

**KERLY ESPENBERG**

Inequalities on the labour market  
in Estonia during the Great Recession



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## LIST OF ORIGINAL PUBLICATIONS

The current dissertation is based on the following publications referred to in the text by the Roman numbers:

- Study I: **Masso, J., Krillo<sup>1</sup>, K.** Mixed Adjustment Forms and Inequality Effects in Estonia, Latvia and Lithuania. – Work Inequalities in the Crisis: Evidence from Europe. Edited by D. Vaughan-Whitehead. UK: Edward Elgar Publishing, 2011, pp. 38–102
- Study II **Masso, J., Espenberg, K.** Early Application of Fiscal Austerity Measures in the Baltic States. – Public Sector Shock. The Impact of Policy Retrenchment in Europe. Edited by D. Vaughan-Whitehead. UK: Edward Elgar Publishing., 2013 (forthcoming), pp. 84–133.
- Study III **Espenberg, K., Themas, A., Masso, J., Eamets, R.** Does a University Degree Pay Off In The Estonian Labour Market? Studies for the Learning Society, Vol 2, No 2–3, 2012, pp. 46–62.
- Study IV **Espenberg, K., Themas, A., Masso, J.** The Graduate Gender Pay Gap in Estonia. – Higher Education at a Crossroad: the Case of Estonia. Edited by E. Saar and R. Mõttus. Germany: Peter Lang Publishing, 2013 (forthcoming), pp. 391–413.

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<sup>1</sup> Krillo is the maiden name of Kerly Espenberg.

# LIST OF AUTHOR'S PUBLICATIONS AND CONFERENCE PROCEEDINGS

## I Chapters in books

- Espenberg, K., Themas, A., Masso, J.** The Graduate Gender Pay Gap in Estonia. – Higher Education at a Crossroad: the Case of Estonia. Edited by E. Saar and R. Mõttus. Germany: Peter Lang Publishing, 2013 (forthcoming), pp. 391–413.
- Espenberg, K., Themas, A., Masso, J., Eamets, R.** Why Do Social Science Graduates Earn More than Natural Science Graduates in Estonia? – Higher Education at a Crossroad: the Case of Estonia. Edited by E. Saar and R. Mõttus. Germany: Peter Lang Publishing, 2013 (forthcoming), pp. 343–365.
- Masso, J., Espenberg, K.** Early Application of Fiscal Austerity Measures in the Baltic States. – Public Sector Shock. The Impact of Policy Retrenchment in Europe. Edited by D. Vaughan-Whitehead. UK: Edward Elgar Publishing., 2013 (forthcoming), pp. 84–133.
- Masso, J., Espenberg, K.** Early Application of Fiscal Austerity Measures in the Baltic States. – Public Sector Adjustments in Europe: Scope, Effects and Policy Issues. Edited by D. Vaughan-Whitehead. Geneva: International Labour Organisation, 2012, pp. 45–70.
- Masso, J., Krillo, K.** Mixed Adjustment Forms and Inequality Effects in Estonia, Latvia and Lithuania. Work Inequalities in the Crisis: Evidence from Europe. Edited by D. Vaughan-Whitehead. UK: Edward Elgar Publishing, 2011, pp. 38–102.
- Masso, J., Krillo, K.** Mixed Adjustment Forms and Inequality Effects in Estonia, Latvia and Lithuania. – Inequalities in the World of Work: the Effects of the Crisis. Edited by D. Vaughan-Whitehead. Geneva: International Labour Office, 2011, pp. 35–98.
- Masso, J., Krillo, K.** Estonia, Latvia and Lithuania: Minimum Wages in a Context of Migration and Labour Shortages. – The minimum Wage Revisited in the Enlarged EU. Edited by D. Vaughan-Whitehead. UK: Edward Elgar Publishing, 2010, pp. 113–151.
- Masso, J., Krillo, K.** Estonia, Latvia and Lithuania: Estonia, Latvia and Lithuania: Minimum Wages in a Context of Migration and Labour Shortages. – The minimum wage revisited in the enlarged *EU*. Edited by D. Vaughan-Whitehead. Geneva: International Labour Office, 2008, pp. 111–148.

## **II Articles in international journals**

**Merikull, J., Eamets, R., Humal, K., Espenberg, K.** Power Without Manpower: Forecasting Labour Demand for Estonian Energy Sector. *Energy Policy*, 2012, Vol 49, pp. 740–750.

**Espenberg, K., Themas, A., Masso, J., Eamets, R.** Does a University Degree Pay Off In The Estonian Labour Market? *Studies for the Learning Society*, 2012, Vol 2, No 2–3, pp. 46–62.

**Krillo, K., Masso, J.** Part-Time/Full-Time Wage Gap in Central and Eastern Europe: the Case of Estonia. *Research in Economics and Business: Central and Eastern Europe*, 2010, Vol 2, No 1, pp. 47–75.

## **III Other research articles**

### **Working Papers**

**Masso, J., Krillo, K.** Labour Markets in the Baltic States During the Crisis 2008–2009: the Effect on Different Labour Market Groups. Faculty of Economics and Business Administration, University of Tartu, Working Paper Series, No. 79, 2011, 86 p.

**Krillo, K., Masso, J.** The Part-Time/Full-Time Wage Gap in Central and Eastern Europe: the Case of Estonia. Faculty of Economics and Business Administration, University of Tartu, Working Paper Series, No. 65, 2010, 65 p.

**Eamets, R., Philips, K., Alloja, J., Krillo, K.** Benchmarking EU Countries Against Danish Flexicurity Model. Indiana University, Bloomington, West European Studies Working Paper Series, 2008, 25 p.

### **Conference publications**

**Krillo, K., Masso, J.** Reasons for Low Part-Time Employment in Eastern Europe – Any Role for Low Wages? – Discussions on Estonian Economic Policy XVII. Berlin-Tallinn: Berliner Wissenschafts-Verlag ja Mattimar OÜ, 2009, pp. 117–139.

**Eamets, R., Philips, K., Alloja, J., Krillo, K., Lauringson, A.** Benchmarking EU countries against Danish flexicurity model. – III International Conference: Baltic Business and Socio-Economic Development. 17–19 June, Tallinn, Estonia, 2007, 21 p. (CD)

# INTRODUCTION

## Motivation for research

Discourse on inequality dates back more than two thousand years. Aristotle was the first Western thinker to distinguish between justice and equity, as early as 350 BC in his “The Nicomachean Ethics” (World Development Report 2005). More than two centuries ago Rousseau (1754, quoted via Charles-Coll 2011: 18) declared in his discourse on the origins of inequality that when the first societies were born where individuals came to be part of groups in which private property existed and where each person had a specific role and therefore interacted with others, the foundations for inequalities among individuals were laid. Since Adam Smith’s “Wealth of Nations” (1776), economists have devoted a great deal of attention to the nature, causes and effects of inequality.

This thesis contributes to existing knowledge in several respects. Firstly, there is no well-developed framework of approaches to inequalities on the labour market. Therefore, a system of such inequalities is developed in this thesis. Secondly, the empirical sections provide new information about the responses of the Estonian labour market to the global financial crisis. Based on the title of the thesis, ‘Inequalities on the labour market during the Great Recession in Estonia’, there are three important questions to be answered that motivated the research: 1) why inequalities on the labour market; 2) why Estonia; and 3) why Great Recession.

The focus in the thesis is on inequalities that emerge on the labour market. To a degree such inequalities are inherent to developed market economies and reflect differences in people’s abilities, preferences and behaviour. Therefore, the question arises as to whether and why inequalities on the labour market should be reduced. The answer is that inequalities on the labour market may lead to many undesirable sociological side-effects such as social, educational and health inequalities which reduce the cohesiveness of society (including polarisation between communities, ethnic groups, regions and social classes), creating a basis for poverty and social exclusion and ending up in lower economic growth. Therefore, inequality on the labour market matters – if people are treated fairly and granted the opportunity to maximise their potential and achieve their aspirations, this leads to a more cohesive society, which in turn generates many beneficial social, educational and health effects and in the end leads to higher economic growth.

Estonia is a particularly interesting case in terms of inequalities on the labour market. In an international comparison the country tops the list of European Union (EU) Member States based on the gender pay gap and gender segregation on the labour market. Age-based discrepancies have also been remarkable, with high unemployment among young people, non-Estonians and those with lower levels of education presenting great challenges to the government ever since the country regained its independence.

The recent crisis, which has also been named the Great Recession<sup>2</sup>, has placed inequalities on the labour market on the policy agenda. Over the past few years the world has experienced the worst economic crisis since the Great Depression – one that has resulted in widespread job losses and social hardship. The International Labour Organisation (ILO) has estimated that 22 million jobs would have been needed globally in 2011 to restore pre-crisis employment rates (World of Work report 2010). The achievement of the employment-related goals set in the Europe 2020 strategy is doubtful because of the recession. However, the European Commission still holds the view that Member States must implement measures to make work more attractive, help the unemployed back into work, combat poverty, promote social inclusion, invest in education and training and balance security and flexibility (European Commission conclusion of 24/25 March 2011). These goals can only be met if inequality on the labour market is tackled appropriately.

As a small open economy with a small domestic market, Estonia is vulnerable to external shocks. The ‘Russian crisis’ of the late 1990s showed that downturns in countries with which Estonia has trade relations have an immediate impact on its economy. Since joining the EU, Estonia’s economic growth has become a much-vaunted success story. The Baltic States became the most rapidly growing countries in the EU in the mid-2000s. According to Eurostat data, from 2000–2007 GDP per capita increased almost three-fold in Estonia. This growth also supported employment and wage increases: during this period the Estonian labour market was characterised by decreasing unemployment rates and labour shortages.

The global financial crisis and the slump in private capital flows affected the country heavily. During the crisis, Estonia – like the other Baltic States – experienced the sharpest decline in GDP of all developed countries (World Economic Outlook 2010). The recession had a severe effect on the labour market. It was widely speculated that the economies of Estonia, Latvia and Lithuania would not recover without external devaluation (Aslund 2011, Lindner 2011). Estonia was one of the first EU Member States to introduce strict austerity measures to cope with the effects of the recession. Using internal devaluation measures, the country maintained the lowest sovereign debt level of any country in the EU. This enabled it to join the Eurozone in 2011 and made Estonia’s fiscal consolidation ability a success story known internationally (Aslund 2011, Lindner 2011).

The impact of the Russian crisis – the only economic downturn Estonia had experienced since the end of its transition process – reflected the fact that the shock did not influence different labour market groups in the same way (for more details, see Appendix 1). Therefore, it is important to analyse which labour market groups were particularly vulnerable during the crisis and what changes occurred in inequalities on the labour market. This analysis enables

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<sup>2</sup> This term was used by Strauss-Kahn in his speech ‘Crisis Management and Policy Coordination: Do We Need a New Global Framework?’ of 15 May 2009.

proper policy measures to be developed in support of active participation, the hindering of the negative consequences of the crisis (like long-term unemployment) and avoiding people becoming discouraged and losing their skills and knowledge.

## **Aim and research tasks**

The aim of the thesis is to ascertain which labour market groups have been most vulnerable since the onset of the recession in Estonia. Such analysis is necessary in order to develop appropriate policy intervention measures targeted at specific labour market groups, to support the sustainable recovery of the economy and to avoid such negative consequences as social exclusion and poverty. The analysis reveals which labour market groups have proven most vulnerable and why, enabling conclusions to be drawn as to whether the crisis has led to systematic imbalances on the labour market that require strong policy intervention measures in order to be overcome or rather short-term fluctuations that are likely to recover once the economy stabilises. Since labour market institutions (minimum wages, income tax and industrial relations) have an important role in influencing the effects of inequalities on the labour market during a crisis, these are also covered in the thesis.

Particular attention is turned in the thesis to recent university graduates. There are few studies analysing the labour market success of recent graduates during the recession. The position of such graduates is an interesting research question because both theoretical considerations and empirical results indicate that more highly educated are in a much better position even during a crisis. However, it was not known whether this also applied to recent university graduates in Estonia. During a recession, when jobs are being destroyed, it may be difficult for them to enter the labour market – and yet theories assume that this group should be highly competitive on the labour market.

Two aspects are analysed in regard to university graduates: the gender pay gap and inequalities on the labour market between graduates of social and real sciences. The latter was chosen as a topic for analysis because the Estonian Higher Education Strategy for 2006–2013, which was adopted by the Estonian parliament in 2006, clearly indicates that more real scientists are needed for knowledge-based development. It also promotes real sciences studies. In recent years there has been debate in Estonian society that there is ‘over-production’ of social sciences graduates in the country and that they face difficulties finding jobs after graduating. However, no studies have been carried out that indicate whether this assumption is correct. Therefore, this thesis fills in this gap and analyses whether these assumptions are supported by empirical facts.

The former was chosen since research conducted in other countries shows that gender gap tends to be low or non-existent for those entering the labour market, our analysis was motivated by a desire to find out whether the same is

true for Estonia in the context of the crisis, where the labour market conditions have been less favourable compared to more stable times. The group of recent university graduates surveyed in the context of the gender pay gap is interesting in terms of the labour market because it provides a useful insight into whether gender segregation and possibly even discrimination effects emerge among university graduates – a group that should have the best grounds for equal treatment.

To achieve the aims of the thesis, the following research tasks were set:

1. to develop a system of inequalities on the labour market that draws together the employment and remuneration side of such inequalities;
2. to analyse which labour market adjustment mechanisms were used on the Estonian labour market during the Great Recession;
3. to analyse the differences between the labour-related adjustment mechanisms used in Estonia's public and private sectors during the Great Recession;
4. to analyse the role of the labour market institutions in inequalities on the labour market in Estonia during the Great Recession;
5. to analyse how inequalities on the labour market changed by gender, age, nationality and educational level in Estonia during the Great Recession;
6. to analyse the extent and causes of inequalities on the labour market between graduates of social and real sciences in Estonia during the Great Recession;
7. to estimate the extent of the gender pay gap among university graduates in Estonia during the Great Recession; and
8. based on the results of the previous research tasks, to analyse which labour market groups have been more vulnerable during the crisis and what the main factors influencing this were.

Some limitations are set on the research. In the thesis the focus is on inequalities on the labour market. Therefore, non-wage income inequalities (social transfers, pensions, capital income etc.) and other types of inequality (social, educational and health care) are not analysed. The short-term effects of the Great Recession on labour market inequalities are analysed because the study was conducted during the early years of the recession (2008–2010) and it was not possible to identify longer-term effects. In analysing inequalities, it is possible to focus on a single-country experience or make a cross-country comparison. In the thesis the focus is primarily on the Estonian experience, although the inequalities on the labour market in the other Baltic States and labour market developments in the EU during the Great Recession are analysed to place the results in a wider context. The focus is on mapping the size of, changes in and influences on inequalities on the labour market in Estonia; the consequences and active labour market policies are not analysed in detail in the thesis.

There are many socio-economic factors by which inequalities can be analysed. In the within-country context these are mostly socio-demographic and socio-economic factors like gender, race/ethnicity, nationality, education and

age; personal opinions and beliefs like religious and political views and sexual orientation; and health condition like disabilities and HIV/AIDS (European Handbook on Equality...2007). The following factors are included in this thesis: gender, ethnicity/nationality, educational level and age. There are two reasons for this: firstly, some aspects (such as race) are not important issues when it comes to inequalities in Estonia. Secondly, for aspects like political opinion, social origin, sexual orientation and health status we lack relevant data in labour market databases. The discussion on inequalities on the labour market among recent graduates is limited to the gender wage gap and inequalities on the labour market between social and real sciences graduates, since although these two issues have been hotly debated in society of late, no research has been done that would provide an insight into the issues.

## **Data and methodology**

Several data sources are used in the thesis: Eurostat, national statistical office databases, an Estonian labour force survey and alumni surveys. The Eurostat data and data gathered from the national statistical offices in the Baltic States are used to present an overview of general trends in labour market developments as well as other economic indicators (GDP, exports, debt etc.). National statistical office databases are used when data is lacking in Eurostat.

The Eurostat and national statistical office data are comparable across countries, but quite limited in terms of variables. Therefore calculations based on Estonian labour force survey data are used to analyse inequalities for which no data is publicly available. Another reason for using the labour force survey data is the time lag related to releasing Eurostat (and other international organisation) data. The lack of data for recent years is the main reason why relatively little research has been done to analyse the effects of the recession from 2008–2011. Up-to-date Estonian labour force survey data was available to the author as the University of Tartu has an agreement with Statistics Estonia. Data from recent university alumni surveys are used to analyse the inequalities on the labour market between recent graduates of social and real sciences and the gender pay gap labour market behaviour of university graduates during the crisis.

The main quantitative data analysis methods used in the thesis are descriptive analysis and regression analysis. Oaxaca-Blinder decomposition is also applied to gain more insight into the ‘explained’ aspect of inequalities (i.e. the fraction of the difference due to the explanatory variables used in the analysis) and the ‘unexplained’ aspect (i.e. the fraction of the difference not explained by the variables used in the analysis).

In addition to quantitative research methods, case studies are also used to illustrate the effects of the crisis. Quantitative analysis methods provide an overview of the inequality situation, but case studies tell the stories behind these

numbers. Case studies are chosen to illustrate the ‘typical’ situation or an original case in the Estonian context. Therefore, case studies add to the analysis as they provide greater insight into the experience of a particular ‘case’ (as in the stories of different enterprises at the end of chapter 3.1) or explain the causes and effects of certain sectors (as in the case studies at the end of chapter 3.2). The qualitative data used in the thesis were collected mainly through interviews and media analysis. In the case studies a combined approach was used: quantitative data were combined with the results of the interviews and document analysis. If possible, all relevant stakeholders were interviewed to guarantee the triangulation of the results presented and avoid over-emphasising the opinions of a certain stakeholder group. Template analysis was used as the qualitative data analysis method in the thesis.

## **Structure of thesis**

The thesis consists of six chapters. The first chapter provides the theoretical framework for inequalities on the labour market. In chapter 1.1 the nature of the inequalities on the labour market approach and its position in the inequalities framework is introduced. Influences of such inequalities as well as links between labour market flexibility and inequality during the recession are discussed in chapter 1.2. In the second chapter research questions and propositions are set out. These are based on the theory introduced in the first chapter as well as Estonia’s experience of the only financial crisis – the ‘Russian crisis’ – it had gone through after since its transition period (with further details provided in Appendix 1). The data and research methods used in the thesis are also introduced as well as indicators used to measure inequalities on the labour market.

The third and fourth chapters are empirical. The third chapter – one of the first to introduce Estonia’s crisis experience to an international audience – focuses on trends in inequalities on the labour market, mainly in Estonia, during the Great Recession although in some respects a comparative analysis of all three Baltic States has been carried out. Industrial relations during the crisis are also analysed in chapters 3.1 and 3.2 as this is the important institutional factor affecting the labour market situation of different groups. The chapter 3.1, ‘Mixed adjustment forms and inequality effects in Estonia, Latvia and Lithuania’ (Study I), focuses on the evolution of inequalities on the labour market during the early years of the recession (2008–2009). Different adjustment mechanisms (redundancies, part-time employment, forced vacations, wage reductions etc.) used by enterprises and public sector organisations in Estonia in order to cope with the negative effects of the crisis are at the heart of

the analysis in this chapter<sup>3</sup>. After outlining the main trends, inequalities on the labour market between different categories are discussed. The chapter also includes two case studies: one focuses on the adjustment mechanisms used by large industrial enterprises; and the second on labour-related adjustments made in one of the largest public sector employers in Estonia, the Estonian Police and Border Guard Board.

Chapter 3.2, 'Early application of fiscal austerity measures in the Baltic States' (Study II), focuses on the effects of the crisis on inequality on the labour market in the Estonian public sector. This topic is particularly important because, unlike the rest of the EU where public sector reforms began in 2010 and 2011, in Estonia the public sector was heavily consolidated as early as the beginning of 2009. Therefore, there should be more evidence of the effects of public sector cuts on the economy and the labour market, which may also provide lessons for the rest of Europe. The chapter starts by setting the scene, analysing trends in the financial positions of Baltic States governments a few years before and during the crisis (2006–2010). After this the employment adjustments made in the public sector during the crisis are analysed, drawing parallels with the private sector, including job flow analysis and the public-private sector wage gap. The impact on the supply of public services is also covered. Two case studies are provided at the end of the chapter: one looks at changes in accessibility to health care services as a result of the crisis in Estonia; the other study analyses how the recession has influenced service quality and employment in the Estonian Rescue Board, a large public sector organisation responsible for guaranteeing rescue services in Estonia.

An overview of developments in inequalities on the labour market in EU countries during the Great Recession is given in chapter 3.3. This chapter paints the larger European picture, enabling a better understanding of the development and inequalities of the Estonian labour market in the broader European context. All three aspects of inequalities on the labour market are analysed, based on recent EU-level cross-country surveys that focus on developments during the Great Recession.

Chapter four focuses on the labour market inequalities of Estonian university graduates using data from Estonian alumni surveys. Chapter 4.1, 'Does a university degree pay off in the Estonian labour market?' (Study III), analyses the inequalities on the labour market between graduates in the social and real sciences. After outlining the relevance of the topic, an overview of Estonia's higher education system is provided. Data are then introduced and employment and wage differences between graduates and their causes are analysed. The factors influencing wage inequality between the graduates are presented.

The second sub-chapter, 'The graduate gender gap in Estonia' (Study IV), analyses the extent of and reasons for the gender pay gap between recent

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<sup>3</sup> Other effects of the recession such as trends in work-related accidents, participation in training and labour disputes are also discussed. These topics are not directly related to inequality, but indicate labour market developments during the recession.

graduates. Firstly, an overview of the determinants of the gender pay gap among graduates based on previous studies is given. Then the econometric framework, data and variables used in the analysis are introduced. Gender differences by study field as well as the gender pay gap and reasons for wage differences are analysed. Here again the Oaxaca-Blinder decomposition method is applied.

The fifth chapter summarises the main findings of the thesis. It presents a summary of studies and discussion about developments in inequalities on the Estonian labour market during the crisis. The adjustment mechanisms used and the role of institutions in influencing inequalities is summarised. Which inequalities are likely to be more persistent and harmful to recovery unless proper policy measures are implemented is also discussed. The last chapter presents both conclusions and suggestions for future work.

## **Contributions of individual authors**

All articles forming the empirical part of the thesis are co-authored. Study I was written by both authors who contributed to all parts of the study. Kerly Espenberg was solely responsible for chapter 3.1.7.2 (the case study of austerity measures used by the Estonian Police) and Jaan Masso for chapter 3.1.7.1 (the case study of adjustment mechanisms used in different private sector companies in Estonia during the early stages of the Great Recession).

In Study II both authors contributed to all parts of the article. Jaan Masso was mainly responsible for making the calculations based on micro-data and both authors were responsible for interpreting the results of the calculations. Kerly Espenberg collected and interpreted data based on Eurostat and national statistical offices and was responsible for both case studies.

In Study III Kerly Espenberg was responsible for writing the overview of Estonia's higher education system, analysing employment and wage discrepancies between university graduates in the real and social sciences and interpreting the results of the wage models. The calculations of the models were done by Jaan Masso and the literature review by Aivi Themás. Raul Eamets contributed to the discussion section.

In Study IV Kerly Espenberg was solely responsible for the chapters outlining the econometric framework used in the article and empirical chapter analysing gender segregation in higher education studies in Estonia and the wage gap among recent graduates. She also contributed to the literature review, which was mainly written by Aivi Themás, and to interpreting the results of the wage regressions in cooperation with Jaan Masso, who was responsible for the wage gap calculations.

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I am fully responsible for any mistakes or omissions detected in this thesis.

# **I. NATURE, CAUSES AND POSSIBILITIES OF TACKLING INEQUALITIES ON THE LABOUR MARKET**

## **I.1. Inequalities on the labour market**

### **I.1.1. Types of inequality**

Amartya Sen (1973) neatly summarised inequality by saying that the idea is both very simple and very complex. On the one hand it is so simple that most people understand the nature of inequality; on the other, the nature of inequality is so complex that many philosophers, political theorists, sociologists and economists have debated its meaning and implications in the past, continue to do so in the present and will very probably still be debating it in the future.

In the simplest terms, inequality can be defined as the absence of equality. However, this definition is too simplistic and conceals many facets of the complex nature of inequality. Equality and inequality are neither opposites nor extremes, and absolute equality is rarely achievable or even desirable. When tackling inequality, the main questions are: what types of inequality are desirable or acceptable, and to what extent? As such, discourse on inequality is closely related to distribution and equity. The roots in political philosophy of equity and inequality date back to the ancient Greeks, while Roman law also included principles of equality for free Romans (whilst discriminating against slaves) (World Development Report 2005). Plato, for example, argued that “if a state is to avoid... civil disintegration... extreme poverty and wealth must not be allowed to rise in any section of the citizen body, because both lead to disasters” (quoted via Cowell 1995: 21).

In contemporary political philosophy there are many competitive strands in distributive justice theories that have differing views as to what a just society is and in what cases the inequalities that emerge are fair or acceptable. An overview of the most important distributive justice theories is provided below. A comprehensive examination of contemporary theories and critics is beyond the scope of this thesis and can be found, for example, in Roemer (1998a) and Rawls (1999).

Theories promoting welfare-based principles of equality – the most famous strand of political thinking being utilitarianism – argue that distributive principles should be designed and assessed based on their influence on welfare. Utilitarianism (founded by Jeremy Bentham in the 18<sup>th</sup> century and further developed by Mill, Arrow and others) advocates the view that resources should be distributed in a way that maximises their utility. Utilitarianists paid no particular attention to the distribution of utility; in their view it was the total sum of utility in society that should be maximised. (Roemer 2011)

Modern theories of distributive justice have moved beyond the utilitarian view, mainly because of its fundamental failure to deal with welfare

distribution. Since the beginning of the 1970s several influential thinkers like John Rawls, Amartya Sen, Ronald Dworkin and John Roemer have made remarkable contributions to developing equality theory. Egalitarians (most famously the scholars Sen, Cohen and others) advocate the equal allocation of resources among all members of society. Simpler egalitarian theories claim that everyone should be assured an equal quantity of resources, while more sophisticated egalitarian thinkers understand the shortcomings of such thinking since lazy people would be rewarded and the hard-working discouraged (Rawls 1999). Therefore, adherents to strict egalitarian views have developed complex measures (like equal happiness, equal power to use resources and an equal chance to be happy) which would give everybody equal amounts but would not suffer from these drawbacks (Roemer 1998b). Sen's theory (1973, 1985 and further developed in 1997) is based on the idea that people are driven by different factors in changing resources to actions. According to his view, the set of possible functionings (a "capability set", i.e. a set of actions a person could perform and states the person values or enjoys) from which people could choose should be equal.

John Rawls represents the view that fair principles of justice are those that everyone would agree as being in the fair position, i.e. they permit a divergence from strict equality if inequalities make the most disadvantaged society members better off. In his 'Theory of Justice' (1971, 1999) Rawls claims that each person must have equal basic rights and liberties, and in order to be fair socio-economic inequalities must meet the equal opportunities criterion (i.e. based on the position and occupation open to every member of society meeting the equal opportunity criterion) and must serve the well-being of those members of society who are in the worst situation. Rawls's 'Difference Principle' claims that the allocation to be chosen should maximise the opportunities of the least privileged group. Inequalities are therefore acceptable only insofar as the most vulnerable have the highest gains compared to any other distribution. Progressive taxation is an example of Rawls's principle in practice.

Ronald Dworkin (1981a, 1981b, 2002) provided one of the most detailed responses to Rawl's theory. He relies in his equality theory on the principle that in order for distribution to be just, one person should not envy another because of the resources they have obtained. The theory developed by Dworkin and known as the 'luck egalitarian view' is based on the idea that factors that are not under the control of the individual should not have an impact on distribution. In other words, unequal natural endowments should be compensated. Provided people have an equal starting point, the end results can be unequal due to choices made – and people should live with the consequences of their choices.

Roemer (1998b) advocates an equal opportunity policy. While acknowledging that each individual is responsible for their own welfare, he stresses the importance of circumstances over which a person has no control. As such, Roemer sees the need for public action in order to equalise the opportunities that people have.

While the aforementioned principles allow state intervention to achieve the desired distributive pattern, libertarians (Robert Nozick being the best known representative of this strand of thinking: anti-egalitarian) criticise distributive ideals that have an economic rationale (such as the maximisation or equality of welfare or goods) and argue that any outcome that is achieved as a result of the voluntary exchange is just. Anti-egalitarians support the idea on minimal state intervention and see the main role of the state in guaranteeing property rights. (Roemer 2011)

Although Rawls, Sen, Dworkin and Roemer have important differences in their theories, they also have much in common. They have all contributed to a shift in focus on social justice from outcomes to opportunities; they all reject final welfare or utility as the appropriate grounds on which to assess fairness of distribution; they all acknowledge the importance of the individual's responsibility in moving from resources to outcomes; and they all accept that a fair allocation of resources is one that is accepted by the members of society (World Development Report 2005).

As indicated above, theories differ in whether they support the achievement of equality in resource distribution (the egalitarian view) or rather equality of opportunity (Rawls and his followers). Equality of results (also known as equality of outcome) means equality in end results (i.e. in the labour market context equal (un)employment rates or wages). However, most strands of contemporary political philosophy support the idea of guaranteeing the equality of opportunity. As initiated by Rawls (1971) and formalised in Roemer (1998b), equality of opportunity means that those who are similar should be treated similarly without arbitrary barriers. As Lloyd Thomas (1977: 388) concluded: "One has an opportunity to do something or to have something provided that one can do it or have it if one chooses. One has no opportunity to do something or to have something if one cannot do it or have it even if one wishes to."

From the labour market perspective, equality of opportunity means equal access to jobs and equal pay for equal work. Most strands of contemporary equality philosophy theories share the understanding that perfect equality does not mean just distribution. Those who work harder or have invested in themselves in order to acquire higher skills and are therefore more productive should earn more and be more competitive on the labour market. As such, equality (of both opportunity and results) on the labour market in modern political philosophy does not mean achieving uniform equality for all labour market participants, but rather relies on the idea that an individual's success in life (or in our case, on the labour market) should depend on their talent and achievement and not on irrelevant characteristics, i.e. personal characteristics that an individual cannot influence (such as family background, nationality, race, religion, gender and sexual orientation) (Chalmers et al. 2011, see also chapter 1.1.2). This way of thinking could be summarised using Aristotle's famous quote: "Equality consists in the same treatment of similar persons", i.e. like should be treated alike.

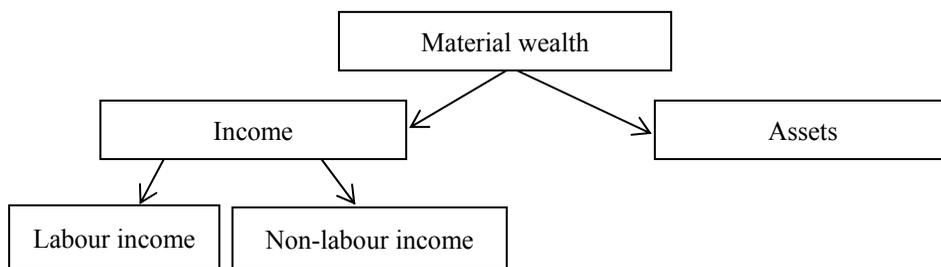
Equality of results and equality of opportunities are often seen as contrasting political philosophies (Roemer 1995). A mainstream political view sees these two as largely exclusive in the sense that in order to achieve one type of equality to the other needs to be sacrificed at least to some extent. For example, to promote gender or ethnic equality in employment, one policy measure that could be employed is the use of quotas, i.e. determining that a certain percentage of the workforce/senior executives should consist of women or ethnic minorities (see chapter 1.2.2 for a more thorough overview of policy measures used to tackle inequality on the labour market). These measures discriminate against men or those who are not ethnic minorities. In this case achieving equality of results leads to a violation of equality of opportunity. The contrary may also hold: achieving equality in opportunity may lead to inequality in results (Chalmers et al. 2010).

