Aristotel, 2009). He discussed equality especially in relation to trade, where he saw equality as a necessary condition for a successful trade/business. Without product or service equality, trade will not be possible (Science Encyclopedia, 2013).

During the medieval period (500-1500) in Europe, **scholastic thought** has developed. They approached the study of exchange, value and ownership through moral and philosophical view. The most known representative of scholastic thought was Thomas Aquinas (Thopmson, 2011). Aquinas (1892) did not discuss income inequalities or social inequalities specifically, but he did talk about justice and usury in relation to interests and its effects on inequality. He saw interests for lending money as unjust, because it is selling something that does not exist, which leads to inequality.

Following the scholastic period, the first school of economic thought emerged - the **Physiocrats**. The thought developed as a response to the mercantilistic policies of Jean Baptiste Colbert. They followed an idea that agriculture was the productive sector of an economy and were advocating laissez faire policies. They saw a difference in natural order and the state of nature, where the natural order is founded on law and property rights. This means that everyone does not have a right to everything (Reynolds, 2000). Main representative of the physiocratic economic thought Quesnay explained this concept on a case of a bird. He wrote that if everyone has a right for everything is the same as the right of each bird to all the insects that fly about in the air. In truth, this right is confined to all that it can catch. Similarly, a person has a natural right to goods suitable for his use, the right is confined to those goods that he can obtain through his labour (Spiegel, 1991).

The **classic period** started with **Adam Smith** and his *Wealth of Nations*. Adam Smith (1776) talked about inequality on the example of children mortality among the poor Scottish people: *"*In some places, one half the children die before they are four years of age, in many places before they are seven, and in almost all places before they are nine or ten. This great mortality however will everywhere be found chiefly among the children of

the common people, who cannot afford to attend them with the same care as those of better station". He saw economic inequality as a result and consequence of capitalism. Despite his affection towards "laissez-faire", he emphasised the role of the government to prevent and limit inequality. And although Smith realized that economic inequality is needed and unavoidable, he disapproved severe poverty and did not blame the poor for the state they are in. The centrality of self-interest in his economic model left room for sympathy and "fellow-feeling" in his analysis of social relations. In these respects, Smith differed significantly from most other classical economists, including Malthus and Ricardo (Baum, 1992).

David Ricardo's (2005) theory of functional distribution of income says that landlords will be the only social group who will benefit with developing, while workers will not gain and will continue to receive the subsistence wage. The falling profits will lead to slower capital accumulation and so the growth will stop and steady state will be reached. Based on these conclusions, Ricardo claimed that the focus should be on a steady state distribution of output among different classes and sectors of the economy. He wrote to Malthus, saying: "Political Economy, you think, is an enquiry into the nature and causes of wealth - I think it should rather be called an enquiry into the laws which determine the division of produce of industry amongst the classes that concur in its formation. No law can be laid down respecting quantity, but a tolerably correct one can be laid down respecting proportions."

Other classic authors, such as **Malthus** and **Mill,** have also dealt with the question of inequality. John Stuart Mill (1848) was in favour of policies that would reduce inequality, but he rejected redistribution policies, as they can only harm the highest income levels, while alone cannot save the lowest. Malthus was more optimistic in his thinking. He believed that developing economy and growing output and incomes, will contribute also to higher living standards of the poor and the working class. In his opinion, individuals would become more socially responsible and benevolent as their incomes increase. This would lead to the state where rich population would be willing to provide help for the poor voluntarily (Bradley, 2011).

When it comes to inequality, **Karl Marx**´s theory of classes needs to be emphasised. Marx's class analysis and critique of capitalism was an attempt to demonstrate the structural relations between classes of capitalists and workers and how this relation creates an asymmetry in economic relations (Suebsawangkul, 2007). Marx (1867) argued that severe inequality in distribution of productive materials and income is the source of disputes between social classes and will lead to social conflict. Marx never saw a happy ending for the capitalism. He believed the end will come in a way of a revolution (Marx, 1867): "Along with the constantly diminishing number of the magnates of capital, who usurp and monopolize all advantages of this process of transformation, grows the mass of misery, oppression, slavery, degradation, exploitation; but with this too grows the revolt of

the working class, a class always increasing in numbers, and disciplined, united, organized by the very mechanism of the process of capitalist production itself. The monopoly of capital becomes a fetter upon the mode of production, which has sprung up and flourished along with, and under it." His theory suggests that the only way economic growth can be continued is with high equality (Qi, 2001).

Whereas Marx's class analysis is economic-based, **Max Weber** provided an analysis of economic inequality from a multidimensional standpoint. He introduced a concept of status groups as a group of people who achieve a special social status monopoly through type of vocation, hereditary charisma and political power. He believed that every status society live by certain habits and agreements which regulate the style of life. This lifestyle creates patterns that are economically irrational and disturb the free market (Suebsawangkul, 2007). Weber (1978) wrote that such irrational consumption patterns will result in economic inequality and in a social problem.

In second half of the 19th century, William Stanley Jevons, Carl Menger and Léon Walras started the **marginalist revolution**. This was an important milestone in the history of economic thought, since it marks the beginning of the neoclassical thought. Main marginal concept was the shift from growth and evolution of the economy to allocative efficiency. The distribution of wealth and social class relations debates have started to be described in objective, mathematical and universal way. Distribution has now become a topic of maximization inside a given budget constraint (Sandmo, 2013).

After the Great Depression, neoclassical economics faced the problem of changing dynamics of economic system. **John Maynard Keynes** became active with an entirely different point of view on the economic policy. He was following Malthus theory that excessive saving in combination with unequal income distribution would restrain effective demand and so limit the expansion of total output. He argued that because consumption rate is fairly equal among all income brackets, greater income equality would bring greater aggregate demand and thus economic growth (Malinen, 2007). Decreasing the inequalities would not affect savings, as institutions are sufficient for generating savings in a way that would raise consumption and favour the growth of capital. Still, he was not in favour of complete equality. He was aware that certain, even significant level of inequality was justified, but not as big as it was in his time. He was confident that it is the government's role to provide equality among people, mainly through providing full employment (Keynes, 1936).

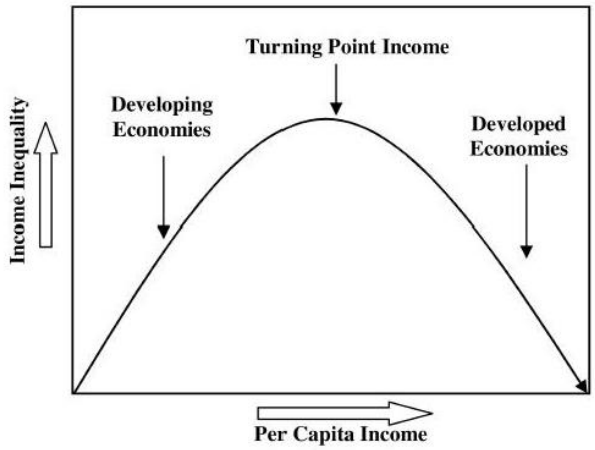
Different views on (economic) equality overviewed so far have mainly been theoretical. Great majority of economists and other authors that were mentioned so far have been of an opinion that equality is a state that society should strive for. Levels of equality and ways of achieving it have however differed. There are two general sides that economists have taken up to this point in history – either the equality is something that will be reached by itself or

by the intervention of a certain factor. The level of optimal (in)equality has also been interpreted differently – on one side a tendency towards "as equal as possible society" has been expressed and on the other more liberal and wider society classes have been proposed. Theoretical contributions until 1955 have been mainly based on assumptions. The authors mentioned have all contributed greatly to general understanding of economy, but have never managed to overcome the barriers of empirical research on the subject. This has truly started in 1955 when **Simon Kuznets** released his study.

1.3 Empirical studies

According to Kuznets' theory, income inequality will firstly increase with economic development and then decrease as economy will develop further. This turn in inequality is broadly known also as Kuznets' curve, as shown in Figure 1.

Figure 1. Kuznets curve in theory



Source: R. Desai, *Economic Development vis-a-vis Environment*, 2013.

Kuznets (1955) said: "First, all other conditions being equal, the increasing weight of urban population means an increasing share for the more unequal of the two component distributions. Second, the relative difference in per capita income between the rural and urban populations does not necessarily drift downward in the process of economic growth: indeed, there is some evidence to suggest that it is stable at best, and tends to widen because per capita productivity in urban pursuits increases more rapidly than in agriculture. If this is so, inequality in the total income distribution should increase ". With growing differences in productivity in urban and rural population, differences in other aspects would increase. Urban population faces lower mortality rates, higher fertility rates and new technology investment which will additionally increase the distribution inequality during the start of industrialization. Such growth of inequality is needed in Kuznets opinion, as agricultural economy alone does not generate enough savings to support sufficient growth of production. As the economy develops further and industrializes to higher extent, larger share of population will be moved to higher income group and income distribution will level out. (Malinen, 2007).

Kuznets' (1955) supported his assumptions about evening out of inequality with empirical data. He found out that the income share of the bottom two quintiles had raised from 13 % in 1929 to 18 % in the years after the Second World War, while the income share of the top quintile declined from 55 % to 44 % in the same period. This was the first empirical research conducted on the topic. Still, Kuznets' theory was still very much based on assumptions, as he estimated that, the study is perhaps 5 % empirical information and 95 % speculation (Kuznets, 1955). After Kuznets' research, the topic became interesting to many economists. Also, after 1960, statistical data collection has become more common and became a background for many economists who dealt with this topic. Most empirical studies covering period after Kuznets' and before the crisis were conducted in 1990s. Most of them are covering major countries of Europe and USA.

In Table 1, most important contributions and breakthroughs are briefly summarized. The empirical studies differentiate in the approach taken to analyse the relation as well as in their final conclusions.

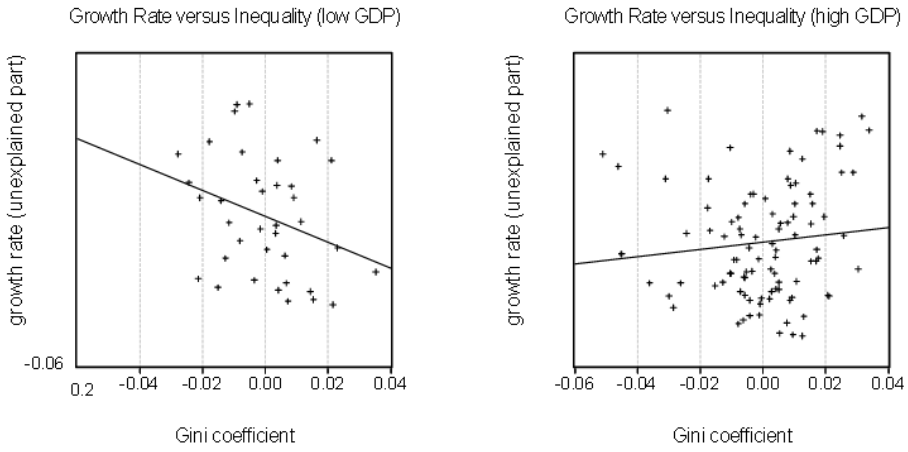
Perotti (1992) was mainly focused on government distribution. His main conclusion was that government transfers are positively effecting growth of economy. In 1995 another study was published by Perotti, where he further researched the correlations between income distribution, democratic institutions and growth. Key focus of this empirical research was to conclude on the correlation between the level of democracy in a country and the level of equality. He concluded (Perotti, 1995) that more equal societies tend to grow faster due to lower fertility rates and higher rates of investment in education. On the other hand, very unequal societies are more politically and socially unstable, which results in lower investment rates and consequently growth. He could not however conclude that faster growth is the result of lowering the demands for government distributions.

Alesina and Rodrik (1994) also concluded that there is a negative relation between inequality and growth. The reason for this, based on their research, was that demand for redistribution will be higher in countries where a large share of population does not have access to the productive resources of the economy. And higher redistribution needs will hamper the growth.

In the same year as Alesina and Rodrik released their study, Persson and Tabellini (1994) researched a similar topic. Their main question was why different countries, or even the same country in different time period, grow at different rates. In relation to this, they were interested in the role of income distribution in growth process. The outcome of the empirical research was very straightforward – inequality is harmful for growth. Key argument was that income inequality results in policies which do not protect property rights and at the same time limits the full use of return from investment.

Up to this point, all authors have concluded that inequality has negative correlation to economic growth. In 2000, Barro (2000) took a step further and tried to divide the countries based on their income and effects of inequality to find out if inequality has different effect on growth in different stages of countries development. He concluded from his empirical research that there the relation between income inequality and rates of growth and investment is low. However, he found out that higher inequality is slowing the growth in poor countries and increases growth in richer countries. With this conclusion he confirmed the Kuznets curve, that inequality first increases and later decreases during the process of economic development. He specified the level of development and found out that growth is falling with higher inequality when GDP p.c. is below $2000 and that it is rising when GDP p.c. is above $2000. This conclusion is demonstrated in Figure 2, showing relations between the growth rate and the Gini coefficient for two levels of GDP p.c. In the left figure, where GDP p.c. is under $2.070, the relation between growth and inequality is negative. In the right figure, where GDP p.c. is over $2.070, the estimated relation is positive.

Figure 2. Kuznets curve based on empirical research



Source: R.J. Barro, *Inequality and Growth in a Panel of Countries*, 2000, p. 48.

He did however come to the conclusion that relation presented in figure 2, cannot explain all of the inequality variations.

Table 1. Overview of selected empirical research on inequality and economic growth relationship

Author	**Title**	**Main conclusions**
Perotti (1992)	Fiscal Policy, Income Distribution and Growth	Government transfers have a positive effect on growth, or in other words, more equal income distribution is beneficial to growth.
Alessina & Rodrik (1994)	Distributive Politics and Economic Growth	Higher income and wealth inequality will lead to higher taxation rate and finally to lower growth.
Persson and Tabellini (1994)	Is inequality harmful for growth?	There exists a statistically significant negative correlation between inequality and growth.
Barro (2000)	Inequality and Growth in a Panel of Countries	Evidence base on a wide panel of countries show little relation between income inequalities and, growth rates and investment levels. However, an indication exists that inequality hampers growth poorer countries, while encourages growth in richer places.
Knowles (2001)	Inequality and Economic Growth	Negative correlation between income inequality and growth is not robust when income inequality is measured in a consistent manner. However, there exists a negative correlation between consistently measured expenditure inequality and economic growth for a sample of developing countries.
Pagano (2004)	An empirical investigation of the relationship between inequality and growth	Inequality is positively correlated with growth in rich countries. In poor countries, there is a negative effect of lagged inequality on growth as well as a negative effect of lagged growth on inequality.

Stephen Knowles (2001) continued the research on the topic. His main reason to conduct a research was the opinion that empirical work conducted by other economists has not used reliable data. In his work he also refers to Barro (2000), saying that combining various types of data will have effect the final outcomes and not visa-versa as Barro suggested. More specifically, he found out that comparing inequality with different types of data, such as gross income, net income, expenditures or treating households and individuals as comparable is a mistake. Through empirical research on a sample of developing countries he confirmed that the regression results are different, based on what measure of income inequality is taken into account. He discovered that negative correlation exists, only when after-redistribution inequality is taken into account. However, no negative correlation has been proven between gross income and economic growth. With these conclusions he after all reconfirmed Barros findings of negative correlation of growth and inequality (after redistribution) in developing countries, but highlighted the effects of redistribution policies.

The overview of pre-crisis theories can be concluded with Pagano's (2004) research on the correlations among inequality and growth. Similarly as Barro and Knowles, he concluded that in developed countries there seems to be a positive correlation between inequality and economic growth. In poor countries, on the other hand, there is not only a negative effect of lagged inequality on economic growth, but also a negative effect of lagged growth on inequality.

From the empirical research presented it is clear that there are many factors affecting the results and conclusions on inequality and growth relation, such as availability of data, reliability of data, stage of country development etc. Also, none of the overviewed authors analysed economic crisis in more details and concluded on the relations of inequality and growth in cases of financial crisis. Thus, it is important to additionally overview the empirical research framework that is available, with an emphasis on the relation of inequality to economic crisis. After the recent economic crisis, the topic of relations between inequality and crises has become popular again. Several empirical researches have been done aligning the latest situation with previous crises around the world, trying to learn something and to find common denominators. Short overview of such research is provided in Table 2.

Atkinson and Morelli (2011) made an extensive empirical research to conclude on the subject of relations between inequality and economic crisis. Key conclusion of the research was that economic and financial crises differed a lot and causality is not easy to establish. Based on hundred years of data in 25 countries it was found out that due to these big differences in crises types, the causes and results are incomparable. They did however conclude that there is high probability that financial crises are followed by rising inequality. They saw this during the crisis in the Nordic countries, and in other crises in the 1990s (Japan and Italy). The conclusions that Atkinson and Morelli provided showed that

comparing too many different crises and too many different countries is impossible and that there is probably no universal formula to understand crises.

Most of the later works have focused on the case study of the 1929 Great Depression, as most parallels with the current crisis can be seen.

Table 2. Overview of empirical research on the relation between inequality and economic growth in times of economic crisis

Author	**Title**	**Main conclusions**
Atkinson & Morelli (2011)	Distributive Politics and Economic Growth	Hundred years of experience on 25 countries revealed important differences among different historical economic crises - both in causes and results.
Wisman (2013)	Labor busted, rising inequality and the financial crisis of 1929: An unlearned lesson	Main reason for Big Depression was in dramatic increase in inequality through: a) elite flooding markets with credits, b) households taking greater debt to sustain lifestyle and c) rich gaining more command and as a result reducing taxes, promoting business over labour, and poorly controlling new financial instruments.
Kumhof & Rancière (2010)	Inequality, Leverage and Crises	Additional income of high income households is recycled through financial sector through loans. The loans are being used to sustain consumption levels. With growing of loans, also probability of a major crisis increases.
Bordo & Meissner (2012)	Does Inequality Lead to a Financial Crisis?	There is no evidence of correlation between financial crisis and inequality. It only shows a typical boom-bust cycle of low interest rates, high credits, fast growth, asset market booms and finally crises.

Wisman (2013) saw the main reason for Big Depression in a very high inequality growth after the World War I. Wisman explains that this happened through three dynamics. Firstly, as the incomes and capital of the population increased, those well off put loads of

credit in the financial markets in order to prevent interests rates from rising and to encourage development of new financial instruments, some of them designed to recycle capital of the elite as a debt to the poor and working class. Secondly, increasing inequality put pressure on people to spend and consume more as they wanted to preserve their relative social status. Outcome of this was seen in lower household savings, larger debts and increasing the amount of work hours. Thirdly, as a consequence of rich becoming even richer, they elite gained more power and control. They have lowered the taxes on the rich, promoted business instead of labour and poorly regulated the newly developed financial instruments created for the purpose of their ideology.

Wisman (2013) explored a similar topic of *Inequality, Leverage and Crisis relations* in IMF working paper. They outlined the connection between income increases of the higher income classes, high debts of the poor and middle class population and exposure to financial crises. They have recognized the same pattern comparing Great Depression and recent crisis in a way that they resulted as increase in bargaining power of higher income households. The reason for economic crisis that they identified has been to some extent similar to what Wisman found out later - additional income gained by high income households is being recycled through financial sector back to the lower incomes households through loans. The loans are being used to sustain consumption levels. With growing loans, probability of a major crisis also increases.

Referring to Kuhman and Ranciere, Bordo and Meissner (2012) published a paper a year later. They have analysed data from 14 developed countries from 1920 until 2000 and found out that there are no big relationships between inequality and financial crisis. They did however confirm that credit boom increases the chance of a financial crisis, but there was no prove that money concentration would lead to a credit boom. According to their research, only interest rates and economic growth have any effect on the credit booms.

Empirical research returned mixed results. Some economists (Kumhof & Rancière, Wisman) found out that there is a correlation between inequality and economic crisis because higher income households have flooded the market with loans and thus increased probability of a major crisis. Others (Bordo & Meissner) did not find such a correlation and believe that financial crisis is just a boom-bust cycle of low interests rates, high credits, fast growth, asset market booms and finally crises.