However, these two equality concepts are not mutually exclusive. Equality of opportunity measures may also contribute to achieving equality of results, and *vice versa*. For example, anti-discrimination rules that remove artificial barriers and promote equality of opportunity in participation on the labour market for groups who are discriminated against also support equality of results when the labour market participation of these groups increases (Strauss 1992).

### **1.1.2. Inequalities on the labour market**

In this thesis two aspects of the inequalities that emerge on the labour market – employment and wage inequality – are drawn together under the umbrella term ‘inequalities on the labour market’. Before introducing this concept, an overview of the inequality system is provided.

Inequalities on the labour market form part of economic inequality. In the Oxford Handbook of Economic Inequality this term is defined as “inequalities with an economic effect or an economic origin, being as much an outcome of the underlying economic process as an input of these processes” (Salverda et al. 2011: 8). This definition indicates the broad nature of economic inequality. However, the term tends to be used in a much narrower sense (in the Oxford Handbook of Economic Inequality and in Sen (1997) for example, and in many other studies), reflecting disparities in the distribution of material wealth or monetary (both labour and non-labour) income between groups. In addition to aspects related to labour income (and, when using the broader term, the labour market) which are introduced in detail below, economic inequality also includes non-labour income (social transfers, pensions, capital income etc.) and assets (see Figure 1).



**Figure 1.** Position of labour market income in wealth system (developed by author)

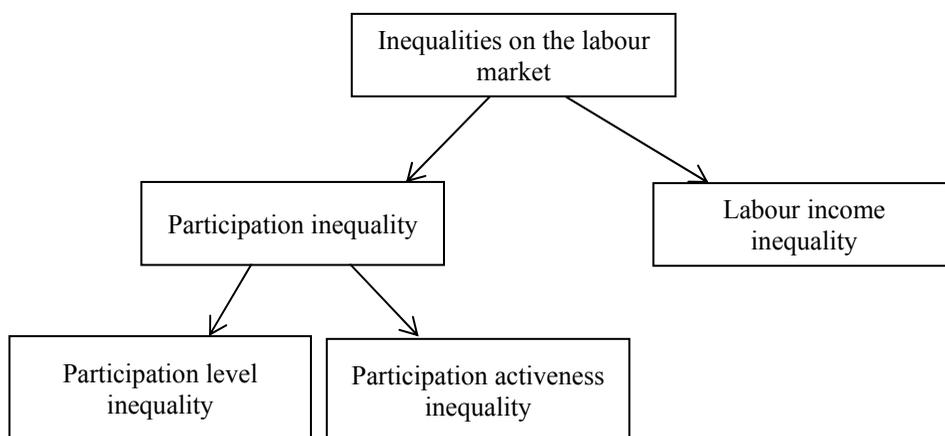
In addition to economic inequality, three other types of inequality are usually distinguished in inequality literature (see for example the Oxford Handbook of Economic Inequality 2011; Wilkinson, Pickett 2010): social, health and educational inequality. These four dimensions can be summed up as socio-economic inequality. Health inequality (also known as ‘health equity’ or ‘healthcare disparities’) means differences and disparities in health achievements, i.e. the quality of health and health care, such as life expectancy, mortality, higher incidence of [a certain] disease and access to health care. Educational inequality refers to disparities in grades, test scores, drop-out rates, [high school and university] entrance numbers and completion rates etc. Social inequality covers areas such as property rights, freedom of speech and assembly, voting rights, access to housing, food and other social goods, job satisfaction, access to credit and community life. (Why Socio-Economic... 2010)

These four dimensions are closely linked and reinforce one another. For example, differences in initial conditions (social inequality) may result in educational and health inequality, as wealthier parents enjoy more possibilities to provide better education and health care for their children (intergenerational transmission effects). This in turn influences the labour market success of the person, creating inequality on the labour market. Educational inequality can lead to economic inequality, and *vice versa*. However, these different dimensions are rarely brought together – in literature only one or two aspects tend to be analysed. A recent book by Wilkinson and Pickett (2010) is one of the few exceptions, as it analyses all four aspects of inequality together.

The inequalities in labour market participation/involvement are not usually included in economic inequality debates, which concentrate mainly on income-related aspects. This is the main reason that led to the necessity to create a system for inequalities on the labour market. In this thesis these inequalities are divided into two groups: participation inequality and labour income inequality (see Figure 2). Labour market participation consists of two parts. The first of these – labour market participation level inequality – reflects inequalities in the rate of participants actively engaged on the labour market. The term ‘participation’ should be understood in regard to employment and unemployment; its flipside, ‘inactivity’, has no place here. This side of inequality is measured by employment and unemployment gaps. Since not only participation

but also the extent to which a person is engaged in labour market activities is important, the second side – labour market participation activeness inequality – reflects differences in the level of active involvement in labour market activities, i.e. inequality in working hours. This side of inequality is measured by working hours and part-time work.

The other side of the labour market participation is related to inequalities in labour income. Non-labour income like social transfers and capital income as well as assets do not form part of labour market remuneration inequality and are therefore beyond the scope of the inequalities on the labour market system (but as discussed above, they do form part of economic inequality). However, such income of course influences labour market participation decisions.



**Figure 2.** Inequalities system (developed by author)

There are three important aspects that require our attention in order for us to understand the nature of the inequalities on the labour market developed in this thesis: the groups between whom inequalities are analysed, measurement of inequalities and to which extent inequalities are acceptable or desirable. The first question is between whom the inequalities are measured in the thesis. There are many socio-economic and socio-demographic factors that have been used in national (i.e. within-country) inequality studies, as per the bases of inequality in previous studies, like gender, race/ethnicity, nationality and age; personal opinions and beliefs like religious and political views, sexual orientation etc.; and health condition like disabilities, HIV status/AIDS and so on (European Handbook of...2007). In the labour market context, inequality related to gender, nationality, age and educational level are mainly analysed. There are two key reasons for this: firstly, some aspects (like race) are not important issues since the racial minority community is small in Estonia; and secondly, for aspects like social origin, sexual orientation and For age, three groups are distinguished: young (15–24), middle-aged (25–49) and elderly

(50+). For nationality two groups are distinguished: Estonians and non-Estonians. In terms of educational levels, three groups are distinguished: those with primary, secondary and tertiary education.

The second issue is the measurement of inequalities on the labour market. These can be measured using different indicators. Labour income inequality can be measured on the level of society (using the composite indices that indicate the distribution of the labour market across all wage earners) and between certain groups (the gender wage or (un)employment gap, the wage or (un)employment gap between Estonians and non-Estonians, youth and the elderly etc.). Participation inequalities are measured between groups since no composite indicators that would adequately measure them are widely used. For participation level inequality, two states exist in essence: people can either be employed or unemployed. For participation activeness inequality it is possible to create an indicator similar to wage inequality (hours distribution across those employed), but this indicator is not widely used. The approach of measuring inequalities on the labour market in this thesis is outlined in more detail in chapter 1.2.2.

As discussed in the previous chapter, zero-level inequality (i.e. total equality) is not realistically achievable because of the differences in people's talents, preferences etc. The last question discussed in this section is the extent to which inequalities on the labour market are desirable or acceptable. It is not possible to provide an unambiguous answer to this question. Friedman (2008) recently attempted to determine how much inequality is needed to provide optimal economic efficiency and how much is too much. He showed theoretically that there must be a point from which the incentive ceases to make economic sense and where the opportunity costs of other economic priorities are too high. His response was that inequality becomes excessive when its cost to society exceeds the value of the increased productivity resulting from the incentive. In practice inequality is usually observed and interpreted from a comparative perspective. For example, comparing the level of inequality in Estonia with the EU average and extreme cases provides an insight into Estonia's relative position. Inequality levels remarkably above the average are considered to be danger signs, while lower levels are interpreted as being good. However, as emphasised above, there are no clear target lines.

To conclude, contemporary distributive justice theories have contrasting views which inequalities and to what extent are acceptable and which not in the society. Although there are differences between different stands of political philosophy, most of them also share common view that equality of opportunity should be guaranteed, i.e. equal should be treated alike and equality of results would not be fair because it would penalise those who have more talented or hard-working. A concept of the inequalities on the labour market has also been developed that draws together the different aspects of inequalities that emerge on the labour market: participation inequality (which includes both participation level and participation activeness inequality) and labour income inequality.

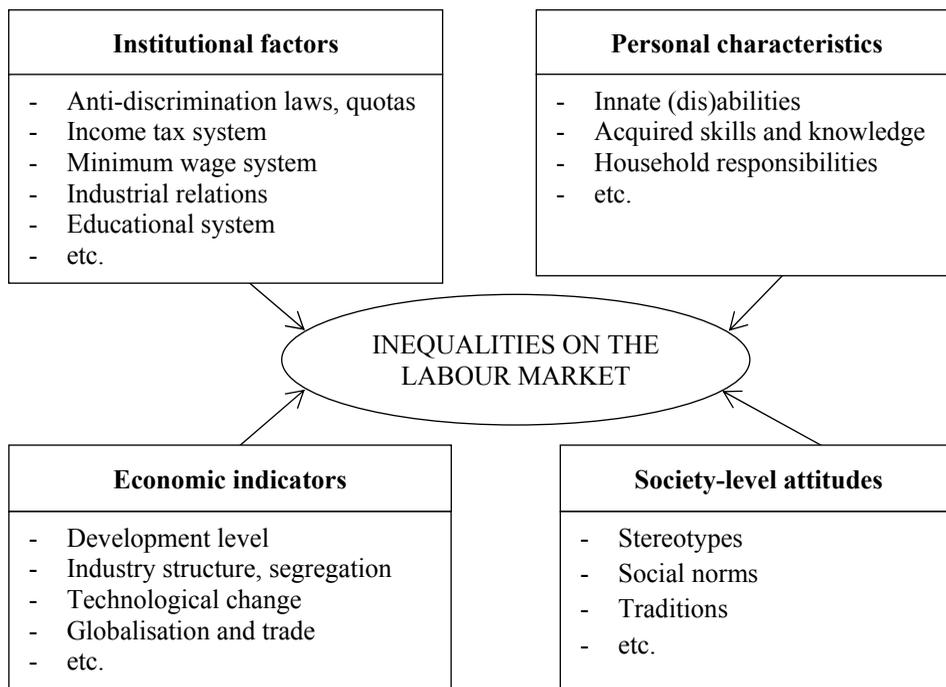
## **1.2. Influencers of inequalities on the labour market and the development of inequalities on the labour market during the recession**

### **1.2.1. Factors influencing inequalities on the labour market**

There is a complex set of interrelated factors that influence inequalities on the labour market. Since the focus in this thesis is on the within-country approach to such inequalities, this chapter introduces the factors influencing these inequalities between groups (as opposed to between countries). These factors can be divided into four groups (see Figure 3):

- 1) personal characteristics;
- 2) society-level attitudes;
- 3) economic indicators;
- 4) institutional factors.

These factors are introduced in turn. It should be noted that society-level attitude, personal characteristics and economic indicators are the factors that cause the most inequality on the labour market, while institutional factors may both cause and tackle such inequalities, depending on the nature of the policy action.



**Figure 3.** Main influencers of inequalities on the labour market (developed by author based on Lawlor et al. (2011) and Blanchflower, Slaughter (1999))

## Personal characteristics

Personal characteristics play an important role in determining a person's labour market position. These can be divided into two groups that are closely linked: individual characteristics and household characteristics. Individual factors can in turn be divided into two groups:

- 1) innate abilities (intelligence, physical (dis)abilities etc.) and characteristics (gender, nationality, race etc.); and
- 2) the skills and knowledge (education, work experience etc.) acquired during people's lives.

Innate (dis)abilities (intelligence, personality, charisma, strength, mental and physical disabilities and others) influence a person's labour market career prospects. Those who are more talented and have no disabilities have better prospects on the labour market. According to human capital theory (see, for example, Becker 1964), from acquired skills, education has a huge influence on a person's labour market success. In addition to education, other skills and knowledge acquired (such as previous labour market experience) also lead to inequalities on the labour market (a detailed analysis of causal effects of education on earnings is provided in Card 1999). Empirical data clearly support the validity of human capital theory and increasing returns on education and job tenure, reinforcing itself in the context of the financial crisis. OECD and Eurostat data clearly show that people with higher educational levels exhibit higher wages and lower unemployment rates even in a crisis period

Innate abilities, education and job experience represent the 'objective' side of the inequalities seen on the labour market. Other innate personal characteristics like gender, nationality and race influence the probability of a person's labour market success as well (see chapter 1). The inequalities arising due to these factors are closely linked with the norms and traditions inherent in society and segregation on the labour market discussed below. These factors may cause 'non-objective' inequalities in the sense that having certain characteristics may pose a higher risk of being disadvantaged on the labour market.

The socio-economic situation of the household, including wealth and asset ownership and the attitude of the parents towards education and working, plays a role in either promoting or discouraging a person's innate abilities. Richer families are better able to support the acquisition of skills that help improve the career prospects of their children. A thorough overview of intergenerational mobility of the labour market is given by Solon (1999).

Household composition also influences labour market success, especially in terms of the gender division of the family and care responsibilities. For example, women are likely to have more frequent and longer career breaks and more flexible working hours for family reasons. Raising children often means that women do not participate (at least not full-time) on the labour market for at least some period in their life, which influences both their wages and

employment prospects, raising inequalities. (Blundell, Macurdy 1999, Killingsworth, Heckman 1986, Montgomery, Trussell 1986)

### **Society-level attitudes**

Inequalities on the labour market arising due to society-level factors are often not objectively explainable. Stereotypes, social norms and traditions are 'invisible' obstacles that may hinder the labour market access and success of certain groups and lead to unfavourable treatment of particular groups on the labour market based on their individual characteristics (such as gender, race and ethnicity) without any objective reason, in turn possibly leading to discrimination. These factors may stop certain groups from accessing the labour market and affect their labour market performance and pay. In other words, traditions and norms inherent in society may result in both inequality of opportunity and results. (For further details, see Polachek and Siebert 1993)

According to the Merriam-Webster dictionary, negative stereotypes and beliefs are standardised mental pictures held by members of a group about another group or phenomenon. Stereotypes typically represent oversimplified or overgeneralised opinions: perceived group characteristics are assumed to apply to every member of the group. Stereotypes can originate from the culture in which people are socialised, real inter-group differences (e.g. cultural and socio-economic differences) and cognitive bias resulting from the process of categorical differentiation between groups of people (European Handbook on Equality Data 2007). Social norms are laws that govern society's behaviours (Oxford Dictionary of Sociology). These determine what is regarded as 'correct' and 'incorrect'. Traditions are beliefs within a society that originate in the past but are still maintained in the present (Merriam-Webster dictionary).

Gender stereotypes are a well-known example of attitudes that cause inequalities on the labour market. In the opinion of the European Commission, the undervaluing of women's work as well as traditions and stereotypes<sup>4</sup> are key causes of the gender pay gap in Europe. The commission's opinion highlights the fact that women frequently earn less than men doing jobs of equal value because jobs that require similar skills, qualifications or experience tend to be poorly paid and undervalued when they are dominated by women. For example, [mainly female-dominated] cashiers' positions in supermarkets are usually more lowly-paid than [mainly male-dominated] positions involving stacking shelves and other physical tasks (Opinion on the effectiveness... 2009).

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<sup>4</sup> The other causes are: 1) horizontal and vertical segregation of the labour market, as introduced under economic indicators; 2) wage structure (in the Opinion on the effectiveness... (2009) it is claimed that women are less represented in the collective bargaining process and that individual and collective wage negotiations lead to a situation where female professions are more lowly-paid compared to those of men); and 3) reconciliation of work and private life (introduced under personal characteristics).

Ethnic stereotypes are also widely recognised. Ethnic inequality has no rational basis, but visible physical characteristics such as skin colour and nationality play a part. For example, black people who have been in the USA longer than many waves of immigrants have always remained disadvantaged (Blackburn 2008).

Traditions and social norms also play a major role in determining a person's labour market success. Similar to stereotypes, traditions are related to individual factors. For example, in Southern Europe the labour market participation rates of women have always been lower than in other European countries since there the woman's main role has always been associated with taking care of the family, and the 'male breadwinner' theory still holds (see, for example, Gonzales 2006). In the Nordic countries, by contrast, women's labour market participation rates are much higher since gender equality has been promoted for much longer (see Holli et al. 2005 for an overview of studies conducted in this field).

These attitudes have a direct influence on the inequalities that emerge on the labour market. Traditions and stereotypes influence the educational path and consequently the later professional career of individuals. For example, in countries where the female employment rate is low (e.g. Malta, Hungary and Italy) the gender pay gap is lower than the EU average, which may reflect the small proportion of low-skilled women in the workforce. Highly segregated labour markets (such as Cyprus, Estonia, Slovakia and Finland) tend to have much higher gender pay gaps because women are over-represented in sectors which are relatively more lowly-paid (Opinion on the effectiveness... 2009).

### **Economic indicators**

While personal characteristics and society-level attitudes mainly indicate why there are discrepancies in labour market inequalities between different groups, economic indicators mostly cause changes in labour market inequalities (although, of course, they also have an influence on the level of inequalities). Among economic factors, development level, technological change and globalisation are three most important demand-related factors affecting inequalities on the labour market. In what follows, an overview of how each of these factors influences inequalities is given (however, it should be noted that for each of these factors economic theories have been developed that link to the inequality theory).

Research into the nature of the relationship between economic development and wage inequality started with the seminal work of Kuznets (1955). Kuznets's theory explains the long-term relationship between wage inequality and economic development. According to this hypothesis, wage inequality follows an inverted U-shaped pattern during economic development, i.e. inequality is initially positively correlated with economic development and becomes negative at higher levels of development. Kuznets explained the ascending component of

the U-curve – where inequality widens in the early stages of growth – with the shifts from rural/agricultural production (the sector with lower income per capita) to urban/industrialised production<sup>5</sup> (the sector with higher income per capita). While initially most of those employed are engaged in the agricultural sector where wages are more compressed, during this shift wage inequality increases as more and more workers become involved in the industry where wages are higher. At some point wage inequality starts to decrease because those at the lower end of wage distribution also relocate to the industry sector.

Kuznets's theory has its roots in skill-biased technological change theory. There is consensus in economic literature that technical change favours more skilled workers, replaces tasks previously performed by the low-skilled, raises relative demand for skilled workers and increases both employment and wage inequality (Katz and Autor 1999, Acemoglu 2002, Card, DiNardo 2002). Depending on the nature of the technological change, it tends to shift the sectoral composition of the workforce, crowding out those whose skills do not correspond and favouring those [groups] whose skills do correspond to shifts in demand. These developments may have a direct influence on inequalities on the labour market via the segregational effects introduced below.

It is also claimed that recent technological changes associated with new forms of information and communication technology tend to reduce demand for medium-skilled (middle-income) workers who mainly perform routine tasks that can be accomplished by computers, while increasing demand for low- and high-skilled workers who do manual and abstract non-routine tasks respectively that are harder to replace with machines. If demand shifts are not offset by similar shifts in the composition of labour supply (i.e. a sufficient rise in the attainment of tertiary education and therefore in the supply of high-skilled workers), the technological progress can reduce the income of medium-skilled workers relative to that of both low- and high-skilled workers and influence inequalities on the labour market<sup>6</sup> (Inequality in labour... 2012).

The aforementioned economic developments influence inequalities on the labour market due to labour market segregation. Segregation on the labour market refers to a situation where different groups are not equally distributed across the economy. It was Adam Smith who declared that it is the division of labour and not the inherent characteristics of individuals that causes “the very different genius which appears to distinguish men of different professions”

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<sup>5</sup> More recent models generalise Kuznets's approach beyond the rural/urban dimension, for example the shift from an undeveloped to a developed financial system (Greenwood, Jovanovic 1990).

<sup>6</sup> However, developments in the last two decades have shed some light on the validity of the hypothesis. As Card and DiNardo (2002) claim, the main problem is that wage inequality stabilised in the 1990s despite ongoing developments in computer technology. Also, skills-biased technological change fails to explain gender and racial wage gaps (especially since data shows that women use computers more in their work than men) and the age gradient (data showing that computer use has increased slightly faster among older workers than younger workers).

(Smith 1776: 15–16). The degree of segregation levels varies from perfect segregation to perfect integration. Perfect segregation occurs when occupation and group membership correspond perfectly – where any given occupation employs only one group. Perfect integration, on the other hand, occurs when each group holds the same proportion of positions in an occupation as it holds in the labour force (Blackwell Encyclopaedia of Sociology).

The industrial structure of the economy also influences inequalities on the labour market, mainly via the effects of segregation. Both occupational and sectoral segregation are important influencers of inequalities on the labour market and are influenced in turn by society-level attitudes like traditions, stereotypes and norms. Occupational segregation refers to a situation where different groups are not similarly distributed across occupations; sectoral segregation to a situation where different groups are not similarly distributed across sectors (Bettio, Veraschagina 2009). Segregation mostly raises the ‘fair’ part of the inequalities seen on the labour market. If a certain group (e.g. males) are more concentrated in sectors or occupations that are more productive and therefore better paid compared to sectors/jobs dominated by the other group (e.g. females), the gender wage gap is objective in the sense that it reflects differences in men’s and women’s marginal product. For example, according to Eurostat statistics from 2010 women represented just 32% of managers in companies within the EU, 10% of the members of management boards of large companies and 29% of scientists and engineers across Europe.

The relationship between globalisation and inequalities on the labour market is a controversial area in economic literature where theory has run well ahead of empirical research. International trade – which is mostly used as a proxy for globalisation – affects the prices of products, which in turn influence factor prices by changing relative factor demands and therefore inequalities on the labour market. A trade-induced change in a country’s product prices alters relative profit opportunities, resulting in a shift towards (or away from) those industries in which relative profitability or demand has risen (or fallen) (Blanchflower, Slaughter 1999). In recent years theories have been developed explaining why globalisation may have a beneficial, obstructive or insignificant effect on inequalities on the labour market. As summarised by Wade (2001), there are three strands of theory: the neoclassical growth theory predicts that as a result of globalisation the world’s economy will converge (equality) in average productivity, employment and income levels because of increased mobility of capital; the endogenous growth theory predicts divergence (increasing inequality) since the diminishing returns of capital are offset by increasing returns of technological innovation in developed countries; and the dependency approach predicts that convergence is less likely and divergence more likely because of the differential benefits from economic integration and trade, and locking developing countries in to producing certain commodities.

According to Lall et al. (2007), at the within-country level the effect of globalisation on income distribution is polarised between two approaches. One

school of thought, a positive one, argues that globalisation results in a rising tide of income and that even low-income groups benefit from globalisation. Here parallels can be drawn with the Kuznets hypothesis, which proposes that although inequality will rise in the initial phases of industrial development, at some point it will start to decrease as the country's transition to industrialisation is completed. The principal analytical link between trade liberalisation and wage inequality is based on the Stolper-Samuelson theorem (see Stolper, Samuelson 1941) which implies that within a two country-two goods framework, in a less developed country where low-skilled labour is abundant, increased trade openness would result in an increase in the relative wages of the poor and a reduction in wage inequality (this conclusion being easily extended to the employment gap in favour of low-skilled workers). In a more developed country the situation is the reverse: trade openness increases inequalities on the labour market. The opposing school of thought argues that although globalisation may improve incomes overall, the benefits are not equally shared among the workforce and there are losers as well as winners in relative (and possibly even absolute) terms.

### **Institutional factors**

While the aforementioned three groups of factors explain what causes inequalities on the labour market, institutional factors are policy measures that tackle such inequalities. As discussed earlier, there are two sides to inequality: inequality of opportunity, which reflects differences in access to equal conditions; and inequality of results, which indicates differences in final outcomes. In developed countries, policy measures are not usually designed to achieve absolute equality on the labour market, in terms of participation or remuneration equality. This would decrease people's motivation to fully exploit their talent if everyone were rewarded equally in spite of the results achieved; on the other, absolute equality in results on the labour market (e.g. similar levels of (un)employment by gender or age) is questionable because of different work preferences, family-related activities, talents, health status etc. In other words, there are 'natural' inequalities stemming from preferences and person-specific abilities. The role of the state is seen to be to promote equality on the labour market by removing visible or invisible obstacles that lead to the exclusion of certain groups. Nevertheless, some policy measures (such as the tax system) are also targeted at fighting against inequalities on the labour market and its consequences such as poverty and social exclusion. Anti-discrimination laws, income taxes, a national minimum wage and trade unions are the key institutional factors influencing inequalities on the labour market.

Labour market discrimination can occur in many different settings and take many forms. It can be related to recruitment, promotion, job assignment, termination, compensation, working conditions and even harassment (Equality at work... 2011). There is universal acceptance in developed countries that the

institutional setting should prohibit discrimination, both direct<sup>7</sup> and indirect<sup>8</sup>. The main role of the state is to guarantee a proper environment in which people can compete freely via non-discriminatory measures. Anti-discrimination laws aim to promote equality of opportunity on the labour market in terms of both participation and remuneration and to remove inequality emerging due to discriminatory factors.

Over the last 70 years great improvements have been made in prohibiting discrimination (i.e. removing formal barriers from achieving equality of opportunity). The International Labour Organisation (hereinafter the ILO), the United Nations Organisation and the European Union have achieved considerable progress in developing equality of opportunity by prohibiting both direct and indirect discrimination on the labour market. The roots of international initiatives aimed at achieving the equal treatment date back to 1944 when the ILO declared in the Article 2 of Philadelphia Declaration that “All human beings, irrespective of race, creed or sex, have the right to pursue both their material well-being and their spiritual development in conditions of freedom and dignity, of economic security and equal opportunity”. Guaranteeing equal pay for equal work has long been on the policy agenda of developed countries: at the EU level it was declared in the Council Directive 75/117/EC of 10 February 1975 on the approximation of the laws of Member States relating to the application of the principle of equal pay for men and women. Several other EU directives since then (Directive 76/207/EC, Directive 2000/43/EC, Directive 2000/78/EC, Directive 2006/54/EC) have also sought to promote equality of opportunity on the labour market.

Increasing the employment of social groups whose participation in employment is low is a challenge for states. Quotas and other strong policy measures can be used to promote labour market participation equality. These measures, as discussed in chapter 1.1, may result in discrimination against other

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<sup>7</sup> In the case of direct discrimination, one group is treated less favourably than another doing the same job. Direct discrimination emerges when rules, practices and policies exclude or give preference to certain individuals because they belong to a particular group (Equality at work... 2011). According to Article 2 of EU directive 2000/78/EC, direct discrimination shall be deemed to occur when one person is treated less favourably than another is, has been or would be treated in a comparable situation on grounds of racial or ethnic origin, religion or belief, disability, age or sexual orientation.

<sup>8</sup> Discrimination is indirect when apparently neutral norms and practices have a disproportionate and unjustifiable effect on one or more identifiable groups (Equality at work... 2011). According to Article 2 of EU directive 2000/78/EC, indirect discrimination shall be deemed to occur when an apparently neutral provision, criterion or practice puts persons of a racial or ethnic origin, or those of a particular religion or belief, a particular disability, a particular age or a particular sexual orientation at a particular disadvantage compared to others, unless that provision, criterion or practice is objectively justified by a legitimate aim and the means of achieving this aim is appropriate and necessary, or as regards persons with a particular disability, the employer or any person or organisation is obliged to take appropriate measures to provide reasonable accommodation in order to eliminate disadvantages entailed by such a provision, criterion or practice.

groups. The educational system also influences inequalities on the labour market. Equality of educational opportunity means that all children are given the same or equivalent alternatives in relation to their choice of educational programme, setting all those who make the same choices effortful tasks and measuring their performance in the same way (Campbell 1975). As discussed above, education is one of the most 'objective' causes of the inequalities seen on the labour market. Public educational policy can decrease the effects of unequal initial conditions by providing equal access to education and measures supporting the successful integration of risk groups (e.g. teaching the official language to children from ethnic minorities) in the early stages of life. Here again the main aim is to improve equal access to the labour market and remove obstacles created by factors not controlled by the person, such as innate differences in social status and disabilities. While former policy measures have been designed to promote equality in opportunity on the labour market, the tax system influences labour market outcomes. The income tax system influences wage inequality. A progressive tax system is one of the main redistributive policy measures used in many countries that reduces after-tax wage inequality, decreasing inequality in labour income (Immervoll, Richardson 2011).

The existence of a minimum wage decreases wage inequalities by setting the lowest wage level allowed in the economy. The effects of the minimum wage on inequalities on the labour market may be mixed. As correctly noted by Freeman (1996), the effects of changes in the minimum wage depend on the labour market and redistributive system of the country, the level of the minimum wage and its enforcement. At best, the minimum wage shifts earnings distribution in favour of the lowly-paid; at worst, it reduces employment at the lower end of income distribution, placing those people at risk of poverty, and via spill-over effects increases wages for wage distribution as a whole, therefore possibly even increasing wage disparities (Stewart 2012).

Neither of these developments are certain *per se*, so the effect of changing the minimum wage (and income tax) on wage inequality is rarely if ever certain (a detailed analysis of which is provided in Volscho (2005)). Neoclassical economic theory focuses on the effect of minimum wages on employment and predicts that higher minimum wages will reduce employment opportunities for those at the lower end of income distribution. Therefore, if wages for these people increase, it may result in higher unemployment among the lower-waged. Institutional economists, on the other hand, see minimum wages as a means of income redistribution. Moreover, there may be 'ripple' or 'spill-over' effect which means that a minimum wage increase may result in the wages of workers above the minimum wage also increasing and overall wage inequality increasing further. For more details, see Card and Krueger (1995) and Brown (1999).

The influence of industrial relations on inequalities on the labour market is *a priori* ambiguous. The strength of the unions in state, sector and enterprise level as well as the level of the negotiations has a role here. Powerful unions may

reduce inequality by standardising pay rates among workers throughout the economy, but may also increase inequality if they manage to increase wages for only one group of employees at the expense of others (Blanchflower, Slaughter 1999). Also, if unions are powerful in the state-level, they may demand either equal treatment for all (or a certain groups of) employed, therefore contributing to decreasing inequalities, or, on the contrary, more favourable conditions only to some group, therefore increasing inequalities on the labour market.

### **1.2.2. Development of inequalities on the labour market during the recession**

The development of inequalities on the labour market during the recession is more of an empirical than a theoretical research topic. The short-term changes occurring in such inequalities during the recession depend mostly on the nature of the recession itself (i.e. economic factors) and the institutional measures used to cope with the shock.

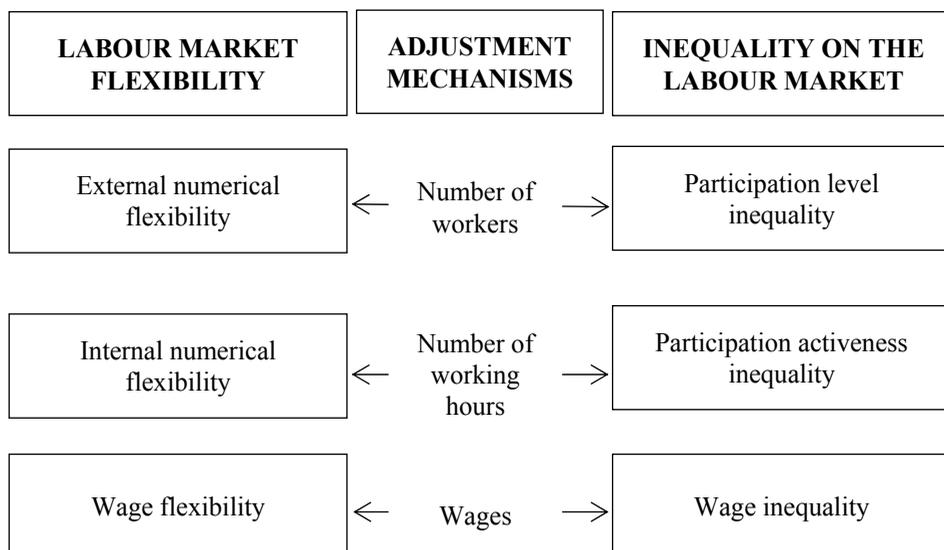
In addition to the factors introduced in the previous chapter, the development of inequalities on the labour market during the crisis depends to a great extent on labour market flexibility, i.e. the success of a country's labour market in flexibly responding to the new challenges posed by internal or external imbalances created during the recession. While labour market flexibility measures how effectively a country's labour market adjusts to economic shocks, changes in inequalities on the labour market indicate the groups that are influenced more and influenced less during this adjustment process. For example, downward wage flexibility is regarded as an important indicator of the flexibility of the labour market. If wage adjustments are different for different groups (e.g. men and women), changes in inequalities are also observable. As the next step, in this case it is interesting to analyse what the causes of the changes are in order to understand whether the changes are 'objective' (for example, occurring due to segregation effects; see the previous section) or otherwise (for example, when it is expected that women should be made redundant first due to traditions).

The most famous distinction of labour market flexibility was created by Atkinson (developed in 1984, further developed in Atkinson, Meager 1986) and includes all three dimensions – employment, hours and wages – used in this thesis to define inequalities on the labour market<sup>9</sup> (see Figure 4). In the labour market flexibility concept (and via transactional effects, as well as for inequalities on the labour market) labour market institutions have an important role to play in encouraging labour markets to achieve the equilibrium determined by the intersection of supply and demand (Standing 1989). What follows is an introduction to important theories that explain why inequalities on the labour

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<sup>9</sup> Of the different labour market flexibility dimensions, functional flexibility is beyond the scope of inequalities on the labour market since it is an in-company adjustment strategy and does not directly influence inequalities on the labor market.

market can change during a recession. These theories help to understand the changes occurring during a recession that result in changes in the inequalities seen on the labour market.



**Figure 4.** Relationship between labour market flexibility and inequalities on the labour market dimensions (arrows indicate adjustment mechanisms, as developed by author)

Employers' preferences as to which adjustment mechanisms should be used and to which employees should be made redundant first have an important influence on labour market flexibility and inequality. Most theories support the rigidity of wages and adjustment via the number of workers. The following overview is based to a great extent on Babecky et al. (2009). Implicit contract theory (developed independently by Baily 1974, Gordon 1974 and Azariadis 1975; see also Beaudry, DiNardo 1991 and 1995) explains why redundancies rather than wage cuts occur during a recession. The theory refers to voluntary and self-enforcing (i.e. neither party wishes to breach the contract because they would both be worse-off) long-term agreements between employers and employees. Risk-neutral employers insure risk-averse employees against fluctuations in marginal productivity by maintaining stable wages. Firms do this because in this way they obtain labour more cheaply by guaranteeing that wages will not decline in the long run. Since companies sign such contracts with employees they consider more valuable, the theory supports better labour market prospects for workers with a higher tenure and more skills. Such employees are at lower risk of losing their jobs and tend to have more rigid wages even during the recession.

According to the efficiency wage theory, a worker's productivity depends positively on his or her wage. Hence, firms avoid cutting wages even during

recessions because this would lower productivity and negatively influence profit. This means that other labour adjustment mechanisms – primarily reductions in the number of employees – are used in order to cope with the negative effects of the crisis. There are several sub-models of efficiency wage theory (shirking theory and fair wage-effort hypothesis) that explain why productivity may depend on wages paid or who may be laid off first. The shirking theory of Eaton and White (1983) and Shapiro and Stiglitz (1984) assumes that firms monitor workers and make those redundant whose performance is below standard. The higher the wages, the greater the cost to workers when shirking results in lay-offs and the higher the incentive to meet the standard. This theory does not imply downward wage rigidity, since a higher unemployment rate increases the cost to workers of dismissal and so makes it possible to reduce pay. According to this theory, workers who deviate from the standard set in the company (productivity levels, cooperation with colleagues etc.) are made redundant first. The fair wage-effort hypothesis (Akerlof and Yellen 1990) postulates that if workers are paid a wage less than that perceived as fair, the effort they put in is less than what it would be in the case of a fair wage. Both of these theories assume that higher earnings assure workers' gratitude and loyalty to the employer, therefore boosting their effort. These theories help explain the changes between different labour market groups. For example, the effort of high-skilled workers is typically more difficult to monitor and more valuable in terms of added value, especially for high-skilled white-collar jobs. As such, firms are reluctant to cut their wages, which leads to higher downward rigidity in their wages compared to those of lower-skilled workers. This may result in changes in wage inequality.

Another important aspect to consider is the fact that the wage level influences not only productivity, but also the propensity of employees to quit. According to the turnover model of Stiglitz (1974), firms that cut wages face the risk of higher levels of resignation. As hiring and training new workers is costly to employers, wage decreases are avoided and those who have more company-specific human capital are more valuable to the employer. Similarly, the adverse selection model (Weiss 1980) predicts that the most productive workers are likely to quit in the event of wage cuts. A wage above the labour market equilibrium will guarantee that a company can choose workers from a bigger pool. Again, as the costs related to employing white-collar workers tend to be higher than those of employing blue-collar workers, the wages of highly skilled workers are expected to be more downwardly rigid and companies to prefer to lay off those who are relatively less costly to replace in terms of training and hiring costs, resulting in changes in both participation and wage inequality.

According to the insider-outsider theory (Lindebeck and Snower 1988), wages tend to be rigid because 'insiders' – i.e. workers who are well protected from lay-offs typically because of their skills and tenure – resist wage reductions even in order to save the jobs of recently hired workers ('outsiders') or to encourage the hiring of unemployed people. This implies that workers

with a higher tenure and/or permanent contracts have more power in the wage-setting process compared to recently hired and/or temporary employees. Therefore, wages tend to be downwardly rigid and those with a shorter tenure or lower skills are made redundant first.

Production technology is also likely to affect wage rigidity. The general economic rationale expects that workers in businesses operating with labour-intensive technology have more leeway in wage negotiations and therefore, on the basis of reasons analogous to the insider-outsider theory, the more labour-intensive the technology used in the firm, the more rigid the wages (Babecky et al. 2009). However, the reciprocity theory (developed by Rabin 1993) predicts the opposite: workers are very sensitive to wage reductions since they are considered to be punishments. One of the consequences of the reciprocity theory, according to Howitt (2002), is that wage cuts are less likely to occur in firms where the proportion of labour costs in total costs is lower because the effect on the firm of reducing labour costs is lower compared to the potential loss caused by dissatisfied workers.

The labour hoarding theory (developed by Oi (1962), Miller (1971), and Fair (1985) and others) explains why firms usually decide not to adjust employment in line with transitory fluctuations in demand for production. Firstly, adjusting the labour force during short-time fluctuations is costly because of hiring and firing costs (i.e. the costs associated with the termination of labour contracts, such as redundancy, recruiting and training costs). Secondly, if the decrease in demand is temporary (as is expected in a recession), during the recovery period it is profitable for companies to maintain a workforce that has firm-specific human capital. Therefore, at least to some extent and in the case of some worker categories (skilled labour), businesses may prefer to adjust the labour input by an intensive (i.e. working hours) rather than extensive (i.e. workforce) margin, which results in changes in participation activeness inequality. The main results of the theoretical considerations introduced are briefly summarised in the table below.

**Table 1.** Adjustment strategies used and most vulnerable groups during the recession according to different theories

<b>Theory</b>	<b>Adjustment strategies used during the recession</b>	<b>Most secure/vulnerable groups</b>
Implicit contracts theory	Rigid wages. Voluntary and self-enforcing long-term agreements prohibit employers from reducing wages even during recessions. Therefore, other adjustment strategies (decrease in the number of workers and/or working hours) are used.	Since such agreements are first signed with workers valuable to employers, workers with higher skills and longer tenure are more secure in recessions.
Efficiency wage theory, shirking theory, fair-wage hypothesis	Rigid wages. Firms avoid cutting wages even during recessions because this would lower productivity and negatively influence profit. Therefore, other adjustment strategies (decrease in the number of workers and/or working hours) are used.	Workers with higher skills are more secure against wage decreases during a recession. Employers fire those workers whose performance is below standard first.
Turnover model, adverse selection model	Rigid wages. Firms that cut wages face the risk of higher levels of resignation.	Those who have accumulated more employer-specific human capital are relatively more secure against wage cuts. Employers prefer to lay off workers who are relatively less costly to replace.
Insider-outsider theory	Rigid wages. 'Insiders' resist wage reductions.	Employees with shorter tenure or lower skills are made redundant first.
Labour hoarding theory	Decreasing working hours. Adjusting the labour force during short-term fluctuations is costly because of hiring and firing costs.	Employers prefer to lay off workers who are relatively less costly to replace.

In addition to employer preferences, the factors introduced in chapter 1.2.1 (most importantly institutional measures and economic structure) determine which labour market adjustment mechanisms are used during a crisis and which changes in inequalities on the labour market occur. Changes in employment and wage inequality during a recession also depend on the nature of the recession. For example, segregation of the workforce on the labour market may influence the inequalities reflected in occupational and sectoral effects. If, for example, sectors in which males dominate the workforce suffer more during a recession, we can expect to see a higher increase in male unemployment compared to that of females. Developments in wages depend on occupational changes: if low-wage jobs were wiped out during a recession, we could observe a decrease in the general wage gap.

Also, there may be differences between the public and private sectors. Unlike the private sector, the public sector can be much more able (at least in the short term) to compensate for decreasing revenue via state reserves or sovereign debt. In addition, public sector reforms (including those related to optimising the number of those employed and reducing wages) usually take more time since they need to be negotiated between a range of parties and be effectively communicated to the general public in order to be successfully implemented. Therefore, differences in timing and in the measures used in the public and private sectors should be expected during a crisis.

In addition to institutional factors introduced in the previous chapter, employment protection legislation (EPL) has an important role in influencing the choice of adjustment measures used during the crisis and as a result, also change in inequalities on the labour market. EPL determines how easy or difficult it is to hire and fire workers, adjust working time or reduce wages, therefore influencing labour market flexibility and inequality. According to the Holden model (Holden, Wulfsberg 2007; 2008), strict employment protection legislation increases wage and employment rigidity since such rules make it more difficult to amend agreements that have been entered into. Employment protection legislation determines the choices of employers: if it is costly to hire and fire workers, employers prefer those who have a longer tenure and higher skills, therefore raising age-based or educational inequalities during the crisis (as discussed above). Therefore, such legislation directly influences the use of the adjustment mechanisms employed, but may also influence inequalities on the labour market in cases where different guarantees are provided for different labour market groups (making it more costly to lay off certain groups of workers).

As discussed in chapter 1.2.1., trade unions (or industrial relations more in general) also play an important role in tackling inequalities on the labour market. This role is particularly important during recessions. Strong trade unions have great bargaining power: they may not accept a reduction in wages or redundancies among their members. Various theoretical models correlate the higher bargaining power of trade unions and higher wage rigidity. The models developed by Dunlop (1944), Shishta (1943) and Oswald (1986) are based on the idea that unions attempt to maximise the wages of their members and care less about the possible negative effects on employment. This leads to downwardly rigid wages, but may increase participation level inequality when trade union density and collective agreement coverage is unbalanced towards certain labour market groups. The structure of the wage setting may also play a role. Unions negotiating at the company level are likely to be more flexible in accepting wage cuts and care more about employment in the event of a recession compared to sectoral unions.

For example, if unions are particularly strong in sectors where men dominate as workers, the male-female wage gap would likely decrease during a recession, while the unemployment gap would increase if the unions in those sectors

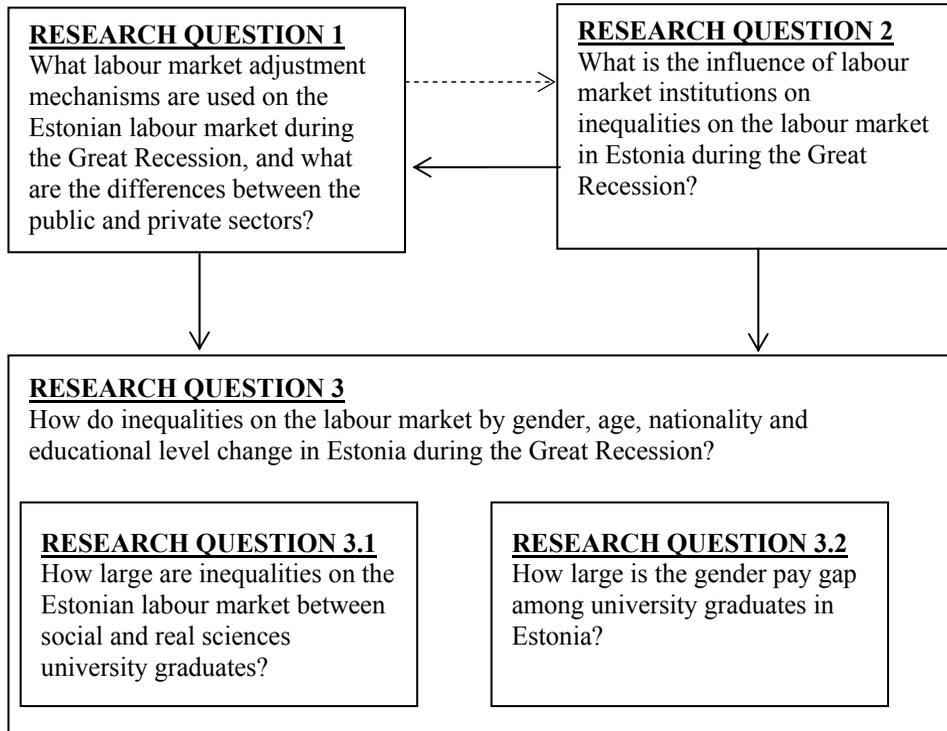
resisted wage decreases and employers used lay-offs instead. Several theories indicate that employers prefer to maintain more experienced workers (and their wages) during a recession. This explains the increasing unemployment gap between younger and older workers.

There are many factors that influence inequalities on the labour market: individual characteristics (innate (dis)abilities, education, job experience and household factors and others), norms, traditions and stereotypes inherent in society, the development level, industry structure and openness of the economy as well as institutional factors such as the effective implementation of anti-discrimination legislation, minimum wages, tax structure and industrial relations as well as educational system have their role here. The development of inequalities on the labour market during the recession depends on the preferences of the employers in regards of which adjustment mechanisms to use (to decrease number of employees, working hours and/or wages). The employment protection legislation and trade unions also influence the employers' choice between adjustment mechanisms to use. Development of inequalities on the labour market can depend on many interrelated factors, and there is no uniform effect to be expected to occur. There are several theories that explain why different adjustment mechanisms (reducing the number of workers, working hours or wages) may occur during a recession. Inequalities on the labour market change if these adjustment mechanisms are not used uniformly across the economy. Also, theories support the more favourable position of skilled workers, so that when skills are not uniformly distributed between certain groups we can expect changes in inequalities on the labour market.

## 2. RESEARCH QUESTIONS, DATA AND METHODOLOGY USED IN THE THESIS

### 2.1. Research questions and propositions

Based on the theoretical considerations and Estonia's experience of the Russian crisis (see Appendix 1), three research questions are formulated. The following figure outlines the system of research questions.



**Figure 5.** System of research questions

Research question 1 focuses on general adjustment mechanisms used on the Estonian labour market in order to cope with the negative effects of the recession. This provides the background needed to better understand why inequalities between labour market groups changed during the recession. Developments in three adjustment mechanisms – employment, working hours and wages – that could be used to cope with the negative effects of the crisis are analysed. Since sectoral and occupational segregation is an important determinant of inequalities on the labour market and the Estonian labour market is highly segregated, developments in the private and public sector are also

discussed and compared. Also, it was important to analyse developments in inequalities on the labour market separately in the public and private sectors because of the limitations the Estonian public sector faced due to negotiations to join the Eurozone and the small domestic market in Estonia.

Research question 2 is closely related to the other two research questions since institutions can potentially influence the choice of adjustment mechanisms as well as the development of inequalities on the labour market (for more details, see chapter 1.2). In this thesis the focus is on the role of the minimum wage and trade unions on influencing inequalities on the labour market. The tax system is not analysed since in Estonia income tax is proportional and therefore does not significantly influence wage inequality. The educational system is left out since it has a long-term impact on the labour market, but in this thesis the short-term effects are analysed. Anti-discrimination law is not considered either since it did not change during the recession in Estonia.

Research questions 1 and 2 are necessary in order to understand what inequalities emerged on the labour market during the Great Recession (research question 3). Changes in inequalities on the labour market by gender, age, nationality and education were analysed. In addition, recent university graduates were surveyed in more detail (see research questions 3.1 and 3.2). While most studies focus on lower-educated young people as a vulnerable group on the labour market, there is little discussion about highly educated young people's position on the market at the start of their careers. Analysis of recent graduates during the recession was particularly interesting since the effects of a crisis are usually less severe on the highly educated. However, so far no analysis has focused on the labour market behaviour of recent university graduates in Estonia. Since high-quality data were available that enabled an insight into these issues, it was possible to gain more insight into inequalities on the labour market between social and real sciences graduates. This topic is particularly interesting in light of the public debates in Estonia regarding imbalances in the higher education system, which is seen to 'overproduce' social sciences graduates, who then face difficulties after completing their studies on the contrary to real sciences graduates who are seen as drivers of development.

Also, as discussed in chapter 1, guaranteeing equality of opportunity is one of the main roles of the state when considering inequalities on the labour market. According to Eurostat data, the gender pay gap in Estonia is the highest of all EU Member States. However, studies done in other countries indicate that in the early stages of people's careers the gender wage gap is remarkably lower. Therefore, the extent of the gender pay gap for university graduates a year after completing their studies was analysed, distinguishing between the extent to which this is explained by such factors as differences in age, field of study, university and occupation and the extent to which it remains unexplained, possibly indicating discrimination against women.

What follows is a more detailed description of the research questions and propositions.

**Research question 1: What labour market adjustment mechanisms are used on the Estonian labour market during the Great Recession, and what are the differences between the public and private sectors?**

Proposition 1: All three adjustment mechanisms (adjustment in number of workers, working hours and wages) are used in Estonia during the Great Recession in order to cope with its negative effects.

According to the labour market flexibility concept, there are three main channels that can be used during a recession: adjustment of number of workers, working hours and wages. Based on previous experience and theoretical considerations it was expected that all three adjustment mechanisms would be used in Estonia during the crisis. Estonia is a small country with a small domestic market and is highly dependent on exports. As such, when external demand decreases, it is expected that the labour market will adjust in line with the decrease in production because the domestic market is not able to compensate for it. As discussed in chapter 1.2, the three most important factors influencing the choice between labour market adjustment mechanisms used in a recession are employment protection legislation, the strength of trade unions and employers' preferences (which, of course, are influenced by the nature of the recession).

Employment protection legislation has a great role in determining how easy or costly it is to adjust the stock of workforce and/or working time. The new Employment Contracts Act which entered force in Estonia in mid-2009 made it less costly for employers to make workers redundant. It was therefore expected that employment would decrease, since there were no stringent employment protection barriers that would prevent it.

Trade union membership and collective agreement coverage have been low in Estonia since the country regained its independence and have decreased over the last decade (Kallaste, Woolfson 2009; Espenberg et al. 2012a). At the national level the minimum wage is negotiated and the share of the minimum wage as a percentage of the average wage was modest (approximately 32–33%) during 2005–2007. Most wage negotiations are conducted at the individual level; there are only a few strong sectoral-level trade unions in Estonia. These are good prerequisites for wage flexibility. Therefore, it was expected that trade unions would have only a modest ability to resist employment, hours and wage cuts, which support the assumption of an employment decrease and downward flexibility of wages and working hours during the recession.

The adjustment strategies used and the extent of the adjustments depend on employers' preferences. According to the hoarding theory, employers prefer to decrease working hours instead of laying off workers because, firstly, they do not know how long the recession will last and are willing to maintain employees who have company-specific human capital and, secondly, there are costs associated with firing and later re-hiring workers (see chapter 1.2.2). Therefore, it was expected that at least at the start of the recession an adjustment

(reduction) in working hours would also be used and the number of workers would decrease less than could be expected based on the fall in product demand.

There are several theories (the efficiency wage theory, the turnover theory and the implicit contract theory) that support the idea that wages should be downwardly rigid during recessions (see chapter 1.2.2). However, experience from the Russian crisis in the late 1990s – when the Estonian labour market was considered to be rather rigid based on the OECD employment protection legislation index (Cazes, Nesporova 2003; Eamets, Masso 2005) – showed great labour market flexibility in Estonia. A vast increase in unemployment as well as wage reductions occurred (see Appendix 1). This supports the assumption that wages could be downwardly flexible in Estonia.

Proposition 2: Wage inequality on the Estonian labour market decreases during the Great Recession.

As discussed in chapter 1.1.2., while no good composite indicators have been developed for participation, it is possible to measure changes in wage inequality on the national level. According to labour market theories, wage inequality on the national level may increase or decrease during a recession. The highly skilled and better educated are less likely to lose their jobs. Job losses tend to be concentrated at the lower end of skills distribution, and since productivity is linked to remuneration, also to the lower end of wage distribution (see chapter 1.2.2). Therefore, wage inequality could increase during the recession. However, there are many lower-paid jobs where the wages paid are close or equal to the minimum wage and therefore there is no room to further decrease them. Many of these jobs are found in the services sector in Estonia and are unlikely to be destroyed even during a recession, unless structural changes occur. Therefore, it is expected that less job destruction will be seen in the lower part of wage distribution and that there will be a decrease in wage inequality as a result. The experience of the Russian crisis showed that wage inequality decreased during the recession.

Proposition 3: There are differences in the adjustment mechanisms used in the public and private sectors in Estonia during the crisis. In the public sector the adjustments are smaller, while in the private sector a reduction in employment and hours are used more often than in the public sector.

It is not *a priori* clear which adjustment mechanisms should be used in the public and private sector. The Estonian government has always followed a balanced state budget and low sovereign debt policy. Its decision to join the Eurozone at the end of the 2000s put enormous pressure on government expenditure in order to meet the Maastricht criteria. This meant that the deficit of the state budget as well as the sovereign debt level needed to be kept under control. It was therefore expected that, due to decreasing tax revenue, costs – including labour costs – would need to be cut in the public sector.

However, there are several aspects that indicate that adjustments in the public sector could be smaller. Although in general labour law is similar for private and public sector employees in Estonia, labour legislation guarantees are somewhat different. Job guarantees are higher for public sector workers, especially in regards to redundancies. For example, according to the Estonian Public Service Act, the terms of advance notice are longer, benefits in the event of redundancies are higher and if new jobs are created within six months of redundancy, they must be offered first to ex-officials if they correspond to their skills. Therefore, a lower reduction in employment could be expected in the public sector.

Trade union membership and collective bargaining coverage is higher in the public sector than in the private sector in Estonia (Espenberg et al. 2012a). The public sector is regarded as being rather optimised, which means that a decrease in the number of public sector employees could strongly affect the quality of the services provided. Structural changes designed to increase efficiency without decreasing service quality would take several years in the public sector. In addition, demand in the private sector is more volatile than in the public sector.

Based on the aforementioned aspects, it could be expected that in the public sector the employment reductions are smaller than in the private sector. It was expected that although the efficiency wage theory, the implicit contracts theory et al. support the downward rigidity of wages, wage decreases could occur in the public sector if the state does not decide to abandon a strict budget balance and low sovereign debt regime. The private sector did not face limitations similar to those in the public sector, so it was expected that in the private sector the adjustments would occur to a larger extent by adjusting the number of workers compared to the public sector and that wage and working hour reductions would also be used.

## **Research question 2: What is the influence of labour market institutions on inequalities on the labour market in Estonia during the Great Recession?**

Proposition 4: Labour market institutions have a limited impact on inequalities on the Estonian labour market during the recession.

As indicated above, industrial relations have rather weakly developed in Estonia. During the boom period in the mid-2000s there were signs of a rise in social dialogue in Estonia at both the company level (an increase in collective agreements signed and a wage increase in both the private and public sectors – especially in the latter, where collective agreement coverage is much higher) and the state level (an increase in the minimum wage and involvement of employers' and employees' representatives in the decision-making process). However, the role of trade unions has remained modest and the number of collective agreements and level of collective bargaining coverage low (see

Espenberg et al. 2012a) and it was expected that this would not change remarkably during the recession.

The minimum wage has always been modest in Estonia (see Masso, Krillo 2010). Even during the period of economic growth it only increased in line with the average wage increase, i.e. as a proportion of the average wage it did not change significantly (from 2004–2007 it even decreased from 34% to 32%; see Espenberg, Vahaste 2012). This indicates the relatively low bargaining power of state-level representatives even during the economic boom. Also, the share of minimum-wage earners has traditionally been low in Estonia (Masso, Krillo 2010). Therefore, it was expected that the minimum wage would have a limited impact on wage and participation inequality during the recession.

### **Research question 3: How do inequalities on the labour market by gender, age, nationality and educational level change in Estonia during the Great Recession?**

#### Proposition 5: Female/male participation inequality and the gender pay gap decrease in Estonia during the recession.

In Estonia both occupational and sectoral segregation by gender is the highest among the EU-27 (Bettio, Verashchagina 2009). Therefore, it was expected that the effects of the crisis on employment, hours and wages would be different for men and women. Employment in industry tends to be more volatile than in services during recessions (see Stehrer, Ward 2012 for an overview of long-term trends in developed countries). Women are more concentrated in the services sector in Estonia, while men dominate in industry. The gender pay gap in Estonia is the highest in the EU. As it was expected that wage reductions would be lower at the lower end of wage distribution (see the explanation in proposition 2), it was expected that the gender pay gap would decrease during the recession.

The experience of the Russian crisis also showed that the recession did not have uniform effects on men and women. During the crisis the male/female unemployment gap increased since male-dominated sectors were hit harder than sectors in which predominantly women were employed. The gender pay gap also shrank temporarily during the Russian crisis. According to Eamets (2004) and Rõõm, Viilmann (2003) wages were more flexible in sectors that were more male-dominated, although several female-dominated sectors experienced decreases in average wages as well (for more details, see Appendix 1). Therefore, it was expected that men would face a higher incidence of job losses and wage decreases compared to women during the recession.

Proposition 6: Participation and wage inequality by age increases, i.e. young people experience a higher incidence of losing their jobs and decrease in wages during the recession.

According to the insider-outsider theory and adverse selection model, those who have longer tenure and more company-specific human capital are better secured against job loss during recessions. Therefore, young people face a particularly high risk of unemployment during a recession because they have less labour market experience and fewer skills. This was also seen during the Russian crisis. For the same reasons it is likely that they have less bargaining power in wage negotiations and are more likely to accept wage cuts. It was therefore expected that young workers would face a higher incidence of job losses and wage decreases during the recession.

Proposition 7: Participation and wage inequality between Estonians and non-Estonians increase during the recession.

Similar to most other EU Member States, ethnic minorities in Estonia are less competitive on the labour market – an ethnic pay and employment gap has been observable since the country regained its independence. Many of these differences are explained by lower qualifications, i.e. the education and language skills of minorities (for the EU experience, see for example Dustmann and Fabbri 2003; for Estonian analysis see Lepik 2010). Also, there is clear regional, sectoral and occupational segregation among non-Estonian workers: non-Estonians are concentrated in North-Eastern Estonia (for example, since 2009 more than 70% of the inhabitants of Ida-Viru County have been non-Estonians) where sectoral distribution of employment is unbalanced and industry prevails (Lepik 2010). The Estonian labour market is characterised by ethnic occupational segregation: non-Estonians are disproportionately more concentrated in industry (Krusell 2009), which is more open to external shocks than services and among them there are disproportionately fewer managers and professionals (around half, Lepik 2010).

Leping and Toomet (2008) have documented a substantial rise in the wage gap (and its unexplained part) between Estonians and non-Estonians in recent decades. They found that the gap is mainly explained by different returns to education and regional differences in the distribution of labour. The Russian crisis clearly showed that non-Estonians suffered more during the crisis. Therefore, it was expected that non-Estonians would be more vulnerable to the negative effects of the recession in terms of both employment prospects and wages.

Proposition 8: Participation and wage inequality between the highly and lower-educated increase during the recession.

According to different labour market theories (see chapter 1.2) highly educated employees are more valuable to employers since they are more productive and more difficult to replace compared to the more lowly educated. However, not all

highly educated employees are secured with jobs during a recession, especially when sectors where high-skilled workers dominate are severely affected by the negative impact of the recession. However, job losses being higher among the highly skilled than among the lower-skilled is not likely to happen, at least not in the short term in developed countries. Also, during the Russian crisis the lower-educated were more severely impacted by the gloomy labour market prospects during the crisis. Educational unemployment gaps increased during the recession, favouring the better educated. As such, it was expected to see increasing participation and wage inequality between the higher- and lower-educated during the recession.

More highly educated young people form a particularly interesting group on the labour market. They have up-to-date skills which should increase their competitiveness, but on the other hand, if they have no or only limited experience their access to jobs is likely to be more complicated, especially in light of the job destruction that occurs during a recession. Therefore, the situation of highly educated recent graduates is also analysed in the thesis. Two specific topics were studied: the gender pay gap among recent university graduates and inequality on the labour market between graduates of social and real sciences.

### **Research question 3.1: How large are the inequalities on the Estonian labour market between university graduates of the social and real sciences?**

Proposition 9: Social sciences graduates have better labour market prospects than real sciences graduates on the Estonian labour market.

Real sciences experts are considered crucial to the development of the knowledge-based economy (Estonian higher education strategy 2006–2013). The EU set a goal of increasing the number of graduates in the real sciences by at least 15% by 2010 (Progress Towards... 2009). The Estonian government has supported studies in the real and technical sciences by providing state-funded university places, while the majority of social sciences students pay their own tuition fees. Similar to most European countries, Estonia is still characterised by a low proportion of young people choosing to study natural and life sciences. According to data from the Ministry of Education and Research, a third of students study social sciences compared to around 10% studying real sciences in Estonia.