Empirical research on historical research has not returned uniformed results and conclusions. In order to understand relation between inequality and recent financial crisis, it is important to overview theoretical opinions on this exact relation.

1.4 Relationship between inequality and economic development during the recent economic crisis

Year 2007/2008 was a turning point for many economic theories, as many models proved to be insufficient when it comes to predictions. As major economies across the world fell in recession, questions of the causes and consequences of this event were raised. At the same time, another social-economic problem was being much more noticed when the crisis hit – inequality. People started wondering if unequally distributed income could be related to financial crisis. Across the world, movements were organized with a similar message – income distribution is not fair. With these movements, economic theories started to observe the correlation more in-depth.

There are two general views on the correlation: a) correlation between the crisis and inequality exists; b) there is no such correlation.

1.4.1 Theories of economic crisis being related to inequality

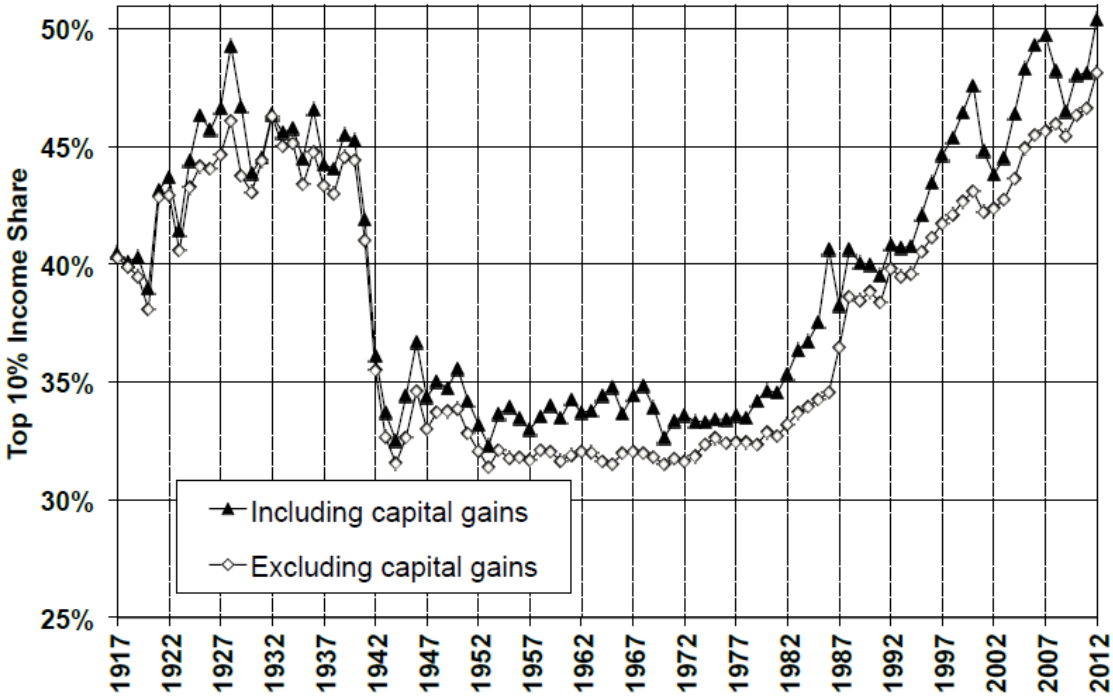
The main theory of relation can be divided into three sub-theories.

Inequality (temporarily) decreased after the economic crisis

Key message of the theory is that the economic crisis decreased differences among income groups, because higher income groups suffered higher loses than lower income groups. However, with economic recovery, gains of top income classes were very much higher than lower ones and so returned inequality to pre-crisis levels, or even higher.

In 2013, Saez (2013) from University of Berkley published a research focused on the evolution of top incomes in USA. He found out that in the crisis years from 2007 to 2009, average income per household lowered by 17.4 % in USA. However, the average real income of the richest 1% of households fell for even more - for 36.3 %. This resulted in a drop from 23.5 % to 18.1 % in share of total incomes owned by top 1 %. Based on this data, we can say that during the crisis from 2007 to 2009 inequality decreased. It is however important to see what happened to inequality when economy started recovering. Saez analyses also data after the crises and finds out that from 2009 to 2012 average household income increased by 6 %. However, the increases in income were unevenly distributed among income classes. The highest 1 % incomes increased by 31.4 % while the rest of households incomes only increased for 0.4 %. This resulted in the highest 1 % income class being almost at pre-recession levels, while the rest of population only started to recover. This suggests that decreases in income of top income class households were only temporary and it is unlikely that the crisis will level the income concentration that has been present since 1970. The increase in income share of the top 10 % after 2009 is seen in Figure 3.

Figure 3. The Top Decile Income share, 1917-2012, USA



Source: E. Saez, *Striking it Richer: The Evolution of Top Incomes in the United States*, 2013, Figure 1.

Important implication of Saez study is also that inequality not only got back to pre-crisis levels but indeed got higher. From Figure 3 it can be seen that top 10 % of the income share is actually higher than before the crisis.

Inequality is setting back the recovery

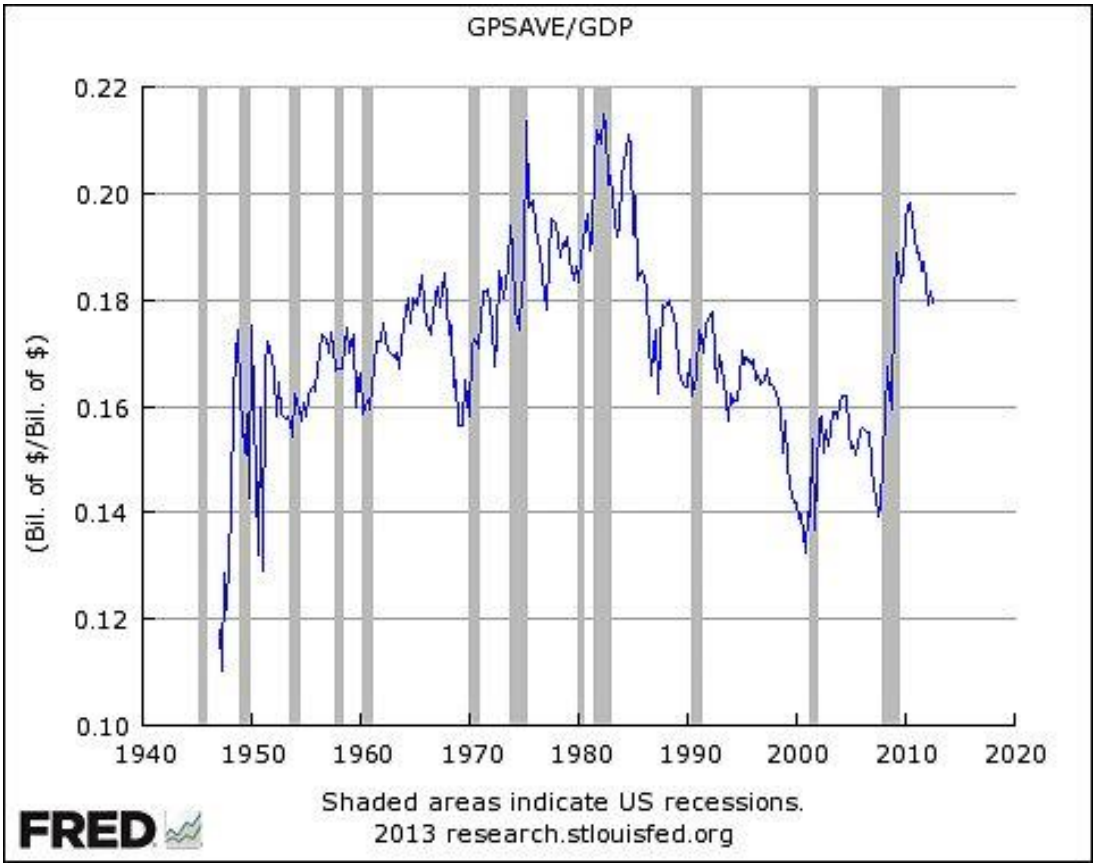
Relation between inequality and economic growth has also been analysed from a view of its effects on recovery. One of the most publicly noticed debates on the topic was a blog-discussion in January 2013 between Krugman and Stiglitz. The debate started when Stiglitz (2013) wrote a post in New York Times Opinionator titled *Inequality is holding back the recovery*. He listed four points on why inequality is stopping the economic improvement.

First argument was that middle class is not strong enough to support the customer spending. In 2010, highest 1 % income households received 93 % of total income growth. On the other hand, middle income households had lower income than in 1996. The problem is that the middle income households are more likely to spend their money and are thus the true job creators. And such trend was not sustainable as the lowest 80% of income households spent 110% of their income. Second argument was that the increasingly poorer middle class cannot finance their future, by paying for education, starting businesses etc. Third argument is related to consumption levels. Lower consumption of middle class bring

less tax earnings to the government. This results in government being unable to invest money in sectors crucial for economic recovery and long term economy strength - infrastructure, education, research ... As the last argument, Stliglitz associated inequality with more harmful and recurrent boom-and-bust cycles that weaken our economy and make it more vulnerable. He also found a correlation with the Great Depression in 1920s, when the levels of inequality and wealth were at such high levels as in the recent crisis.

Krugman responded the next day on his New York Times blog site with a post titled *Inequality and Recovery* (2013). He agrees with Stiglitz on second and fourth point, but does not see it being related to recovery after the crisis. Thus he focuses his article on the first Stiglitz point about under-consumption. Krugman says that economy is not a morality play, as luxury spending of the elite can bring full employment and that there is no macroeconomic argument to prove otherwise. To prove that under-consumption is not possible he presents the savings data (Figure 3), where it is clear that savings rate has been indeed falling before the crisis, meaning that when inequality was rising, the wealthy population was in fact saving less money (and spending more).

Figure 4. Share of private savings as a share of GDP in USA



Source: P. Krugman, *Inequality and Recovery*, 2013.

This means that under-consumption due to inequality is not one of the causes of economic crisis, as wealthy population will spend more on (luxury) goods. Second disagreement was related to depressed tax receipts. Krugman argues that USA tax system might not be as progressive as it should be, but it still is progressive, so high inequality is not the cause of lower collected taxes.

The debate has been analysed by many economists. Judis (2013) says that bottom 80 % spending 110 % of their income resulted in high debt levels that influences the crisis. Also post-recession period when economic growth is slow and should be boosted by consumer expenditures, an economy that has high concentration of wealth will not provide enough demand for successful economic recovery. Studenbaker (2013) is also agreeing with Stiglitz, saying that Krugman has wrong conception of the means by which inequality produces under-consumption. In his opinion, the problem of high inequality is not in under-consumption of the rich, but that wages are replaced with borrowing.

Krugman and Stiglitz disagreed on a key point of discussion – can top income % spend enough to boost economic recovery. Majority of economists seem to agree with Stiglitz that under-consumption due to inequality has indeed hampered the growth after the crisis.

Theory of inequality as the main cause of the crisis

The third group of economists took a more radical standpoint and said that inequality is in fact the main reason for the failing economies. Stewart Lansley is an economist and financial journalist who took a strong stand saying inequality is the main reason for the economic crisis. In his book *The Cost of Inequality: Why Economic Equality is Essential for Recovery* he developed a theory of four mechanisms by which high inequality has increased economic instability. The mechanisms are summarized in a book review by Sage (2012).

The first mechanism is that inequality leads to lower incomes of low and middle income households. As the growth of capital is concentrated by the wealthiest households, the rest turn to borrowing in order to compensate for the stagnating wages. High levels of personal debts became unsustainable and this is what started the financial crisis.

The second mechanism is the disconnection of between enrichment and the benefits of the country. This means that getting wealthy is on longer associated with strengthening economy of a country. And not only that economy enrichment through financial sector has not been productive in improving the wider economy, but has actually make it more vulnerable for external shocks.

The third and fourth mechanisms are very connected. As a result of falling incomes, financial institutions faced extremely high liquidity level. With intense capital

concentration, banks and other financial institutions also obtained strong lobbying power. This enabled them to create their own rules, designed to capitalize short-term profit without ensuring long-term stability of economic system.

Combination of the four mechanisms created unsustainable economy, supported by high inequality.

The difference of Lansley´s view from the others presented so far is that he believes not only there is correlation between inequality and economic growth, but in fact thinks that the four described mechanisms of inequality provided an environment that led to economic crisis. This means not only that inequality affects levels of personal debt (as is agreed by majority of economists), but this also results in people from the financial sector getting richer. As a combination of higher debt levels, and people leading the financial sector getting rich and thus more politically powerful, the sector started writing their own rules which benefited them shortly, but harmed the overall economic system.

1.4.2 Theories of economic crisis not being related to inequality

One of the economists that believe economic crises are not related to inequality is Scott Winship, who wrote an article in National affairs titled *Overstating the cost of inequality* (2013). He emphasises that economists who claim that inequality is to blame for bad economic performance, got their fame from topics not related to inequality and have little knowledge in this area.

In his articles he overviews four areas of inequality effect: growth, education, financial distress and politics. For the purpose of this thesis, Winship´s views on growth and financial distress will be summarized.

When it comes to growth, the main argument is that there is not enough evidence to prove that there are negative effects on inequality, or that reducing it would improve economic performance, boost mobility, prevent future crises or secure democratic institutions.

In one of key arguments he refers to a paper by Boushley and Hersh (2012) where they concede that other authors conclusions on negative effects of inequality are inapplicable to America's (or other developed countries) circumstances. Winship refers to two more papers that not only dismiss negative correlation between economic development and inequality, but actually proves positive effects of inequality on growth. Firstly, Jencks, Andrews and Leigh (2009) analysed 12 developed nations from 1905 to 2000 and found out that if income share of the top 10 % income class would increase by one percentage point, this would increase GDP growth for 0.12 percentage point in the following year.

Secondly, he refers to Kenworthy (2014) who stated that inequality has not reduced economic growth based on his research. Winship (2009) also adds that Kenworthy proved

that in past 30 years, there has been a positive correlation in several countries between increasing wealth of the top 1 % of earners and strong economic performance.

In his paper, Winship disagrees with views of economists who believe that inequality leads to credit easing with the purpose of supporting spending of poor and middle class. Such view is held by Stiglitz, whose debate with Krugman has been mentioned in the previous chapter. As his main argument he refers to the empirical study conducted by Bordo and Meissner (2012), who concluded that rising inequality does not cause financial crises, but credit booms do. However, credit booms do not appear to be caused by rising inequality (the theory is in more details presented in chapter 1.3).

At this point it is important to add that Winship sometimes generalizes opinions of authors. Economists and sociologists that he cites are not really that strict in their conclusions. Jencks, Andres and Leigh (2009) conclude in their report that even though it seems that if inequality growth is permanent, the growth will be permanent, it is important to note that it takes 13 years of faster growth effect to compensate for negative result of lower income share of bottom 90 % income households. Kenworthy (2014) also adds that although he did not found convincing evidence that income inequality is harmful for economic development, the negative effects could be shown by causing financial crises. Kenworthy explains that households with stagnant incomes refer to borrowing in order to sustain their consumption growth and as such their debt levels become unsustainable – exactly what Winship is counter-arguing in his paper.

Theoretical views on the subject presented so far revealed that there is much to learn about the mechanisms behind economic crisis. It is true and understandable that hardly any economic model in the world could predict the recent financial crisis. Due to complexity, arguments of economists are often completely bipolar on the subjects that are in theory measurable and verifiable. The overview of different theories showed us that there is little consensus on the subject, although it seems that majority of economists would agree that there is correlation between income inequality and economic growth.

In order to understand the background of empirical studies and theories presented so far, as well as to set the ground for future empirical research, next chapter presents basic inequality measures that are internationally recognized and usually used in empirical research.

2 INEQUALITY MEASURES

When discussing inequality, distribution of income is most commonly used to show economic inequalities among different units. Inequality can be measured based on different types of distribution – income, consumption, land or other continuous and cardinal variables. Four main measures of inequality are shortly described below: Gini coefficient, Generalized entropy measures (Theil Index), Decile dispersion ratio and Share of income/consumption of the poorest x % (World Bank, 2004a).

2.1 Gini coefficient of inequality

When measuring inequality, Gini coefficient is the most often used measure. It can take values between 0 and 1, where 0 represents perfect equality and 1 perfect inequality. Value of 1 would mean that one person has everything and the rest have nothing. Gini index measures twice the surface between the Lorenz curve and the line if equal distribution. There are many mathematical formulas available to calculate Gini index, but the easiest to do it is based on covariance between the mean income (Y) of unit (e.g. person, household) and rank that it holds in total income distribution (F). Rank in income distribution has values from 0 (poorest unit) to 1 (wealthiest unit). Formula for calculation is defined as (World Bank, 2004a):

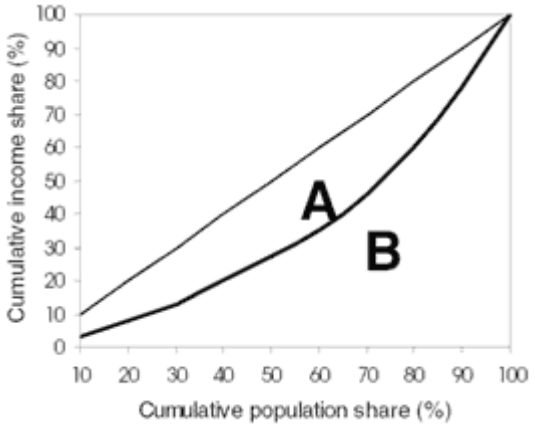
$$\text{Gini} = 2 \operatorname{cov}(Y, F) / \bar{y} \tag{1}$$

Gini is very commonly used in economic and social theories because of its unique properties. Thus it is often used by researchers. It enables emphasize different parts of distribution. This is done by extending the formula with parameter v (v=2 for standard Gini index). More weight that is applied, bigger emphasis is placed on the lower part of the distribution, as shown in formula 2 (World Bank, 2004a):

$$\text{Gini}(v) = \frac{-v \operatorname{cov}(y, [1-F]^{v-1})}{\bar{y}} \tag{2}$$

Another advantage of Gini coefficient is easy graphical illustration. It is shown as the area between Lorenz curve and the line of equal distribution.

Figure 5. Lorenz Curve of Income Distribution



Source: World Bank, *Measuring Inequality*, 2004b.

In Figure 5, the Lorenz curve shows the cumulative income share on the vertical axis against the population distribution on the horizontal axis. In illustrated example, 40 % of population has around 20% of income. In theoretical example, where each person would have the same income, the income distribution line would be straight – so called line of total equality. In case of total equality, the Lorenz curve and line of income distribution would be completely aligned and the Gini coefficient would be zero. On contrary, if one person would held total income, the Lorenz curve would pass through the points (0,0), (100,0) and (100,100) which would mean that surfaces A and B would be of the same size, meaning that Gini coefficient is one – complete inequality (World Bank, 2004b).

Despite the fact that Gini is easy to calculate and is widely used, the coefficient is not entirely satisfactory in terms of measuring inequality. These are criteria that make a good measure of income inequality according to World Bank Institute (2005):

- *Mean independence.* If all incomes were increased equally, the measure would not change. The Gini coefficient satisfies this.
- *Population size independence*. If population changes, the measure should not change. The Gini coefficient satisfies this.
- *Symmetry*. If income is swapped between two units, the measure should not change. The Gini coefficient satisfies this.
- *Pigou-Dalton Transfer sensitivity*. Transferring income from wealthy to poor reduces measured inequality. The Gini coefficient satisfies this.
- *Decomposability.* Inequality can be decomposed to different groups (population, income sources etc.). The Gini coefficient is not easily decomposable. This means that total Gini is not the sum of subgroups Gini coefficients.
- *Statistical testability.* The significance of coefficient changes should be tested over time.