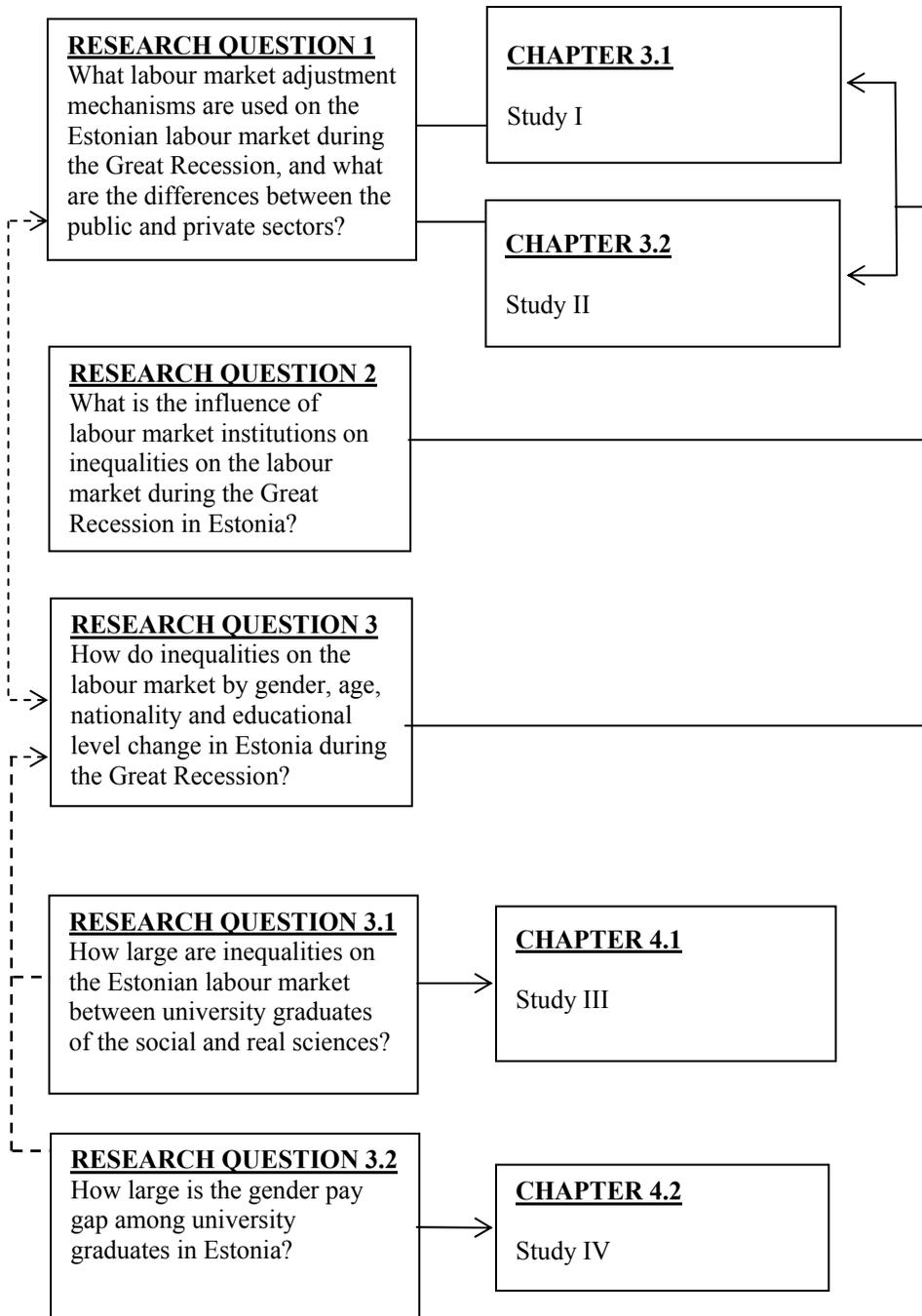
According to data of Ministry of Education and Research, the majority of social sciences students pay for their studies themselves – *ca* 85% of such students are not in state-funded places; in the real sciences, only around 15% of students pay for their own studies. Since people are expected to make rational choices, it is expected that the returns on education are higher for social sciences students once they graduate and compensate the investments made.

### **Research question 3.2: How large is the gender pay gap among university graduates in Estonia?**

Proposition 10: The gender pay gap among university graduates is lower than the average gender pay gap in Estonia.

Previous studies document the low gender wage gap in people's early careers compared to the average gender wage gap (see for example Beblo and Wolf, 2000; Datta Gupta and Smith 2002; The gender pay gap... 2010). According to Eurostat statistics, the gender pay gap increases with age (in the EU-27 the gap was 3.1% for employees younger than 30, 17.5% for those aged 30–39 and 23.8% for those aged 40–49 in 2006). The human capital theory also supports the idea of a lower pay gap among men and women in their early careers since previous labour market experience and family obligations should be more similar for young men and women entering the labour market. Therefore, it was expected that the gender pay gap among university graduates would be lower than the society-level average.

To conclude this chapter, the system linking the research questions and empirical analysis conducted is provided in the following figure. Chapter 3 focuses on the adjustment mechanisms used and general developments in inequalities on the labour market during the global financial crisis. Chapter 3.1 describes the adjustment forms used at the beginning of the crisis. Chapter 3.2 focuses on developments in the public sector, drawing parallels with the private sector. Both chapters also analyse the role of institutions and how inequalities between different groups changed during the crisis. Chapter 4 focuses on recent university graduates, i.e. research questions 3.1 and 3.2.



**Figure 6.** System of research questions and chapters of thesis (developed by author)

Note: The dotted lines indicate connections between research questions. The continuous lines represent the chapters in which analysis of the research questions is provided.

## **2.2. Data, estimation methods and research methods used in the thesis**

### **2.2.1. Data used in the thesis**

In the thesis data from different sources are combined in order to gain a more thorough understanding of the different aspects of inequality. Aggregated data and the author's own calculations based on labour force surveys and recent university alumni surveys were the main data sources. The main sources of aggregate data are the statistical offices of the Baltic States and Eurostat, which both mainly use labour force survey data. The Estonian Labour Force Survey (LSF) is a nation-wide survey conducted on the basis of methodology developed by the International Labour Organisation. Therefore, the results of the LSFs are comparable between countries.

The first LSF was conducted in Estonia in 1995. From 1997–1999 the survey was carried out annually in the 2<sup>nd</sup> quarter; since 2000 it has been organised as a continuous quarterly survey and is on-going, i.e. people are surveyed throughout the year and results are released on a quarterly as well as a yearly basis. The survey covers the entire country and takes in both private and collective households. Participation is voluntary. The target population comprises all persons aged 15–74 years that are permanent residents of Estonia. The sample size per quarter is approximately 2500 households, with a sampling size of around 0.5% of the working-age population. The sampling frame is based on the Population Register. (Estonian labour force... 2012)

In 2005 the sampling designing of the LSF was changed to a stratified, systematic, one-phase sampling of individuals. This means that the individuals are systematically sampled within each stratum and their households included in the sample. Prior to 2005 the sampling design was a stratified, systematic, two-phase sampling of individuals, whose households were included in the sample in the second phase with the probability inverse to the number of persons aged 15–74 in the household. Since 2005 the 2-(2)-2 rotation plan has been used, i.e. every sampled household is interviewed for four quarters according to the rotation pattern 2-(2)-2. Weighting is used to guarantee that the survey results can be generalised in terms of the Estonian labour market (Labour force survey... 2005).

The great advantage of the Estonian LSF compared to the LSFs conducted in many other countries is that it includes information on wages. Also, Estonian LFS data were available for research for the thesis in a timely manner. For this reason it was possible to analyse the effects of the crisis on labour market inequalities with only a very short time lag. The main problem related to LSF data is that although the results can be generalised in broad terms, for specific groups the sample size may be too small for reliable conclusions.

Eurostat data follows standardised methodology in order to guarantee the comparability of indicators between countries. The main problem faced when

using Eurostat data is the time lag related to its publication. When analysing the impact of the recession on the labour market, it is vital to have as recent data as possible. However, in Eurostat many indicators are released with a 2–3 year lag. This is also the main reason why the first cross-national comparisons of the effects of the crisis on labour market inequalities introduced in chapter 3.3 have only been published recently and in most cases cover only the first two years of the recession (2008 and 2009). Another caveat that should be borne in mind when using Eurostat data is that although comparability of data is sought, the results may not be entirely comparable due to national differences in data gathering methods. Since the indicators used in the thesis are based on fairly standardised calculation methodology, there should not be problems with data comparability.

Data from the national statistical offices of the Baltic States were used where Eurostat data was not available. For some indicators national statistical offices provide more detailed data than Eurostat, and they also release data more operatively. These were the two main reasons for using data from these offices.

To date there have been two university alumni surveys in Estonia. The first survey was conducted by Klaris Uuringud OÜ in April and May 2006 and covered graduates of six Estonian public universities who had been awarded their degrees in 2005. Postal and online questionnaires (in Estonian only) were used. There were 2975 respondents. For more details, see Vaade and Tamm (2007). The second alumni survey was conducted by the Centre for Applied Social Sciences of the University of Tartu in 2010. It covered graduates from 14 Estonian universities who had been awarded their degrees in 2009. The survey was conducted from August to November 2010 as an online questionnaire, again only in Estonian (although this should not have caused systematic bias, since the majority of curricula are in Estonian and students should have been able to respond in the language). The total number of responses was 2203. For more details, see Krillo et al. (2010).

There are certain methodological issues that should be borne in mind when using the results of the alumni surveys. The questionnaires used in the 1<sup>st</sup> and 2<sup>nd</sup> surveys were not identical. In the preparation process of the 2<sup>nd</sup> survey the questionnaire was modified on the basis of a Eurostudent questionnaire and the opinions of the project team. The questionnaires were developed by national experts and were designed for national needs. Since no international methodology was observed, the results are not directly comparable to international surveys. Also, the methods used to conduct the surveys were not identical: the 2<sup>nd</sup> survey was online-based while with the 1<sup>st</sup> survey it had been possible to respond online or by posting the questionnaire back to the researchers. Since participation in the survey was voluntary and anonymous and the online-based questioning method was used, there may be certain biases in answers provided that could not be controlled.

In this thesis, case studies are also used to illustrate the inequalities emerging on the Estonian labour market during the Great Recession. In chapter 3.1 the

five private enterprises selected are large and well-known companies – leading producers in their industry segments. Although their experience cannot be generalised, it is still very informative in understanding whether the practices used were similar or not. The Police and Border Guard Board is the biggest public sector employer in Estonia, and therefore very influential. In chapter 3.2 the rescue sector and health care were included as case studies since they both provide public services that are used by many citizens. Therefore, the problems faced in these sectors directly influence the everyday lives of many people.

Qualitative and quantitative data were used in the case studies. The data were collected by the authors via personal interviews and from both publicly available data sources (like the quantitative data used in the case study entitled ‘Changes in the accessibility of health care services as a result of the crisis’ which can be accessed on the Estonian Health Insurance Fund website) and non-available data sources (like the Estonian Rescue Board and Police and Border Guard Board data) to which the authors were granted access by the administrations of these organisations. The interviewees were carefully selected so that their experience would add to the discussion. Results of previous studies and articles published in the media were also used. More detailed information about the data is provided in the respective parts of the thesis.

### **2.2.2. Indicators and research methods used to measure inequalities on the labour market in the thesis**

Based on the inequalities on the labour market system approach introduced in chapter 1.1, the indicators are divided into two groups: those indicating 1) inequality in labour income; and 2) inequality in participation on the labour market. In addition, a short overview of the Oaxaca-Blinder decomposition method is provided which is used in economic literature to give an insight into the extent to which the differences observed are ‘objective’ or ‘explained’ and the extent to which these reflect discrimination.

#### **Indicators measuring wage inequality on the labour market**

When analysing the remuneration side of the inequality emerging on the labour market, it is mainly wages (i.e. basic pay plus regular bonuses) that are the focus of interest. Therefore, in what follows the term ‘wage inequality’ is used, but this can easily be generalised for all remuneration components. The aim of wage inequality indices is to reduce inequality to one composite measure that adequately characterises the differences between groups; they are based on wage distribution. In this thesis, wage gaps are used to measure wage

inequality<sup>10</sup>. The measures used – the differences between average wages and percentile ratios – are by far the most commonly used indicators in empirical studies done in this field. Differences between average wages indicate absolute differences while percentile ratios (measured as a quotient of average wages) indicate relative differences. Wage inequality indicators can be calculated for society as a whole (based on the distribution of wages across the economy) or between certain groups (for example, by gender, age, nationality and educational level).

Differences in average wages indicate the ‘raw’ wage gap between the average wages of the groups concerned. The advantage of this indicator is that it is simple and easy to interpret; its main weakness is that the averages may be influenced by outliers and may not provide information about wage distribution as a whole. Percentile ratios are based on the division of those employed, from poorest to richest, into 100 equally sized groups. The most common percentile ratio is the decile (also known as the 90/10) ratio which presents the ratio of the average wage of the richest 10% of those employed divided by the average of the bottom 10%. This ratio can be calculated for any percentile ratio (e.g. 95/5 or 80/20), but the 90/10 ratio is by far the one most widely used in empirical research. The advantage of these percentile ratios is that they are insensitive to outliers at the very top and very bottom of wage distribution and it is possible to decompose changes across income distribution. The 90/10 ratio, for example, can be decomposed into two components – it is equal to the product of the 90/50 and 50/10 ratios. The disadvantage of this indicator is that it ignores information about middle-wage earners (Haughton, Khandker 2009). Decomposition partly overcomes this, as it helps us better understand the extent to which the 90/10 ratio is driven by inequality at the top of distribution vs. inequality at the bottom end of distribution (Making transition... 2000).

### **Indicators measuring participation inequality on the labour market**

Participation inequality indicators measure the differences between the involvement in labour market activities of different labour market groups. Based on the nature of the measures, two categories of measures can be distinguished: 1) level indicators; and 2) intensity indicators.

To measure participation level inequality on the labour market, employment or unemployment gaps between different groups are used. When considering participation inequality between groups, (un)employment rates rather than absolute (un)employment numbers are used so as to smooth out the differences due to the unequal sizes of the groups.

The unemployment rate is a measure of the prevalence of unemployment among the working-age population. According to the Eurostat definition, the

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<sup>10</sup> Other indicators which are often used to measure income inequality (like the Gini and Theil index) are rarely used in wage inequality analysis and are therefore left out of this discussion.

unemployment rate represents unemployed persons as a percentage of the labour force based on the International Labour Office (ILO) definition. The labour force is the total number of people employed and unemployed. Unemployed persons comprise people aged 15–74 who are without work during the reference week, are available to start work within the next two weeks and have been actively seeking work in the past four weeks or have already found a job which will start within the next three months. Employed persons are people aged 15+ who performed work, even for just one hour per week, for pay, profit or family gain during the reference week or were not at work but had a job or business from which they were temporarily absent because of e.g. illness, holidays, industrial disputes or education/training. The employment rate is calculated by dividing the number of people in a certain age group in employment by the total population of the same age group.

Both the unemployment and employment gaps are used to measure participation inequality on the labour market. In the empirical part of this thesis the unemployment rate gaps are mainly used because these take into account only the active part of the labour market (i.e. the employed and the unemployed) and unlike the employment rate do not include in calculations those who do not actively participate on the labour market (i.e. the inactive).

Intensity indicators are factors that enable us to analyse the differences in the extent to which groups are involved in labour market activities. They are related to working hours. The most widely used indicators here are the average number of weekly or annual working hours, the part-time employment rate and the involuntary part-time employment rate, the latter indicating the underutilisation of the labour force on the labour market.

Unlike wage inequality indicators, there are no reliable composite measures that enable us to measure participation inequality at the level of society. Average (un)employment rates and working hours are too general and do not indicate inequality. Therefore, participation inequality can be used to compare two specific groups.

In terms of quantitative research methods, both descriptive statistical analysis based on the indicators outlined in chapter 2.2.2 and regression analysis methods (such as ordinary least squares, probit models and quintile regressions) are used in the thesis. The latter are used to analyse the factors that determined the inequalities observed. An overview of the research methods and data sources used in the empirical chapters of the thesis is provided in Table 2.

**Table 2.** Overview of data and quantitative research methods used in the thesis

	<b>Topic</b>	<b>Research methods used</b>	<b>Data used</b>
Study I	Employment change by sector	Descriptive analysis	LFS (NSO)
	Unemployment change by gender, age and nationality	Descriptive analysis	LFS (Eurostat, NSO)
	Labour market movements by gender, age, nationality, educational level and sector	Descriptive analysis, probit model, flow analysis	LFS (own calculations)
	Part-time work and forced vacation by gender, age and sector	Descriptive analysis	LFS (Eurostat)
	Change in average working hours by gender, age, educational level and sector	Descriptive analysis	LFS (own calculations)
	Wage change by sector, public/private wage gap	Descriptive analysis	Estonian Social Survey (NSO)
	Wage inequality: change in wage inequality, proportion of lower-paid employees, proportion of minimum wage earners	Descriptive analysis	LFS (own calculations)
	Gender wage gap	Descriptive analysis, Oaxaca-Blinder decomposition	LFS (own calculations)
	Part-time/full-time wage gap	Descriptive analysis	LFS (own calculations)
	Wage gap by nationality	Descriptive analysis	LFS (own calculations)
	Educational wage gap	Descriptive analysis	LFS (own calculations)
Study II	Wage cuts by gender, educational level and sector	Descriptive analysis, regression analysis (probit model)	LFS (own calculations)
	Employment change by gender and sector	Descriptive analysis, flow analysis	LFS (NSO)
	Share of low-wage employees by sector	Descriptive analysis	LFS (own calculations)
	Change in average working hours by sector	Descriptive analysis	LFS (Eurostat)
	Part-time work by sector	Descriptive analysis	LFS (Eurostat)
	Public/private sector wage gap	Descriptive analysis, regression analysis (quintile regression)	LFS (own calculations)

	<b>Topic</b>	<b>Research methods used</b>	<b>Data used</b>
Study III	Employment gap between social and real sciences graduates during studies and after graduating	Descriptive analysis	Alumni surveys 2007 & 2010
	Working hours during studies by field of study	Descriptive analysis	Alumni surveys 2007 & 2010
	Wage gap between social and real sciences university graduates	Descriptive analysis, regression analysis (OLS, Oaxaca-Blinder decomposition)	Alumni survey 2010
Study IV	Gender pay gap among university graduates	Descriptive analysis, regression analysis (OLS), Oaxaca-Blinder decomposition	Alumni survey 2010

Note: LFS – labour force survey; NSO – national statistical office

To determine which part of the inequality observed is caused by objective and measurable factors (such as educational, occupational and sectoral differences) and which by immeasurable factors (such as better motivation, talent etc. as well as discrimination), Oaxaca-Blinder decomposition was used<sup>11</sup>. The Oaxaca and Blinder (1973) method (see also Oaxaca, Ransom (1999)) has been widely used in previous economic research to examine inequality on the labour market (see, for example, Johnson (1978) for racial discrimination; Reimers (1983) for racial discrimination in Spain; Stewart (1983) for racial discrimination in Britain; Atal et al. (2009) for gender and ethnic inequalities in Latin America; Johansson et al. (2005) for gender inequalities in Sweden). The technique decomposes the average wage/employment gap between two groups into two parts: 1) differences explained by the model; and 2) differences not explained by the model. The latter consists of the ‘discrimination’ aspect, but it is not correct to interpret this part as discriminatory only since it includes all factors not explained by the variables included. For example, differences in motivation and abilities may also play an important role and these aspects are often not included in analysis because of the lack of appropriate variables measuring such effects. Therefore, part of the unexplained gap reflects the inequality in opportunity introduced in chapter 1.1.

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<sup>11</sup> There are other decomposition methods in addition to the Oaxaca-Blinder approach, but these are not used when analysing labour market inequalities. Therefore, they are not introduced in this chapter.

**Table 3.** Overview of case studies used in the thesis

<b>Chapter</b>	<b>Case study</b>	<b>Research method used</b>	<b>Data used</b>
Mixed adjustment forms and inequality effects in Estonia, Latvia and Lithuania	Adjustments in private and public enterprises and effects on inequality (5 private enterprises)	Template analysis	Interviews, annual reports of the companies
	Wage cuts and other adjustments in the Estonian Police Force	Template analysis	Interviews, articles published in the media, data collected by the Police and Border Guard Board
Early application of fiscal austerity measures in the Baltic States	Changes in the accessibility of health care services as a result of the crisis	Template analysis	Interviews, articles published in the media, Estonian Health Insurance Fund data
	Estonian rescue services hit by public sector adjustments	Template analysis	Interviews, articles published in the media, Estonian Rescue Board data

Qualitative and quantitative data and the results of previous studies and media analysis were used in the case studies, for which both quantitative and qualitative research methods were used (see Table 3). Analysis of the interview data was mainly based on template analysis. A detailed overview of the research methods used is provided in the respective parts of the thesis.

### **3. BALTIC STATES LABOUR MARKET INEQUALITIES DURING THE ECONOMIC FLUCTUATIONS**

#### **3.1. Mixed adjustment forms and inequality effects in Estonia, Latvia and Lithuania**

Study I: **Masso, J., Krillo, K.** Mixed Adjustment Forms and Inequality Effects in Estonia, Latvia and Lithuania. – Work Inequalities in the Crisis: Evidence from Europe. Edited by D. Vaughan-Whitehead.  
UK: Edward Elgar Publishing, 2011, pp. 38–102

## **3.2. Early application of fiscal austerity measures in the Baltic States**

Study II **Masso, J., Espenberg, K.** Early Application of Fiscal  
Austerity Measures in the Baltic States. –  
Public Sector Shock. The Impact of Policy Retrenchment in Europe.  
Edited by D. Vaughan-Whitehead.  
UK: Edward Elgar Publishing., 2013 (forthcoming), pp. 84–133.

### **3.3. Developments and inequalities on the labour market during the Great Recession – experience of European countries**

This chapter provides an overview of the impact of the Great Recession on the European labour market with a focus on inequality on the labour market based on recent EU-level studies<sup>12</sup>. The analysis focuses on the Great Recession period alone because no other economic contradictions of its kind have previously manifested that have influenced the Estonian economy so severely. Due to the lag in releasing internationally comparable data, the first studies focusing on the effects of the crisis at the EU level are relatively recent, published mainly in 2011 and 2012. Where relevant and possible, the Estonian case (or that of the Baltic States) is highlighted. The main results of studies that have analysed the evolution of inequality on the labour market at the EU level during the global financial crisis are provided in Annex 2.

As discussed in chapter 1.2.2, the three main labour market adjustment strategies that can be used during a recession in order to decrease labour-related costs are reducing the workforce (i.e. making people redundant), working hours or wages. The main adjustment strategy used by EU Member States was to reduce employment during the crisis. While Europe experienced a ‘jobs miracle’ between the late 1990s and the onset of the crisis (with over 20 million new jobs created in little more than 10 years), a total of 5.5 million jobs were lost in Europe during the recession<sup>13</sup> (Hurley 2011, Eurofound Yearbook 2012).

The impact of the recession on the labour market has varied considerably among Member States, being dependent on how severely the country was hit by the crisis. As noted by Arpaia and Curci (2010), heterogeneity across countries was influenced by domestic and external imbalances and industry composition. Countries which experienced the earliest decrease in employment were also those that experienced the largest and longest peak-to-trough declines. In some Member States (such as Hungary, Ireland, Lithuania, Romania and Spain) employment began to decline as early as the 3<sup>rd</sup> quarter of 2007. In others (Cyprus, the Czech Republic, Germany, the Netherlands and Poland) decline set in during the 4<sup>th</sup> quarter of 2008. Some countries (like Belgium, France, Germany, Poland and the UK) remained relatively unaffected while others (the

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<sup>12</sup> A good overview of evidence from previous recessions can be found in Arpaia and Curci (2010).

<sup>13</sup> There were concerns regarding the quality of the jobs created during this period. The perception was that many were low-paying, dead-end service sector jobs and that not enough jobs were created in more knowledge-intensive and productivity-enhancing areas. However, the Fernandez-Macias (2008) research, which used data from 23 EU Member States, showed that this was not true: from 1995-2008 employment growth was skewed towards relatively higher-paid jobs. They found that growth was actually weakest in the middle of wage distribution due to the long-term decline in manufacturing employment. The growth in lowest-paid jobs was somewhat greater.

Baltic States, Ireland and Spain) experienced a vast increase in unemployment. There were 12 consecutive quarters of GDP decline in Lithuania, compared to just 2–3 in Austria, Cyprus and Luxembourg (Hurley et al. 2011). In Poland, Slovakia, Slovenia and Norway persistent wage growth was observable even during the crisis period (Vaughan-Whitehead... 2012).

The Baltic States form particularly interesting case examples when analysing the recession's effects on the labour market as these three countries rank highest<sup>14</sup> in peak-to-trough employment decline (19.2% in Latvia, 16.7% in Estonia and 15% in Lithuania; Hurley et al. 2011). This was largely the result of pre-recession weaknesses as well as greater exposure to the direct consequences of the shocks (Arpaia, Curci 2010).

Distinct heterogeneity can be seen in the measures used by European companies during the crisis across countries (see Table 4). Estonia clearly stands out in the international comparison as a country where wage adjustments were the most important measure employed during the crisis. Whereas in the other countries included in the survey of Fabiani et al. (2010) the importance of reductions in the base wage and flexible wages as a cost-cutting strategy varied from 4% (in Belgium) to 18% (in Poland), in Estonia wage reductions were far and away the most important measures used (40% of costs were cut via these two measures). The decrease in permanent employment was also more important as a cost-cutting strategy in Estonia than in other countries. Decreases in temporary employment, hours worked and non-labour costs were relatively less important.

**Table 4.** Main cost-cutting strategy adopted by companies, 2009 (%)

	Base wage	Flexible wages	Permanent employment	Temporary employment	Hours worked	Non-labour costs
Austria	0.3	12.2	12.2	11.1	36.2	28
Belgium	0.9	3.1	16.8	29.6	24.9	24.6
Czech Republic	0.0	10.4	27.9	16.4	5.3	40.1
<b>Estonia</b>	<b>14.3</b>	<b>25.1</b>	<b>24.2</b>	<b>3.7</b>	<b>9.3</b>	<b>23.5</b>
France	0.1	9.9	17.1	33.9	12.4	26.2
Italy	1.3	8.9	16.6	21.1	18.4	33.7
Netherlands	1.4	5.0	8.1	40.5	6.2	38.8
Poland	1.9	15.9	16.7	9.1	7.6	48.7
Spain	1.0	5.5	23.2	41.6	5.9	22.8
<b>Average</b>	<b>1.2</b>	<b>9.8</b>	<b>16.9</b>	<b>24.3</b>	<b>13.6</b>	<b>33.9</b>

Source: Fabiani et al. 2010: 20.

<sup>14</sup> At the opposite end of the scale are Belgium (0.3%), Malta (1.7%) and France (2.1%) with only modest employment changes (Hurley et al. 2011).

The measures employed were greatly dependent on the labour market institutions of the particular country (i.e. employment protection legislation and trade union bargaining power). According to Fabiani et al. (2010), countries where employment protection is strict tended to adjust the number of temporary workers and hours rather than the number of workers employed on the basis of permanent contracts. Permanent workers were mainly laid off by companies that experienced a strong demand shock during the crisis. Union bargaining power was positively correlated with variations in employment (i.e. hours worked and temporary work) and negatively with wage adjustments. This conclusion is in accordance with the results of Babecky et al. (2009), who also found that wage rigidity during the first few years of the crisis depended on the institutional characteristics of the labour market: collective bargaining coverage being positively related to downward real wage rigidity and downward nominal wage rigidity being positively correlated with the extent of permanent contracts. This effect was stronger in countries where employment protection regulations are stricter.

To a remarkable extent this chapter introduces the results of study by Hurley et al. (2011) who analysed the impact of the recession (between the 2<sup>nd</sup> quarter of 2008 and the 2<sup>nd</sup> quarter of 2010) on the structure of employment in terms of occupation and sectors in EU Member States. They used an interesting (and for our case very informative) approach, breaking employment down into individual ‘jobs’ – i.e. a specific occupation in a specific sector – using hourly wages as a proxy for job quality<sup>15</sup>. According to the results of the study, sharp employment losses have occurred in the 2<sup>nd</sup> and 3<sup>rd</sup> wage quintiles, especially in construction and manufacturing during the recession. In the 1<sup>st</sup> and 4<sup>th</sup> wage quintiles employment losses have been more moderate.

At the Member State level Hurley et al. (2011) identify three main patterns in employment shifts in terms of inequality on the labour market: upgrading (job growth/smaller decrease in employment skewed to top of wage distribution, destruction of employment concentrated among lower-paid jobs; Germany, Luxembourg, Sweden and Slovakia fall into this category); polarisation (growth/smaller decrease in employment at lower and upper ends of wage spectrum compared to middle; Bulgaria, Cyprus, Spain, France, Greece, Ireland, Latvia, Portugal, Slovenia and the UK fall into this category); and downgrading (higher destruction of employment in higher-paid jobs while lower-paid employment either grew or decreased to a smaller extent; Denmark, the Czech Republic, Hungary, Italy and Lithuania fall into this category). Other countries, including Estonia, do not show a clear trend in this regard: employment declined across wage distribution as a whole.

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<sup>15</sup> This approach was developed by Stiglitz (1974) and has been proven to be appropriate (see for example Leschke and Watt 2008 and Employment in Europe 2008) and has been extensively used, for example by Levy and Murnane (1992), Ilg and Haugen (2000), Wright and Dwyer (2003) and Hurley et al. (2011).

It is also interesting to note that the number of ‘polarised’ countries increased during the recession: whereas based on 1995–2007 data (survey by Fernandez-Macias 2008) only Cyprus and France fell into this category, during the crisis they were joined by eight new Member States, mainly due to employment decline in the construction sector, which tends to be concentrated among middle-income jobs. The number of ‘upgrading’ countries remained roughly the same during the recession. There were purely upgrading countries such as Luxembourg, Germany, Sweden and Slovakia, while hybrid polarisation/upgrading countries such as Austria and Belgium experienced a significant loss in medium-paid jobs, little change in the lowest-paid jobs and growth at the top. Hurley et al. (2011)

Countries that recorded the largest peak-to-trough employment growth, including all three Baltic States, experienced a concentration of job losses in low-skilled but medium-paid jobs. Comparing the experiences of all EU Member States, the Baltics stand out as unique cases. In Estonia the employment change was negative in all wage quintiles, but the highest in the 4<sup>th</sup> quintile. Among other Member States this pattern is similar to Bulgaria. In Lithuania, atypically, employment shrank most in the highest and 3<sup>rd</sup> wage quintile and much less in the two lowest wage quintiles, meaning that here the crisis hurt higher wage earners much more. Latvia experienced a remarkable decline in employment in the 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup> wage quintiles and a modest decrease in the 1<sup>st</sup> and 5<sup>th</sup> quintiles (Hurley et al. 2011). This means that in Latvia middle-income earners were hurt the most, which is in accordance with the results presented in *Wages and working...* (2012).

In the highest wage quintile, employment grew by *ca* 1% per year even during the period of intense job destruction. This growth was mainly due to an increase in employment in knowledge-based services (KIS), especially in health, education and science involving computer services. KIS jobs have remained relatively unaffected during the crisis, enjoying employment growth across all quintiles. In contrast, less knowledge-intensive services (LKIS) suffered employment losses, especially in retail, postal services, warehousing and transport and personal services. Hurley et al. (2011)

Estonia is highlighted as a success story in Hurley et al. (2011) as an EU Member State that succeeded, even during the recession, in boosting employment in knowledge-intensive services (KIS) in all wage quintiles (with notable growth in the top quintile – mainly in education, health and public administration) except the bottom one. The proportion of employment in KIS increased most in Estonia out of all EU Member States: by 8 percentage points in all quintiles except the lowest.

This means that the polarisation of the employment structure has been further accentuated during the crisis in the EU. Higher-paid and skilled jobs have been much more resilient to the effects of the recession than lower-paid and lower-skilled jobs. The recession has negatively impacted on employment

in two ways: by destruction medium-paid jobs and stemming the net creation of new higher-paid employment (Hurley et al. (2011)).

Although the changes in unemployment rates are informative, they provide only a limited picture – such rates only describe net effects, while inflow and outflow effects may be neutralised. A recent study by Arpaia and Curci (2010) analyses labour market flows during the first two years of the Great Recession (2008–2009) in EU Member States. Using labour force surveys from these countries, they find that during the crisis the separation rate increased and the hiring rate decreased. Here again the Baltic States clearly stand out, similar to Spain and Ireland, where the increased inflow rate was accompanied by a decreasing outflow rate resulting in a massive rise in unemployment.