Although Gini is very widely used due to its simplicity and easy understanding, it is missing some of the desirable criteria – decomposability and statistical testability. Decomposability especially is useful when analysing inequality, as it enables to understand specific groups, which Gini does not allow. For this reason, other measures of inequality are sometimes used that satisfy all six criteria.

2.2 Generalized Entropy measures (Theil Index)

Among the most widely used measures that satisfy all six criteria is the Theil index. It belongs to the group of generalized entropy (hereinafter GE) inequality measures. The general formula is (World Bank Institute, 2005):

$$GE(\alpha)=\frac{1}{\alpha(\alpha-1)}\left[\frac{1}{N}\sum_{i=1}^{N}\left(\frac{y_i}{\bar{y}}\right)^{\alpha}-1\right] \quad (3)$$

Y represents the mean income per capita. Theil index values can range from 0 to ∞, where 0 means complete equality and higher value represent more inequality. Variable α can take any real value and represents a weight attributed to distances between incomes at different parts of the income distribution. When value of α is lower, GE becomes more sensitive to lower tail of distribution, and higher values make it more sensitive to upper tail changes. When α equals 1, Theil index is called Theil's T index and is written as (World Bank Institute, 2005):

$$GE(1)=\frac{1}{n}\sum_{i=1}^{n}\frac{\bar{y}}{y_i}\log\frac{\bar{y}}{y_i}. \quad (4)$$

Theil index is less frequently used than Gini coefficient. But due to the decomposability feature, it is often used when inequalities are being analysed across subgroup (e.g. regions in a country). Most known GE measures are Theil's T and Theil's L. Both allow decomposing inequality into the part that explain inequality within groups and part that explains inequality between groups. Usually, at least three quarters of inequality is explained by within group inequality and the rest by between groups inequality (World Bank Institute, 2005). The decomposition property is something that Gini coefficient does not offer. Still, Gini is more commonly used, as it provides a very straightforward representation, with the difference between the Lorenz Curve and 45° line (Novotný, 2007).

2.3 Decile dispersion ratio

Often used in inequality research is also decile dispersion ratio. It represents the ratio of income (or other comparable measure) of the wealthiest 10 % of the population compared to the income of the poorest 10 % of population. Although deciles are the most commonly used, it can also be calculated other shares, e.g. the richest 5 % compared to the poorest 5

%. Ratio is very easy to interpret as it is expressing how much more income have richer compared to the poor. Equation 5 shows the basic calculation formula (World Bank, 2004b):

$$\text{Decile ratio} = \frac{\text{Average income of top group}}{\text{Average income of bottom group}} \tag{5}$$

2.4 Share of income / consumption of the poorest x %

A downside of Gini coefficients and Theil indices is that they will change whenever the distribution change and where the change happens is not important. Any income transfer between two units in population will result in change of index of coefficient, no matter if the change happens among the rich, poor or among the rich and the poor. Thus, if the main concern of society is the share of population with the lowest income, more explanatory index might be a direct measure that explains how much of total income goes to the poorest %. This measure will not change, for example, when increased tax rates would lower the disposable income of the wealthiest 20 % at the advantage of the middle class and not the poor. Equation 6 shows the formula for calculation of the consumption share of the poorest, where N is the total population and m is the number of individuals in the lowest x % (World Bank, 2004b).

$$C(x) = \frac{\sum_{i=1}^{m} y_i}{\sum_{i=1}^{N} y_i} \tag{6}$$

Methods described in this chapter are the most commonly used measures of inequality. Which to choose depends on the specific problem you are dealing with and the level of accuracy you would like to achieve. To illustrate the measures and its interpretations, Table 3 shows all four measures of inequality on the example of USA in year 1996[1].

[1] The year 1996 was selected as the most recent year that is covered in the study done by Conceição,and Ferreira (2000) on the Theil index.

Table 3. Inequality measures in USA, 1996

Inequality measure	**Value**
Gini coefficient	43.7
Theil index	0.037688
Theil index between states	0.002341
Theil index within states	0.035347
Decile dispersion ratio	13.43967
Mean household income of top 20 %	115,514 $
Mean household income of bottom 20 %	8,595 $
Income share of bottom 10 %	1.72 %

Source: A.B. Atkinson & S. Morelli, *The chartbook of Economic Inequality,*2014; P. Conceição & P. Ferreira, *The Young Person's Guide to the Theil Index: Suggesting Intuitive Interpretations*, 2000, p. 49; U.S. Census Bureau, *Mean Household Income Received by Each fifth and Top 5 Percent: 1967 to 2013*, 2014, p. 31; World bank, *Income share held by lowest 10%*, 2015.

From Table 3 it is seen that Gini coefficient in 1996 was 43.7 in USA. Gini coefficient is most often used when comparing values either through time or through countries. Generally speaking, countries that have a Gini coefficient between 50-70 are considered as high inequality countries, while countries with Gini coefficient between 20 and 35 are considered as rather equal countries (Murray, 2015). According to the Gini value for 1996, it can be said that USA had medium-high inequality. As described above, key advantage of Theil index in comparison to Gini coefficient is its decomposability. Data for 1996 shows that 6 % of total USA inequality can be contributed to the inequality between the states, while 94 % can be contributed to within the state inequality. This aligns to what the theory says that at least ¾ of countries inequality is usually contributed to within the group distribution. Decile dispersion ratio shows the ratio between the mean household income of the top % and bottom % of households. In Table 3, data for the top 20 % and bottom 20 % is used. The value of 13.4 tells us that the top 20 % has 13 times more income than the bottom 20 %. Last value in Table 3 is the share of total income that the bottom 10 % has. In our case this means that the poorest 10 % of US households got 1.7 % of total income in 1996.

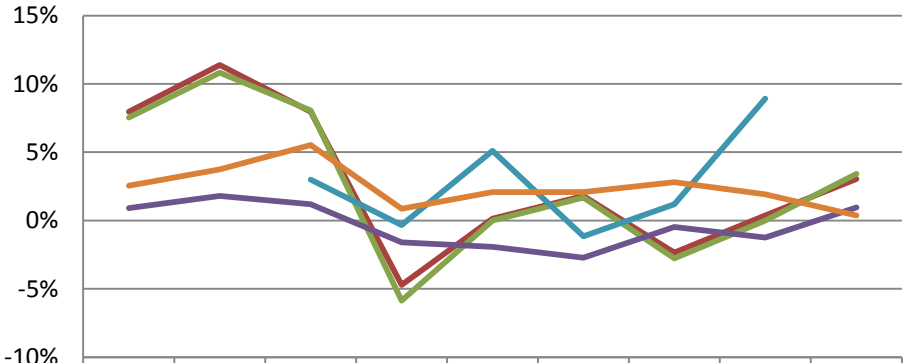
3 EFFECTS OF ECONOMIC CRISIS ON INEQUALITY AND LIFE QUALITY IN SLOVENIA

Slovenia was one of the countries that were affected the most by the crisis in the European Union. One of the lowest post-crisis economic growth and one of the slowest recoveries has put Slovenia in European spotlight. With poor economic performance, a lot of attention went also to the standard of living in Slovenia. Poverty was becoming noticeable and in line with the movements around the world, Slovenians started wondering about the income distribution. Main message of such movements was that economic situation and unjust system is to blame for high inequality. In line with this, one of key purposes of the thesis is to determine if there is any correlation between economic development and inequality. In previous chapters, many different theoretical and empirical conclusions were presented, but the outcomes were not coherent, rarely including Slovenia or even EU countries. All research questions will be answered through empirical research. For empirical analysis, both the economic and the inequality environment in the EU and Slovenia have to be presented. Next two chapters outline the situation regarding economic development and inequality in time before and after crisis.

3.1 Economic crisis in Slovenia

The recent financial crisis had its origins in the most developed financial market, USA. What started as a housing bubble soon influenced the overall financial sector. Due to interconnectivity of global financial sectors, only a few months after the start of the crisis, first negative impacts were seen also in Europe, including Slovenia. Small domestic market forces Slovenian companies to integrate into international markets, which results in economy being dependent on its export. Because of this, economic environment was soon affected in Slovenia. Countries that imported Slovenian products had lowered the demand due to recession, which reflected in lower production of Slovenian export companies, especially those in car, metal and construction industry (Zorc, 2013). This environment influenced the overall Slovenian economic performance. To understand the economic performance trend after the crisis, key macroeconomic indicators are presented in Figure 6. For better demonstration of crisis effects, only year-on-year growth rates are presented. Table 6 includes data from 2006 until 2014, so that the changes in these indicators are seen before and after the economic crisis.

Figure 6. Key macroeconomic indicators*, 2006-2014, Slovenia



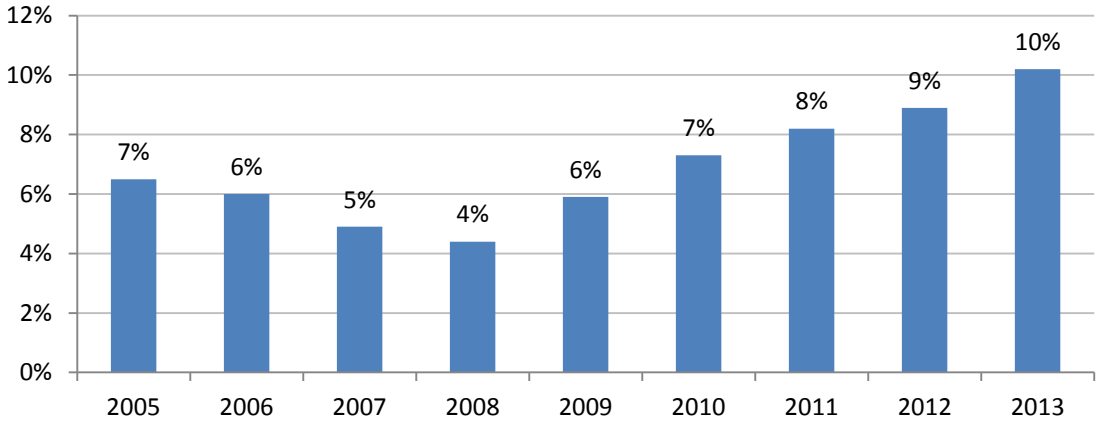
	2006	2007	2008	2009	2010	2011	2012	2013	2014
GDP	8%	11%	8%	-5%	0%	2%	-2%	0%	3%
GDP p.c.	8%	11%	8%	-6%	0%	2%	-3%	0%	3%
Employment	1%	2%	1%	-2%	-2%	-3%	0%	-1%	1%
Annual net earning			3%	0%	5%	-1%	1%	9%	
HICP (2005=100)	3%	4%	6%	1%	2%	2%	3%	2%	0%

Source: Eurostat, *GDP and main accounts*, 2015d; Eurostat, *Employment*, 2015e; Eurostat, *Annual net earning*, 2015f; Eurostat, *HICP*, 2015g.

*Note: **GDP** at market prices is the final result of the production activity of resident producer units. **GDP p.c**. is GDP divided by number of population (Eurostat, 2015d). For **employment** levels, number of persons who worked at least one hour for pay or profit during the reference week or were temporarily absent from such work were included. Population 15-65 was taken into account (Eurostat, 2015e). **Annual net earnings** from employed persons who worked at least one hour for pay or profit during the reference week or were temporarily absent from such work were included. Single worker earning 100 % of average wage was selected (Eurostat, 2015f). **Harmonised indices of consumer prices** (HICP) give comparable measures of inflation for the countries and country groups for which they are produced (Eurostat, 2015g).

It is seen that in 2009 alone GDP decreased by 5 %. The negative GDP growth trend was very long, as it has not reached positive rates until 2014. Aligned with falling economic growth, employment has not increased until 2014. Figure 7 shows that the crisis had serious influence on the labour market. From 2008 to 2012, the unemployment rate doubled and has surpassed 10 % in 2013.

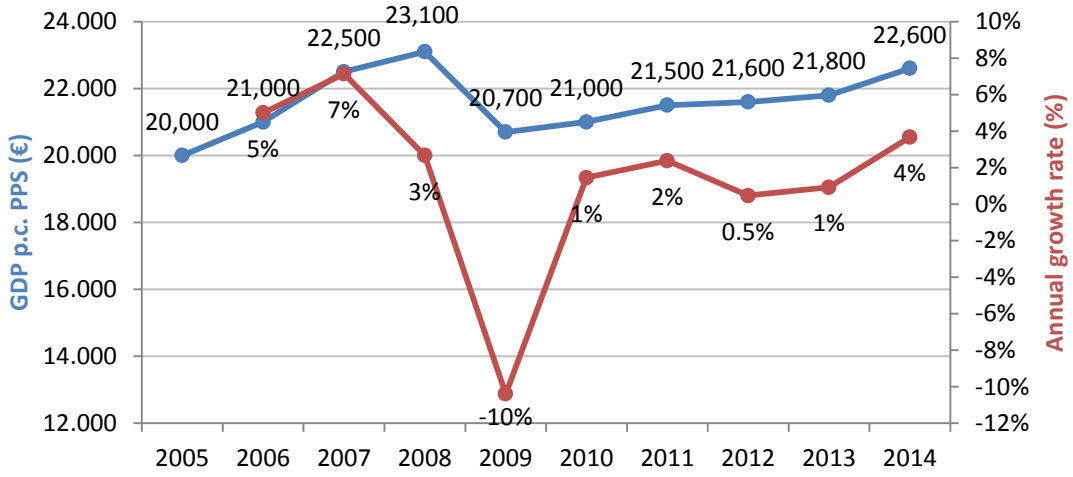
Figure 7. Unemployment rate, share of total population, 2005-2013, Slovenia



Source: Eurostat, *Unemployment rate*, 2015.

In addition to high unemployment, prices were growing each year from 2008 until 2014, while annual net earnings have been stagnating or even dropping. This environment had effects on general purchase power. To understand them, GDP p.c. in purchase power standard[2] (GDP p.c. PPS) trend is presented in Figure 8.

Figure 8. GDP p.c. PPS*, 2005-2014, Slovenia



Source: Eurostat, *GDP and main accounts*, 2015.

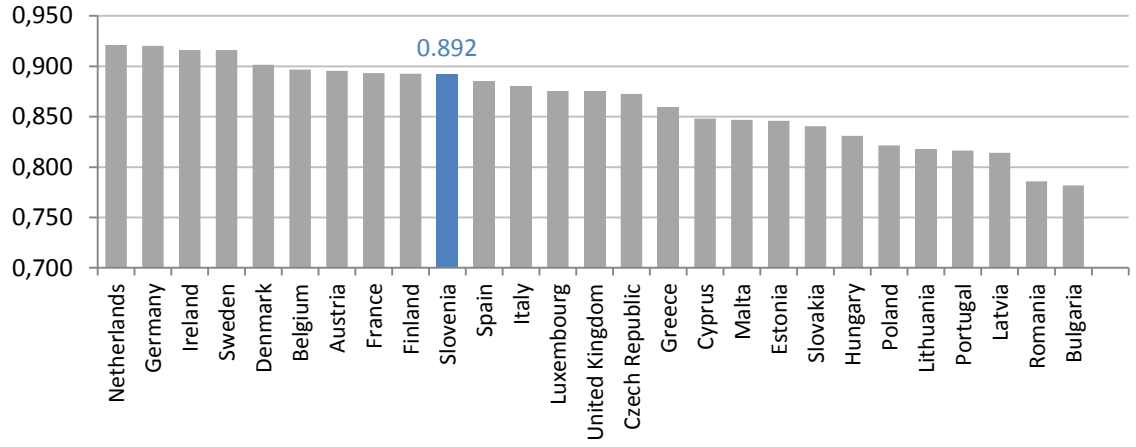
*Note: For the purpose of comparison through time, current prices are taken into account. For years before 2007, fixed exchange rate of 239.64 SIT to EUR is used.

When analysing GDP p.c. trend in PPS values it becomes clear that the drop in economic growth was more significant than when analysing GDP only. GDP p.c. PPS declined for

[2] GDP in PPS is obtained by converting GDP to a fictive currency using special conversion factors. Purchasing power parities reflect the price ratios between the countries and are at the same time expressed in a single currency. The result is GDP comparable across countries (Institute of Macroeconomic analysis and development, 2004).

more than 10 % in 2009 alone. From 2010 to 2013 it was more or less constant, as growth ranged from 0.5 % to 2 %. First bigger increase after the crisis was seen in 2014 when it rose for 4 %. Although GDP p.c. PPS is useful when comparing countries development according to their purchase power, it tells us little about the reasons behind certain development stage. For this purpose, human development index (hereinafter HDI) can be used. HDI was developed by United Nations to measure and rank countries social and economic development based on four indicators: life expectancy at birth, mean years of schooling, expected years of schooling and gross national income per capita. The HDI is especially useful as it enables comparing development through time and compares countries among each other (Human Development Index (HDI), 2015). Figure 9 shows HDI for 27 European countries in 2012.

Figure 9. HDI in EU27, 2012



Source: United Nations Development Program, *Human Development Index (HDI)*, 2013.

Slovenia is ranked quite high when comparing HDI. It is ranked the highest of the new members and is only lower than some West European and Scandinavian countries. Specific components presented in Table 4 explain the reasoning behind the rank.

Table 4. HDI components, Slovenia, 2012

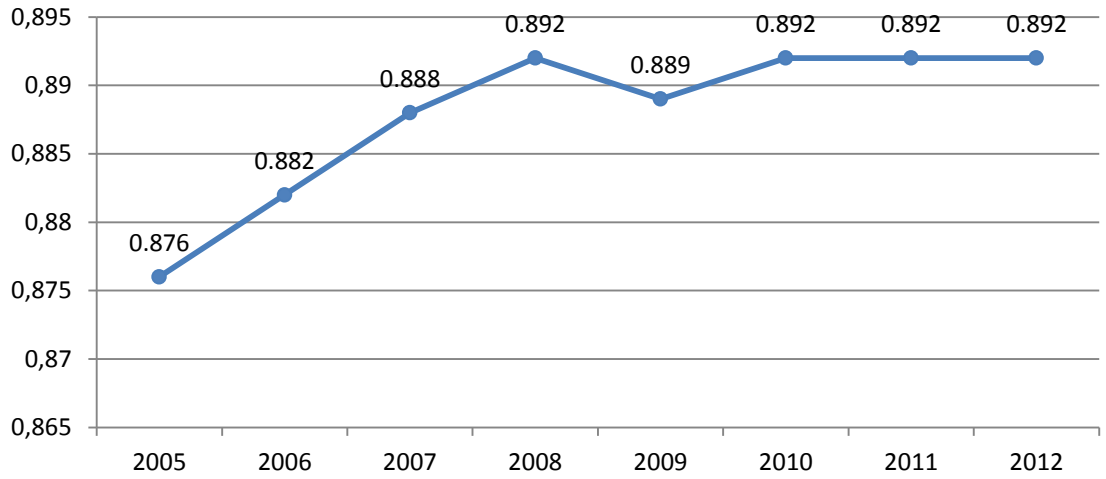
Life expectancy at birth		**Mean years of schooling**		**Expected years of schooling**		**Gross national income (GNI) p.c.**	
index	*EU rank*	*index*	*EU rank*	*index*	*EU rank*	*index*	*EU rank*
79.5	*17*	11.7	*5*	16.9	*4*	23,999	*14*

Source: United Nations Development Program, *Human Development Index (HDI)*, 2013.

Slovenia is ranked the highest in educational measures, as Slovenians aged 25 or more spent almost 12 years (mean value) for schooling. Those enrolling in the educational system are expected to stay in school for 17 years. This means that Slovenia is ranked on

5th and 4th place respectively. The other two components are more problematic. HDI takes into account GNI p.c., which puts Slovenia on 14th place out of 27. The last component is life expectancy at birth. This is the weakest component for Slovenia as it ranks only on 17th place. The crisis effects could be seen in HDI index. Figure 10 shows HDI values for Slovenia from 2005 to 2012. Only general HDI trend is taken into account, since its components have been changing slightly through time and could not provide a good comparison.