Wage cuts were used to a lesser extent than employment reduction in Europe. Nominal wage cuts remained exceptional in the EU during the crisis, although a decline in real wage progression has been observed around Europe (Wages and Working... 2012). Flexible wage components were decreased instead (Arpaia, Curci 2010, Fabiani et al. 2010). According to a recent European Central Bank company survey covering nine countries – Austria, Belgium, the Czech Republic, Estonia, Spain, France, Italy, the Netherlands and Poland – on average just 3.2% of companies cut wages in 2009, with these cuts affecting 1.8% of employees (Fabiani et al. 2010)<sup>16</sup>.

However, in the Baltic States the situation was quite different. Estonia, Latvia and Lithuania were the first EU Member States in which an average wage decrease was already observable in 2009, joined in 2010 by Greece and Ireland (Wages and working... 2012, Fabiani et al. 2010). In Estonia, companies experienced by far the highest incidence of nominal wage cuts in international comparison: 44% of companies decreased wages in 2009, exceeding the Czech Republic, the second highest, five times (see Table 5). In Estonia, nominal wage cuts affected 30% of employees in 2009. Estonia also stands out in international comparison in terms of nominal wage freezes: while on average 34% of the companies in the countries covered in the study froze wages in 2009, in Estonia the same figure was 62% (with the proportion of employees affected being 57%). Only in France was the share of companies freezing wages higher (Fabiani et al. 2010).

Fabiani et al. (2010) relate this to a highly flexible institutional environment for wage setting (Estonia having the lowest coverage of collective agreements among the sampled countries and labour regulation reforms imposing more

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<sup>16</sup> This is in accordance with the results of a study by Babecky et al. (2009) which analysed downward nominal and real wage rigidity in 14 European countries (including Estonia) based on a unique company-level survey carried out in late 2007 and early 2008. They found that the incidence of both types of wage rigidity was substantial in Europe – approximately 10% of firms had experienced wage freezes, while 17% had applied wage indexation mechanisms. They also found that wage rigidity was related to workforce composition and was consistent with efficiency wage and insider-outsider theory. The wages (in both nominal and real terms) of high-skilled white-collar workers were more rigid than those of blue-collar and lower-skilled white-collar workers.

flexible employment protection legislation and lowering redundancy costs), currency board arrangements prohibiting Estonia from using currency depreciation during the crisis and the magnitude of negative demand shock hitting Estonia which prompted firms to use all possible channels for cost-cutting, including lowering base wages.

**Table 5.** Incidence of wage cuts and freezes in selected EU countries 2007–2009

	Nominal wage cuts					Nominal wage freezes				
	Companies (%)			Employees (%)		Companies (%)			Employees (%)	
	2007	2009*	2009**	2007	2009	2007	2009*	2009**	2007	2009
AT	1.54	1.72	1.51	0.06	1.23	9.3	1.76	8.43	5.71	1.07
BE	2.87	1.04	1.76	0.2	0.27	15.89	23.72	4.41	2.39	14.58
CZ	9.32	8.95	3.24	1.13	3.71	31.39	54.63	11.72	11.95	49.13
EE	3.68	44.08	38.61	0.14	30.35	21.27	61.54	64.61	9.6	56.94
ES	0.14	2.55	0.52	0.03	1.35	1.45	26.68	3.73	0.8	22.21
FR	2.54	1.92	4.73	0.86	1.21	7.68	85.98	83.77	5.27	82.48
IT	0.68	2.03	4.29	0.06	1.14	3.81	31.71	62.77	1.25	30.86
NL	1.58	2.55	3.78	0.17	1.18	25.80	15.22	8.67	15.86	12.58
PL	5.70	4.20	1.58	3.79	2.6	9.72	17.98	8.07	7.79	16.59
Eurozone	1.27	2.07	3.29	0.23	1.14	7.64	37.09	43.12	3.89	34.38
Non-Eurozone	6.43	6.48	2.68	3.10	3.70	14.80	27.37	10.25	8.76	24.99
Total	2.63	3.22	3.13	0.99	1.81	9.53	34.51	34.46	5.18	31.88

Notes: \* in 2009 (by the time the study was completed); \*\* in 2009 (forecast)

Source: Fabiani et al. 2010: 23.

Internationally comparable data regarding wage inequality during the recession is not yet available in many countries. However, the general conclusion that can be drawn based on the available data is that wage inequality either remained stable or increased during the recession (Jenkins et al. (2011), *Wages and working... 2012*)

The same general conclusion was drawn in a recent Eurofound study. In Belgium, France, Luxembourg and Italy wage inequality remained stable in 2009. However, this development is not universal: in Germany, Ireland, Portugal, Poland, Estonia, Latvia and Lithuania wage inequality increased. It is interesting to note that in many EU Member States we can see the mirror image: a decrease in the high/medium wage gap and an increase in the medium/low wage gap (in Belgium, Cyprus, Germany, Denmark and Ireland in 2009) or an increase in the high/medium category and a decrease in the medium/low

category (Bulgaria, the Czech Republic, Finland, Italy, Romania, Slovakia and the UK). However, since signs of the occupational wage gap were not stable from 2008–2010, this result should not be overemphasised since it merely illustrates the adjustment process (Wages and working... 2012).

So far in this sub-chapter the emphasis has been on outlining general labour market trends during the recession. The remainder of this chapter is devoted to inequalities on the EU labour market: which categories have suffered more and which less and how inequalities on the labour market between private and public sectors have evolved. The sectoral impact of the crisis is clearly observable. Employment and wage decreases have not been uniform across sectors. Construction and manufacturing have suffered most throughout Europe (Smeeding et al. 2011; Hurley et al. 2011, Wages and working... 2012). In manufacturing, 3.8 million jobs were destroyed (Hurley et al. 2011). In 2008 and 2009 these sectors lost *ca* 9% of their jobs, which accounted for 70% of total job loss in these sectors (Arpaia, Curci 2010). In 2009 manufacturing employment decreased in 17 Member States, while in six others it was accompanied by a nominal wage decrease (Wages and working... 2012). The picture in construction is similar: jobs in this sector accounted for over 35% of total net decline in jobs, with more than 1.9 million jobs destroyed in this sector during the crisis (Hurley et al. 2011).

The services sector suffered relatively less during the Great Recession and the picture is more mixed among EU Member States. In the accommodation and food services sector a decrease in employment was observable in 16 countries. Financial services were primarily affected by wage decreases (in 11 countries). Public administration was hit with a delay in many countries. While it remained something of a safe haven in 2009, negative effects were observable in 2010 (Wages and working... 2012). In public services, growth in jobs continued during the recession, being fastest in the highest two wage quintiles. Private services experienced job losses in all quintiles except the highest (Hurley et al. 2011).

Country-based effects in sectoral developments are clearly dominant. The Baltic States are distinct from other countries as both wages and employment were affected in all sectors (Wages and working... 2012). Unfortunately, no data was available for Estonia, but the results can be generalised to include Estonia based on the empirical results introduced in chapter 3.

Related to sectoral effects, blue-collar workers have been on the frontline in terms of employment and wage cuts (see Table 6). In the initial phase of the recession the jobs of relatively high-skilled workers were at risk (for example in the financial services sector), but as the crisis deepened it clearly affected sectors which employ more unskilled and semi-skilled labour (manufacturing and construction). It is also interesting to note that the skills effect has been different for white- and blue-collar workers. While for highly skilled white-collar workers the employment rate actually increased during the recession and for lower skilled white-collar workers only a moderate decrease in employment

was observable, highly skilled blue-collar workers were hit hardest by the recession. This is in line with the conclusion made above that those in the medium wage category were hurt most during the crisis. (Hurley et al. 2011)

**Table 6.** Changes in employment level by major combined sector and occupation grouping from 2<sup>nd</sup> quarter 2008 to 2<sup>nd</sup> quarter 2010, EU27 (%)

Sector/occupation	White-collar		Blue-collar		All
	Highly skilled	Lower skilled	Highly skilled	Lower skilled	
Primary sector	-7.7	-2.6	-0.9	2.9	-0.7
Construction	-3.6	-10.5	-11.2	-16.4	-10.7
Manufacturing	-6.9	-7.8	-10.1	-14.0	-10.2
Retail	-2.7	-3.4	-5.8	-6.3	-3.7
Other private services	1.6	-0.8	-2.0	-0.9	0.1
Public services and utilities	4.3	3.0	-3.7	-0.6	3.1
<b>All</b>	<b>0.9</b>	<b>-1.0</b>	<b>-7.3</b>	<b>-6.0</b>	<b>-2.3</b>

Source: Hurley et al. (2011): 19.

Somewhat related to skill effects, educational effects were also observable: the increase in unemployment among the highly educated was smaller than among the less educated (Smeeding et al. 2011). This is closely related to skills: during a recession those with lower skills and work experience are at higher risk of losing their jobs (Arpaia, Curci 2010).

Since the sectors that suffer most have traditionally been male-dominated, this explains why males were more affected by the crisis than females (Arpaia, Curci 2010; Hurley et al. 2011, Wage and working... 2012). Between the 2<sup>nd</sup> quarter of 2008 and the 1<sup>st</sup> quarter of 2009, men bore almost 80% of the total job losses in the EU (Arpaia, Curci 2010). During the decade preceding the crisis, the gender employment gap continued to decrease, i.e. growth in female employment was faster in both relative and absolute terms compared to growth in male employment. This trend continued during the crisis. According to Hurley et al. (2011), women fared better on the labour market than men during the recession<sup>17</sup>. This is in accordance with results of a recent Eurostat survey which also concluded that men were more affected by the consequences of the crisis in terms of wages and job security than women (Wage and working... 2012).

During the crisis, four ‘male’ jobs were lost for every ‘female’ job, i.e. men accounted for over 80% of net job decline in employment between 2008 and

<sup>17</sup> However, this did not mean that women escaped the negative effects of the recession. The study published by the ILO (Vaughan-Whitehead 2012) shows that women employed in male-dominated sectors were often the first to be laid off.

2010 (Hurley et al. 2011). The disproportionate effect of the recession on men is mainly related to sectoral effects (Arpaia, Curci 2010). Construction and manufacturing, which are strongly male-dominated sectors (accounting for 90% and 70% of total employment respectively) suffered most during the recession (Arpaia, Curci 2010). Here again the Baltic States experienced the largest increase in the gender unemployment gap. However, this does not mean that women were unaffected by the crisis: as a result of shrinking in construction and to a lesser extent manufacturing, men in the Baltic States went from outnumbering women in employment prior to the crisis to being outnumbered by women as a result of it (Wages and working... 2011). The few sources of (generally high-quality) employment growth were, as previously discussed, concentrated around predominantly female-occupied health and education jobs. In 2008 the gender pay gap was shrinking in most EU countries, including the Baltic States. However, the developments were different in the Baltic States. Latvia saw an increase in the gender pay gap in 2009 and 2010 and Lithuania in 2010; no data could be sourced for Estonia. (Wages and working... 2012)

Young workers were hit hard by the recession, especially in the countries that suffered most (Ireland, Greece, Portugal and Spain). Their growth in unemployment rates was double that of other age brackets and particularly high in the Baltic States, Ireland and Spain. Younger workers suffered more compared to older workers around the world, even in OECD countries where the increase in overall unemployment was not remarkable (Arpaia, Curci 2010). Eurostat data for spring 2012 paints a stark picture: the average youth unemployment rate is as high as 22% in the EU and exceeds 50% in Greece and Spain. At present *ca* 5.5 million young people are unemployed in Europe (Best days... 2012).

Young men were hit harder by the recession than young women, but the most noticeably hurt were low-skilled youth: their employment decreased by 11%, a dramatic contrast to the employment gain of 2% for tertiary graduates. Full-time employment among youth fell by 13%, while part-time employment fell by less than 3% (Scarpetta, Sonnet 2012).

High youth unemployment and inactivity during recessions are not new phenomena. It is well-known that youth unemployment responds more sensitively to changes in the business climate than that of other age groups (Blanchflower and Freeman 2000, Jimeno and Rodriguez-Palenzuela 2002, OECD Employment Outlook 2006). There are many reasons for this, such as lack of labour market experience, seniority and company-specific human capital (see for example Global Wage Report 2010 and Martin 2009).

As concluded by Dietrich (2012), the danger of a “lost generation” is no longer a slogan, but a terrifying reality. What is particularly worrying is that, according to Eurostat estimates, *ca* 7.5 million or 13% of young people aged 15–24 were not in employment, education or training in 2010. The same applies to OECD countries, where the average NEET (not in employment, education or training) rate was 12.3% in the 1<sup>st</sup> quarter of 2011 compared to 10.7% in the 1<sup>st</sup>

quarter of 2008. This means that 22 million young people were out of work in the 1<sup>st</sup> quarter of 2011 and 14 million of them were inactive and not studying – almost double the level of those who were unemployed (8 million) (Scarpetta, Sonnet 2012). The Eurofound project on young people and NEETs (those not in employment, education or training) estimates that the economic cost of their disengagement (including the missing contribution of NEETs to society, i.e. foregone earnings and unpaid tax and social contributions and the excess in welfare transfers that NEETs receive) from the labour market in the EU 26 amounted to 119.2 billion euros per year, which corresponds to approximately 1% of the aggregated GDP of these EU Member States (Mascherini 2012, Choudhry et al. 2012).

This is a very worrying situation. For many people in this age bracket inactivity means discouragement and marginalisation. Even during the sluggish recovery they have faced difficulties finding a job and face a particularly high risk of long-term unemployment and exclusion (Scarpetta, Sonnet 2012).

The employment level among older workers remained surprisingly high during the recession, and 1.7 million new jobs were created for those aged between 50 and 64. Employment growth among older workers was observable throughout the wage spectrum, but was skewed towards top-paying jobs. The employment level of core-age workers (aged 30–49) and especially young workers was severely affected. For younger workers, jobs were lost across the wage spectrum. The likely explanations here are limited experience and opportunity to acquire workplace skills, since they are more likely to be in non-permanent jobs (Hurley et al. 2011). This is in line with a recent Eurostat survey (Wages and working... 2011) which found that older workers more frequently faced wage cuts, but not job losses, whereas young workers faced the risk of unemployment.

Non-nationals were hit harder than nationals and those with lower levels of education harder than the better-educated. With respect to origins, non-natives stand a slightly higher chance of facing wage cuts and a much higher risk of facing job losses than natives (Wages and working... 2011). Not all situations of inequality can be attributed to acts of direct discrimination. The consequences of the crisis on migrant workers have been harshest in the sectors and countries most severely affected by it. For example, in countries where construction had been the engine of growth, migrant workers have suffered the greatest losses of employment. Similarly, certain immigrant groups have been hit harder than others – for instance, Pakistanis and Bangladeshis in the UK and Hispanics in the USA. By contrast, groups that fared better were generally concentrated in jobs requiring higher levels of education (Papademetiou et al. 2010).

In terms of employment status the picture was mixed during the recession. In the early phase of the recession, workers with atypical, temporary or agency contracts suffered most (Arpaia, Curci 2010). For example, 90% of employment losses in Spain affected temporary workers (Vaughan-Whitehead 2012).

However, the majority of employment growth since 2009 has been in temporary (and low-paid) jobs. Despite the growth in part-time work, this still tends to be prevalent among more lowly paid jobs. Part-time work has expanded across the wage spectrum since the crisis began. This growth has clearly been polarised, with gains more evident in low-paid and high-paid jobs and marginal growth in the middle. Part-time employment gains have been more or less equally distributed between males and females: of the 1.2 million new part-time jobs created, around half were 'male' and the other half 'female'. New male part-time jobs have mostly been more lowly paid positions in agriculture, food and beverages; while over 2/3<sup>rd</sup> of the growth in female part-time employment has been in higher-paying jobs in education, health and professional services. (Hurley et al. 2011)

As discussed previously, in most EU countries the public sector was hit with a delay. The recent ILO report highlighted that the recession has had a more adverse effect on the private rather than the public sector. In 11 of the 18 European countries for which data was available, nominal earnings in the public sector rose faster or decreased less compared to earnings in the private sector during the recession. The more robust nature of public sector wages is linked to higher unionisation and a higher degree of coordination among public sector employees (Global Wage Report... 2010).

However, this has also been influenced by the strong increase in government budget deficits in most EU Member States. In some countries – notably Greece, Portugal and Ireland – the budget deficit is out of control, causing a crisis of the single currency, which may have a negative impact on economic recovery in the Eurozone as a whole. Since most budget deficits are unsustainable in the long run, most Member States will face a prolonged period of austerity measures and many governments have already announced major cutbacks in public spending or tax increases. Theodoropoulou and Watt (2011) estimated the size of these austerity packages at 0.9% of GDP in the EU in 2010 and 2011.

In most countries the majority of these packages consist of expenditure cuts, which include pay freezes or pay cuts for workers in the public sector and reductions in government staff numbers. Consequently, the prospects for public sector workers over the next few years look rather grim in many countries and they will, in all probability, risk either losing their jobs or suffering substantial pay cuts. Since it may take some time for these measures to be implemented, the negative consequences of the crisis are likely to hit public sector workers when the economy begins to recover and the employment conditions of private sector workers are improving again. Therefore, it is likely that we will see longer-term negative effects of inequality here. Although different approaches are used and there is some variation across countries, in general it can be concluded that collective bargaining institutions have not played their role in full in the EU during the recession: quite the contrary (Wages and working... 2012).

The impact of the recession on the labour market has varied considerably among Member States. The measures used to cope with the crisis were greatly

dependent on the labour market institutions of the particular country (i.e. employment protection legislation and trade union bargaining power). The main adjustment strategy used by EU Member States was to reduce employment during the crisis. Countries that recorded the largest peak-to-trough employment growth, including all three Baltic States, experienced a concentration of job losses in low-skilled but medium-paid jobs. Nominal wage cuts remained exceptional in the EU during the crisis, flexible wage components were decreased instead. However, Estonia, Latvia and Lithuania were the first EU Member States where average wage decreased already in 2009. Employment and wage decreases have not been uniform across sectors, construction and manufacturing have suffered most throughout Europe and the recession has more adversely affected the private than the public sector.

Blue-collar workers have been on the frontline in terms of employment and wage cuts. Since the sectors that suffer most have traditionally been male-dominated, this explains why males were more affected by the crisis than females. Young workers were hit hard by the recession, especially in the countries that suffered most and the danger of a 'lost generation' is no longer a slogan, but a terrifying reality. The employment level among older workers remained surprisingly high during the recession in most EU Member States. Non-nationals were hit harder than nationals and those with lower levels of education harder than the better-educated.

## **4. INEQUALITIES ON THE LABOUR MARKET BETWEEN SOCIAL AND REAL SCIENCES GRADUATES AND GRADUATES GENDER PAY GAP IN ESTONIA DURING THE CRISIS**

### **4.1. Does a university degree pay off in the Estonian labour market**

Study III **Espenberg, K., Themis, A., Masso, J., Eamets, R.**  
Does a University Degree Pay Off In The Estonian Labour Market?  
Studies for the Learning Society, Vol 2, No 2–3, 2012, pp. 46–62.

## **4.2. The graduate gender pay gap in Estonia**

Study IV **Espenberg, K., Themis, A., Masso, J.**  
The Graduate Gender Pay Gap in Estonia. –  
Higher Education at a Crossroad: the Case of Estonia.  
Edited by E. Saar and R. Mõttus.  
Germany: Peter Lang Publishing, 2013 (forthcoming), pp. 391–413.

## 5. SUMMARY OF STUDIES AND DISCUSSION

Inequalities on the labour market include a number of dimensions: participation inequality as well as wage inequality. For the former, participation level inequality measured via employment and unemployment rates and participation activeness measured via working hours are distinguished in this thesis. The development of such a concept was necessary to draw together the key aspects of the inequalities and understand the links between them.

In this chapter the main findings of the empirical studies are provided, with links to theoretical concepts and previous studies. The chapter is arranged according to the research questions and propositions outlined in chapter 2.1. The study mainly covers the early years of the Great Recession (2008–2010). The theoretical standpoints presented in the tables are introduced in greater detail in chapter 1. In this chapter they are briefly summarised in the respective parts of the tables. The main results of previous studies analysing developments in Estonia during the Russian crisis (1997–1999, see Appendix 1) and the Great Recession in other EU countries (described in chapter 3.3) are provided in the tables, which also present the synthesis of the main results of the studies. A more detailed overview (including references) can be found in the respective parts of the thesis. The summary tables also include references to the parts of the thesis in which the topic is analysed.

### 5.1. General developments in inequalities on the labour market during the Great Recession in Estonia and the role of institutions

**Research question 1:** What labour market adjustment mechanisms are used on the Estonian labour market during the Great Recession, and what are the differences between the public and private sectors?

The Great Recession was the first contradiction of the global economy since World War II (Keeley and Love 2010) and had wide-ranging effects on the labour market, including inequalities on the labour market. The Estonian labour market showed great flexibility during the Great Recession. All three adjustment measures – reductions in employment, working hours and wages – were extensively used to cope with the negative effects of the crisis. In an EU comparison, Estonia (with the other two Baltic States) stands out as an extreme case characterised by the most rapid increase in unemployment and remarkable wage decline in the early stages of the recession (see chapter 3.3). The average number of working hours also decreased, but this mechanism was used less than employment and wage reductions.

**Table 7.** Overview of propositions, theoretical standpoints, results of previous studies and this study for research question 1

<b>Propositions</b>	<b>Theoretical standpoints</b>	<b>Results of previous studies</b>	<b>Results of this study</b>
<p><u>Proposition 1:</u> All three adjustment mechanisms (adjustment in number of workers, working hours and wages) are used in Estonia during the Great Recession in order to cope with its negative effects.</p>	<p>Different adjustment mechanisms can be used to cope with the negative effects of a recession: a reduction in employment, working hours and wages. The choice and extent of use of adjustment mechanisms depend on employment protection legislation, the industrial relations system and the preferences of the employer.</p>	<p>In Estonia, during the Russian crisis, the main adjustment mechanism used was a reduction in employment. The average wage increased while the part-time employment rate and average working hours remained unchanged.</p> <p>In EU countries all three adjustment mechanisms have been used during the Great Recession, but the focus has been mainly on employment.</p>	<p><u>Confirmed</u></p> <p>In Estonia all three labour market adjustment mechanisms were used during Great Recession:</p> <ul style="list-style-type: none"> <li>- rapid increase in unemployment (most rapid of any EU country) at the beginning of the recession (3.1.2.1; 3.2; 3.3);</li> <li>- decrease in working hours and increase in part-time work (3.1.3.1.);</li> <li>- decrease in wages (3.1.4.1) and part-time penalty (3.1.4.4.), increase in minimum wage earners in 2010 (3.1.4.4.).</li> </ul> <p>Unlike other EU countries, in Estonia nominal wage decreases occurred in the early stage of the recession and adjustment in employment, hours and wages were much larger.</p>
<p><u>Proposition 2:</u> Wage inequality on the Estonian labour market decreases during the Great Recession.</p>	<p>Wage inequality may increase or decrease depending on the nature of the recession (which jobs are destroyed and which sectors are influenced by the recession). If the recession is skill-biased, wage inequality should decrease.</p>	<p>In Estonia, during the Russian crisis, wage inequality decreased. During the Great Recession wage inequality did not change much in EU countries, but in many countries mid-wage jobs were destroyed.</p>	<p><u>Partly confirmed</u></p> <p>The D9/D1 wage ratio did not change much, but middle-wage earners were hit relatively harder (3.1.4.4.).</p>

Propositions	Theoretical standpoints	Results of previous studies	Results of this study
<p><u>Proposition 3:</u> There are differences in the adjustment mechanisms used in the public and private sectors in Estonia during the crisis. In the public sector the adjustments are smaller, while in the private sector a reduction in employment and hours are used more often than in the public sector.</p>	<p>No unambiguous assumptions about differences between adjustment mechanisms used in the public and private sector. The choice of measures used depends on employment protection legislation, the industrial relations system and the preferences of the employer. Employment in the tradable sector tends to be more volatile than in the non-tradable sector.</p>	<p>During the recession wages, hours and employment have been more adversely affected in the private sector than in the public sector in EU countries. In most EU countries the public sector was hit with a delay.</p>	<p><u>Confirmed</u></p> <p>Large discrepancies between sectors in:</p> <ol style="list-style-type: none"> <li>1. increase in unemployment (3.1.2.2.; 3.1.4.3.; 3.1.4.5.; 3.2.2.);</li> <li>2. decrease in working hours (3.1.3.1.; 3.1.3.3.; 3.1.4.5.; 3.2.5); and</li> <li>3. wage decline (3.1.4.3.; 3.1.4.5.; 3.2.4.1.; 3.2.4.2.; 3.2.4.3. + case studies 3.1.7.1, Ch. 3.1.7.2).</li> </ol> <p>In the private sector there were large differences between economic activities – in the largest industries all three adjustment measures were used (3.1.2.2.; 3.1.4.3. + case study 3.1.7.1). The main adjustment strategy used in the public sector was wage cuts (3.1.4.3), but also unpaid leave days (3.1.7.2.). Reductions in employment and working hours were lower compared to the private sector (3.2.2. + case studies 3.1.7.2; 3.2.8.1).</p>

The unemployment rate skyrocketed in Estonia during the recession. Several recent studies (Fabiani 2010, Wages and working... 2012) have highlighted Estonia (with Latvia and Lithuania) as a country where the negative impact of the crisis on the labour market emerged earliest in the EU and was severe in cross-country comparison. According to Statistics Estonia, the number of unemployed tripled from 38.400 in 2008 to 115.900 in 2010 (by way of comparison, the total workforce was *ca* 687.000 in 2010). Since the second half

of 2010 the unemployment rate has been decreasing, but still remains above the EU average.

As with employment and wage adjustments, Estonia is particularly interesting for the fact that its working hour adjustments were the most severe in international comparison (see chapter 3.3). Hours worked decreased in the early stages of the recession (by around 2.4% in 2009 compared to 2008) which is in accordance with the labour hoarding theory: as the economic climate was highly unstable, to some extent employers preferred to shorten working hours instead of laying off large numbers of workers at the start of the recession (see the case studies in chapter 3.1). However, adjustment via flexible working time arrangements (including working hours – see the case studies in chapter 3.1) was only a short-term measure; the average number of hours worked recovered rapidly in 2010 and 2011.

Part-time work increased temporarily in sectors characterised by a dominance of male workers and an historically low incidence of part-time work. This contributed to the decrease in part-time pay penalties that emerged in the early phase of the recession (see chapter 3.1). However, these adjustments were temporary and when it became clear that the recession would have longer-lasting effects and that structural changes were necessary, large numbers of workers were laid off and working hours were recovered.

Quite uniquely in international comparison, average wages also decreased during the recession in Estonia. In most other EU Member States the nominal wage cuts were much more moderate and did not occur in such an early phase of the crisis. Similarly to the unemployment rate, average wages also decreased in the very early phase (from the 3<sup>rd</sup> quarter of 2008) in Estonia, which is exceptional among EU countries (see chapter 3.3). The average nominal wage decreased by 4% from 2008–2010 in Estonia. During the recession the proportion of those whose wages were cut was remarkable – more than 40% of workers in 2009 (see chapter 3.1). Therefore, it is evident that theories supporting the rigidity of wages did not hold in Estonia during the crisis.

Clear sectoral differences are observable in the adjustment mechanisms used across sectors in Estonia (see Table 8). Since Estonia did not abandon its goal of joining the Eurozone even when faced with great economic difficulties, the public sector was forced to follow internal devaluation during the recession in order to keep the debt level and budget deficit under control. With reduced tax revenue, costs needed to be cut.

Employment remained fairly stable in the public sector during the crisis and wage cuts were the main adjustment mechanism used in Estonia. It was the first EU country to introduce wage decreases for public sector employees, as early as 2009. As the case studies presented in chapter 3.2 indicate, the need to implement such measures was well communicated to employees. Facing poor labour market prospects in light of the rapidly increasing unemployment rate, public sector workers agreed to a reduction in wages without much resistance. The ability of Estonia (and the other two Baltic States) to recover via internal

devaluation and the ability to successfully overcome the deepest stage of the crisis via austerity measures are often used as best practice examples for European countries facing a similar situation today – Greece, Spain, Ireland and Portugal (see for example Aslund (2011) and Lindner (2011)).

The proportion of those who kept the same job during the crisis was considerably higher and flows from employment to unemployment considerably lower in the public sector compared to the private sector. Flows from unemployment to employment were also remarkably higher for former public sector employees. This is related to the relatively high educational level of public sector employees and lengthy public sector experience, which is in accordance with the economic theory proposing that during difficult economic periods the higher-educated and those who have more human capital are relatively better-off.

The adjustment mechanisms used in the private sector varied across economic activities. Similar to other European countries, manufacturing and construction suffered most during the recession. For manufacturing the main reason was shrinking foreign and domestic demand; construction suffered due to the decline in domestic demand caused by banks changing their lending policies, adopting a much more conservative approach. Around three-quarters of all job losses were experienced in these two sectors in Estonia, which was particularly harmful as these sectors account for approximately one-third of those employed in the country. Not only employment but also working hours and wages decreased at an above-average level in manufacturing and construction. Adjustment via all three mechanisms was also observable in many other sectors – agriculture, trade, transportation, accommodation, information and communication services, real estate, administrative activities, public administration and the arts.

However, much of this adjustment has been temporary in construction and manufacturing. Recovery has also been beneficial to these sectors. Growth in construction is mainly driven by government action, not recovery in demand by private households. From 2010–2012 part of the revenue from sales of CO<sub>2</sub> pollution quotas were invested in renewable energy projects. This led to a new construction boom which is not likely to be sustainable. In manufacturing demand has recovered, but it is also considered to be fragile because of the great dependency on external demand.

Wage inequality did not change significantly during the recession. The P90/P10 ratio was stable throughout the recession but increased during the recovery period in 2011, indicating the more favourable position of those in the upper part of wage distribution. This may be a sign of movement towards more knowledge-intensive jobs during the recovery period. The P90/P50 ratio increased and the P50/P10 ratio decreased in 2009, indicating that middle-wage earners were relatively worse-off during the early stages of the recession. This trend was also seen in a number of other EU countries (see chapter 3.3).