Figure 10. HDI, Slovenia, 2005-2012



Source: United Nations Development Program, *Human Development Index (HDI)*, 2013.

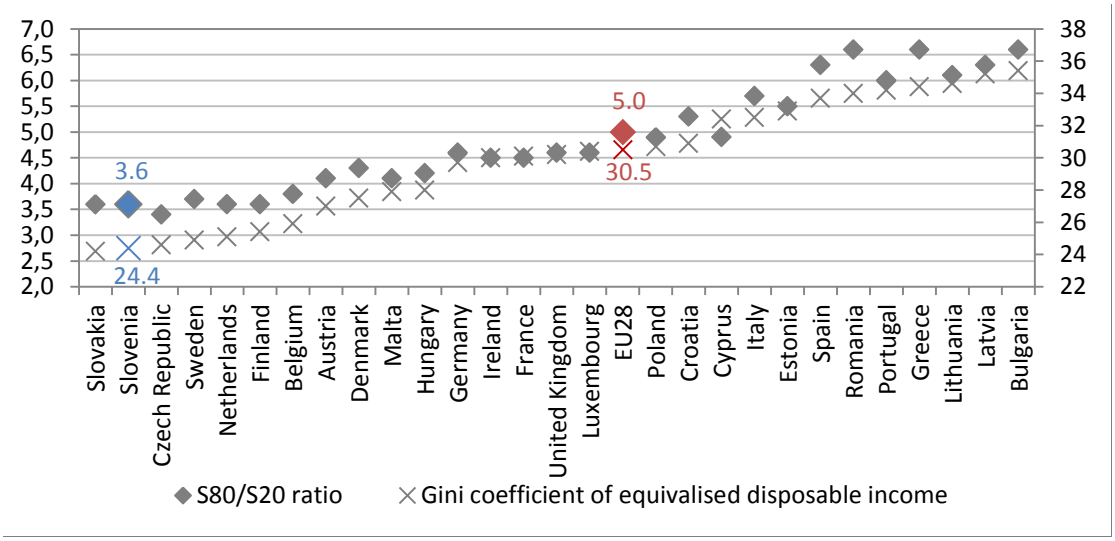
HDI trend shows slight decrease after the economic crisis. Afterwards, the index rose to pre-crisis value and remained the same. The reason for such small changes is in the fact that HDI components are not very flexible. A few years of poor economy will not change the mean and expected years of schooling, as well as life expectancy at birth. The only component that is changing at faster rate is the GNP p.c. In previous part of the chapter it was shown that after the crisis GDP p.c. has in fact fallen. Thus, it can be concluded that this component has prevented HDI index to keep rising.

Macroeconomic environment has not been favourable in Slovenia after the crisis hit. Poor performance was mainly notable in high unemployment rates. In addition, falling average earnings and increasing prices have influenced the purchase power. This amounted to an environment which could have increased inequalities in Slovenia. Next chapter presents inequality measures in Slovenia through the period of crisis.

3.2 Inequality

Key data source for the analysis of inequality will be Eurostat, as it provides data on all needed measures: proportion of population living "at-risk-of-poverty", S80/20 and Gini coefficient. Eurostat is analysing the data on inequality under Income and Living Conditions (EU-SILC) instrument. This is an EU level reference source for data on income distribution and social for comparative statistics on income[3] distribution and social state (Eurostat, 2015a). Most suitable measures for income inequality analysis are **S80/20** and **Gini coefficient** (Eurostat, 2010). Figure 11 shows both measures for EU28 countries.

Figure 11. Income inequality in EU28 countries, 2013

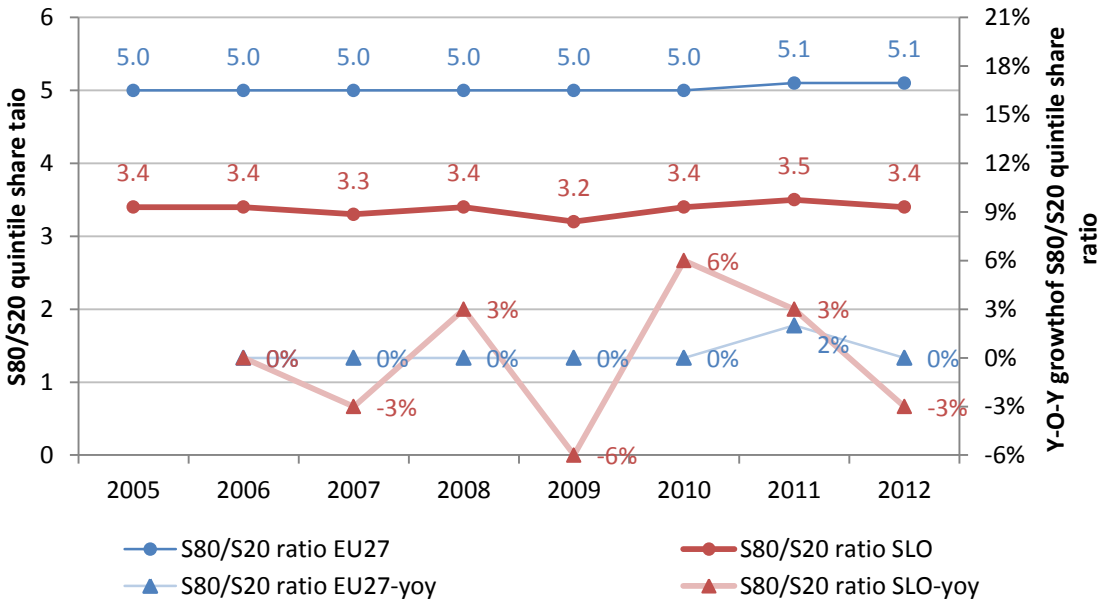


Source: Eurostat, *S80/S20 income quintile share ratio*, 2015; Eurostat, *Gini coefficient of equivalised disposable income*, 2015.

In 2013, Slovenian Gini coefficient was 24.4 and S80/S20 ratio 3.6. This placed Slovenia as the second most equal country in EU in 2013, right after Slovakia. Although, the Figure 11 gives us an orientation where Slovenia is positioned, it does not explain if economic crisis has influenced Slovenian equality more than other EU countries. To understand the effects of the crisis, trend of S80/S20 ratio from 2005 until 2012, comparing EU27 and Slovenia is presented in Figure 12.

[3] It includes cash transfers and is net of income taxes and social insurance contributions. It excludes imputed rent and non-cash transfers, such as education and healthcare provided free or subsidised by the government. It also excludes pensions from private plans. In order to reflect differences in household size and composition, total household income is divided by an equivalence scale, which gives a weight of 1 to the first adult, 0.5 to other household members aged 14 and over and 0.3 to each child aged under 14. This means that, for a couple and 2 children, income is divided by 2.1 (Eurostat, 2010).

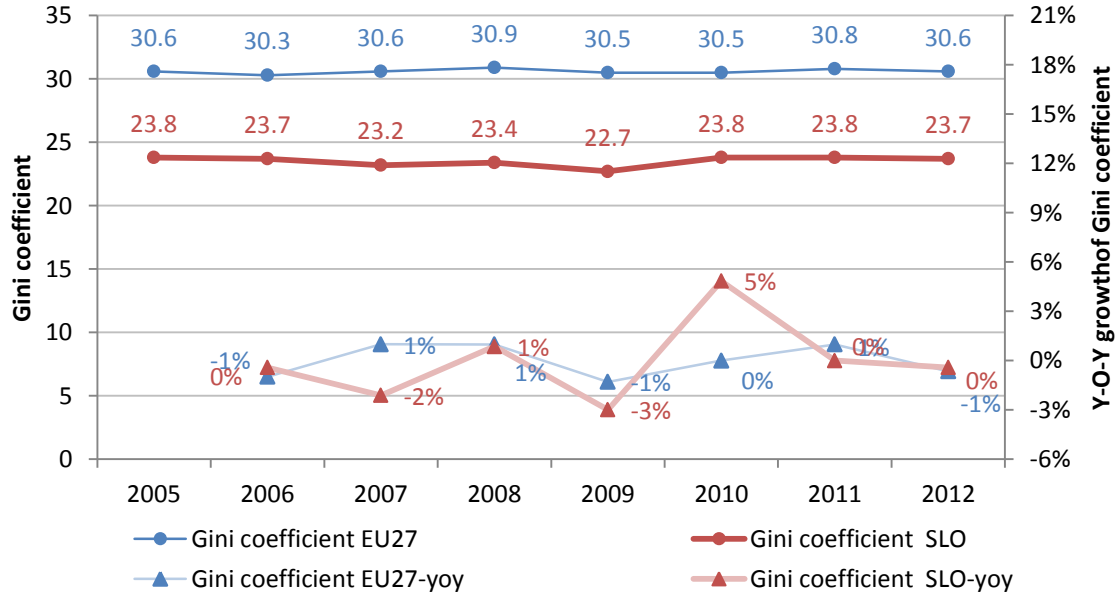
Figure 12. S80/S20 quintile share ratio trend in Slovenia and EU27



Source: Eurostat, *S80/S20 income quintile share ratio*, 2015.

Based only on absolute S80/S20 values, effects of the crisis are not conclusive, as the changes are small. When adding Y-O-Y growth rates, it becomes clearer that Slovenia has experienced quite significant increase, especially in 2010 when the ratio increased for 6 %. Slovenian Gini coefficient through time is shown in Figure 13, again compared with EU27 from 2005 to 2012.

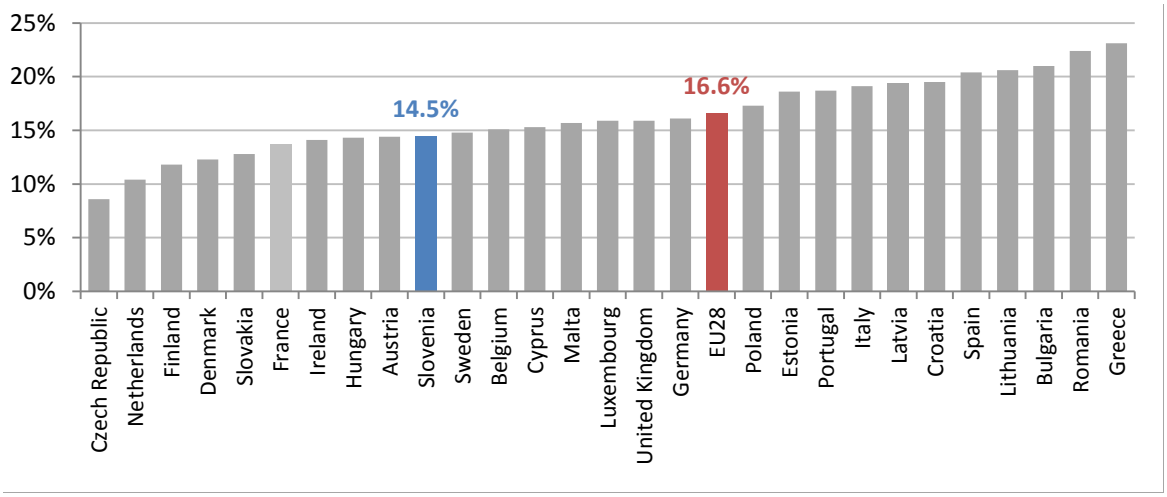
Figure 13. Gini coefficient trend in Slovenia and EU27



Source: Eurostat, *Gini coefficient of equivalised disposable income*, 2015.

Comparing Gini coefficient through time again reveals that differences are small. Focusing again on year-on-year changes shows that similarly as with S80/S20 ratio, Gini coefficient increased at a higher rate after the crisis than in EU28, especially in 2010. Last indicator of inequality is share of the population living at risk of poverty. It is defined as share of population living in households whose total equivalised income is below 60 % of the median national equivalised household income. At-risk-of-poverty rate is thus a relative concept (Eurostat, 2015b). Figure 14 shows the percentage of people living in households at risk of poverty in EU28 member countries.

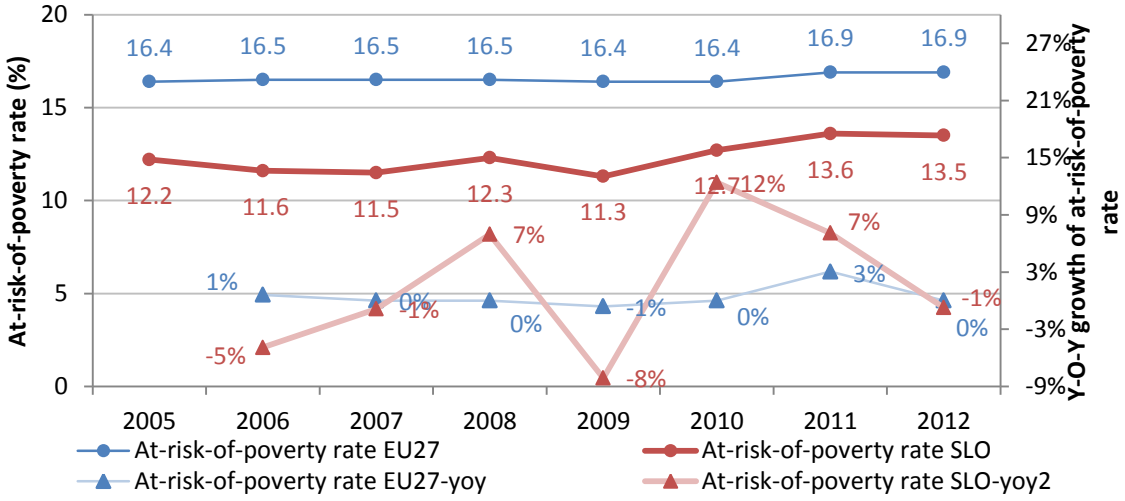
Figure 14. National at-risk-of-poverty rates in EU28, 2013



Source: Eurostat, *At-risk-of poverty rate*, 2015.

The average for the EU28 as a whole is 16.6 %. Slovenia is under the EU28 average with 14.5 %. At-risk-of-poverty is compared to EU27 through time in Figure 15.

Figure 15. At-risk-of-poverty rates in Slovenia and EU27



Source: Eurostat, *At-risk-of poverty rate*, 2015.

At-risk of poverty rate shows even higher differences among Slovenia and both EU regions, as it has increased much more in 2010 and 2011 in Slovenia than the averages in EU region. This corresponds with high levels of unemployment which can result in higher levels of poverty.

Theories overviewed in previous chapter have been focusing on inequality effects on the recent economic crisis. As Slovenia is a small country, the reasons for economic crisis are not to be found in its wealth distribution. Overview of economic crisis in Slovenia showed that poor Slovenian performance in time of crisis was mainly a result of its export-oriented economy. Trade partners reduced the imports, which reflected in slow economic growth in Slovenia. What is however noticeable is that inequality has been very dynamic after the crisis started. In line with overviewed theory and above conclusions, the following research questions were set:

1) How is inequality linked to economic development? Is it indeed negative and why?
2) What happened with inequality during the crisis in the EU and Slovenia?
3) What are the detailed characteristics of inequality in Slovenia?
4) What was the relationship between inequality and life quality in Slovenia?
5) What policy measures can be used to mediate the negative impacts of growing inequality, but still support economic recovery?

Afterwards, the hypotheses were set. Among reviewed theories, the opinion that negative correlations exists between inequality and economic development prevailed. Thus the first hypothesis is that a **negative correlation between inequality and economic development exists**. If the first hypothesis is confirmed, the focus will shift to the period of economic crisis. From macroeconomic overview it was clear that low economic growth influenced employment rates and earnings. In combination with increasing prices, this created an environment that could lead to increased inequality following economic crisis. Based on this, my second hypothesis **is that inequality in European Union has increased after economic crisis of 2009**. If this hypothesis will be confirmed, the next task will be to compare the inequality increase in Slovenia and European Union. Based on longer recovery time in terms of unemployment and average earnings, third hypothesis says that **inequality has increased more in Slovenia than in European Union average.** As theory suggested, there are different views on correlations between income inequality and economic development. In accordance to Slovenian specifics, the hypothesis is that **poor economic development caused higher inequality in Slovenia and high inequality prevents economic recovery**. At the end, it will be analysed what kind of effects did hypothetically increased income inequality has on inequality of standard of living in Slovenia. Related to increasing unemployment rates and higher poverty rates, the final hypothesis is that **life quality inequalities have increased during the crisis.**

3.3 Relationship between inequality and economic development

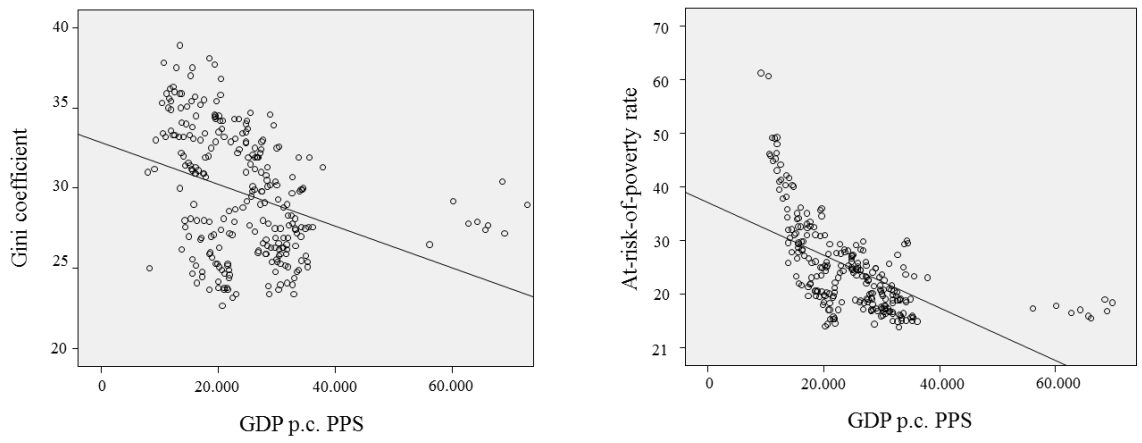
To examine the correlations between income inequality and economic development measures, the following variables will be analysed: (1) as an indicator of economic development GDP p.c. PPS, while (2) for inequality S80/20, Gini coefficient and at-risk-of-poverty rates will be included. In order to confirm or reject the first hypothesis, that there is a negative correlation between income inequality and economic development, a Pearson correlation has been calculated with statistics software SPSS among measures of inequality and economic development. Correlations have been calculated based on the data for EU28 countries, through the period from 2004 to 2014. Table 5 shows the Pearson correlations among GDP p.c. PPS and the three measures of inequality.

Table 5. Pearson correlation of GDP p.c. PPS to inequality measures, EU28, 2004-2014

	S80/S20	Gini coefficient	At-risk-of-poverty rate
Pearson Correlation	-.402	-.352	-.594
Sig. (2-tailed)	.000	.000	.000
N	258	258	250

Table 5 shows that the correlations with all three measures of inequality are statistically significant, as Sig. (2-tailed) is in all cases lower than 0.05. It is also seen that Pearson correlations are in all cases negative. The most negative correlation is between GDP p.c. PPS and at-risk-of-poverty rate. This indicates that these two factors have strongest influence on each other. Negative correlations among inequality and economic development are illustrated in Figure 16.

Figure 16. Gini coefficient and At-risk-of-poverty rate correlation with GDP p.c. PPS



Based on correlation coefficients, first hypothesis can be confirmed, that there is a negative correlation between income inequality and economic development. Next step is to

understand what happened to inequality after the economic crisis. So far, inequality measures have been presented on a EU28 level and compared to Slovenia. The differences in comparisons were not clear and conclusions regarding the effects of the crisis could not be drawn. To understand the differences among countries, Table 6 represents year-on-year growth rates of inequality measures for EU28 countries.

Table 6. Average year on year growth rates of inequality measures, 2009-2013

Country	**S80/S20 (%)**	**Gini coefficient (%)**	**At-risk-of-poverty rate (%)**	**Average of all three measures (%)**
Hungary	5	3	3	4
Greece	3	1	7	4
Cyprus	3	2	4	3
Slovenia	3	2	5	3
Italy	2	1	4	2
Ireland	2	1	4	2
Bulgaria	3	2	1	2
Malta	1	1	4	2
Spain	2	1	3	2
Luxembourg	2	1	2	2
Estonia	2	1	0	1
Portugal	0	-1	3	1
Germany	1	1	0	1
Sweden	0	0	1	0
Denmark	-2	1	2	0
Lithuania	0	-1	1	0
France	1	0	0	0
Czech Republic	-1	0	1	0
Slovakia	0	-1	0	0
Belgium	-1	0	1	0
Austria	-1	0	0	0
United Kingdom	-3	-2	3	-1
Romania	0	-1	-2	-1
Finland	-1	0	-1	-1
Poland	0	-1	-2	-1
Netherlands	-3	-2	1	-1
Latvia	-4	-2	-2	-2
Croatia	6	4	NA	NA

Data presented is for the period from 2009 until 2013. Last column represents the average of all three measure's y-o-y average growth rates. Countries are sorted according to the average of all three measures. Inequality changes on EU level after 2009 become clearer when country specific data are analysed. Table 6 clarifiers that the inequality growth rates on EU level presented in the previous chapter were so small, because changes in inequality differ highly among countries. On one hand there are countries that dealt with inequality extremely good after the crisis, such as Finland, Poland, Netherlands and Latvia. On the other hand Hungary, Greece, Cyprus, Slovenia all experienced an increase in inequality and poverty over the period after the crisis. Due to high differences among European Union countries in regards to inequality changes after the crisis, we can only partially confirm the hypothesis that inequality in European Union has increased after the economic crisis of 2009.

Second implication of the overview in Table 6 is that Slovenia is now positioned in the EU framework. Previous chapter revealed that Slovenia had below EU average economic performance after the crisis, but still had the lowest inequality rates. Thus, it was not possible to confirm or reject the hypothesis that inequality in European Union has increased more in Slovenia than in the EU average. With country level data, it is now seen that Slovenia had fourth highest increase in inequality – following Hungary, Greece and Cyprus. S80/S20 on average increased for 3 % and Gini coefficient for 2 %, but the highest contribution to inequality was due to very high 5 % average yearly increase of at-risk-of-poverty rate. This can be related mostly to very high increase in unemployment, which was illustrated in chapter 3.1. This finding helps to confirm the third hypothesis, that inequality has increased more in Slovenia than in the EU average.

To summarize the analysis of the European Union correlations between economic development and inequality, a multiple regression analysis is needed. This will enable us to understand which variables can better predict the value of dependant variable. Besides economic development and inequality measures, it is important to take into account also the differences of the EU countries. Analysis of the post-crisis inequality changes in table 6 showed that the differences are substantial and should not be neglected. To demonstrate the differences, models of the welfare state have to be included in the regression analysis. The welfare state refers to a system of social protection which is aiming to guarantee a minimal level of services to the population. Four pillars define the level of countries welfare state: education system, health treatment system, social security and social services. In Europe, three traditional types of welfare state existed. However, with the fall of the communist block and market integration, new welfare states have been recognized and are still in the process of definition (LearnEurope, 2015). Table 7 presents six key welfare states currently present in the European Union.

Table 7. Welfare state models in EU

Welfare state model	**Characteristics**	**Countries**
The Social Democratic / Nordic Model	High taxation, high redistribution of income, high women participation in the labour market, high standard of living and high confidence level in government.	Denmark, Finland, Sweden
Conservative / Corporatist Model	Low women participation in the labour market, relying on social contributions and not taxes, mediocre income redistribution, high unemployment	Austria, Belgium, Cyprus, Germany, Greece, Italy, Luxemburg, Malta, Netherlands, Portugal, Spain
Anglo-Saxon / Liberal Model	Low government spending, high inequality and low social protection spending	Ireland, United Kingdom
Model of the Former USSR	Similar state spending as in corporatist model. The biggest difference is in standard of living and confidence in government.	Estonia, Latvia, Lithuania
Model of Post-Communist Europe	Standard of living is better than in the Model of the Former USSR and the system is more democratic. Economic growth and inflation are more moderate.	Bulgaria, Czech Republic, Croatia, Hungary, Poland, Slovenia, Slovakia
Welfare State models in a process of development	In the process of maturing the welfare state. State spending and standard of living are below the other systems. Social situation is difficult which is seen from high levels of infant mortality and low life expectancies.	Romania

Source: Learn Europe, *Models of the welfare state in Europe*, 2015.

Firstly, the effects of inequality and welfare state model on GDP p.c. PPS is analysed through multiple regression analysis in SPSS. EU28 countries through the period of 2004-2014 have been included into the regression model. Regression goodness of fit is explained with Adjusted R square. In case of this regression, the value is 0.522, which means that 52.2 % of dependent variable – in our case GDP p.c. PPS – can be explained by the independent variables. Although R values requirements differ across models, values between 0.4 and 0.6 are considered as moderate correlations (University of Texas, n.d.).

Statistical significance of the model has also been ensured as *p* value was 0.000, which is lower than 0.05. This means that the regression model is a good fit for the data. Full SPSS output data is found in Appendix 1.

To understand the strength of each of the dependent variable in explaining the variance of dependant variable, SPSS coefficients output is presented in table 8.

Table 8. SPSS Coefficients table output of GDP p.c. PPS as dependant variable

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	51935.497	9171.407		5.663	.000
	S80/S20	-595.794	2258,584	-.063	-.264	.792
	Gini coefficient	-433.968	630.163	-.163	-.689	.492
	At-risk-of-poverty rate	-290.679	103.114	-.240	-2.819	.005
	The Social Democratic/Nordic Model.	-2944.287	1741.738	-.090	-1.690	.092
	Anglo-Saxon/Liberal Model	3412.089	1926.479	.085	1.771	.078
	Model of the Former USSR	-8390.336	1685.939	-.256	-4.977	.000
	Model of the Post-Communist Europe	-11955.403	1508.707	-.487	-7.924	.000
	Welfare State models in a process of development	-7822.710	3257.601	-.125	-2.401	.017

Table 8 reveals that out of inequality measures only at-risk-of-poverty rate is statistically significant. Beta coefficient reveals that the poverty rates have a negative effect on GDP p.c. PPS values. If at-risk-of-poverty rate would increase for 1 unit, the GDP p.c. PPS would decrease by 0.240 units. Important outcome is also that welfare state plays an important role in predicting GDP p.c. PPS. Three of the five models[4] – *Model of the Former USSR, Model of the Post-Communist Europe* and *Welfare State models in a process of development* were statistically significant. Beta coefficients reveal that they also have a negative effect on GDP p.c. PPS. Highest negative effect of a model was seen with model of the post-communist Europe, at 0.487, which is the highest among inequality and welfare state variables.

[4] SPSS has excluded the Conservative/Corporatist Model in order to avoid perfect multicolinearity or so called »the dummy variable trap« (Park, 2009). Excluding a variable is neccessary when performing a regression analysis with more dummy variables and is commonly used in empirical research, i.e. in empirical research on economic growth and social development in India by Koner, Dhume & Purandare (2012).

Regression analysis explained additional aspects of the correlation among inequalities and economic development. It was seen that when taking into account also the welfare state of a country only poverty was the variable that statistically significantly influenced the GDP p.c. PPS. This shows that poverty rates play an important role when it comes to economy development. Regression model, with at-risk-of-poverty rates as a dependant variable, has been prepared. Again, EU28 countries and the period from 2004 to 2014 were taken into account. The model was proven to be statistically significant as *p* was 0.000. Adjusted R square was 0.463, which again can be interpreted as moderately strong. Table 9 shows the coefficients for this regression model. Full SPSS output is found in Appendix.

Table 9. SPSS Coefficients table output of At-risk-of-poverty as dependant variable

Model		Unstandardized Coefficients	Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1	(Constant)	33.169	1.610	20.605	.000
	The Social Democratic/Nordic Model	-5.041	1.330	-.186	-3.790	.000
	Anglo-Saxon/Liberal Model	3.307	1.599	.100	2.068	.040
	Model of the Former USSR	4.020	1.502	.148	2.676	.008
	Model of the Post-Communist Europe	1.342	1.201	.066	1.117	.265
	Welfare State models in a process of development	13.966	2.592	.269	5.388	.000
	GDP p.c. PPS	,000	,000	-.445	-7.305	.000

Among all independent variables, only model of the post-communist Europe was not statistically significant. Comparing different models, it is seen that welfare state plays an important role when it comes to inequality, especially poverty. Social democratic/Nordic model, with highest degree of income distribution, was the only model that negatively related with poverty rates. On the other hand, Romania as the only representative of welfare state models in a process of development had the highest positive correlation, which aligns with the welfare state still being developed. The regression model also showed that again there is a strong negative correlation between GDP p.c. PPS and poverty rates, as standardized coefficient is -0.445. This means that if GDP p.c. PPS would increase for 1 unit, poverty rate would drop for 0.445 units. This implicates strong reverse correlation between the two factors. It also indicates that economic development has stronger effect on poverty rates than the other way around.

Last part of empirical research will be dedicated to analysing Slovenian situation of the correlations among economic development and inequality. As the number of variables is not sufficient for a reliable Pearson correlation analysis, simple correlation statistics in Excel[5] will be used. The correlations will be analysed based on the time period of 2005 to 2013. To represent changes in time, correlation of growth rate of three inequality measures (S80/S20, Gini coefficient and at-risk-of-poverty) against GDP p.c. will be tested. Table 10 shows the correlation coefficients.

Table 10. Correlation coefficients in Slovenia for period 2005-2013

Variable 1	**Variable 2**	**Correlation**
S80/S20 growth rate	GDP p.c. growth	0.13
Gini coefficient growth rate	GDP p.c. growth	-0.07
At-risk-of-poverty rate growth	GDP p.c. growth	0.08

Data shows that all factors have very weak or even positive correlation. Results are surprising to some extent, as a negative correlation is expected. There is however an explanation for such relation found in theory. In chapter 1.3, Saez's (2013) theory was presented, where he claims that in period of crisis, inequality decreases. The reason behind is that incomes of top income groups have decreased to a larger extent than lower income groups. One of possible interpretations is also that due to increase of unemployment, increasing prices and stagnating or even dropping earnings, the income of majority dropped, which could result in poorer economic performance being positively related to income inequality – when it dropped, inequality dropped.

Nevertheless, partially surprising results require stepping back and considering steps of the analysis. Since the time variable is taken into analysis, different reaction times need to be accounted for. Thus, two different simulations of correlation between inequality and economic development can be tested, by taking 1 year gaps either on economic development or inequality.

First scenario represents a 1 year gap on inequality measures. This means that the GDP p.c. growth from 2005-2012 will be aligned with inequality measures from 2006-2013. In a very simplified way this demonstrates economic growth effects on inequality with 1 year delay. Table 8 shows the correlation coefficients.

[5] CORREL function has been used. It returns the correlation coefficient of the array1 and array2 cell ranges. The equation for the correlation coefficient is: Correl $(X,Y)= \frac{\sum (x-\bar{x})(y-\bar{y})}{\sqrt{\sum (x-\bar{x})^2 (y-\bar{y})^2}}$.

Table 11. Correlation coefficients in Slovenia for the period 2005-2013, 1 year lag on inequality measures

Variable 1 (2006-2011)	**Variable 2 (2005-2010)**	**Correlation**
Income quintile share ratio growth rate	GDP p.c. growth	-0.63
Gini coefficient growth rate	GDP p.c. growth	-0.58
At-risk-of-poverty rate growth	GDP p.c. growth	-0.61

This time the correlation coefficients are more in line with theory and with what the Pearson and regression analyses showed on the European Union level. All correlations are negative, which suggests that slow economic growth negatively affected inequality in Slovenia. Before finally concluding on the subject of fourth hypothesis, a scenario of reverse correlation should also be tested. Table 12 shows correlation coefficients in case of 1 year gap on GDP p.c. growth.

Table 12. Correlation coefficients in Slovenia for the period 2005-2013, 1 year lag on economic growth measure

Variable 1 (2005-2010)	**Variable 2 (2006-2011)**	**Correlation**
Income quintile share ratio growth rate	GDP p.c. growth	-0.27
Gini coefficient growth rate	GDP p.c. growth	-0.20
At-risk-of-poverty rate growth	GDP p.c. growth	-0.46

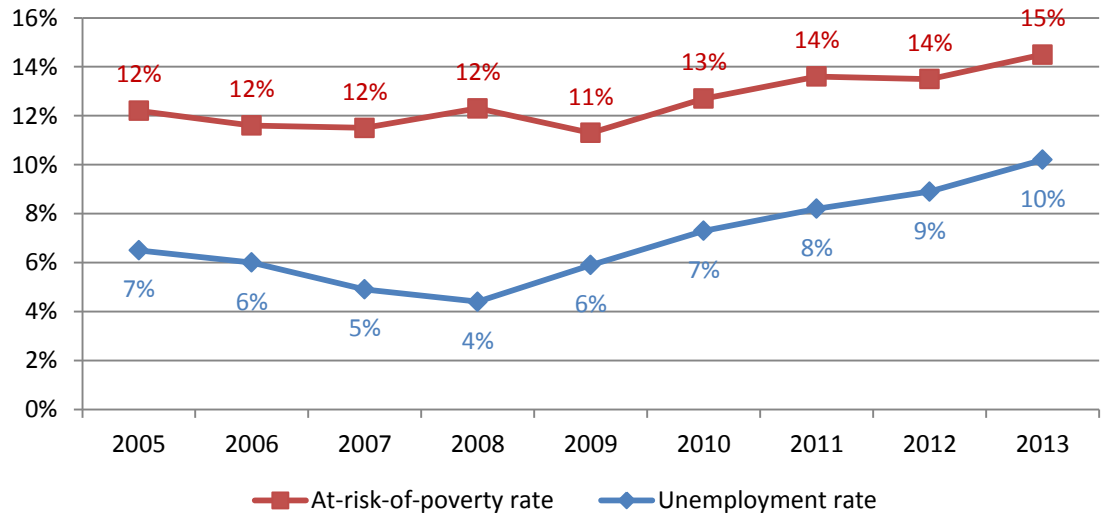
It shows that there exists a reverse negative correlation between inequality and economic development; although the correlation is lower than in previous case. Similarly as in the case of European Union, data suggests that both aspects are reversely correlated – meaning that poor economic performance increases income inequality and higher income inequality, especially the high poverty rate, has negatively affected the economic recovery. Calculated correlations enable to confirm the forth hypothesis, that poor economic development caused higher inequality in Slovenia and high inequality prevents economic recovery. This aligns with two key theories presented in chapter 1.3, although they were constructed on data from USA. Firstly, the data aligns with Saez (2013) theory, where inequality levels have increased with the crisis (although fallen in the beginning) and in case of USA, even surpassed the pre-crisis levels. Secondly, it aligns with Stliglitz's (2013) theory, where he predicts that higher inequality is holding back the recovery. Correlations between inequality and economic development coefficients revealed that inequality is related to economic development both in the European Union and in Slovenia. It was also shown, that economic crisis affected Slovenian inequality more than other countries. The causality between both has also been analysed and discovered; there is apparently more effect of economic development on inequality than the other way around, but the reverse correlation

does exist. The last research question of the thesis remains, and that is how inequality affects the quality of life differences in Slovenia. Next chapter will try to present a brief overview of the quality of life differences according to income groups in Slovenia.

3.4 Inequality in quality of life

As explained in the introduction of the thesis, one of main reasons for choosing the topic of this thesis was that inequalities of life in Slovenia are noticeable on a daily basis. Thus, this chapter is dedicated to presenting some numbers that might reflect the situation in Slovenia in different light than the analysis has done so far. Key data source for quality of life inequalities in Slovenia will be Statistical Office of Republic of Slovenia (hereinafter SURS) Theory revealed a different mechanism on how economic development affected inequality and vice-versa. Inequality analysis revealed that income inequality has indeed increased after the economic crisis. Largest increase was seen in poverty rates as it was increasing at an average of 5 % annually from 2009-2013, as shown in Table 6. One of key reasons and leverage behind poverty rates is increasing unemployment. The relation between at-risk-of-poverty rate and unemployment rate in Slovenia is demonstrated in Figure 17.

Figure 17. At-risk-of-poverty rate and unemployment rate, 2005-2013, Slovenia

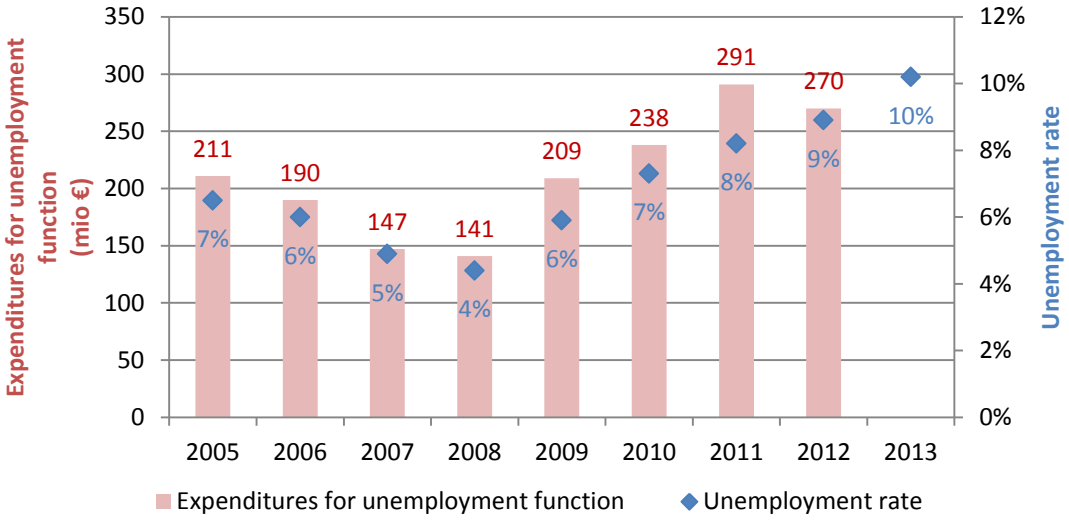


Source: Eurostat, *Unemployment rate*, 2015; Eurostat, *At-risk-of-poverty rate*, 2015.

It is seen that poverty rates strongly relate to levels of unemployment. There is also evidence that unemployment increases the risk of poverty and contributes to inequality, and that it also gives rise to a series of debilitating social effects on unemployed people themselves, their families and the communities in which they live (Saunders, 2002). From the overviewed unemployment levels in chapter 3.1, as well as in Figure 16, it is seen that Slovenia has been struggling with growing unemployment ever since the crisis. Such

unemployment rates present also a huge burden to Slovenian budget. The redistribution policies, implemented mainly through social transfers, naturally increase with higher unemployment and data can be supplemented with social transfers to understand what kind of burden this represents to Slovenian budgets. The relation is shown in Figure 18.

Figure 18. Unemployment expenditures and unemployment rate, 2005-2013, Slovenia



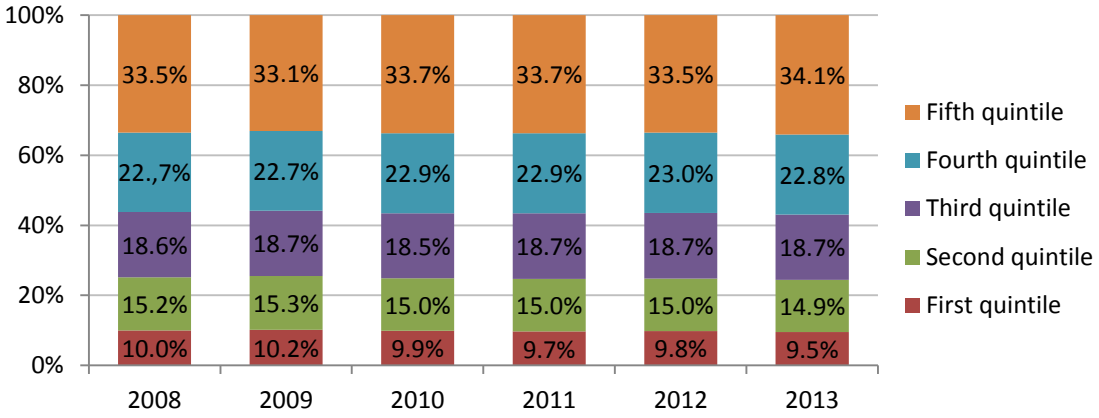
Source: SURS, *Expenditure for social protection schemes*, 2013; Eurostat, *Unemployment rate*, 2015.