**Table 8.** Changes in employment, working hours and wages by economic activity, Estonia, 2009–2011 (% compared to previous year)

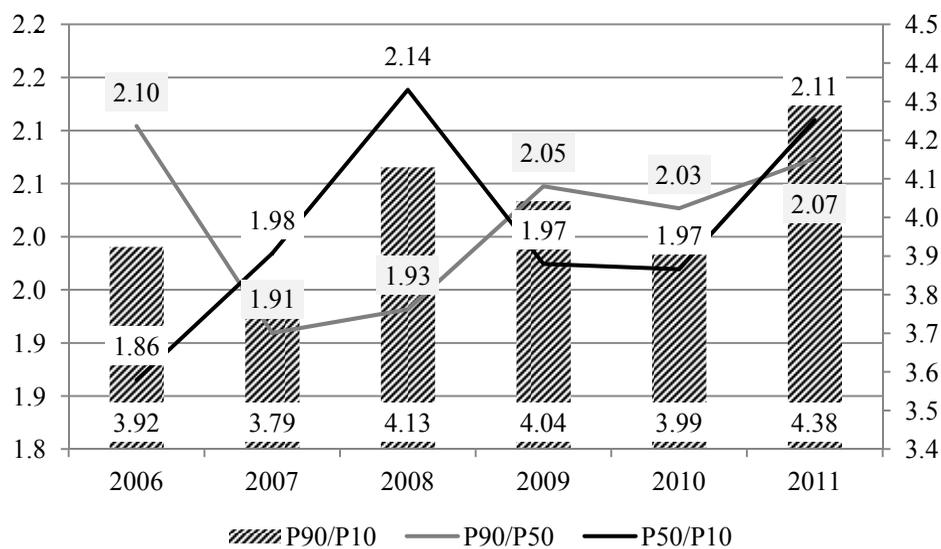
	Employed*			Working hours			Wages			
	2008 (thousands)	2009	2010	2011	2009	2010	2011	2009	2010	2011
<b>Total</b>	<b>656.5</b>	<b>-9.2</b>	<b>-4.2</b>	<b>6.7</b>	<b>-2.4</b>	<b>2.2</b>	<b>1.1</b>	<b>-5.0</b>	<b>1.0</b>	<b>5.9</b>
Agriculture	25.3	-5.1	0.4	<b>11.6</b>	-1.3	2.1	<b>3.6</b>	-6.9	5.5	4.5
Mining and quarrying	6	6.7	7.8	-11.6	-6.2	7.8	4.4	-7.9	11.6	10.2
Manufacturing	<b>135</b>	<b>-15.7</b>	<b>-4.7</b>	<b>11.6</b>	<b>-3.5</b>	5.3	0.8	-4.8	5.2	6.0
Electricity supply	8.2	-6.1	13.0	-5.7	-0.3	1.2	0.4	7.0	5.1	7.0
Water supply	2.3	4.3	-4.2	69.6	0.2	0.4	2.3	-2.0	-1.3	3.2
Construction	<b>81</b>	<b>-28.0</b>	<b>-17.8</b>	<b>23.2</b>	<b>-4.5</b>	4.7	<b>3.9</b>	<b>-13.1</b>	3.0	6.3
Wholesale and retail trade	<b>92.5</b>	-10.1	-3.8	1.6	-1.6	1.7	0.7	-6.9	<b>-1.8</b>	<b>10.7</b>
Transportation and storage	49.9	-0.4	-12.3	10.8	-0.8	1.6	0.6	-5.0	3.0	1.2
Accommodation	23.6	<b>-14.8</b>	-3.5	-1.0	-2.2	4.8	-2.4	-2.3	-1.8	2.8
Information	15.3	-6.5	-13.3	34.7	-2.3	0.0	0.3	-0.9	1.2	7.6
Financial activities	10.4	9.6	-17.5	8.5	-1.2	2.1	0.8	-3.8	-9.8	5.4
Real estate activities	10.2	-9.8	9.8	3.0	-2.8	1.4	-0.8	-6.4	-14.4	11.5
Professional activities	20.5	0.0	3.4	9.9	-3.4	1.6	0.6	-6.2	7.9	5.3
Administrative activities	17.3	-2.9	12.5	-9.5	-2.2	0.7	1.8	-3.4	1.3	6.4
Public administration	38.4	-4.4	10.1	-0.2	-1.7	-0.1	1.2	<b>-7.5</b>	<b>-2.7</b>	3.5
Education	59.9	4.3	-10.2	2.0	-1.3	-0.3	1.3	-2.5	-0.9	2.0
Health	31.1	6.1	4.8	2.6	-2.2	1.1	0.8	-2.6	<b>-3.4</b>	5.3
Arts	14.8	-4.1	3.5	-2.7	-3.5	-0.1	-0.2	-7.3	3.3	5.2
Other activities	14.8	-22.3	3.5	-13.4	-4.1	1.2	1.7	-6.3	-11.4	-4.9

Notes: change compared to previous year; \* in thousands, 2008; for activities that constitute at least 5% of total employment in Estonia, remarkable decreases are marked in bold.

Agriculture – agriculture, forestry and fishing; electricity supply – electricity, gas, steam and air conditioning supply; water supply – water supply, sewerage, waste management and remediation activities; wholesale and retail trade – wholesale and retail trade – wholesale and retail trade, repair of motor vehicles and motorcycles; accommodation – accommodation and food service activities; information – information and communications; financial activities – financial and insurance activities; professional activities – professional, scientific and technical activities; administrative activities – administrative and support service activities; public administration – public administration, defence and compulsory social security; health – human health and social work activities; the arts – arts, entertainment and recreation.

Source: Statistics Estonia

Therefore, in Estonia there are no strong signs of the ‘hollowing out’ i.e. the disproportionate destruction of lowly-paid jobs during the recession that was observable in many other EU countries. This was due to the fact that unlike other Member States, many ‘male’ jobs that were destroyed – for example in the construction sector – were relatively highly paid, neutralising the increase in job destruction among the more low-paid.



**Figure 7.** Wage decile ratios in Estonia 2007–2011

Note: P90/P50 and P50/P10 ratios – left-hand scale; P90/P10 ratio – right-hand scale

Source: Estonian LFS, author’s calculations

The evolution of the private/public wage gap during the recession indicates that in the private sector wage cuts have been more remarkable in Estonia. This is in accordance with the experience of other EU countries (see chapter 3.3). Due to this, the private sector wage premium observable on the eve of the crisis transformed into wage penalties in 2009. However, the decrease in the private-public wage gap is likely to be no more than a short-term phenomenon in Estonia. Since the Estonian government has announced that public sector wages will be frozen until at least 2014 and wages in the private sector are showing signs of upward wage pressure in the recovery phase, wage growth will probably be restored in the private sector sooner than in the public sector, which may lessen the attractiveness of the public sector as an employer.

In conclusion, the proposition that adjustments in employment, working hours and wages would be used in Estonia in order to cope with the negative effects of the crisis was confirmed. In an EU-wide comparison the Estonian

labour market remained highly flexible during the recession and adjustments occurring in employment, working hours and wages were the largest in the union. Similarly to other Member States, inequalities on the labour market developed in favour of those employed in the public sector during the crisis. Employment, wage and working hour adjustments occurred in both the public and private sectors, but the public sector adjustments were not as large as those in the private sector. Only wage reductions were notable, especially in public administration, as early as the beginning of 2009 to keep the state budget balanced. Medium-wage earners were hit hardest by the recession. However, during the recovery period low-wage earners are lagging behind.

**Research question 2:** What is the influence of labour market institutions on inequalities on the labour market in Estonia during the Great Recession?

**Table 9.** Overview of propositions, theoretical standpoints, results of previous studies and this study for research question 2

Propositions	Theoretical standpoints	Results of previous studies	Results of this study
<p><u>Proposition 4:</u> Labour market institutions have a limited impact on inequalities on the Estonian labour market during the recession.</p>	<p>Adjustment mechanisms used and their impact on inequality on the labour market depend not only on employer preferences but also on institutional factors – employment protection legislation, minimum wages and the strength of trade unions being the most important.</p>	<p>In Estonia, during the Russian crisis, employment and wages remained flexible despite relatively strict employment protection legislation. Trade union membership and collective agreement coverage has remained low in Estonia since it regained its independence and their influence on inequalities modest. Minimum wage as a share of average wage and the share of minimum-wage earners has been modest in Estonia.</p>	<p><u>Confirmed</u></p> <p>Trade union bargaining power remained low at both the enterprise and state level: they were forced to accept the decisions of employers (3.1.6.4.; 3.2.6. + case studies 3.1.7.2; 3.2.8.2).</p> <p>The new Employment Contracts Act that entered force in July 2009 increased labour market flexibility but was uniform for all workers, so did not directly influence inequalities on the labour market (3.1.6.3).</p> <p>The minimum wage had a limited impact on inequalities on the labour market during the crisis (3.1.6.4).</p>

Labour market institutions (labour laws, trade unions and the minimum wage) did not have much impact on inequalities on the Estonian labour market during the Great Recession. The most important institutional factor only indirectly influencing inequalities on the labour market (since the changes applied to all workers) and more directly influencing the decisions of employers in regard to which adjustment mechanisms to use (see the previous research question) was the introduction of the new Employment Contracts Act which entered force in at the beginning of the recession, in July 2009. With the new act the employment protection of workers decreased considerably and it became easier and less costly for employers to make workers redundant or to reduce their working hours.

The strength of trade unions is one institutional factor potentially influencing inequalities. If trade unions are strong, they may influence inequalities on the labour market by protecting their members at the expense of other workers or bargain with employers over which adjustment mechanisms are to be used and which not. Trade union membership and collective agreement coverage remains low in Estonia in general, although there are some extreme case examples (in the public sector, such as rescue services: see the case study in chapter 3.2) where developments led to a rise in trade union membership during the recession. The weakness of trade unions was not a result of the recession, but is a long-standing phenomenon in Estonia. In most sectors trade unions did not have a great deal of influence on the decisions of employers as to which adjustment mechanisms to use and which workers to lay off, because in Estonia enterprise-level trade unions prevail. This made it easier for employers to make workers redundant and reduce wages.

As the case studies indicated, in general trade unions did not have enough bargaining power to effectively defend the interests of employees even in sectors where trade unions are stronger (e.g. the public sector). Trade unions in the public sector did not have a great deal of power (see the case study of the police in chapter 3.1) because of the need to cut costs in light of decreasing revenue. Therefore, unions were largely forced to agree to the budget cuts and the decisions of employers. The wage cuts made in both the public and private sectors (see above) were enforced despite the opposition of the trade unions, which accepted the reductions in wages in order to avoid redundancies.

At the state level the bargaining power of social partners remained rather weak as well. As a result of postponing and/or abandoning several agreements protecting workers, the 'flexicurity' approach that was declared to be the main aim of drafting the new Employment Contracts Act (Explanatory note to the draft Employment Contracts Act 2008) only truly implemented flexibility for employers in practice. The government pushed through the rather painful decisions (reducing social guarantees and increasing the unemployment insurance contributions of both employees and employers) despite the resistance of employees' and employers' representatives (Espenberg, Vahaste 2012). Similarly to many other countries, the decision-making process during the crisis can be described as more centralised and politicised (Peters et al. 2011).

Minimum wages can contribute to a decrease in wage inequality, especially in the event of an increase in the minimum wage. If there are no spill-over effects, an increase in the minimum wage will decrease wage inequality. The effect of minimum wages on inequality on the Estonian labour market was modest during the recession. The minimum wage remained unchanged (at 278 EUR – *ca* 33% of the average wage in 2008) from 2008–2011 and was increased only slightly in 2012 (to 290 EUR – again *ca* 33% of the average wage). According to data from Statistics Estonia, the proportion of those belonging to the three lowest wage deciles decreased from 2009–2011 (no previous data available). According to Tax and Customs Board data, the number of those employed who had received the minimum wage for more than six months per year increased from 10,800 (1.6% of those employed) to 14,100 (2.4%) in 2009 and to 15,700 (2.7%) in 2010. Therefore, the minimum wage had some effect, if limited, in supporting the incomes of the lowest wage decile, as the proportion of minimum wage earners in Estonia is low.

As indicated in chapter 3.3, practices are very different among EU countries and no uniform conclusion can be drawn regarding the influence of institutions on inequalities on the labour market. In conclusion, employment protection legislation, trade unions and minimum wages did not have a significant influence on inequalities on the labour market in Estonia during the Great Recession.

## 5.2. Inequalities on the labour market by gender, age, nationality and education in Estonia during the Great Recession

In this chapter the development of inequalities on Estonian labour market by gender, age, nationality and educational level is analysed.

**Research question 3: How do inequalities on the labour market by gender, age, nationality and educational level change in Estonia during the Great Recession?**

**Table 10.** Overview of propositions, theoretical standpoints, results of previous studies and this study for research question 3

Propositions	Theoretical standpoints	Results of previous studies <sup>18</sup>	Results of this study
<b>Proposition 5:</b> Female/male participation inequality and the gender pay gap decrease in Estonia during the recession.	Employment in the tradable sector is more volatile than in the non-tradable sector.	In Estonia, during the Russian crisis, the male/female unemployment gap increased and the gender pay gap decreased in Estonia.  In EU countries men were more greatly influenced by the negative effects of the global financial crisis.	<u>Confirmed</u>  Men were hit harder than women in terms of increased unemployment (3.1.2.2.; 3.1.2.3.; 3.1.4.5.; 3.2.4.3; 3.2.4.4.) and incidence of decreasing hours (3.1.3.1; 3.1.3.3.) and wages (3.1.4.4.; 3.1.4.5.).
<b>Proposition 6:</b> Participation and wage inequality by age increases, i.e. young people experience a higher incidence of losing their jobs and decrease in wages during the recession.	Employees with shorter tenures and lower skills are at higher risk of losing their jobs and experiencing wage decline during a recession.	In Estonia, during the Russian crisis, unemployment among young people increased much more than in other age groups in Estonia.  In EU countries youth unemployment increased much more compared to other age groups during the Great Recession. The incidence of part-time work did not change among young people, but increased in the age group 25–54 and decreased among the elderly.	<u>Confirmed</u>  Compared to older workers, young people experienced a higher increase in unemployment (3.1.2.2.; 3.1.4.5.), decrease in working hours (3.1.3.1.; 3.1.3.3.) and decrease in wages.

<sup>18</sup> To the best of the author’s knowledge, no previous studies are available for several aspects (e.g. wage development during the recession by age and nationality); therefore some aspects of inequality on the labour market are covered only partly in the table.

<b>Propositions</b>	<b>Theoretical standpoints</b>	<b>Results of previous studies<sup>19</sup></b>	<b>Results of this study</b>
<u>Proposition 7:</u> Participation and wage inequality between Estonians and non-Estonians increase during the recession.	Employees with shorter tenures and lower skills are at higher risk of losing their jobs and experiencing wage decline during a recession.	In Estonia, during the Russian crisis, the non-Estonian-Estonian unemployment gap increased and the wage gap decreased.  In EU countries ethnic minorities were more influenced by the negative effects of the crisis.	<u>Confirmed</u>  Compared to Estonians, non-Estonians experienced a higher increase in unemployment (3.1.2.2.; 3.1.2.3) and decrease in working hours and wages (3.1.4.4.).
<u>Proposition 8:</u> Participation and wage inequality between the highly and lower-educated increase during the recession.	Employees with shorter tenures and lower skills are at higher risk of losing their jobs and experiencing wage decline during a recession.	In Estonia, during the Russian crisis, the unemployment gap between the more highly and lower-educated increased.  In EU countries the low-skilled were more affected by the negative effects of the global financial crisis.	<u>Confirmed</u>  Compared to the more highly educated, the lower-educated experienced a higher increase in unemployment (3.1.4.5.) and a higher decrease in working hours (3.1.3.3.) and wages (3.1.4.4.; 2.1.4.5.).

The developments on the Estonian labour market by gender, age, nationality and educational level attained were largely in line with expectations. In general, men, young people, non-Estonians and the lower-educated were more vulnerable to the negative effects of the crisis and experienced a higher increase in unemployment as well as a decrease in working hours and wages during the early years of Great Recession (2008–2010) in Estonia (see Table 11 and Appendix 3). The only exception is the age dimension, where the reduction in working hours and wages was highest in the middle age group (25–49).

**Table 11.** Vulnerable groups by change in inequality on the labour market in Estonia during the Great Recession

	Unemployment	Working hours	Wages
Gender	Men	Men	Men
Age	Youth	Middle-aged	Middle-aged
Nationality	Non-Estonians	Non-Estonians	Non-Estonians
Education	Lower-educated	Lower-educated	Lower-educated

Source: Statistics Estonia

<sup>19</sup> To the best of the author’s knowledge, no previous studies are available for several aspects (e.g. wage development during the recession by age and nationality); therefore some aspects of inequality on the labour market are covered only partly in the table.

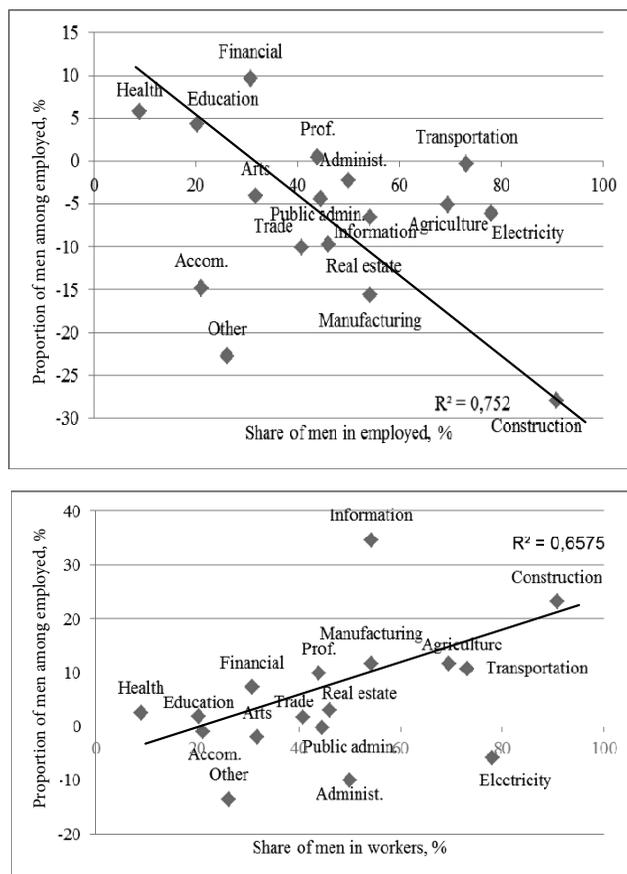
## Gender

In the early stages of the recession (2008–2010) males in Estonia were more negatively affected by the crisis than females in terms of unemployment, working hours and wages. The gender unemployment gap – which was practically non-existent in 2008 – increased considerably (while the average in the EU remained close to zero from 2008–2010, meaning that men and women experienced a similar increase in unemployment) and peaked at 6.6 percentage points in 2009. The decrease in working hours was also higher among men than women during the early stages of the recession. Although the part-time employment rate increased among men and women alike, for men the increase of those employed part-time involuntarily was much higher.

Flow analysis also confirms the more complex situation of men during the early stages of the recession. The increase in the separation rate was much higher for men than women. While only around 3% of men employed in 2007 were unemployed a year later, in 2009 the same figure was as high as 11%; for women the figures were 2.4% and 5.8% respectively. The male outflows from unemployment to employment decreased from 40.9% in 2008 to 26.7% in 2010; for females the decrease was from 48.8% to 35.5%. The gender wage gap decreased from 30.9% in 2007 to 26.6% in 2009 and to 22.9% in 2011 (Eurostat, Statistics Estonia).

The increase in the male/female unemployment gap and the decrease in the wage gap emerged due to high sectoral segregation. In Estonia both the occupational and sectoral segregation of the workforce by gender is the highest among the EU-27 (Bettio, Verashchagina 2009). As discussed above, employment, wage and working hour cuts were not uniform across sectors during the recession. Males were overrepresented in sectors that suffered particularly hard (see chapter 3.1). Decomposition of the gender wage gap indicates that the narrowing gap is to a large extent explained by the sectoral and occupational segregation of the workforce. As can be seen in Figure 8, there is a clear negative relationship between the proportion of men among workers and the decrease in employment during the recession.

However, the recovery period (2010–2011) favoured men: male-dominated sectors recovered more quickly (see the below panel in Figure 8). In 2010, the year of stabilisation and the start of the recovery period, the hiring rate of men increased (while continuing to decrease among women) and the unemployment rate and involuntary part-time work decreased. As a result, the male/female unemployment gap has rapidly decreased. The gender pay gap increased in 2010, a phenomenon not seen in most other EU countries (except Ireland, Portugal and Latvia). The main reason for decreasing unemployment among men was rapid recovery in manufacturing and construction. Whereas in manufacturing the main reason was the creation of jobs due to increased production volumes, in construction the recruiting of men to work abroad (mainly in Finland) was important (Statistics Estonia Yearbook 2012).



**Figure 8.** Proportion of men among workers (in 2008) and change in employment (in 2009 compared to 2008) by economic sector in Estonia (above); and proportion of men among workers (in 2008) and change in employment (in 2011 compared to 2010) by economic sector in Estonia (below)

Note: Accom. – accommodation and food service activities; Admin. – administrative and support service activities; Agriculture – agriculture, forestry and fishing; the Arts – the arts, entertainment and recreation; Electricity – electricity, gas, steam and air conditioning supply; Financial – financial and insurance activities; Health – human health and social work activities; Prof. – professional, scientific and technical activities; Public admin. – public administration, defence and compulsory social security; Trade – wholesale and retail trade and repair of motor vehicles and motorcycles; Transportation – transportation and storage.

When producing the linear regression line shown in the figure, the accommodation, other, transportation, agriculture and electricity sectors were excluded from the figure presented on the left. In the linear production shown in the figure the accommodation, other, transportation, agriculture and electricity sectors were excluded in the figure on the right.

Source: Statistics Estonia

## Age

Unemployment increased in all age groups, but particularly rapidly among youth. While this development was not surprising from the point of view of theoretical considerations (which also assumes that younger workers face more difficult labour market prospects due to their lower skills and tenure) nor unique to Estonia (youth unemployment increased across the EU), it was the extent of the increase that is extraordinary: within just two years the youth unemployment rate more than tripled in Estonia. In 2010 it was as high as 33% – the highest in the EU after Spain and the other two Baltic States. However, unlike Greece and Spain, Estonia (along with Latvia and Lithuania) managed to get youth unemployment under control by 2011.

The increase in unemployment has also been large in other age groups in Estonia during the recession. While in most EU Member States the unemployment rate of people aged 25–49 increased moderately (by 2–4 percentage points from 2007–2010; EU average: 2.5 percentage points), in Estonia the increase was much more rapid – as much as 11.1 percentage points, comparable to Spain and Latvia and slightly lower than in Lithuania (which experienced an increase of almost 13 percentage points). In 2010 it peaked at 15.4%, the fourth highest after the countries mentioned. However, in 2011 positive signs could be seen, with unemployment falling in this age bracket to 12%.

The increase in unemployment among older people (age group 50–74) was the highest in Estonia during the recession. From 2007–2010 it increased by more than 11 percentage points, peaking at 14.3% in 2010 – the second highest in the EU after neighbouring Latvia. However, unlike in Latvia the elderly unemployment rate decreased in Estonia in 2011 (to 10.4%), indicating positive prospects in all age groups. However, the increase in long-term unemployment among the elderly is a worrying labour market development. In 2011 two out of three unemployed people aged 50–74 had been out of work for more than a year, indicating that those who lost their jobs during the recession are increasingly facing difficulties finding jobs during the recovery period. The proportion of the long-term unemployed is also increasing in the 25–49 age group (the share of the long-term employed among the unemployed in 2011 being 58%) and among youth (39%). This indicates that although the imbalances are partly recovering of their own accord, during the recovery period there are many unemployed people in all age categories facing difficulties returning to the labour market.

A reduction in working hours has been observable among youth (at the start of the recession) and the elderly (from 2008–2011). However, the increase in involuntary part-time work has been highest among the middle-aged. Within just two years (2008 and 2009) the proportion of those in involuntary part-time employment doubled in this age group. The wage decrease was not uniform across age categories. According to data from Statistics Estonia, while young people experienced more job losses and a greater decrease in average working hours than older workers, the share of those who experienced a decrease in

wages was much lower among youth than other age groups. This was probably due to the fact that young people who did not face the risk of losing their jobs were valuable to employers because of their knowledge and skills.

## **Nationality**

Similarly to other EU countries, minorities in Estonia were more vulnerable during the recession. Unemployment increased much more among non-Estonians (from 8.2% in 2008 to 23.4% in 2010) compared to Estonians (from 4.2% in 2008 to 13.4% in 2010). Flow analysis indicates that while there were no remarkable differences in hiring and separation rates between Estonians and non-Estonians in 2008 and 2009, discrepancies emerged in 2010 when the separation rate increased by almost 7 percentage points for non-Estonians, reaching 30.9% in 2010, but the increase was much lower (less than 1 percentage point) for Estonians. Another interesting point is that while the hiring rate increased somewhat among Estonians in 2010, it decreased among non-Estonians.

While working hours did not change among Estonians, a more than one-hour reduction in weekly working hours was seen among non-Estonians. The proportion of people who experienced a wage decrease was also higher among non-Estonians. The recovery period has also been more beneficial to Estonians. Although no in-depth analysis was carried out to analyse the reasons for such developments in this study, possible explanations for the vulnerability of non-Estonians are lower language skills and the occupational segregation of the workforce (non-Estonians being overrepresented in lower-skilled and Estonians in higher-skilled jobs).

## **Education**

In accordance with the human capital theory, gains in education were clearly observable during the Great Recession in Estonia. The unemployment rate increased particularly rapidly among those with primary (i.e. pre-primary, primary and lower secondary) education in Estonia until 2011, peaking at 31% in 2010. In an EU-wide comparison, Estonia and the other two Baltic States clearly stand out in this regard: in all three countries the increase in unemployment among those with only primary education was very high (in Estonia almost 20, in Latvia 21 and in Lithuania 32 percentage points).

In Estonia the increase in unemployment among the secondary- and tertiary-educated was also remarkable in international terms. However, compared to the primary-educated the rise in unemployment was more moderate. As a result, the primary-tertiary unemployment gap more than doubled and the secondary-tertiary unemployment gap tripled during the recession. The increase in unemployment among those with higher education was also remarkable during

the crisis, peaking at 9% in 2010. In 2011 a decrease was observable in all three groups, especially among the secondary-educated.

Working hours decreased most for the secondary-educated, but the proportion of involuntary part-time employees was highest among the primary-educated. In 2009 every third primary-educated part-time employee worked this way involuntarily (by way of comparison, among the secondary- and tertiary-educated the same figures were *ca* 20% and 15% respectively).

The wage premium of those with higher education relative to those with primary education increased by almost 35 percentage points during the recession. The same trend is observable when the wages of the secondary- and primary-educated are compared: whereas from 2005–2008 the wage premium of the secondary-educated remained quite stable (4–6%), in 2009 it jumped to 10% and in 2010 to 21%. Wage cuts were much more widespread for people with primary and secondary education compared to those with higher education. This indicates that those with lower education were more often forced to accept reduced wages. This conclusion seems and is in accordance with theoretical considerations introduced in chapter 1.2 since people with lower education often fill positions that require lower skills and are therefore more easily replaceable. Therefore, they faced the highest risk of losing their jobs during the recession and were more prone to accept wage reductions in order to maintain a living. This was particularly the case because of the generally high unemployment rate, which granted employers a somewhat better bargaining position – there were a lot of people on the labour market looking for work, so replacing workers (at least in the case of jobs which did not require specific skills) was relatively easy.

In addition to mapping general labour market developments during the crisis, one group was more specifically surveyed in the thesis: university graduates. It is a well-known fact that labour market prospects are better for the tertiary-educated. As mentioned earlier, a higher education premium was seen in terms of both employment and wages during the crisis. Two aspects were analysed in the thesis: the labour market prospects of real and social sciences graduates and the gender pay gap among graduates.

**Research question 3.1: How large are the inequalities on the Estonian labour market between university graduates of the social and real sciences?**

**Table 12.** Overview of propositions, theoretical standpoints, results of previous studies and this study for research question 3.1

Propositions	Theoretical standpoints	Results of previous studies	Results of this study
<p><u>Proposition 9:</u> Social sciences graduates have better labour market prospects than real sciences graduates on the Estonian labour market.</p>	<p>Workers with more specific skills are more valuable to employers.</p>	<p>No previous studies have been conducted in Estonia. Studies carried out in other countries have indicated the better labour market prospects of real sciences graduates.</p>	<p><u>Partly confirmed</u></p> <p>Social sciences students are more engaged in work during their studies (4.1.4.1.) and after completing a particular level of study (4.1.4.2.). The unemployment gap between social and real sciences graduates is negligible (4.1.4.3). At the master's level the wages of social sciences graduates are higher than those of real sciences students, while at the Bachelor's level there are no differences in wages (4.1.4.3). The wage gap favouring social sciences students transforms into pay penalties for social sciences students once extramural students are excluded (4.1.4.3).</p>

It is often claimed that Estonia's higher education system 'overproduces' social sciences graduates and that their labour market prospects are gloomy compared to those of real sciences graduates. However, the results of our analysis do not support this hypothesis. Contrary to popular belief, a social sciences education is worth more on the labour market than one in real sciences in terms of wages, at least at the master's/doctoral level and shortly after completing studies (wage evolution along the later career path may be different for real and social sciences graduates, favouring the former, but the study did not cover this aspect). The wage gap between the real and social sciences is only to a minor extent explained by factors like gender, age and sectoral and occupational differences.

Both real and social sciences students are successful on the Estonian labour market and the unemployment gap is low. Only a small share of recent graduates were unemployed a year after graduating. During the recession the

proportion of unemployed increased only slightly. The wage differences are partly explained by differences in work experience: compared to real sciences students, those in the social sciences are more engaged with the labour market while studying, and if we exclude extramural students the wage gap is in favour of graduates of real sciences.

Nevertheless, the crisis period has had its effects. For young people, continuing their studies has been one answer to gloomy labour market prospects: during the recession the incidence of further university studies increased. The incidence of working (without continuing studies) decreased, while the incidence of studying generally increased. This is in accordance with the experience of other European countries where shrinking employment possibilities are seen as an incentive to continue university studies (The European Higher Education Area 2012) and also supports the economic theory suggesting that an increase in university enrolment during a crisis is due to declining opportunity costs that give young people an incentive to invest in their future employability (Marcus and Gavrilovic 2010).

In addition, the incidence of part-time work clearly increased while that of full-time work decreased during the recession, compared to the boom period. Part-time work increased more among real sciences students. Also, fewer graduates were employed in leading occupations during the recession than in the boom period.

### **Research question 3.2: How large is the gender pay gap among university graduates in Estonia?**

**Table 13.** Overview of propositions, theoretical standpoints, results of previous studies and this study for research question 3.2

<b>Propositions</b>	<b>Theoretical standpoints</b>	<b>Results of previous studies</b>	<b>Results of this study</b>
<u>Proposition 10:</u> The gender pay gap among university graduates is lower than the average gender pay gap in Estonia.	The gender pay gap between labour market entrants should be lower because of the smaller differences in tenure and job-related skills.	No previous studies have been conducted in Estonia. Studies carried out in other countries have shown that the gender pay gap between recent graduates is lower than the average gender pay gap in society.	<u>Not confirmed</u> The pay gap among recent graduates is high in Estonia ( <i>ca</i> 25%), accounted for mainly by occupation (which explains almost half of the wage gap). Employer-related factors are relatively unimportant (4.2).

The gender wage gap between university graduates is about the same in magnitude as the overall gender wage gap in Estonia (25%). This is not in accordance with studies done in other countries, which have generally only documented a modest gender pay gap in the early stages of people's careers. Nor is such a gap supported by the human capital theory, which assumes that the gender pay gap reflects differences in accumulated human capital. Family obligations should not be different by gender among recent university graduates. The gender pay gap varies considerably across fields of study undertaken – from close to zero in services to more than 40% in health and welfare.

Occupation is the most important factor, accounting for *ca* 30% of the wage gap (around 58% of the gender wage gap of recent graduates is explained by characteristics such as age, occupation, sector, company location and size, tenure, level and field of studies and university graduated from). Enterprise-related differences are relatively unimportant. The unexplained part of the gap probably reflects in part the lower reservation wages (as also confirmed by the study by Mõtsmees and Meriküll 2012) of women and omitted variables, while some may be due to gender discrimination on the labour market.

No remarkable wage differences were seen among recently graduated blue- and white-collar males during the crisis. For women, however, the blue-collar/white-collar wage gap is significant. This is probably due to the fact that for those who complete their studies male-dominated blue-collar positions (in construction, for example) are relatively well-paid and therefore the wage is comparable to that received by white-collar workers. White-collar female graduates, however, earn significantly more compared to blue-collar female graduates.