From the chart it is clear that social transfers are increasing with unemployment. In 2011 the expenses reached almost 300 million Euros. In 2012 they however dropped a bit, although the unemployment rate increased. The increases of government expenditures on unemployment function have negative effects on government budgets. With falling economic activity, budgets are smaller and unemployment expenditures are not only single cost, but also opportunity cost as this money could be spent productively with focus on economic recovery. Last chapter focuses more on inequality implications and government possibilities to reduce it. For now, simulation is provided, as to how increasing unemployment results in higher income inequality. In 2008 there were only 4 % of unemployed. This means that 4 % of population received social transfers for unemployment function. In a very simplified way[6] this implies that the other 16 % of active population in the S20 income group received in worst case at least minimal wage. In 2013 with over 10 % unemployment rate, this means that in S20 income group only 10 % received minimum wage, while the other 10 % of population received lower income. This means that the average income of this group is much lower than it was 5 years ago. We have to take into account that workers that were let go, were presumably working for companies that found themselves in troubles when economic crisis hit. These are in many cases companies that create little added value per worker and as such have only two

[6] Calculation is very simplified as all other social transfers and income sources are ignored, as well that the unemployed became also employed who previously received higher then minimum wage income.

options to deal with the crisis – either lower the wages or let them go. Dismissed employees usually have lower education and receive salary that is lower than average (Svetin, 2010). This additionally influences the distribution of income, as increasing unemployment comes from the lower income classes and not from above average ones. Changes in income levels can be seen from income distribution among income quintiles in Figure 19.

Figure 19. Total household disposable income by quintiles, 2008-2013, Slovenia



Source: SURS, *Distribution of household disposable income by quantiles*, 2013 .

Data shows some differences among quintiles. Comparing 2008 and 2013 reveals that first and second quintile lost share of total disposable income, while upper three classes gained it. Table 13 shows average growth rates for each quintile.

Table 13. Average household disposable income growth rate by quintiles, 2008-2013, Slovenia

Quintile	**Avg. growth rates 2008-2013**
1st quintile	-1.0%
2nd quintile	-0.4%
3rd quintile	0.1%
4th quintile	0.1%
5th quintile	0.4%

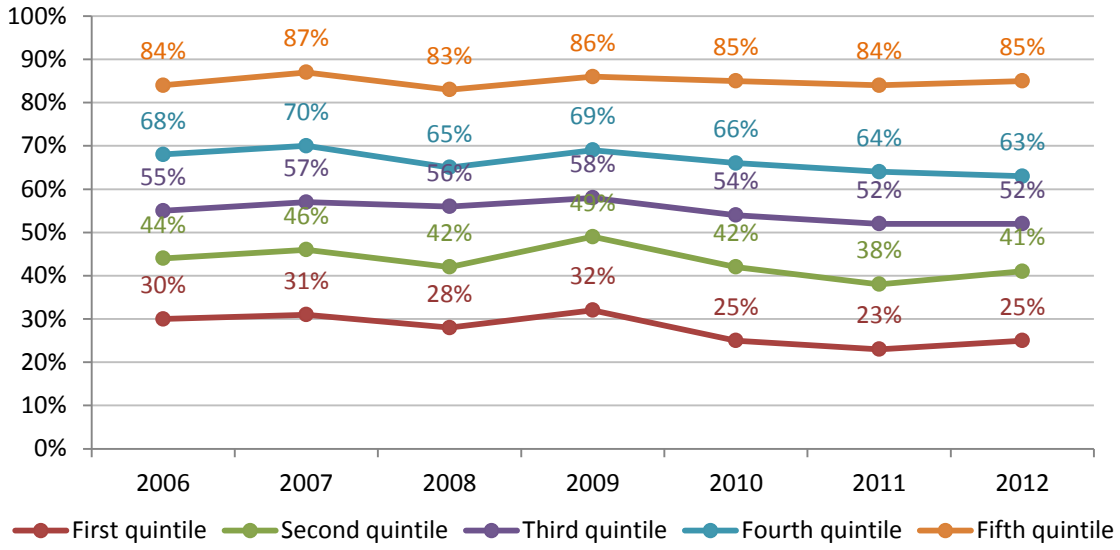
Growth rates confirms that 1st and 2nd quintile loss share of total disposable income - 1st quintile even more than the second one. This aligns with previously written, that due to unemployment, income of lowest income groups decreased to a larger extent compared to the above average ones. Changes mentioned in relation to employment led to a decrease in the quality of life, especially among the low income groups. The bottom 20 % of

population is no longer only having low income, but is now more often living of social transfers. Consequences on the quality of life of such trend can be analysed by presenting some indicators of the quality of life by income quintile groups. Four indicators are presented – the capacity of households to face unexpected expenses, the ability of households to make ends meet, the ability of households to afford meat or vegetarian meal every second day, the ability of households to afford holidays.

Capacity of households to face unexpected expenses

First indicator will show the share of households which can handle unexpected financial expenses. Expenses levels are modified each year[7].

Figure 20. Share of households which can handle unexpected financial expenses



Source: SURS, *Capacity of household to afford holiday, meals with meat or vegetarian equivalent every second day and face unexpected expenses*, 2013.

Figure 20 shows that different income quintiles were differently affected by the economic crisis. While the share of households that can manage unexpected income stayed practically the same in the fifth quintile, the share of such dropped significantly in other quintiles. The biggest decrease was in the first and second quintile, where the drop between 2009 and 2011 was 9 and 11 % respectively. In nominal terms this means, that the number of households which cannot handle unexpected expenses up to 600€ increased for more than 30.000[8] only in the bottom two income quintiles. In 2012, the share of households that

[7] Expenses levels by year were: 2005 – 350 EUR; 2006 - 375; 2007 - 440 EUR ; 2008 - 470 EUR; 2009 - 495 EUR; 2010 - 545 EUR; 2011 - 600 EUR, 2012 – 600 EUR.

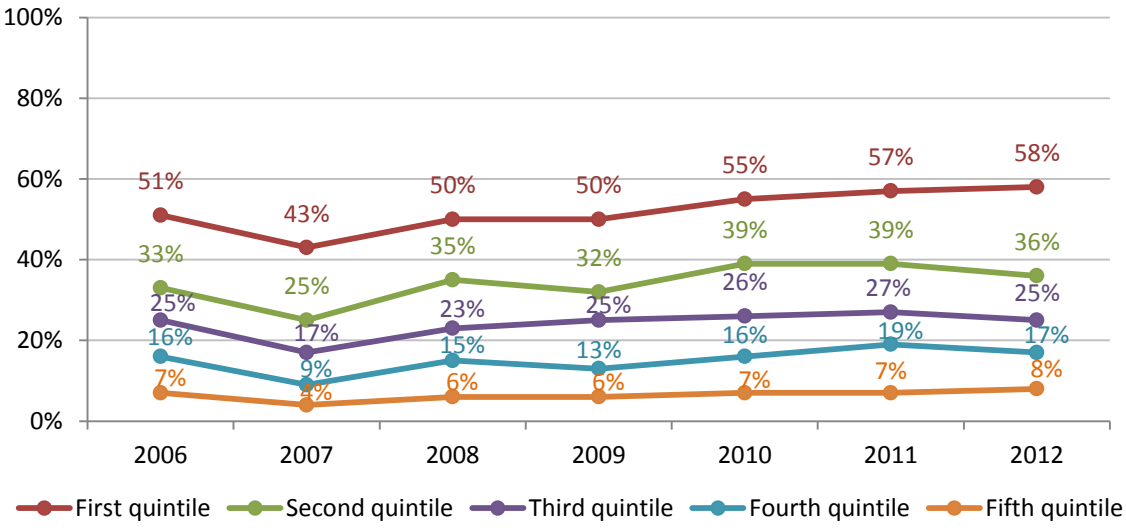
[8] Based on SURS statistic on the number of households in 2011, which is 813.531.

could face such expenses rose in the bottom two quintiles. Reason behind both the negative trend before 2012 and increase in 2012 could be related to different reasons. As unemployment kept rising, this is probably not one of the reasons for greater capacity when facing unexpected expenses after 2012. One possibility might be that during the crisis, household saving rates have increased due to insecurity and as such households saved money and could now be able to face such expenses. Second reason could be that more positive forecasts influenced the general perception of facing such expenses. Third reason could be that employers faced better results and could release some of the financial motivators (salaries, rewards, bonuses).

Ability of households to make ends meet

Another indicator of household life standard is the ability of households to make ends meet. This data is again based on the SILC survey. Households were asked how easy it is for them to make ends meet. Figure 21 shows the share of households through time in each quintile that make ends meet with difficulty or great difficulty.

Figure 21. Share of households which make ends meet with difficulty or great difficulty



Source: SURS, *Ability of households to make ends meet*, 2014.

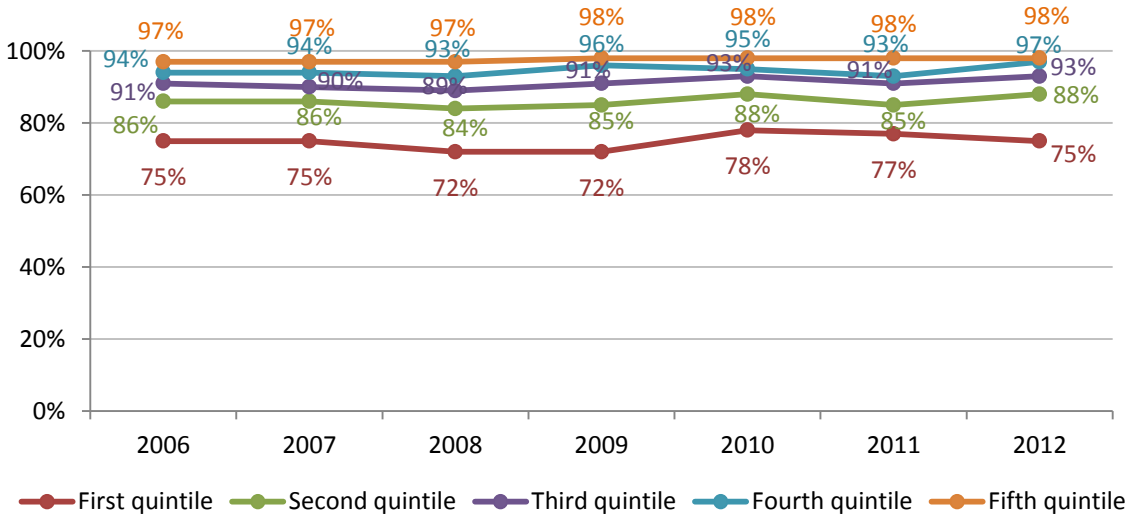
Before the crisis, share of those that can make ends meet with difficulty or great difficulty dropped significantly. Then in 2008, the share of such households changed quite differently among the quintiles. The first and second quintiles had the highest increase in share of such households, but the increase was noticeable also in the third and fort income quintile class. In 2012, the share of such households rose to 58 % in the first quintile. Not only that 10 % of total population is struggling with making ends meet, concerning is also the trend of the first quintile drifting away from the other quintiles. The number of such

households correlates strongly with unemployment levels and is thus also related with poverty rates.

Ability of households to afford meat or vegetarian meal every second day

The purpose of this indicator is to see if economic crisis has affected basic things, such as quality of food consumed. Figure 22 shows the share of households that can afford meat or vegetarian meal every second day.

Figure 22. Share of households which can afford meat or vegetarian meal every second day



Source: SURS, *Capacity of household to afford holiday, meals with meat or vegetarian equivalent every second day and face unexpected expenses*, 2013.

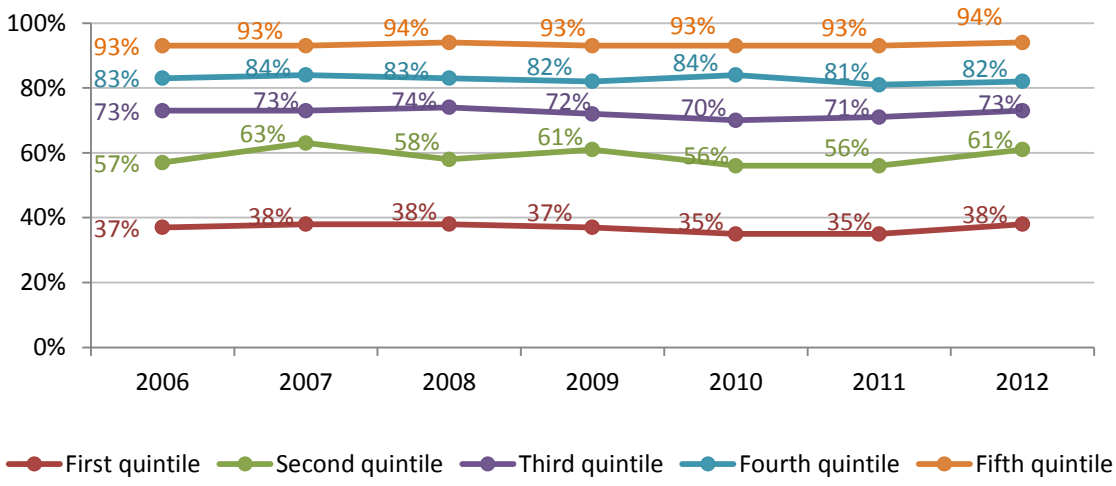
Ability to afford meat or vegetarian meal is a measure which shows how the quality of eating was affected by the crisis. Although there is still ¼ of households in the first quintile who cannot afford it, the differences to other quintiles are quite smaller than in other measures we looked so far. This is because the quality of eating is a basic component of people´s lives in developed societies. Incomes, even if smaller or replaced with social transfers, are still big enough to cover such expenses. The first quintile was also the only quintile that was affected by the crisis, but only temporarily and in 2010 it reached pre-crisis levels already.

Ability of households to afford holidays

Ability to afford holidays is another indicator that reflects the quality of life, but in a completely different way than the quality of eating. Holidays are unnecessary expense, thus it is interesting to see how crisis has influenced holidays taking. Figure 22 shows the

share of households by income quintile classes that can afford a one week holiday for all household members.

Figure 23. Share of households which can afford holidays for all household members



Source: SURS, *Capacity of household to afford holiday, meals with meat or vegetarian equivalent every second day and face unexpected expenses*, 2013.

Figure 23 shows that holidays are something which is often skipped in lower income quintiles. Even before the crisis, only 37 % of first quintile and 57 % of second quintile afforded holidays for all household members. In time of crisis, the share of such actually did not change in the first quintile. This could be due to low shares even before the crisis. Interestingly, the highest decrease was noticed in the second quintile. The reason behind it could be that insecurity in stability of the system and thus saving for the future could "scare" a certain share of this (low) income group. In 2012 again, shares increased in all quintiles. Similarly as with unexpected expenses, this could be related to savings, general optimism, better employer results etc.

Above measures show that the crisis has affected standard of living for all Slovenian population, but also that different income groups were affected differently. The first quintile was most strongly affected due to high unemployment shares. As such, highest differences were related to general financial problems (facing unexpected expenses, making ends meet). Quality of eating was not affected strongly by the crisis and most of the households, even from bottom quintiles, did not decrease it. On the other hand, more luxurious activities like holidays have seen some changes. While the first quintile had such low holiday-taking rates even before the crisis, it has not decreased during it. On the other hand, insecurity and saving on account of holidays, was most strongly evident for the second quintile. Some of the possible reasons behind quality of life changes have been mentioned. However, the perception of households is an extensive topic that could not fit in this thesis. Still, based on the overview data, fourth hypothesis can be confirmed that life quality inequalities have increased during the crisis. So far, all key hypotheses have been

tested and either rejected or confirmed. There is however a final research question to be answered: What policy measures can be used to mediate the negative impacts of growing inequality? Last chapter is dedicated to provide some answers to it.

4 INEQUALITY-TACKLING POLICY MEASURES

Data reviewed so far in combination with theory revealed that inequality is related to economic development. Not only that inequality can affect general economic development, it is also setting back the recovery and influencing the quality of life. Thus, reducing inequality is one of the key strategy pillars of many international organisations. OECD (2012b) stated in the *Economic Policy Reforms* that economic development should not emphasise only total income growth but focus also on its distribution across population. In order to do so, such economic policies should be implemented by the government, which take into account also effects on equality of income distribution. Due to incoherent results of different empirical studies, correlation among economic growth and inequality is not entirely understood. Still, OECD prepared a list of hypothetical results from different structural reforms and their effects on economic growth and equality of income distribution. The list is presented in Table 11.

Plus (+) represents substantial increase; minus (–) represents substantial decrease; zero (0) represents no influence; 0/+ and 0/– denote inconsistency in research findings; ~ means that results of empirical studies are either indecisive or haven't been conducted yet (OECD, 2012b).

As Slovenia is in a state of economic recovery, only those inequality-decreasing measures are suitable that do not hamper the economic growth.

Table 14. Structural policies effect on growth and equality

A rise in:	**Employment rate**	**Earnings inequality**	**Income inequality**	**GDP p.c.**
Tertiary education graduation rate	~	+	+	+
Upper secondary graduation rate	~	+	+	+
Equity in education	~	+	+	+
Minimum wage	0 / -	+	~	0 / -
Unionisation	~	+	+	~
Legal extensions of collective wage agreements	-	~	-	-
Overall level of employment protection legislation	0 / -	+	~	-
Gap between EPL on regular versus temporary work	-	-	-	-
The replacement rate and duration of unemployment benefits	-	+	~	-
Spending on active labour market policies	0 / +	~	+	+
Anti-competitive product market regulation	+	0 / +	~	-
The integration of immigrants	+	+	+	+
Anti-discrimination initiatives	+	+	+	+
Female labour force participation	+	+	+	+

Source: OECD, *Economic policy reforms: Reducing income inequality while boosting economic growth: Can it be done*, 2012b, p.195, Table 5.2.

In general, reforms that seem to have positive effects can be divided in education reforms and labour-market reforms. Both approaches will be presented in the following chapters.

4.1 Education related reforms

Education has an important influence on income inequality, as it determines occupation choices, access to jobs, salary levels and plays an important role as an indicator of the ability and productivity in the job market (Dabla-Norris, Kochabar, Suphaphiphat, Ricka, & Tsounta, 2015). Thus, policies that are targeted at increasing human capital are crucial for improving quality of living. Besides that, reforms in education system will likely have positive effects on distribution of labour income. Examples of policy initiatives to raise upper secondary education attainment include (OECD, 2012b):

- improvement of teacher training and recruitment,
- additional attention to scholar at risk of dropping out,

- reducing effects of social and personal background on educational achievements and thus improving social mobility
- support learning process of underprivileged children by firming the connection between home and school

OECD offers an educational overview as part of its OECD better life index. In Slovenia, difference in knowledge between students of different socio-economic background is significant. Based on OECD scale, students from the lowest background scored 100 points less than those of the highest. This puts it on 22nd place out of 36, indicating there is potential for improvement (OECD, 2015a). Social background plays the biggest role on results when it comes to immigrants, where Slovenia was evaluated below OECD average. Room of improvement is also in other social background impact metrics where currently Slovenia is around OECD average: impact on performance (role of socio-economic background in determining how students do in maths), performance gap (comparison of student performance in maths from different socio-economic backgrounds) and resilience (share of students who do well in maths and come from low socio-economic background) (OECD, 2015b).

Educational system is of course much more complex and presented data are just indicative for purpose of determining if there is potential to improve the equity of education. Reducing the effects of socio-economic background in combination with other suggested educational policies (improving teacher training and recruitment, putting more attention on students at risk of dropping out etc.) could yield positive effects on reducing inequality and economic growth. Key OECD future recommendations for Slovenia in the field of educational system are (OECD, 2014):

- Revise education expenditures across regions and improve expenditure efficiency for primary schooling.
- Ease the process of transiting from Vocational education and training (hereinafter VET) to tertiary level education. Educate VET students about career opportunities and support employers taking part in VET programmes.
- Review higher education institutions and put more weight on performance when allocating funds in order to improve the overall efficiency. Implement general tuition fees in combination with means-tested scholarships and financial loans with payback depending on the income.
- Assess how adult education is affecting the labour market and what kind of skills are used and sought by employers. Make adult education easier to access for those with lower education levels.

4.2 Labour-market related reforms

Second group of reforms is related to labour-market. Again, OECD outlines some general reforms which should have positive influence on economic performance while reducing inequality (OECD, 2012b):

- Improve transfer from temporary contracts and unemployment to regular contracts for employees that are at the margin of the labour market (e.g. young people) by reducing regular contract protection
- Introduce measures targeted at improving skill and job vacancies matching
- Improve system of job search and monitoring
- Improve immigrant integration in the labour market
- Introduce measures targeted at reducing gender differences in amount of working hours (e.g. children and elderly care system)

When it comes to protection of permanent workers, Slovenia has quite high restrictions. Based on OECD indicator on employment protection legislation (OECD, 2015c) Slovenia has index of 2.67, while OECD average is 2.29. The index can scale from 0 to 6, where 0 is least restrictions and 6 is most restrictions. In review of Slovenian reforms by OECD it was recognized that 18 % of all work contracts are permanent, which is less than the OECD average of 14 %. Also problematic is the share of temporary contracts among newly employed with only 20 % of such cases in 2012. Young people are especially commonly employed based on fixed-term contracts, as three out of four employees under 25 years has it. The transfer rate from temporary to permanent is also low, as less than 50% of temporarily employed people were able to transfer into permanent contract within three years. Key reason for the issue is to be found in dismissal terms differences between temporary and full-time contract. The reform which took place in 2013 took a step towards reducing the contract terms differences by converging the contract termination costs. With it, employer termination costs are the same, no matter the contract type (if the termination has been fair). However, some differences among the contract types remained. In case of termination of full-time contract employee can file a complaint at the court, while those employed for temporary period cannot. Although reform has not completely levelled both types of contract, OECD recognized it as one of most comprehensive reforms conducted in time of crisis, as it reduced the differences substantially (OECD, 2014). Slovenia also has lower than OECD average investments in labour market as the percentage of GDP. In Slovenia 11.1 % of GDP is dedicated, while in OECD average it is 14.2 %. The largest gap is in employee training, as in Slovenia only 4 % of total expenditures on labour-market are dedicated for it, while in OECD this share is 12 % (OECD, 2015d). Similarly, immigrant policies also have room for improvement as EU evaluated situation of migrant integration policy as slightly unfavourable and was positioned on 33th place out of 38 being compared (MIPEX, 2015). Female participation in labour is high in Slovenia with Gender Equality Index 82.7, which places Slovenia on 8th place in EU27 (European Institute for Gender

Equality, 2015). Key OECD recommendations on the field of labour-force market for Slovenia are (OECD, 2014):

- Limit court possibilities to order reinstatement in case of unfair dismissals (e.g. discrimination)
- Limit minimum salary increases to inflation levels and obtain a social agreement on future salary moderation through the time of economic recovery
- Focus on long-term unemployed by creating public programmes targeted at gaining skills and helping them find available work positions
- Protect budget targeted for job search and training services in order to ensure long-term unemployed stay close to the labour market

4.3 Tax reforms

Besides the policies tackling educational sector or labour-market, OECD recognized also some tax reforms that could have positive effects on reducing inequality and increasing growth. First is to reconsider tax spending that is mainly beneficial for wealthier population (e.g. tax cuts on mortgage interest). This kind of tax spending reductions will have positive influence on economic growth, plus it will enable lowering marginal tax rates and result in higher equality in distribution. In addition, reducing tax spending would improve the simplicity of the tax collection system and related collection costs.
Second recommendation is referring to increases the taxes for capital incomes. Currently available types of tax reliefs (e.g. for capital gains of residence) are not contributing to level of savings or economy growth and are beneficial only top income groups. In addition, tax relieves can be used as instruments for tax payment avoidance. Increasing tax rates for capital gains would thus enable cuts in labour income tax which would be providing economic growth. (OECD, 2012b). OECD key recommendations on tax policies for Slovenia are (OECD, 2014):

- Decrease tax rates on labour income
- Limit tax spending and reduced VAT usage
- Increase tax rates on immovable property.

The field of policies with higher probability of reducing inequalities and at the same time support economic recovery is well understood. OECD has done a lot of research in order to understand the field and support governments in their decisions. Slovenia has already done some steps in the way, but still has a lot of room for further implications. Following above recommendations could provide long term success in the recovery of Slovenian economy while reducing inequalities.

CONCLUSION

Recent financial crisis had a severe effect on global economy. As economic models were unable to predict it, cause-related questions were raised. One of the highly discussed possible reasons was inequality. Overview of history of economic thought revealed that inequality has been a frequent topic of scholars and economists. Many theoretical contributions on inequality and its effects on society are available, starting as early as Greek classical period. However, first empirical studies emerged only in 1950s with Simon Kuznets. Since then, statistical data has been more regularly recorded and empirical studies became more frequent and reliable.

Although the interconnectivity of global financial sectors caused crises rarely being isolated to a country or region, smaller countries, such as Slovenia, usually do not get significant attention in studies. In recent crisis, Slovenia was one of the European countries which were affected the most. Due to its export dependence, lower demand of its trading partners resulted in very poor Slovenian economic performance. In 2009 alone, GDP decreased by 5 %. The negative GDP growth trend was long, as it has not reached positive rates until 2014. Aligned with falling economic growth, employment has not increased until 2014. From 2008 to 2012, unemployment rate doubled and has surpassed 10 % in 2013. Inequality has also been dynamic after the crisis. In 2010, ratio between incomes of the top 20 % and the bottom 20 % of households increased by 6 %. In the same year, Gini coefficient increased by 5 % and at-risk-of-poverty rate for 12 %. Macroeconomic and inequality dynamics were a starting point for the research questions and hypothesis that were answered through an overview of statistical data and empirical study.

Firstly, general relation between inequality and economic development was analysed. Pearson correlation between GDP p.c. PPS and inequality among EU28 countries revealed a negative correlation. All three measures, (a) S80/S20, (b) Gini coefficient and (c) At-risk-of-poverty rate were statistically significant and negatively correlated to GDP p.c. PPS. With this conclusion, first hypothesis was confirmed that there is a negative correlation between income inequality and economic development.

Secondly, the difference of inequality changes among EU and Slovenia was analysed. Comparing the dynamic of inequality among EU28 countries revealed that the differences are big. On one hand there are countries that dealt with inequality extremely good, such as Finland, Poland, Netherlands and Latvia. On the other hand Hungary, Greece, Cyprus, Slovenia all experienced an increase in inequality over the period after the crisis. Due to these big differences, second hypothesis that inequality in the European Union has increased after the economic crisis of 2009 could only partially be confirmed. Second implication of the overview was a more detailed insight into inequality in Slovenia. Data showed that Slovenia had fourth largest increase in inequality. Major contribution to this ranking had the increase of at-risk-of-poverty rate, which can be related to high increases

of unemployment. Putting Slovenia in EU framework confirmed the third hypothesis, that inequality has increased more in Slovenia than in the European Union average.

Relating to the same research question of characteristics of Slovenian inequality dynamics compared to EU, multiple regression was conducted on EU28 countries. Besides the relation between inequality measures and economic development, welfare state model of a country was also included as a variable. At-risk-of-poverty rate was the only inequality measure that was statistically significant. With beta coefficient -0.240 it had negative affect on GDP p.c. PPS, which once again confirmed the negative correlation between income inequality and economic development. Important outcome was also that welfare state plays an important role in predicting GDP p.c. PPS. Three out of four welfare models were statistically significant. Highest negative effect was seen with the model of the post-communist Europe, at -0.487. Reverse regression, with at-risk-of-poverty rate as dependent variable was also run and concluded that there is also a reverse correlation between GDP p.c. PPS and at-risk-of-poverty rate, as beta coefficient was -0.445. To finally answer the research question, correlation on Slovenian-only inequality and economic development data were run. Correlation coefficients revealed that reverse correlation exists. With 1 year gap, inequality and economic development are negatively correlated. There was more effect of economic development on inequality than vice versa, but reverse correlation also exists. This conclusion confirmed the forth hypothesis that poor economic development caused higher inequality in Slovenia and high inequality prevents economic recovery.

One of key research questions was also the effects of inequality on the quality of life in Slovenia. Overview of statistical data revealed that the crisis has affected standard of living of all Slovenian population, but also that different income groups were affected differently. First quintile was most strongly affected with higher unemployment shares. As such, highest differences in time of crisis were related to general financial problems (facing unexpected expenses, making ends meet). Differences in the quality of life confirmed the fifth hypothesis that life quality inequalities have increased in time of the crisis.

Last chapter addresses the final research question on what policy measures can be used to mediate the negative impacts of growing inequality, but would still support economic recovery. Based on OECD policy reforms overview, education, labour market and tax reforms were presented that could have been appropriate for Slovenian economic state. Key OECD recommendations in education sector are related to education spending efficiency, transitions from VET education to university, improving the funding and efficiency of higher education system and improvements in adult education. In regards to labour market, key recommendations are related to minimum wage modifications in time of recovery, assistance to long-term unemployed, encouraging youth to acquire skills sought after by employers and sheltering resources devoted to training and job search. Last scope of reforms recommendations overviewed was related to tax reforms. Key

recommendations are relating to reducing marginal tax rates on labour income, curtailing tax expenditures and increasing tax on immovable property.

The thesis answered all research questions. Answers provided better understanding of the relation between inequality and economic development as well as guidelines for future policy reforms that could tackle inequality, while support positive economic development.

REFERENCE LIST

1. Alesina, A., & Rodrik, D. (1994). Distributive Politics and Economic Growth. *The Quarterly Journal of Economics*, *109*(2), 465-490.
2. Andrews, D., Christopher, J., & Andrew, L. (2009). Do Rising Top Incomes Lift All Boats? *The B.E. Journal of Economic Analysis & Policy, 11*(1), 1-45.
3. Aquinas, S. T. (1892). *Aquinas Ethicus: or, the Moral Teaching of St. Thomas. A Translation of the Principal Portions of the Second part of the Summa Theologica.* London: Burns and Oates.
4. Aristotel. (2009). *Nicomachean Etics.* Lexington: World Library Classics.
5. Atkinson, A. B., & Morelli, S. (2011). *Economic crises and Inequality.* NewYork: United Nations.
6. Atkinson, A., & Morelli, S. (2014). Economic Inequality in USA. Retrieved May 5, 2015, from http://www.chartbookofeconomicinequality.com/inequality-by-country/usa/
7. Barro, R. J. (2000). *Inequality and Growth in a Panel of Countries.* Cambridge: Littauer Center, Department of Economics, Harvard University.
8. Baum, S. (1992). Poverty, Inequality, and the Role of Government: What Would Adam Smith Say? *Eastern Economic Journal*, *18*(2), 143-156.
9. Bordo, M. D., & Meissner, C. M. (2012). *Does Inequality Lead to a Financial Crisis?* Cambridge: National Bureau of Economic Research.
10. Boushley, H. & Hersh, A. (2012). The American Middle Class, Income Inequality, and the Strength of Our Economy: New evidence in economics. Retrieved May 27, 2015, from https://www.americanprogress.org/issues/economy/report/2012/05/17/11628/the-american-middle-class-income-inequality-and-the-strength-of-our-economy/
11. Bradley, M. E. (2011). *The "Invisible Handout?": Smith, J.S. Mill And Marshall On Inequality And Progress.* Maryland: University of Maryland, Baltimore County.
12. Brady, D. (2009). Economic globalisation and increasing earnings inequality in affluent democracies. *Research in the Sociology of Work, 18*(1), 149-181.
13. Conceição, P., & Ferreira, P. (2000). *The Young Person's Guide to the Theil Index: Suggesting Intuitive Interpretations.* Austin: University of Texas.
14. Dabla-Norris, E., Kochabar, K., Suphaphiphat, N., Ricka, F., & Tsounta, E. (2015). *Causes and Consequences of Income Inequality: A Global Perspective.* USA: IMF.
15. Desai, R. (2013). Economic Development vis-a-vis Environment. Retrieved April 22, 2015, from http://drrajivdesaimd.com/?p=5002
16. European Institute for Gender Equality. (n.d.). *Work*. Retrieved May 30, 2015, from http://eige.europa.eu/content/gender-equality-index#/domain/work
17. Eurostat. (2010). *Income and living conditions in Europe.* Luxemburg: Publications Office of the European Union.
18. Eurostat. (2015a). Glossary: EU statistics on income and living conditions. Retrieved May 25, 2015, from http://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:EU_statistics_on_income_and_living_conditions_%28EU-SILC%29

19. Eurostat. (2015b). Eurostat Statistics Explained: Income distribution statistics. Retrieved August 13, 2015, from http://ec.europa.eu/eurostat/statistics-explained/index.php/Income_distribution_statistics
20. Eurostat. (n.d.-a). S80/S20 income quintile share ratio. Retrieved May 14, 2015, from http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=ilc_di11&lang=en
21. Eurostat. (n.d.-b) Gini coefficient of equivalised disposable income. Retrieved May 14, 2015, from http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=ilc_di12&lang=en
22. Eurostat. (n.d.-c). At-rist-of-poverty rate. Retrieved May 14, 2015, from http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=ilc_li01&lang=en
23. Eurostat. (n.d.-d). GDP and main components. Retrieved May 14, 2015, from: http://appsso.eurostat.ec.europa.eu/nui/show.do
24. Eurostat. (n.d.-e). Employment. Retrieved May 14, 2015, from http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=lfsi_emp_a&lang=en
25. Eurostat. (n.d.-f). Annual net earnings. Retrieved May 14, 2015, from http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=earn_nt_net&lang=en
26. Eurostat. (n.d.-g). HICP. Retrieved May 14, 2015, from http://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&language=en&pcode=teicp000&plugin=1
27. Eurostat. (n.d.-h). Unemployment rate. Retrieved May 14, 2015, from http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=une_rt_a&lang=en
28. Eurostat. (n.d.-i). Glossary: EU statistics on income and living conditions. Retrieved May 25, 2015, from http://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:EU_statistics_on_income_and_living_conditions_%28EU-SILC%29
29. Eurostat. (n.d.-j). Eurostat Statistics Explained: Income distribution staistics. Retrieved 09 13, 2015, from http://ec.europa.eu/eurostat/statistics-explained/index.php/Income_distribution_statistics
30. Fotros, M. H., & Maboudi, R. (2011). *Income inequality, Consumption Expenditures Inequality and their relationships: Evidence from Iranian Developing Economy, 1966-2007.* Hamedan: Bu-Ali Sina University.
31. Human Development Index. (HDI). (n.d.). In *Investopedia.* Retrieved May 14, 2015, from http://www.investopedia.com/terms/h/human-development-index-hdi.asp
32. Institute of Macroeconomic Analysis and Development. (2015). *Development report 2015.* Ljubljana: Institute of Macroeconomic Analysis and Development of Slovenia.
33. Judis, J. B. (2013, January 30). Paul Krugman vs. Joseph Stiglitz: How income inequality could be slowing our recover from the Great Recession. Retrieved April 27, 2015, from http://www.newrepublic.com/article/112278/paul-krugman-vs-joseph-stiglitz-inequality-slowing-recovery
34. Keynes, J. M. (1936). *The General Theory of Employment, Interest, and Money.* London: Palgrave Macmillan.

35. Knowles, S. (2001). *Inequality and Economic Growth: The Empirical Relationship Reconsidered in the Light of Comparable Data.* Nottingham: Centre for Research in Economic Development and International Trade, University of Nottingham.
36. Koner, J., Dhume, A., & Purandare, A. (2012). Economic Growth and Social Development: An Empirical Study. *Journal of Economics and Sustainable Development*, *3*(1), 10-17.
37. Krugman, P. (2013, January 20). Inequality and Recovery. Retrieved June 15, 2013, from http://krugman.blogs.nytimes.com/2013/01/20/inequality-and-recovery/
38. Kumhof, M., & Rancière R. (2010). *Inequality, Leverage and Crises.* USA: IMF.
39. Kuznets, S. (1955). Economic growth and income inequality. *The American Economic Review*, *45*(1), 1-28.
40. Learn Europe. (2015). Models of welfare state in Europe. Retrieved July 20, 2015, from http://www.learneurope.eu/index.php?cID=300
41. Malinen, T. (2007). *A Comment on the Relationship between inequality and growth.* Helsinki: University of Helsinki and HECER.
42. Marx, K. (1867). *Capital, Volume I.* Moscow: Progress Publishers.
43. McKay, A. (2002). *Inequality Briefing.* London: Overseas Development Institute.
44. Mill, J. S. (1848). *Principles of Political Economy with some of their Applications to Social Philosophy.* London: Longmans, Green and Co.
45. MIPEX. (n.d.). Slovenia. Retrieved May 30, 2015, from http://www.mipex.eu/slovenia
46. Murray, T. (n.d.). Understanding Income distribution. Retrieved May 10, 2015, from http://econ4dummies.tumblr.com/post/12895596272/income-distribution
47. Novotný, J. (2007). *On the measurement of regional inequality: does spatial dimension of income inequality matter?* Prague: Charles University.
48. OECD. (2012a). OECD Factbook 2011-2012: Economic, Environmental and Social Statistics. Retrieved June 9, 2013, from http://www.oecd-ilibrary.org/sites/factbook-2011-en/03/05/01/index.html?itemId=/content/chapter/factbook-2011-31-en
49. OECD. (2012b). *Economic policy reforms: Reducing income inequality while boosting economic growth: Can it be done.* Paris: OECD publishing.
50. OECD. (2014). *Slovenia reforms for a strong and sustainable recovery.* Paris: OECD publishing.
51. OECD. (n.d.-a). Education. Retrieved May 30, 2015, from http://www.oecdbetterlifeindex.org/topics/education/
52. OECD. (n.d.-b). Inequality and education. Retrieved May 30, 2015, from http://www.oecd.org/social/inequality.htm#education
53. OECD. (n.d.-c). Indicators of Employment Protection. Retrieved May 30, 2015, from http://www.oecd.org/employment/emp/oecdindicatorsofemploymentprotection.htm
54. OECD. (n.d.-d). Online OECD Employment database. Retrieved May 30, 2015, from http://www.oecd.org/els/emp/onlineoecdemploymentdatabase.htm
55. Pagano, P. (2004). *An empirical investigation of the relationship between inequality and growth.* Rome: Bank of Italy, Economic Research and International Relations Area.