### **5.3. Discussion**

Estonian case is seen as a success story in coping with the severe effects of the recession. Although the country experienced a very deep decline in the beginning of the recession, it managed to effectively use the internal devaluation and recover without increasing remarkably the sovereign debt and keep the state budget balance under control. The Estonian labour market proved to be very flexible, the average wages decreased and hours were cut more than in most other EU countries during the early years of the recession. This enabled to find the balance both in public and private sector.

Although the Estonian economy experienced a recovery in 2011 and 2012, it is still too early to conclude that the recession is over. The EU has experienced the most severe economic crisis in its history and it is not certain that the most difficult period is behind us. The situation in some Member States remains worrying and it is unclear whether the European stability mechanism is powerful enough to help the EU overcome these problems. The countries in the

union are very closely related economically, which is why the problems of one Member State are problems that all EU countries have to handle.

The crisis clearly showed how vulnerable Estonia is to external shocks and how quickly rapid growth can turn into deep decline (see also OECD Economic... 2012). Therefore, particular attention should be paid to imbalances that can hinder sustainable economic growth in future. Analysis has shown that inequalities emerging on the Estonian labour market during the global financial crisis can be divided into two groups. The first group includes those inequalities that were short-lived and diminished during the recovery period. This study has shown that although men were more vulnerable than women during the recession in terms of both unemployment and a loss of working hours, this was a short-term phenomenon. The recovery period has also been beneficial to men. As such, initial developments indicate that no special gender-based measures need to be implemented at this stage in the recovery process. However, this does not mean that future developments should not be closely monitored.

The second group of inequalities includes those that demand appropriate policy attention now. The experience of the recession indicated that like other EU countries the most vulnerable groups on the labour market in Estonia were youth and the lower-educated, although other groups (older workers and those with secondary and even tertiary education) posted higher unemployment rates than the EU average. Therefore, special attention should be paid to these groups by implementing proper policy measures to return the unemployed to the education and labour market and avoid social exclusion. The experience of the crisis and recovery period has taught that Europe is not facing the same conditions as existed before the crisis. In order to support the rapid recovery and secure the international competitiveness of Estonia, an increase in the skills level needs to be achieved.

The key to achieving this is educational policy. There is a need to more strongly support participation in lifelong learning, not only by young people, but across all ages. Analysis results indicate that unemployment is highest among those that have only general education or less and much lower for those that have vocational education or a university degree. As knowledge-intensive jobs are the key to competitiveness in the long term, the Estonian education system needs to be reformed to provide the skills that correspond to labour market needs. This will help avoid a similar increase in unemployment among young people in the event of future recessions.

As a recent study indicated (Espenberg et al. 2012b), the drop-out rate in vocational education is a major problem in Estonia. Around one in five students drops out of vocational school each year. It is clear that the country's vocational education system needs to be reformed to better meet the needs of employers (several recent studies in Estonia having indicated that companies are not satisfied with the skills and knowledge of young people that have completed vocational training: see for example Eesti masinatööstuse... 2011; Energeetika

tööjõu... 2011) and the interests of students<sup>20</sup> (Espenberg et al. 2012c). Therefore, it is important to continue such programmes as TULE, KUTSE and VÕTA, which are aimed at getting people who have interrupted their studies to recommence them. In addition, particular attention should be paid to those who have only general education and proper policy measures developed to support the active participation in lifelong learning for all participating on the labour market.

Even during the deepest stage of the recession, graduates of both social and real sciences were successful on the labour market. The proportion of unemployed among both groups was negligible in 2007 and again in 2010. Analysis results indicate that at the beginning of people's careers the wages of master's level graduates in the social sciences are somewhat higher than those for real sciences graduates. This explains why young people prefer to study social sciences despite the fact that public educational policy favours real sciences, with most social sciences students having to fund their studies themselves.

A worrying result is the increase in numbers of the lowly-paid employed. The proportion of those who experienced a wage decrease in the previous year jumped from 25% in 2008 to *ca* 60% in 2009 and to 70% in 2010. The increase in people belonging to the lower end of wage distribution may possibly lead to an increased risk of poverty. The key here is to support the development of knowledge-intensive jobs which in turn requires an increase in skills.

The long-term unemployed need special attention, especially older people and non-Estonians. Many in the older age bracket (but also in the 25–49 age group) and non-Estonians who lost their jobs during the recession are facing problems re-entering job market. Long-term unemployment is increasing among the elderly and non-Estonians in absolute terms and as a percentage of the unemployed. In 2011 around two-thirds of the unemployed in the 50–74 age group and 62% of non-Estonians had been out of work for more than a year. The results of a recent study (Espenberg et al. 2012c) indicate that around half of older unemployed people lost their jobs as a result of lay-offs and that many are doubtful that they will find another job that matches their skills and knowledge. Employers see obsolete skills and knowledge as one of the main problems related to older workers (in addition to health-related problems). This means that the state should pay particular attention to this group and apply appropriate policy measures to reintegrate them into the labour market. Failing

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<sup>20</sup> This reform is particularly important in light of the higher education reforms being implemented: due to the abolition of non-state funded study places it is likely that competition in vocational schools will increase. Therefore, while one of the main weaknesses of the current vocational system is the low quality of the students (which is a result of the low popularity of vocational schools in society – the general opinion being that after completing primary studies those who are talented should continue in high school, with vocational schools mainly meant for those who are less talented; see Espenberg et al. 2012b), solutions have to be found in regard to improving the quality of vocational education so that less capable youth still have the chance to acquire a profession.

in this would have a severe impact on recovery, especially since movement takes place during a recovery period towards knowledge-intensive jobs (which is likely to happen in Estonia). As such, a combination of appropriate life-long learning measures, support to establish enterprises and active labour market policies is needed in order to get the long-term unemployed back into work.

In order to help older people return to the labour market, a more focused approach to active labour market policy measures is needed. As the results of Espenberg et al. (2012c) and Kasearu, Trumm (2013) indicate, among the current active labour market policy programmes there are no measures specifically targeted at different age groups, although there is a clear need for this. Older unemployed people are overrepresented in active labour market measures that do not directly support them in finding a job (such as public work, work exercise and work clubs) and underrepresented in measures such as work-related training, work practice and grants to start companies.

The gender pay gap and the factors that determine it need proper attention in Estonia, which has been highlighted as the country in which the gap is the highest in the EU. Our analysis also revealed a large gender pay gap among recent university graduates – one that is comparable to the gender pay gap at the level of society. This indicates that gender-related stereotypes are inherent in society and it may result in the pay-related discrimination of women. Our study (as well as the results of Anspal et al. (2010), who analysed the general gender pay gap and Mõtsmees and Meriküll 2012 who analysed the reservation wages of Estonian men and women) indicates that to a large extent the gap is not explained by such factors as sectoral and occupational segregation, but rather society-level attitudes. Therefore, breaking such barriers needs consistent attention and may take long time to change attitudes in society.

## 6. CONCLUSION

Discourse on the concept of inequality dates back to ancient times. Aristotle is regarded as the first Western writer to distinguish between justice and equity in his “Nicomachean Ethics” as early as 350 BC. Since Adam Smith’s “Wealth of Nations” (1776) the concept of inequality has been an object of analysis in economic literature. There are two sides to inequality: inequality of opportunity, which reflects differences in access to equal conditions; and inequality of results, which indicates disparity in outcomes. Most strands of contemporary political philosophy of distributional equity and inequality support the idea of the need to guarantee equality of opportunity, i.e. equal treatment of those who are alike.

In this thesis the focus is on inequalities emerging on the labour market. Inequality in the labour market system developed in the thesis includes two dimensions: labour market participation inequality; and labour market remuneration inequality. Participation inequality is divided into two sub-groups: participation level inequality; and participation intensity inequality. Participation level inequality reflects differences between involvement on the labour market measured via unemployment and employment rates. Participation activeness inequality indicates the extent of involvement on the labour market, i.e. inequality in working hours.

To a certain degree inequalities are inherent in developed market economies and reflect differences in people’s abilities and preferences. In the policies of developed countries less emphasis is placed on achieving equality of results on the labour market, in terms of both participation and remuneration equality, for a number of reasons. Absolute equality in results on the labour market is questionable – for example, similar levels of (un)employment by gender or age – because of different preferences in work and family-related activities, talents, health etc. Absolute equality would also decrease people’s motivation to fully exploit their talent if all were rewarded equally (i.e. secured with jobs and the same wages) despite the results achieved. In other words, there are ‘natural’ inequalities stemming from preferences and person-specific abilities.

The emergence of inequalities on the labour market is not bad in itself, but because of their negative side-effects (such as poverty and social exclusion) they reduce social cohesion and retard economic growth. Therefore, in order to make informed policy decisions, it is important to have information about the nature and extent of the inequalities emerging on the labour market.

There is a complex set of interrelated factors that influence inequalities on the labour market. In this thesis they are divided into four groups: personal characteristics, society-level attitudes, economic factors and institutional factors. The first three sets of factors mostly cause inequalities on the labour market, while institutional factors can both create and tackle such inequalities, depending on the nature of the policy action. While personal characteristics and society-level attitudes mainly indicate why there are discrepancies in labour

market inequalities between groups, economic indicators mostly cause changes in inequalities (although, of course, they also have an influence on the level of inequalities).

Innate (dis)abilities, acquired skills and knowledge and family-related responsibilities may cause inequality on the labour market. These mostly represent the 'fair' part of inequalities, indicating differences in talents and preferences. At the level of society, stereotypes, norms and traditions influence inequalities on the labour market. These factors are 'invisible' obstacles that may hinder the labour market access and success of certain groups (such as women and minorities) without any objective grounds. These factors may cause both inequality of opportunity and inequality in results. Gender-related attitudes leading to the undervaluing of women's work and ethnic stereotypes are two of the best known examples of these factors.

Of economic indicators, the development level of the economy, industrial structure, integration in global markets and technological change all have an influence on the inequalities emerging on the labour market. The role of the state is seen as being to promote equality on the labour market by removing visible or invisible obstacles that lead to the exclusion of certain groups from certain sectors or occupations. Institutional measures are therefore mostly designed to achieve greater equality on the labour market. Still, some policy measures, like the tax system, are also targeted at fighting poverty and social exclusion, which likewise influence inequalities on the labour market. Anti-discrimination laws, income taxes, the national minimum wage and industrial relations are key institutional factors influencing inequalities on the labour market.

During a recession, the development of inequalities on the labour market depends highly on the nature of the crisis. There are several factors that influence inequalities: in addition to the aforementioned aspects, employers' preferences and employment protection legislation also play a role. There are many theories that explain which adjustment strategy (employment, hours or wages) employers are likely to prefer in a recession. Most assume rather rigid wages and adjustment via reduced employment. Several of these (for example, the implicit contract theory and the efficiency wage theory) assume rigid wages and adjustment via employment cuts, while the labour hoarding theory explains why decreases in working hours may occur. Most theories (including the turnover model and insider-outsider model) expect recessions to have a more severe effect on the labour market prospects of employees who have a lower skills level and lower tenure. Employment protection legislation and the strength of unions also affect the development of inequalities on the labour market during a recession.

In this thesis the focus is on Estonia's experience during the Great Recession, the most severe worldwide economic downturn since the Great Depression. The aim of the thesis was to ascertain which labour market groups proved the most vulnerable during the crisis in Estonia. Such analysis is necessary in order to develop appropriate policy intervention measures for

specific labour market groups, to support the sustainable recovery of the economy and to prevent negative consequences like social exclusion and poverty. In addition to general trends, inequalities on the labour market and their changes were analysed between the following groups: men and women; younger and older people; Estonians and non-Estonians; and more highly and lower-educated people.

Developments in inequalities on the labour market in the public and private sector were analysed in greater detail. Since the Estonian labour market is highly segregated and the effects of the crisis are unlikely to be uniform across the economy, this distinction was necessary in order to better understand the differences between sectors. In addition, the public sector can use reserves or increase sovereign debt to cover costs in light of decreasing revenue, whereas private sector companies have fewer opportunities to make use of such measures during the crisis. As such, it was highly likely that the adjustment mechanisms used would be different in the public and private sectors. Also, it was important to analyse developments in inequalities on the labour market separately in these sectors because of the limitations the Estonian public sector faced due to negotiations to join the Eurozone and the small domestic market. Since labour market institutions (most importantly the minimum wage, income tax and trade unions) can wield extensive influence on the dynamics of inequalities on the labour market during a crisis, their role in Estonia during the recession was also analysed.

While most previous studies have focused on lower-educated young people as a vulnerable group on the labour market during a crisis, there has been little discussion of highly educated young people's labour market prospects at the beginning of their careers during a crisis period. Analysis of recent university graduates during the recession was particularly interesting because the effects of a crisis are usually less severe on the highly educated. However, no analysis had focused on recent university graduates' labour market behaviour in Estonia. Since high-quality data were available it was possible to provide some insight into this. Two aspects were covered: inequalities on the labour market between social and real sciences graduates and the gender wage gap among recent university graduates.

The former is particularly interesting in light of the public debates in Estonia regarding the imbalances in the higher education system, which is said to 'overproduce' social sciences graduates, who then face difficulties after completing their studies, and the lack of engineers and other real sciences experts, which is hindering the growth. The gender pay gap analysis proved interesting because Estonia is characterised by the highest gender wage gap of any EU Member State. Since previous studies carried out in other countries document a modest gender pay gap in people's early careers, the analysis sought to establish whether the same holds true in Estonia.

Three research questions and ten propositions were formed in the thesis.

**Research question 1: What labour market adjustment mechanisms are used on the Estonian labour market during the Great Recession, and what are the differences between the public and private sectors?**

Proposition 1: All three adjustment mechanisms (adjustment in number of workers, working hours and wages) are used in Estonia during the Great Recession in order to cope with its negative effects.

This proposition was confirmed.

Proposition 2: Wage inequality on the Estonian labour market decreases during the Great Recession.

This proposition was partly confirmed.

Proposition 3: There are differences in the adjustment mechanisms used in the public and private sectors in Estonia during the crisis. In the public sector the adjustments are smaller, while in the private sector a reduction in employment and hours are used more often than in the public sector.

This proposition was confirmed.

**Research question 2: What is the influence of labour market institutions on inequalities on the labour market during the Great Recession in Estonia?**

Proposition 4: Labour market institutions have a limited impact on inequalities on the Estonian labour market during the recession.

This proposition was confirmed.

**Research question 3: How do inequalities on the labour market by gender, age, nationality and educational level change in Estonia during the Great Recession?**

Proposition 5: Female/male participation inequality and the gender pay gap decrease in Estonia during the recession.

This proposition was confirmed.

Proposition 6: Participation and wage inequality by age increases, i.e. young people experience a higher incidence of losing their jobs and decrease in wages during the recession.

This proposition was confirmed.

Proposition 7: Participation and wage inequality between Estonians and non-Estonians increase during the recession.

This proposition was confirmed.

Proposition 8: Participation and wage inequality between the highly and lower-educated increase during the recession.

This proposition was confirmed.

**Research question 3.1: How large are the inequalities on the Estonian labour market between university graduates of the social and real sciences?**

Proposition 9: Social sciences graduates have better labour market prospects than real sciences graduates on the Estonian labour market.

This proposition was partly confirmed.

**Research question 3.2: How large is the gender pay gap among university graduates in Estonia?**

Proposition 10: The gender pay gap among university graduates is lower than the average gender pay gap in Estonia.

This proposition was not confirmed.

In this thesis the main data sources used are Eurostat data, data from national statistical offices and labour force surveys. Analysis of the gender pay gap and inequalities between social and real sciences students is based on the alumni surveys of 2007 and 2010. Qualitative data gathered during interviews were also used in the case studies. The main indicators used to measure wage inequality were average wage gaps and percentile ratios. Employment and unemployment gaps were used to measure participation level inequality and gaps in average working hours and part-time work to measure participation activeness inequality. Among quantitative research methods, descriptive analysis was combined with regression analysis and Oaxaca-Blinder decomposition. Template analysis was mainly used to evaluate qualitative data.

The main results are as follows. The Estonian labour market remained highly flexible during the Great Recession. All three adjustment mechanisms – reductions in employment, wages and working hours – were used. Compared to other EU countries Estonia clearly stands out, since employment, hours and wage adjustments occurred in the very early phase of the recession and the negative consequences for the labour market were particularly severe. Unlike larger countries, where the volume of foreign orders decreased as a result of the general cooling-off of the economic climate in Europe, Estonia did not have an opportunity to switch its focus from the foreign to the domestic market. As such, economic difficulties among key trade partners had a severe and direct impact on Estonia's economy.

Political priorities also restricted the range of measures that could be implemented in response to the negative effects of the crisis in the public sector. Since Estonia was aiming to join the Eurozone, the government had to meet the Maastricht criteria – which meant that the budget deficit needed to be kept under strict control. Moreover, Estonian governments have followed balanced budget and low sovereign debt principles since the country regained its independence and these targets were not abandoned during the crisis. These limitations placed Estonia in a unique position compared to most other countries. Also, the private sector faced stringent lending conditions during the

recession. This inevitably led to a need to make adjustments on the labour market in line with decreasing demand.

In Estonia's public sector, austerity was mainly achieved via internal devaluation, which included public sector cuts – which in turn included pay cuts during the recession. Wages were reduced in many Estonian public sector organisations as early as 2008–2009, which was exceptional in Europe. Other EU countries have only recently started to apply this measure. In addition, other labour adjustment forms were used, such as unpaid leave days and (to some extent) lay-offs – the latter mostly as a result of restructuring in a number of public sector institutions. The public sector wage decrease was widely communicated in society, guaranteeing general support for such tough decisions. During this difficult period no protest action (such as strikes) was organised, which was again unique from an international perspective.

In light of such adjustments in the public sector it was easy for the private sector to follow this pattern. Facing generally gloomy labour market prospects, workers were forced to accept pay cuts and reduced working hours in many sectors. The impact of the crisis was not the same across all fields: developments were in accordance with economic theory, which suggests that tradable sectors (e.g. manufacturing) are more vulnerable to economic recession than non-tradable sectors (e.g. the service sector). However, average wages decreased in most economic sectors, and not only in average terms. The proportion of workers whose wages were reduced during the recession was clearly higher in Estonia than in other EU countries.

Employment also decreased. In several industries, like manufacturing and construction, the drop was particularly high, whereas in others (for example the services sector) it was rather modest. This pattern is not peculiar to Estonia, but was seen in many other EU countries. What is peculiar to Estonia is the timing: adjustments were made very early on compared to other Member States, and the extent of the adjustments – increased unemployment and decreased wages – was among the greatest in the EU.

Reductions in working hours were less commonly implemented than the other two adjustment mechanisms. However, this was a short-lived phenomenon, which indicates on the one hand the recovery of demand in some sectors (like construction) and on the other restructuring of work. Practices were quite divergent, however, depending on the sector, and varied from one company to the next. This measure was not used extensively in the public sector; however, it was used extensively in some private sector branches (like manufacturing and construction). To some extent labour hoarding was also used in Estonia at the beginning of the recession.

Wage inequality measured as a P90/P10 ratio remained largely unchanged during the recession, indicating that those at the upper and lower ends of wage distribution experienced wage cuts to a similar extent. Middle-wage earners, however, were hit harder during the recession. This is not only characteristic to Estonia: the same phenomenon was observed in several other EU Member

States. The proportion of low-wage earners increased in the early stages of the recession.

Labour market institutions played a modest role in influencing inequalities during the recession. The new Employment Contracts Act which entered force in mid-2009 decreased the laying-off costs of employers and may have supported the increase in unemployment although not directly influencing the inequalities on the Estonian labour market. Trade unions remained relatively weak during the recession, the minimum wage was unchanged and there were no changes in income tax or anti-discrimination laws. Although the Estonian government targeted a considerable amount of EU structural fund money in supporting the return to work of the unemployed and the recovery of the economy, these measures were aimed at the unemployed in general (and some to the long-term unemployed), not to particular (more vulnerable) labour market groups.

The effect of the recession was not uniform across labour market groups. Men were more severely affected, in terms of an increasing unemployment gap and decreasing working hours, being forced to work part-time. This was due to the high gender segregation on the Estonian labour market: those sectors where men dominate (like manufacturing and construction) were hit by the recession much more strongly than sectors where females dominate. Due to this, the male/female unemployment gap increased from almost zero in 2008 to 6.6 percentage points in 2009, and part-time employment also increased. This, however, was a short-term phenomenon: in 2011 the unemployment gap decreased back to the 2007 level, and part-time employment also decreased among men. Unemployment rates nevertheless remained far from the 2007 level, exceeding 13% for men and 12% for women in 2011. This indicates that although women suffered less during the recession, recovery has been more beneficial to men. This is also confirmed by labour market flow analysis: the hiring rate of men has increased much more than that of women during the recovery period.

Youth were particularly hard-hit by the recession. Although in 2011 their unemployment rate decreased by 10 percentage points, it still exceeding 20% and the incidence of working part-time was also high. Youth unemployment, however, is a relatively short-term phenomenon; unemployment is much more persistent among older people. The same worrying conclusion applies to non-Estonians – among unemployed non-Estonians around one-third have been out of work more than two years.

University graduates coped well during the recession. Only a small proportion of both real and social sciences graduates were unable to find a job after graduating. The impact of the recession, however, is reflected in the rise in continuing studies, which is in accordance with the human capital theory. Since during the recession the opportunity cost of working is lower and it is more difficult to find a job, university graduates continue their studies in order to strengthen their labour market competitiveness in the longer term. This trend

can also be seen in several other EU countries. Analysis of wage inequality between social and real sciences graduates indicated that a social sciences education pays off on the Estonian labour market. Especially at the master's and doctoral level the wages of social sciences graduates are higher and they are employed in higher-level occupations. However, the wage gap favours real sciences graduates once extramural students are excluded, indicating that differences mainly arise because of differences in job experience.

The high gender wage gap among recent graduates in Estonia is not in accordance with neither economic theory nor the results of other countries. The gap is only partly explained by differences in tenure, age, occupation and sector, indicating the importance of other factors. What these factors are and to what extent this reflects the lower wage demands of women remains an open question that requires further analysis. This partly reflects discrimination against women and role of traditions, norms and attitudes inherent in society, which demands an appropriate policy reaction in order to close the gap.

The focus of this thesis is an analysis of the short-term impact of the Great Recession on inequalities on the labour market in Estonia. Although the Estonian economy has recovered since 2011, at the time the thesis was written it was too early to declare that the recession had passed or to draw any conclusions about its long-term effects on inequality on the labour market. The crisis clearly showed how vulnerable Estonia is to external shocks. The EU has experienced the most severe economic crisis in its history and it remains to be seen whether the most difficult period is over. The situation in some Member States (Greece, Spain and Portugal) is worrying and it is unclear whether the European stability mechanism is powerful enough to help the union resolve these problems. EU countries are very closely related economically, due to which the problems of one Member State are actually problems that all EU countries have to handle.

Therefore, proper policy action needs to be implemented in order to solve problems that could hinder balanced economic growth in future. Analysis has shown that inequalities emerging on the Estonian labour market during the global financial crisis can be divided into two groups. The first group includes those inequalities that were short-lived and diminished naturally during the recovery period, such as the increase in male unemployment. This study has shown that although men were more vulnerable than women during the recession in terms of both unemployment and loss of working hours, the recovery period has also been beneficial to men. As such, no special gender-based measures are needed in this regard.

The second group includes inequalities that demand proper policy measures to support recovery and make it sustainable in the longer term. The crisis has changed economic conditions. In order to support the rapid recovery and secure the international competitiveness of Estonia, an increase in skills needs to be achieved. The experience of the recession indicates that as in other EU countries the most vulnerable groups on the local labour market were youth, minorities,

the less skilled and the lower-educated. Therefore, special attention should be paid to these groups by implementing proper policy measures to return the unemployed to the labour market and avoid social exclusion.

Great challenges are faced by the educational policy system, which needs to be reformed so as to more effectively support participation in lifelong learning – not only among youth, but for all people. As knowledge-intensive jobs are the key to competitiveness in the longer term, skills that correspond to labour market needs form the key to competitiveness. This will help avoid such a sharp increase in unemployment among young people in the event of future recessions and prevent the risk of social exclusion among older people.

Two labour market groups that require proper labour policy intervention measures are the elderly and non-Estonians. In 2011 *ca* two-thirds of unemployed people aged 50–74 and 62% of non-Estonians had been out of work for more than a year. The results of a recent study (Espenberg et al. 2012c) indicate that around half of all older unemployed people lost their jobs as a result of lay-offs and that many are doubtful they will find another job that corresponds to their skills and knowledge if they lose their job. Employers see obsolete skills and knowledge as one of the main problems related to older workers (in addition to health-related problems). This means that the state should pay particular attention to older people and non-Estonians and apply appropriate policy measures to integrate them into the labour market. Failing in this would have a severe impact on recovery, especially since it is highly likely that recovery will increase demand for workers due to a movement towards knowledge-intensive jobs. As such, appropriate life-long learning measures, support for establishing enterprises and active labour market policies are needed to get these people back into employment.

There is a need for a more individual-specific approach in active labour market policies in Estonia. The current policy programmes in this area are rather general. There are no specific measures targeted at younger and older unemployed people or non-Estonians. Individual counselling is also considered rather general, and for example older people who are out of work are overrepresented in measures that do not directly support them in finding a job (such as public work, work exercise and work clubs) and underrepresented in measures such as work-related training, work practice and grants for starting companies. More focused job consultation is needed here.

The gender pay gap and the reasons for it demand appropriate attention in Estonia, which has been identified as the country with the highest such gap in the EU. Our analysis also highlighted a large gender pay gap among recent university graduates which is comparable to the gap at the level of society. This indicates that gender-related stereotypes are inherent in society and may result in the pay-related discrimination of women.

There are several suggestions for future work. The scope of this thesis is limited to analysis of short-term developments in inequalities on the Estonian labour market during the global financial crisis. As such, there is a need to

analyse the development of inequalities during the recovery period in order to obtain information as to whether structural changes have occurred in Estonia as a result of the recession, whether there are effects that did not occur in the short term and what labour policy measures are needed in order to support the sustainability of growth and, if possible, reduce the vulnerability of the labour market.

The thesis analyses developments in inequalities. As the next step, the effects of these inequalities on the labour market should be analysed. As discussed in chapter 1, inequalities are not negative *per se*, but because of the side-effects they cause, such as poverty and social exclusion. For policy reasons it would also be interesting to find out what the effects of developments on the labour market on other inequalities (educational, health care, economic and social) have been.

Since the well-being of the individual also depends on the situation of other household members, income sharing and household composition are relevant issues for analysis (Jenkins et al. 2011). As an extension of this study, analysis of economic inequality would therefore provide a useful insight into inequalities in general.

It would also be interesting to analyse the effects of the recession on expenditure inequalities and consumption activities, since this determines the well-being of individuals. It has been documented that consumption expenditure inequality is lower than income inequality (Goodman and Oldfield 2004) and has not changed as much as income inequality (Krueger et al. 2010). During the crisis many people in Estonia faced not only the risk of losing their jobs, but also of reduced income. It would be interesting to analyse the effects of such developments on well-being.

It would also be interesting to analyse more thoroughly certain aspects analysed in a more general way in this study. For example, one suggestion for future work is to analyse how much the composition of wage distribution changed during the recession, i.e. how large a proportion of low-wage/high-wage earners remained in this wage group during the crisis. Cross-sectional data do not indicate how people fare over time, since some previously higher-earning individuals move into the bottom wage groups and vice versa. For example, Perri and Steinberg (2012) found using panel analysis that although the earnings of the bottom 20% of households rose slightly from 2006–2008, this was only due to the change in the group's composition; on average, households in the bottom 20% of earnings distribution actually suffered a decline in disposable income. In addition, the reasons behind the increase in inequalities between Estonians and non-Estonians and across age groups deserve more attention.

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## **APPENDIX I**

### **Inequalities on the labour market: Estonian experience during Russian crisis**

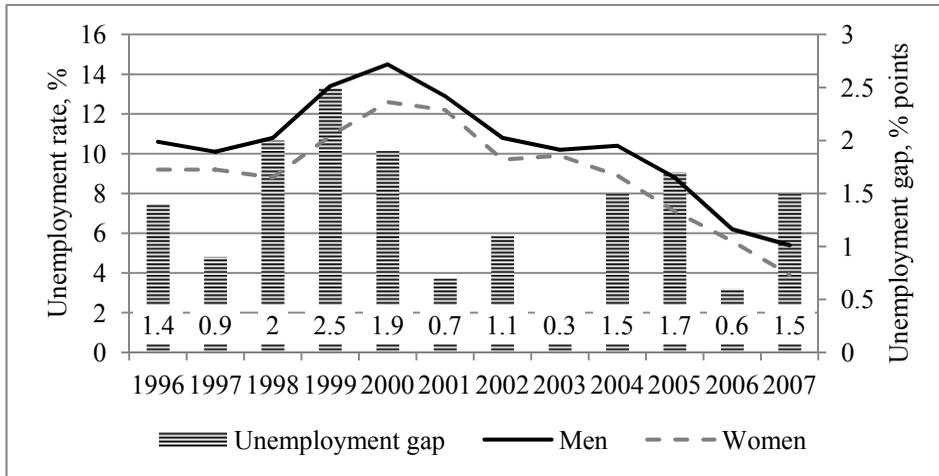
In this section an overview of unemployment and wage trends during the Russian crisis is given. The Russian financial crisis took place in the end of 1990s (1997–1999) and is the only recession Estonia has experienced after regaining the independence and before the start of the Great Recession. Although the economic situation has changed in Estonia quite considerably since the Russian crisis (Estonia is now the member of the EU) and Russian crisis and the Great Recession have differences (the former was a regional crisis while the latter has a much wider global dimension) the experience of the previous crisis is useful in order to get an insight what and why could happen during the crisis.

The main adjustment mechanism used during the Russian crisis was via employment. During the Russian crisis the unemployment increased from 10% in 1998 to almost 14% in 2000 (Statistics Estonia). The average increased slightly even during the Russian crisis. The wage inequality measured as D9/D1 ratio decreased from 4.9 in 1998 to 4.4 in 2000 and continued to decline until 2005 when it reached to 3.6 (self-calculations based on Estonian LFS). While the D9/D5 wage ratio remained at the same level, the D5/D1 ratio decreased, indicating the relatively better position of those in the lower end of wage distribution. It may be due to the low wages of those in the lower end of wage distribution that could not be deduced. The adjustment via working hours was modest, the incidence of part-time work remained unchanged (in 1997 the share of part-time workers was 7.6% of employed and in 1999 7.9%, Statistics Estonia) and working hours decreased only slightly. According to the Statistics Estonia, number of working hours for full-time workers remained stable in 1997–1998 (42.7 hours per week) and decreased to 41.9 in 1999.

The influence of the crisis was not uniform across different labour market groups, however. Since the adjustments occurred in the Estonian labour market mainly via employment, in what follows the short overview about developments in unemployment inequality by gender, age, nationality and educational level is given. The data provided in the figures cover longer time period than Russian crisis in order to give insight about

The unemployment gap between men and women increased during the Russian crisis (see Figure 1). This was mainly due to the sectoral segregation of the workforce by gender. As found by Eamets (2004) the male-dominated sectors like manufacturing, agriculture were hit the most when the export opportunities to former Eastern bloc countries shrank and the flow from employment to unemployment increased more in industry than in services and agriculture. As a result, the unemployment gap between men and women increased. This, however, was a short-time phenomenon. The male-female unemployment gap increased only in 1998–1999, but stayed also high in 2000.