56. Park, H. M. (2009). *Linear Regression Models for Panel Data Using SAS, Stata, LIMDEP, and SPSS.* Bloomington: Indiana University.
57. Perotti, R. (1992). *Fiscal Policy, Income Distribution and Growth.* New York: Columbia University.
58. Perotti, R. (1995). *Growth, Income Distribution and Democracy: What the Data say.* New York: Colombia University.
59. Persson T., & Tabellini G. (1994). Is Inequality Harmful for Growth? *American Economic Review, 84*(3), 600-621.
60. Plato. (1871). *Laws.* New York: C. Scribner's sons.
61. Porter, E. (2014, March 25). Q&A: A sociologist on Inequality. Retrieved September 11, 2014, from http://economix.blogs.nytimes.com/2014/03/25/qa-a-sociologist-on-inequality/?_r=0
62. Qi, S. (2001). *Economic inequality and economic growth.* Berlin: Humboldt-University Berlin.
63. Ray, D. (1998). *Development Economics.* Princeton: Princeton University Press.
64. Reynolds, L. R. (2000). *The physiocrats: An Outline "The economomists".* Boise: Boise State University.
65. Ricardo, D. (2005). *Letter to T. R. Malthus.* Indianapolis: Liberty Found.
66. Saez, E. (2013). *Striking it Richer: The Evolution of Top Incomes in the United States.* Berkley: University of California.
67. Sage, D. (2012, August 5). Book Review: The Cost of Inequality: Why Economic Equality is Essential for Recovery. Retrieved June 16, 2013, from http://blogs.lse.ac.uk/politicsandpolicy/archives/25803
68. Sandmo, A. (2013). *The Principal Problem in Political Economy: Income Distribution in the History of Economic Thought.* Bergen: Norwegian School of Economics.
69. Saunders, P. (2002). *The direct and indirect effects of unemployment on poverty and inequality.* Sydney: The Social Policy Research Centre, University of New South Wales.
70. Science Encyclopedia. (n.d.). Equality - Overview - Ancient Views Of Equality. Retrieved April 4, 2013, from http://science.jrank.org/pages/9186/Equality-Overview-Ancient-Views-Equality.html
71. Smith, A. (1776). *Inquiry into the Nature and Causes of the Wealth of Nations.* London: W. Strahan and T. Cadell.
72. Spiegel, H. W. (1991). *The growth of economic thought.* Durham: Duke University Press.
73. Stiglitz, J. E. (2013, May 19). Inequality Is Holding Back the Recovery. Retrieved June 15, 2013, from http://opinionator.blogs.nytimes.com/2013/01/19/inequality-is-holding-back-the-recovery/
74. Studenbaker, B. (2013, January 21). Inequality: Krugman vs. Stiglitz. Retrieved April 27, 2015, from http://benjaminstudebaker.com/2013/01/21/inequality-krugman-vs-stiglitz/

75. Suebsawangkul, A. (2007). *Economic Inequality from International Political Economy Perspective*. Missouri: Midwest Political Science Association.
76. SURS. (n.d.-a). Ability of households to make ends meet. Retrieved November 25, 2014, from http://pxweb.stat.si/pxweb/Dialog/varval.asp?ma=0868120E&ti=&path=../Database/Demographics/08_level_living/14_silc_finan_abilities_households/05_08681_household_abilities/&lang=1
77. SURS. (n.d.-b). Capacity of household to afford holiday, meals with meat or vegetarian equivalent every second day and face unexpected expenses. Retrieved November 25, 2013, from http://pxweb.stat.si/pxweb/Dialog/varval.asp?ma=0868105E&ti=&path=../Database/Demographics/08_level_living/14_silc_finan_abilities_households/05_08681_household_abilities/&lang=1
78. SURS. (n.d.-c). Distribution of household disposable income by quantiles. Retrieved November 25, 2013, from http://pxweb.stat.si/pxweb/Dialog/varval.asp?ma=0867332E&ti=&path=../Database/Demographics/08_level_living/08_silc_poverty_indic/15_08673_income_distribution/&lang=1
79. SURS. (n.d.-d). Expenditure for social protection schemes. Retrieved November 25, 2013, from http://pxweb.stat.si/pxweb/Dialog/varval.asp?ma=1262201E&ti=&path=../Database/Demographics/12_social_protection/01_12622_expen/&lang=1
80. Svetin, I. (2010, April 26). Mednarodni praznik dela 2010. [International labour day 2010]. Retrieved February 23, 2014, from http://www.stat.si/novica_prikazi.aspx?id=3083
81. Thopmson, H. (2011, December 2). The School Of Scholastic Economic Thought. Retrieved June 11, 2013, from http://www.saylor.org/site/wp-content/uploads/2013/04/ECON301-2.1.1-ScholasticThought.pdf
82. Turchin, P. (2012). Religion and Empire in the Axial Age. *Religion, Brain & Behaviour, 2*(3), 225-270.
83. U.S. Census Bureau. (2014). *Mean Household Income Received by Each Fifth and Top 5 Percent: 1967 to 2013.* Washington: U.S. Census Bureau.
84. United Nations Development Program. (n.d.). Human Development Index (HDI). Retrieved September 14, 2013, from http://hdr.undp.org/en/statistics/hdi/
85. University of Texas. (n.d.). *Multiple Regression – Basic Relationships.* Austin: University of Texas.
86. Weber, M. (1978). *Economy and Society.* California: University of California Press.
87. Winship, S. (2013). Overstating the Costs of Inequality. *National Affairs*. Retrieved from http://www.nationalaffairs.com/publications/detail/overstating-the-costs-of-inequality.
88. Wisman, J. (2013). *Labor busted, rising inequality and the financial crisis of 1929: An unlearned lesson.* Washington: American University.

89. World Bank Institute. (2005). *Introdcution to Poverty Analysis.* Washington: World Bank Institute.
90. World Bank. (2000). *Beyond Economic Growth: Meeting the Challenges of Global Development.* Washington: World Bank.
91. World Bank. (2004a). Technical Note: Inequality measures and their decompositions. Retrieved May 16, 2013, from http://siteresources.worldbank.org/INTPA/Resources/tn_measuring_inequality.pdf
92. World Bank. (2004b). Measuring Inequality. Retrieved May 16, 2013, from http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTPOVERTY/EXTPA/0,,contentMDK:20238991~menuPK:492138~pagePK:148956~piPK:216618~theSitePK:430367,00.html
93. World bank. (n.d.). Income share held by lowest 10%. Retrieved May 10, 2015, from http://data.worldbank.org/indicator/SI.DST.FRST.10/countries
94. Zorc, M. (2013). Gospodarska kriza v Sloveniji in ukrepi za izhod iz nje [Economic crisis in Slovenia and measures to exit it]. *Zbornik 10. festivala raziskovanje ekonomije in managementa* (p.p. 125-134). Koper: Faculty of Management Koper, University of Koper.

APPENDIXES

TABLE OF APPENDIXES

APPENDIX A: Slovenian summary

Nedavna finančna kriza je imela močan vpliv na globalno ekonomijo. Dosedanji ekonomski modeli so bili neuspešni pri predvidevanju le-té, kar je sprožilo množico debat o povodih in posledicah. Ena izmed pogostih tem bila povezave med dohodkovno neenakostjo in gospodarsko rastjo. Aktualnost teme v medijih in ekonomskih debatah, je bil tudi povod za analizo tematike skozi magistrsko delo.

Magistrsko delo v prvih poglavjih zajema pregled zgodovine ekonomske misli na temo povezave neenakosti in gospodarske rasti. Teoretičnih prispevki na to temo segajo vse do obdobja Klasične Grčije. Vendarle pa so prve empirične študije nastale v 50ih letih 19. stoletja, z delom Simona Kuznetsa. Od takrat, se statistični podatki beležijo pogosteje in empirične študije so pogostejše in zanesljivejše. Kljub mnogim opravljenim statističnim raziskavam, pa so Slovenija, in ostale manjše države, redko vključena v analize. Čeprav je moderno gospodarstvo povezano in se vplivi hitro prelivajo, manjše države redko dobijo dovolj pozornosti. To je bil tudi eden izmed ključnih razlogov, da je empirična analiza magistrskega dela osredotočena na Slovenijo in njeno pozicijo v Evropski Uniji.

Za razumevanje povezave med neenakostjo in trenutno finančno krizo, je bil opravljen pregled ekonomske situacije v času krize. Povezanost globalnega finančnega sektorja je povzročila, da finančne krize ni več omejena na posamezno državo ali regijo, temveč pa se posledice prelivajo globalno. V nedavni krizi, je bila Slovenija ena izmed najbolj prizadetih Evropskih držav. Zaradi izvozne odvisnosti, je manjše povpraševanje trgovinskih držav partneric povzročilo slabe ekonomske rezultate. Samo v letu 2009 se je BDP zmanjšal za 5 %. Negativen trend je bil dolg, saj je prva rast gospodarstva prišla šele v letu 2014. S padajočo gospodarsko rastjo je sovpadala tudi zaposlenost, ki se ni povišala vse do leta 2014. Od leta 2008 do 2012 se je nezaposlenost podvojila in prešla 10 % v letu 2013. Po krizi je bila dinamična tudi neenakost. V 2010 se je razmerje med dohodkom najvišjega in najnižjega razreda prebivalstva povečalo za 6 %. V istem letu je Ginijev koeficient narastel za 5 % in stopnja tveganja revščine za 12%.

Pregled zgodovine ekonomske misli, modernih empiričnih raziskav in dinamike neenakosti ter makroekonomskega okolja so bili izhodišča za raziskovalna vprašanja magistrskega dela:

1) Kako je neenakost povezana z ekonomskim razvojem? Je res negativna, in zakaj?
2) Kaj se je zgodilo z neenakostjo v času krize v EU in Sloveniji?
3) Kaj so značilnosti neenakosti v Sloveniji?
4) Kakšno je razmerje med neenakostjo in kvaliteto življenja v Sloveniji?
5) Katere ekonomske politike so namenjene ublažitvi negativnih učinkov rastoče neenakosti, a hkrati spodbujajo ekonomsko okrevanje?

Odgovori na raziskovalna vprašanja so bili pridobljeni skozi pregled statističnih podatkov in empirično raziskavo. V skladu z raziskovalnimi vprašanji, so bile postavljene tudi raziskovalne hipoteze.

Za razumevanje povezave med neenakostjo in gospodarskim razvojem so bila opravljene Pearsonove korelacije med BDP p.c. PPS in neenakostjo med članicami EU28. Korelacije so pokazale, da obstaja negativna povezava. Vse tri mere, (a) S80/S20, (b) Ginijev koeficient in (c) Stopnja tveganja revščine so bile statistično značilne in negativno povezane z BDP p.c. PPS. S tem zaključkov je bila potrjena prva hipoteza, ki pravi, da obstaja negativna korelacija med dohodkovno neenakostjo in gospodarskim razvojem.

V naslednjem koraku je bila analizirana razlika med spremembami v neenakosti med EU in Slovenijo v času finančne krize. Primerjava dinamike med članicami EU28 je pokazala, da so razlike velike. Na eni strani so države kot so Finska, Poljska, Nizozemska in Latvija, ki so se z neenakostjo soočile izjemno dobro. Na drugi strani pa so Madžarska, Grčija, Ciper in Slovenija, ki so vse izkusile povečanje neenakosti v obdobju finančne krize. Zaradi velik razlik med državami, je druga hipoteza, da se je neenakost v Evropski Uniji povečala v času krize bila le delno potrjena. Pregled pa je omogočil tudi bolj podroben vpogled v neenakost v Sloveniji. Podatki so pokazali, da je Slovenija imela četrto največje povišanje neenakosti. Največji doprinos k tej poziciji je imelo povečanje tveganje revščine, ki je lahko neposredno povezano z visokim povečanjem nezaposlenosti. Postavitev Slovenije v okvir EU je potrdilo tretjo hipotezo, da se je neenakost povečalo v Sloveniji bolj kot v povprečju EU.

Z namenom odgovora na raziskovalno vprašanje o primerjavi slovenske dinamike neenakosti z EU, je bila narejena tudi multipla regresija med članicami EU28. Poleg povezave med neenakostjo in gospodarskim razvojem so bili kot spremenljivka vključeni še modeli državne blaginje. Stopnja tveganosti revščine se je pokazala kot edina statistično značilna spremenljivka neenakosti. Beta koeficient -0.240 je pokazal negativen vpliv na BDP p.c. PPS, ki je znova potrdil negativno povezavo med dohodkovno neenakostjo in gospodarskim razvojem. Pomemben doprinos regresijskega modela pa je bil tudi zaključek, da imajo modeli državne blaginje pomembno vlogo pri predvidevanju BDP p.c. PPS. Trije od štirih modelov so bili statistično značilni. Največji negativni vpliv je bil viden pri modelu post-komunistične Evrope, saj je beta koeficient znašal -0.487. Obratna regresija, s stopnjo tveganja revščine kot odvisna spremenljivka je pokazala, da obstaja tudi obratna povezava med BDP p.c. PPS in stopnjo tveganja revščine, saj je bil beta koeficient -0.445.

Za končni odgovor na raziskovalno vprašanje, so bile narejene še korelacije med neenakostjo in gospodarskim razvojem v Sloveniji. Korelacijski koeficienti so pokazali, da obstaja obratna povezanost. Z enoletnim zamikom sta neenakost in gospodarski razvoj negativno povezana. Večji vpliv sicer ima gospodarski razvoj na neenakost kot obratno, a

obratna povezava prav tako obstaja. S tem zaključkom je potrjena bila četrta hipoteza, ki pravi da je slab gospodarski razvoj povzročil višjo neenakost v Sloveniji, višja neenakost pa preprečuje gospodarsko okrevanje.

Eno izmed ključnih raziskovalnih vprašanj naloge se nanaša na vpliv neenakosti na kvaliteto življenja v Sloveniji. Pregled statističnih podatkov je pokazal, da je kriza vplivala na raven življenja slovenskega prebivalstva in da so dohodkovni razredi bili prizadeti drugače. Prvi razred je bil najbolj prizadet zaradi visoke stopnje nezaposlenosti. Tako so bile najvišje razlike v času gospodarske krize povezane s splošnimi finančnimi težavami gospodinjstev (soočanje z nepričakovanimi stroški, kako preživijo). Razlike v kvaliteti življenja so potrdile peto hipotezo, da se je neenakost v kvaliteti življenja povečale v času krize.

Zadnje poglavje vsebuje pregled možnih ukrepov, ki so priporočljivi za omilitev negativnih vplivov rastoče neenakosti ob hkratnem spodbujanju gospodarskega okrevanja. Na podlagi priporočil OECD, so predstavljene reforme v sklopu izobrazbe, trga delovne sile in davčnih reform, ki bi lahko bile primerne za slovensko gospodarsko stanje. Glavna priporočila OECD na področju izobrazbe so bile povezane z učinkovitostjo porabe, prehoda iz sekundarne izobrazbe v univerzitetno, izboljšanja financiranja in učinkovitosti višjega izobraževalnega sistema in izboljšavami na področju izobraževanja odraslih. Na področju trga delavne sile, se glavna priporočila nanašajo na spremembe o stopnji minimalne plače v času okrevanja, pomoči dolgoročno nezaposlenim, spodbujanje mladih k izobraževanju na področjih iskanih s strani delodajalcev in ščitenju sredstev namenjenih za izobraževanja in iskanja del. Zadnji sklop reform se nanaša na davčno področje. Ključna priporočila so v povezavi z davčnimi stopnjami na dohodek iz delavnega razmerja, omejevanje davčnih izdatkov in zvišanjem davka na nepremičnine.

Magistrsko delo je tako odgovorilo na vsa postavljena raziskovalna vprašanja. Pridobljeni odgovori so pripomogli k boljšem razumevanju povezave med neenakostjo in ekonomskim razvojem. Naloga nudi tudi smernice za prihodnje reforme, ki so zasnovane z namenom hkratnega zmanjševanja vplivov neenakosti ter spodbujanja gospodarskega razvoja.

Appendix B: SPSS output for multiple regression analysis with GDP p.c. PPS as dependant variable

Table 1. Variables Entered/Removed

Model	Variables Entered	Variables Removed	Method
1	Welfare State models in a process of development, Anglo-Saxon/Liberal Model, The Social Democratic/Nordic Model., Model of the Former USSR, Model of Post-Communist Europe, At risk of poverty rate, Gini coefficient, S80/S20[a]	.	Enter

a. Tolerance = ,000 limits reached.

Table 2. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,733[a]	,537	,522	7173,323

a. Predictors: (Constant), Welfare State models in a process of development, Anglo-Saxon/Liberal Model, The Social Democratic/Nordic Model., Model of the Former USSR, Model of Post-Communist Europe, At risk of poverty rate, Gini coefficient, S80/S20

Table 3. ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1,441E10	8	1,801E9	stat	,000[a]
	Residual	1,240E10	241	5,146E7		
	Total	2,681E10	249			

a. Predictors: (Constant), Welfare State models in a process of development, Anglo-Saxon/Liberal Model, The Social Democratic/Nordic Model., Model of the Former USSR, Model of Post-Communist Europe, At risk of poverty rate, Gini coefficient, S80/S20

b. Dependent Variable: GDP p.c. PPS

Table 4. Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	51935,497	9171,407		5,663	,000
	S80/S20	-595,794	2258,584	-,063	-,264	,792
	Gini coefficient	-433,968	630,163	-,163	-,689	,492
	At risk of poverty rate	-290,679	103,114	-,240	-2,819	,005
	The Social Democratic/Nordic Model.	-2944,287	1741,738	-,090	-1,690	,092
	Anglo-Saxon/Liberal Model	3412,089	1926,479	,085	1,771	,078
	Model of the Former USSR	-8390,336	1685,939	-,256	-4,977	,000
	Model of Post-Communist Europe	-11955,403	1508,707	-,487	-7,924	,000
	Welfare State models in a process of development	-7822,710	3257,601	-,125	-2,401	,017

a. Dependent Variable: GDP p.c. PPS

Table 5. Excluded Variables[b]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics
						Tolerance
1	Conservative/Corporatist Model	.[a]	.	.	.	,000

a. Predictors in the Model: (Constant), Welfare State models in a process of development, Anglo-Saxon/Liberal Model, The Social Democratic/Nordic Model., Model of the Former USSR, Model of Post-Communist Europe, At risk of poverty rate, Gini coefficient, S80/S20

b. Dependent Variable: GDP p.c. PPS

Appendix C: SPSS output for multiple regression analysis with GDP p.c. PPS as At-risk-of-poverty rate variable as dependant variable

Table 1. Variables Entered/Removed

Model	Variables Entered	Variables Removed	Method
1	GDP p.c. PPS, Anglo-Saxon/Liberal Model, Welfare State models in a process of development, The Social Democratic/Nordic Model., Model of the Former USSR, Model of Post-Communist Europea	.	Enter

a. Tolerance = ,000 limits reached.

Table 2. Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,690[a]	,476	,463	6,28345

a. Predictors: (Constant), GDP p.c. PPS, Anglo-Saxon/Liberal Model, Welfare State models in a process of development, The Social Democratic/Nordic Model., Model of the Former USSR, Model of Post-Communist Europe

b. Dependent Variable: At risk of poverty rate

Table 3. ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8715,842	6	1452,640	36,793	,000[a]
	Residual	9594,054	243	39,482		
	Total	18309,896	249			

a. Predictors: (Constant), GDP p.c. PPS, Anglo-Saxon/Liberal Model, Welfare State models in a process of development, The Social Democratic/Nordic Model., Model of the Former USSR, Model of Post-Communist Europe

b. Dependent Variable: At risk of poverty rate

Table 4. Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	33,169	1,610		20,605	,000		
	The Social Democratic/Nordic Model.	-5,041	1,330	-,186	-3,790	,000	,897	1,114
	Anglo-Saxon/Liberal Model	3,307	1,599	,100	2,068	,040	,924	1,082
	Model of the Former USSR	4,020	1,502	,148	2,676	,008	,704	1,421
	Model of Post-Communist Europe	1,342	1,201	,066	1,117	,265	,614	1,628
	Welfare State models in a process of development	13,966	2,592	,269	5,388	,000	,863	1,158
	GDP p.c. PPS	,000	,000	-,445	-7,305	,000	,580	1,724

a. Dependent Variable: At risk of poverty rate

Table 5. Excluded Variables[b]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance
1	Conservative/Corporatist Model	.[a]	.	.	.	,000	.	,000

a. Predictors in the Model: (Constant), GDP p.c. PPS, Anglo-Saxon/Liberal Model, Welfare State models in a process of development, The Social Democratic/Nordic Model., Model of the Former USSR, Model of Post-Communist Europe

b. Dependent Variable: At risk of poverty rate