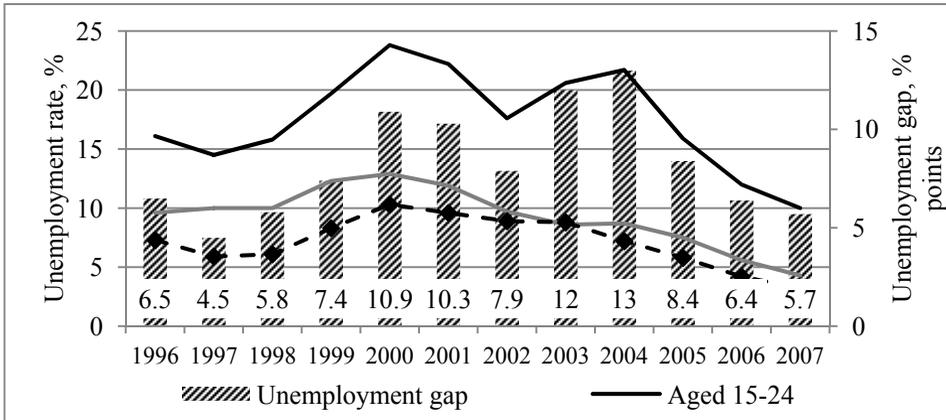
By 2001 the gender unemployment gap was almost diminished because of the fast recovery of the sectors that were characterised by high male proportion in the workforce.



**Figure 1.** Unemployment rate by gender (in the left axis) and gender unemployment gap (in the right axis) in Estonia, 1996–2007

Source: Statistics Estonia

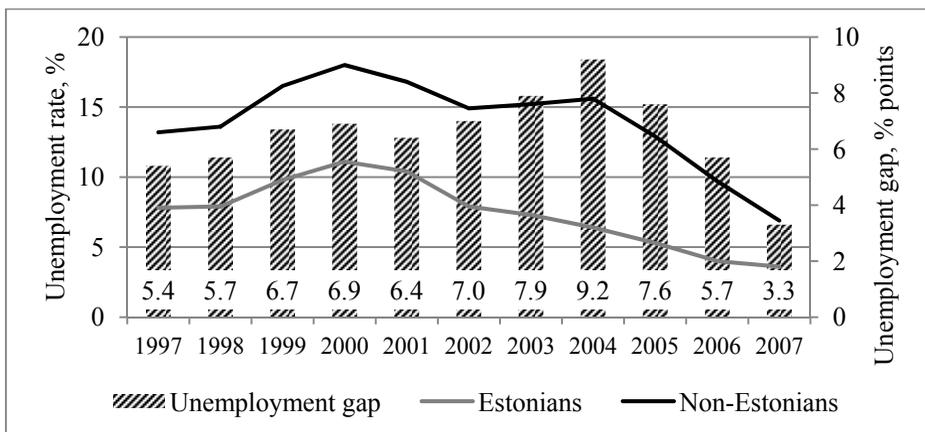
The high youth unemployment rate has been the continuing challenge that the government has faced during the whole period after re-gaining the independence. During the Russian crisis, however, the unemployment gap between young people (aged 15–24) and other age groups increased considerably, peaking at almost 11 percentage points in 2000 when the youth unemployment reached as high as 24%. In following two years (2001–2002) the youth unemployment rate decreased, but it was not only caused by the higher demand for their labour, but also by the considerable increase in the number of young people being outside the labour force due to studies. While in 2001 the average number of students was 104,000, in the first quarter of 2002 it was 127,000 (Rõõm, Viilmann 2003). After the Russian crisis, the youth unemployment remained high compared to other age groups and in 2003–2004 increase in unemployment gap was again observable because of the increase in youth unemployment rate in the situation where in other age groups unemployment decreased. During that time the segmentation of the youth based on educational level obtained was observable. Especially worrying was the fact that even during the recovery the number of the young with low educational level did not change (Unt, Saar 2006).



**Figure 2.** Unemployment rate by age (in the left axis) and unemployment gap between youth (aged 15–24) and middle-aged (aged 25–49) (in the right axis) in Estonia, 1996–2007

Source: Statistics Estonia

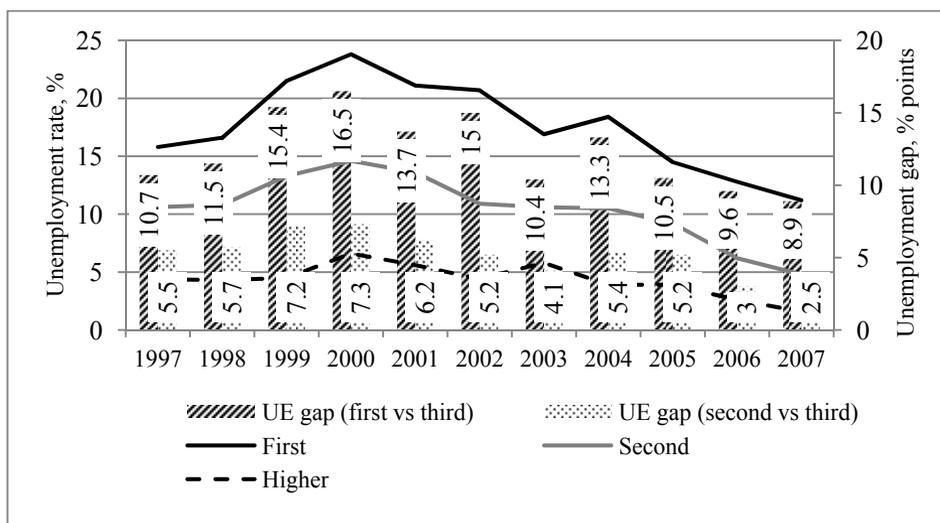
The Estonians-non-Estonians unemployment gap that had been existent throughout the transition period, widened a bit during the Russian crisis. The unemployment gap between Estonians and non-Estonians as well as the non-Estonians unemployment rate remained high after the crisis. The unemployment gap had an upward trend and the non-Estonians' unemployment rate quite stable and high until 2004, starting to decrease in 2005 when the boom period started in Estonia. It indicates that the structural changes that occurred as a result of the Russian crisis, posed non-Estonians at the risk of unemployment.



**Figure 3.** Unemployment rate by nationality (in the left axis) and unemployment gap between Estonians (aged 15–24) and non-Estonians (in the right axis) in Estonia, 1997–2007

Source: Statistics Estonia

During the Russian crisis the educational unemployment gaps increased. The unemployment rate increased in all educational categories (see Figure 4), but the increase was the most modest for those who had tertiary education (for this group the unemployment also returned soon to pre-crisis level) and much more remarkable for those who had pre-primary or primary education. As a result, the unemployment gaps between primary and secondary versus tertiary education increased during the Russian crisis. The primary-tertiary education unemployment gap was especially severe, peaking at 16.5 percentage points in 2000.



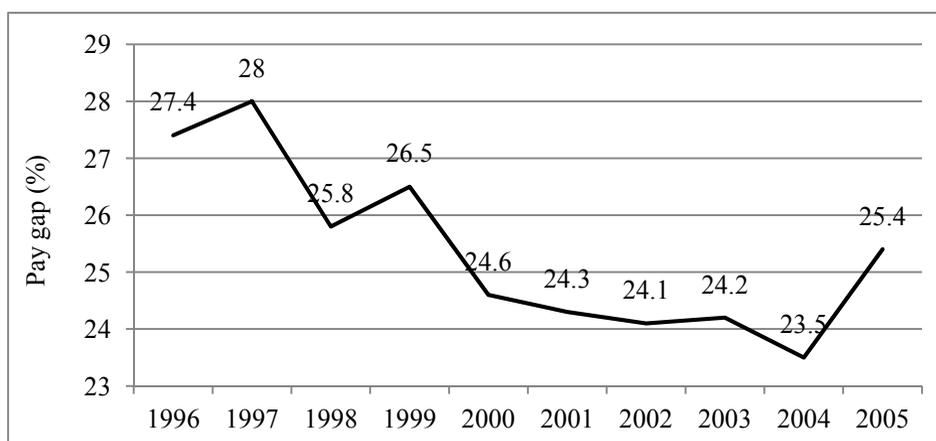
**Figure 4.** Unemployment rate by educational level (in the left axis) and unemployment (UE) gap (in the right axis) in Estonia, 1997–2007

Explanations: UE gap – unemployment gap; First – pre-primary and primary education; Second – secondary, post-secondary and pre-tertiary education; Third (tertiary education) – professional secondary education based on secondary education and higher education (includes the category “higher”); Higher – bachelor, master or doctoral degree.

Source: Statistics Estonia

The hiring and separation rates are important indicators of labour market adjustments during the crisis. Hiring rate measures the probability of the unemployed or non-active person to become employed, i.e. get a job. Separation rate measured the probability of the employed to lose a job. As Rõõm and Viilmann (2003) and Meriküll (2011) show, during the Russian crisis years (1997–1999) the separation rate remained unchanged (slightly less than 18%), but the hiring rate decreased sharply (from slightly more than 18% to about 15%). According to Meriküll (2011), the modest change in separations and drop in hiring occurred.

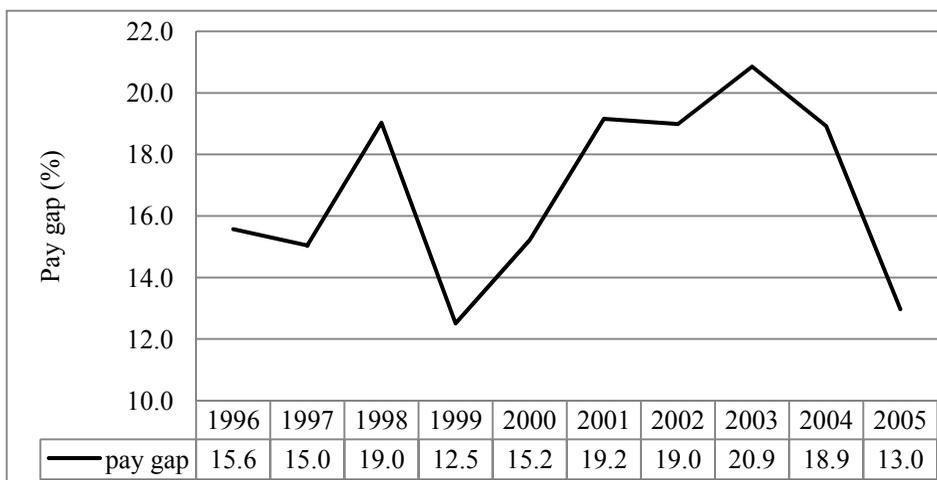
During the Russian crisis the wages were downward flexible in Estonia (Eamets 2004). Although the average wage did not decrease during the Russian crisis, in 1998–1999 the average real wage decreased in several sectors, especially in sectors affected most by the decline in the east-bound external trade, such as agriculture (wage decrease 8.9%), fisheries (–7.9%), construction (–10.6%) and in hotels and restaurants sector (–13.8%), less manufacturing (–2.4%) and forestry (–1.4%) (Rõõm, Viilmann 2003). Since the male-dominated sectors were affected worse, the gender pay gap decreased in Estonia (see Figure 5). However, during the recovery it remained stable until the start of the economic boom in mid-2000s.



**Figure 5.** Gender pay gap in Estonia, 1996–2007

Source: Statistics Estonia

As a result of the crisis the pay gap between Estonians and non-Estonians increased and remained high until 2003. It is quite interesting to observe that while in 1998 the pay gap by nationality increased in the following year 1999 that marked the most severe crisis point the decrease was observable. This, however, was a short-time fluctuation and during the recovery the pay gap by nationality increased.



**Figure 6.** Estonian-non-Estonian pay gap in Estonia, 1996–2007

Source: Estonian LFS, author's calculations

## APPENDIX 2. Overview of results of studies analysing inequality on labour market during global financial crisis in EU countries

Study	Focus	Data	Main findings		
			Employment	Working hours	Wages
Hurley et al. 2011	Sectoral and occupational	European LFS (II Q 2008-II Q 2010), EU-27	<p>Polarisation of employment structure. At the Member State level the three main patterns in employment shift were:</p> <ul style="list-style-type: none"> <li>- sharp decrease in low-medium (2<sup>nd</sup> wage quintile) and medium (3<sup>rd</sup> wage quintile) paying jobs (polarisation);</li> <li>- employment in top-paying jobs increased in both the public and private sectors (upgrading); and</li> <li>- job destruction greater in higher-paying jobs while lower-paid employment either grew or experienced a small decline (downgrading).</li> </ul> <p>Women fared better on the labour market than men.</p> <p>Employment levels of older workers remained high; young workers were severely affected.</p> <p>Marked losses in temporary jobs at the beginning of the recession transformed into gains: the majority of employment growth from 2009 onwards took place in temporary (lower-paying) jobs.</p> <p>Part-time work has expanded (lower-paid part-time men's jobs in agriculture, food and beverages and higher-paid women's jobs in education, health and professional services).</p>		

Study	Focus	Data	Main findings	
			Employment	Wages
Fabiani et al. 2010	Wage rigidity in firms with at least 5 employees in manufacturing, trade and market services	9 EU countries, Wage Dynamics Network	Cutting hours worked is the least common strategy.	Labour costs are more commonly adjusted than non-labour costs.  Flexible wage components are more often cut than base wages.  No significant increase in the incidence of wage cuts during the crisis. Estonia is a notable exception, presenting a high incidence of wage cuts in addition to wage freezes.
Wages and working... 2012	Five key sectors: manufacturing, construction, accommodation and food services, financial services & public administration	EU-27 + Norway, Eurofound questionnaire completed by national correspondents, 1 <sup>st</sup> phase of crisis (2008–2010)	Reducing the number of hours worked was used as one of the strategies to cope with the crisis.	The main wage trends from 2008–2010 were deceleration and freezing. Wage cuts remained modest. Estonia is an exception in this regard as wage reductions were employed extensively.  Trends in occupational pay gaps were mixed: in 2009 the pay gap in the high/mid and mid/low categories rose in around half of countries and shrank in others and had a mirroring pattern.  Mixed sectoral effects: Manufacturing and construction were hit by restructuring and downsizing in almost every EU Member State, mainly through employment reductions and in some countries wage cuts.

Study	Focus	Data	Main findings		
			Employment	Working hours	Wages
Arpaia, Curci 2010	Job inflows and outflows	European Labour Force Survey, 2 <sup>nd</sup> quarter 2008-2 <sup>nd</sup> quarter 2009	<p>Workers with weaker (i.e. temporary or on-call) contracts who are less qualified and less experienced face a greater risk of losing their jobs.</p> <p>Men more affected than women</p> <p>Younger workers hit harder than older workers</p>	<p>Working hours decreased more than unemployment increased at the start of the recession (indicating some degree of labour hoarding) in many EU countries.</p>	<p>Service sectors suffered less: accommodation and food services shows a scattered pattern; 16 countries experienced an employment decrease. Financial services were affected primarily through wage decreases. Public administration was a relative safe haven.</p> <p>Wage inequality has either remained the same or increased.</p> <p>Particular groups – the low-skilled, the young and migrants – have been hit hard by the crisis (either losing their jobs or their jobs becoming more precarious).</p> <p>Decline in compensation per employee is to a large extent led by the fall in the variable component, not the base wage.</p>

### **APPENDIX 3. Indicators of inequality in the labour market by gender, age, nationality and educational level**

**Table 1.** Indicators by gender

	2007	2008	2009	2010	2011
<b>Men</b>					
Employed (thousands)	330.0	330.9	288.1	275.1	301.4
Unemployed	18.9	20.2	58.5	66.5	45.6
Unemployment rate	5.4	5.8	16.9	19.5	13.1
Share of those unemployed more than 12 months	52.9	35.6	26.8	48.4	59.6
Part-time (% of employed)	4.3	4.0	7.0	7.1	5.6
Involuntary part-time (% of part-time)	12.1	14.9	29.1	22.6	20.6
Working hours	41.4	41.1	40.4	40.5	40.6
Share of employed experiencing wage decrease				8.3	1.5
Share of employed experiencing wage increase				1.7	2.6
<b>Women</b>					
Employed (thousands)	325.4	325.6	307.7	295.8	307.7
Unemployed	13.1	18.1	36.5	49.4	41.3
Unemployment rate	3.9	5.3	10.6	14.3	11.8
Share of those unemployed more than 12 months	45.0	26.0	28.5	41.3	53.5
Part-time (% of employed)	12.1	10.4	13.8	14.5	15.4
Involuntary part-time (% of part-time)	14.0	7.4	16.0	18.8	18.7
Working hours	38.6	38.6	38.2	38.2	38.0
Share of employed experiencing wage decrease				7.8	1.0
Share of employed experiencing wage increase				2.1	2.1

**Table 2.** Indicators by age

	2007	2008	2009	2010	2011
<b>15–24</b>					
Employed (thousands)	70.9	73.1	56	47.6	55.8
Unemployed (thousands)	7.9	10	21.3	23.4	16.1
Unemployment rate	10	12	27.5	32.9	22.3
Share of those unemployed more than 12 months	30.4	24.0	26.8	37.2	39.1
Part-time (% of employed)	13.8	12.9	17.6	21.2	17.1
Involuntary part-time (% of part-time)	NA	NA	19.3	NA	10.5
Working hours	38.7	38.9	37.6	36.7	37.4
Share of employed experiencing wage decrease				4.6	..
Share of employed experiencing wage increase				..	..
<b>25–49</b>					
Employed (thousands)	394.6	392.7	357.1	350.1	366.2
Unemployed (thousands)	17.8	19.5	53.2	63.6	49
Unemployment rate	4.3	4.7	13	15.4	11.8
Share of those unemployed more than 12 months	50.6	25.6	25.6	47.5	58.0
Part-time (% of employed)	5.6	4.7	7.7	7.4	7.3
Involuntary part-time (% of part-time)	19.6	12.8	23.4	28.4	24.7
Working hours	40.6	40.4	40.0	40.2	40.2
Share of employed experiencing wage decrease				8.1	1.4
Share of employed experiencing wage increase				2.0	2.8
<b>50–74</b>					
Employed (thousands)	189.8	190.8	182.7	173.2	187.1
Unemployed (thousands)	6.3	8.9	20.5	28.9	21.8
Unemployment rate	3.2	4.4	10.1	14.3	10.4
Share of those unemployed more than 12 months	69.8	49.4	33.2	47.4	67.0
Part-time (% of employed)	11.4	10.1	13.9	15.3	15.1
Involuntary part-time (% of part-time)	9.6	7.9	16.5	17.0	17.2
Working hours	39.1	39.2	38.3	38.3	38.1
Share of employed experiencing wage decrease				8.9	1.2
Share of employed experiencing wage increase				1.3	1.3

**Table 3.** Indicators by nationality

	2007	2008	2009	2010	2011
<b>Estonians</b>					
Employed (thousands)	443.1	444	403.8	389.3	420.8
Unemployed	16.3	19.3	50	60.5	45
Unemployment rate	3.6	4.2	11	13.4	9.7
Share of those unemployed more than 12 months	42.9	28.5	26.0	43.0	51.6
Part-time (% of employed)	9.2	7.8	10.4	11	11.1
Involuntary part-time (% of part-time)	12.0	9.0	19.2	17.3	15.3
Working hours	39.9	39.8	39.4	39.4	39.2
Full-time workers in main job	41.6	41.4	41.3	41.5	41.3
Part-time workers in main job	22.5	21.9	22.9	22.2	22.4
Share of employed experiencing wage decrease				7.29	1.13
Share of employed experiencing wage increase				1.65	2.36
<b>Non-Estonians</b>					
Employed (thousands)	212.2	212.6	192.1	181.6	188.3
Unemployed	15.7	19.1	45	55.5	41.9
Unemployment rate	6.9	8.2	19	23.4	18.2
Share of those unemployed more than 12 months	56.1	33.0	29.1	47.9	62.3
Part-time (% of employed)	5.9	6.0	10.8	10.9	9.5
Involuntary part-time (% of part-time)	18.6	11.7	22.2	25.7	30.5
Working hours	40.2	40	38.9	39.3	39.4
Full-time workers in main job	41.3	41.2	41.0	41.3	41.1
Part-time workers in main job	22.9	21.4	22.1	23.2	23.5
Share of employed experiencing wage decrease				9.6	1.6
Share of employed experiencing wage increase				2.4	2.3
<b>Primary</b>					
Employed (thousands)	64.4	67.6	51.8	46.7	53.3
Unemployed	8.1	9.2	20.7	20.9	18.9
Unemployment rate	11.2	12	28.6	30.9	26.2
Part-time (% of employed)	7.6	6.2	10.2	10.6	9.3
Involuntary part-time (% of part-time)	..	..	33.3	28.6	25.8
Working hours	39.3	39.7	39.4	38.8	38.9
Share of employed experiencing wage decrease				9.2	..
Share of employed experiencing wage increase				..	..

<b>Secondary</b>					
Employed (thousands)	364.9	361.2	313.4	304.4	324.7
Unemployed	18.5	22.2	59	72.6	47.8
Unemployment rate	4.8	5.8	15.8	19.3	12.8
Part-time (% of employed)	7.6	6.2	10.2	10.6	9.3
Involuntary part-time (% of part-time)	14.7	11.6	21.6	20.1	21.2
Working hours	40.2	40.2	39.3	39.4	39.6
Share of employed experiencing wage decrease				8.8	1.4
Share of employed experiencing wage increase				2.2	2.8

<b>Tertiary</b>					
Employed (thousands)	226.1	227.7	230.6	219.8	231.1
Unemployed	5.4	6.9	15.3	22.4	20.1
Unemployment rate	2.3	2.9	6.2	9.3	8
Part-time (% of employed)	8.1	8.5	10.5	10.9	12.1
Involuntary part-time (% of part-time)	12.0	5.7	14.9	17.1	15.7
Working hours	39.8	39.5	39.2	39.3	39.0
Share of employed experiencing wage decrease				6.7	1.0
Share of employed experiencing wage increase				1.5	1.8

## SUMMARY IN ESTONIAN

### Ebavõrdsus Eesti tööturul Suure Majanduslanguse ajal

#### Töö aktuaalsus ja uudsus

Diskussioon ebavõrdsuse, selle põhjuste ja tagajärgede teemal on sama vana kui inimühiskond. Lääne filosoofidest peetakse esimeseks Aristotelest, kes käsitles õigluse ja võrduse küsimusi oma Nicomachean Ethicsis juba aastal 350 e.Kr. Adam Smith oli esimene, kes käsitles ebavõrdsuse küsimusi majanduslikust vaatevinklist oma teoses „Riikide rikkusest“ (*Wealth of Nations*), mis ilmus 1776. aastal.

2000. aastate lõpus aset leidnud majanduskriis, mida tuntakse ka Suure Majanduslangusena<sup>21</sup> (*Great Recession*), oli viimasel sajandil aset leidnud kriisidest suurim. Kuivõrd täna on arenenud riikide vahelised suhted tunduvalt tihedamad kui paarkümmend aastat tagasi, siis kandus Ameerika Ühendriikidest alguse saanud finantskriis kiiresti Euroopasse, sealhulgas Eestisse. Vähenevate tootmismahude tingimustes pidid ettevõtted leidma võimalusi kulude, sh tööjõukulude kärpimiseks.

Majanduskriis ei mõjutanud mitte üksnes era-, vaid ka avalikku sektorit. Kuigi tunnustatud majandusekspertid soovitasid Eestile kriisiga toimetulekuks krooni devalveerimist, ei kaalunud Eesti valitsus vähemasti avalikes sõnavõttudes seda tõsiseltvõetava võimalusena. Põhjuseid oli mitmeid – lisaks soovile liituda eurotsooniga pidi valitsus arvestama ka sellega, milline olu krooni devalveerimise mõju leibkondadele olukorras, kus suur osa laenudest oli väljastatud eurodes. Seega valis Eesti valitsus nõu sisemise devalveerimise tee ehk siis vähenenud riigikassa tulude tingimustes kulude, sh tööjõukulude märkimisväärse kärpimise.

Need arengud mõjutasid otseselt ka tööturu olukorda. Eesti tööturгу tabas kriis sarnaselt ülejäänud kahele Balti riigile eriti teravalt. Hõive langus oli Balti riikides kriisiperioodi alguses ELi riikidest suurim, Eestit edestas vaid Läti (hõive langus vastavalt 16,7% ja 19,2%, Hurley jt 2011). Käesoleva töö fookuses on tööturul ilmnevate ebavõrdsuste areng Eestis kriisi ajal (eeskätt aastatel 2008–2010). Ebavõrdsuse analüüs on väga oluline, kuivõrd ebavõrdsus võib endaga kaasa tuua mitmeid ebasoovitavaid sotsiaalseid tagajärgi nagu vaesuse kasvu ja sotsiaalse tõrjutuse. Sestap on oluline arenguid pidevalt jälgida, et vajadusel kasutada sobivaid meetmeid negatiivsete mõjude vähendamiseks.

Töös analüüsitakse, milliseid kohanemismehhanisme kasutati tööturul kriisiga toimetulemiseks, milline oli institutsionaalsete meetmete roll ning millised olid erinevused sektorite vahel ja soo, vanuse, rahvuse ja haridustaseme

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<sup>21</sup> Terminit kasutas esimest korda D. Strauss-Kahn, endine Rahvusvahelise Valuutafondi juht oma 15. mail 2009. aastal peetud kõnes „Crisis Management and Policy Coordination: Do We Need a New Global Framework?“ Termin kasutamine laienes kiiresti ning on nüüdseks ülemaailmselt tuntud.

lõikes. Analüüsitulemusi saavad poliitikakujundajad kasutada asjakohaste tööpoliitika meetmete väljatöötamiseks, mis toetaksid jätkusuutlikku taastumist. Kõik see toetab tasakaalustatud majandusarengut, kus tööturul osalejatel on võimalik end parimal viisil rakendada, luues seeläbi parimat kasu ühiskonnale.

Töö on uudne nii teoreetilisest kui empiirilisest aspektist. Töö on seni ainus, kus analüüsitakse süsteemselt tööturul ilmnevaid ebavõrdsuse, st nii hõive kui palkade ebavõrdsuse arenguid Eestis Suure Majanduskriisi ajal. Esiteks luuakse teoreetiline tööturul ilmnevate ebavõrdsuste raamistik, mis koondab süsteemselt kokku kolm tööturu ebavõrdsuse tahku: hõive, töötundide ja palga ebavõrdsuse. Tööturul ilmnevaid ebavõrdsusi pole üldjuhul kahte tööturu aspekti – osalemist ja tasustamist – süsteemselt kokku tuues varasemates töödes analüüsitud.

Teiseks töö oluliseks panuseks on Eesti kogemuse ja kriisile reageerimise meetmete analüüs rahvusvahelisele lugejaskonnale, kasutades ajakohaseid andmeid. Viimasel ajal on küll lisandunud ülevaateid, mis käsitlevad Eesti üldisi tööturuarenguid (eeskätt hõive muutusi) kriisi ajal, kuid nende analüüsi-sügavus on töös käsitletust oluliselt väiksem ning need on avaldatud märksa hiljem, kui ilmusid töö empiirilise osa moodustavad artiklid. Töö oluliseks panuseks on avalikus sektoris toimunud tööturuarengute analüüs. Eesti oli kriisiperioodi alguses võrreldes teiste Euroopa Liidu liikmesriikidega unikaalses seisundis, kuna soovi tõttu liituda eurotsooniga tuli täita Maastrichti kriteeriume. See seadis selged piirid riigi võlakooormale ja eelarvedefitsiidile ning valitsusel tuli leida võimalusi kriisi ületamiseks sisemise devalveerimise vahendeid kasutades.

Kolmandaks on töös analüüsitud mitmeid tööturul ilmnevaid ebavõrdsuse aspekte, mis pole seni Eestis käsitlemist leidnud. Senisest tunduvalt põhjalikumalt on käsitletud Eesti avaliku sektori tööturu ebavõrdsuse arenguid majanduskriisi ajal ning avalikus ja erasektoris kasutatud tööturuvalaste kohenemismehhanismide erinevusi. Lisaks on analüüsitud erinevaid ebavõrdsuse aspekte äsja kõrgkooli lõpetanute seas. Kõrgkoolilõpetanute puhul on käsitletud sügavuti kahte aspekti: soolist palgaebavõrdsust ning tööturul ilmnevaid ebavõrdsusi sotsiaal- ja reaalteaduste lõpetanute vahel. Teemade valikul lähtuti ühiskonnas toimuvast diskussioonist. Eestis on sooline palgalõhe Euroopa Liidu riikidest kõrgeim. Anspal jt (2010) on analüüsinud soolise palgalõhe põhjusi ning leidnud, et suur osa sellest on selgitamata, kajastades mudelis arvesse võtmata tegureid, sh teatud osas ilmselt ka diskrimineerimist. Teistes riikides tehtud uuringute tulemused on näidanud, et tööelu alustajate seas on sooline palgalõhe üldiselt väiksem kui ühiskonnas keskmiselt. Sestap analüüsi, kas see kehtib ka Eestis.

Sotsiaal- ja reaalteaduste vilistlaste tööturu edukuse võrdlus on oluline ühiskonnas toimuva debati valguses, kus väidetakse, et Eesti kõrgharidussüsteem „ületoodab“ sotsiaalteadlasi, kellel on pärast lõpetamist raskusi töökohtade saamisega. Mõlemad teemad on Eestis aktuaalsed ning olulised, kuid seni puudusid empiirilised uuringud, mis võimaldaksid teha neis valdkondades informeeritud ja teadmistel põhinevaid otsuseid.

## Töö eesmärk ja uurimisülesanded

Töö eesmärgiks on välja selgitada, millised tööturugrupid olid kriisi ajal kõige enam haavatavamad ning millised muutused toimusid tööturul ilmnevates ebavõrdsustes majanduskriisi perioodil. Töös on seatud seitse uurimisülesannet:

1. luua tööturul ilmnevate ebavõrdsuste süsteem, mis koondab hõive ja töötasu ebavõrdsused;
2. analüüsida, milliseid kohanemismehhanisme kasutati Eesti tööturul Suure Majanduslanguse ajal ja kuidas need muutsid tööturul ilmnevaid ebavõrdsusi;
3. analüüsida erinevusi avalikus ja erasektoris kasutatud tööturu kohanemismehhanismides Suure Majanduslanguse ajal;
4. analüüsida, kuidas muutusid Eesti tööturul ilmnevad ebavõrdsused kriisi ajal soolises, vanuselises, rahvuselises ja hariduslikus lõikes;
5. analüüsida, kuidas mõjutasid tööturu institutsioonid Eesti tööturul ilmnevaid ebavõrdsusi Suure Majanduslanguse ajal;
6. analüüsida sotsiaal- ja reaalteaduste ülikoolilõpetajate vahel Eesti tööturul ilmnevaid ebavõrdsusi ja nende põhjuseid Suure Majanduslanguse ajal;
7. hinnata soolist palgalõhet ülikooli lõpetajate vahel Suure Majanduslanguse ajal.

Uuringu objektiks on tööturul ilmnevate ebavõrdsuste areng Eestis nn Suure Majanduslanguse ajal. Töö fookuses on tööturul ilmnevad ebavõrdsused, mis jagunevad kaheks grupiks: tööturul osalemise ebavõrdsus ja töötasu ebavõrdsus (vt pikemalt osa “Teoreetiline taust”), st vaatluse alla ei kuulu ülejäänud sissetuleku ebavõrdsuse aspektid, mis tulenevad mittetöisest tulust. Põhirõhk on Eesti arengute analüüsil, kuigi laiema rahvusvahelise tausta avamiseks käsitletakse ka teistes Euroopa Liidu riikides (eeskätt teistes Balti riikides) toimunud arenguid. Fookus on indiviidi tasandi, st erinevate tööturugruppide vahelisel ebavõrdsusel. Näitajateks, mille lõikes tööd ebavõrdsuse ilminguid tööturul analüüsitakse, on sugu, vanus, haridustase ja rahvus. Vaatluse all on peamiselt kriisiperiood, st aastad 2008–2010, mil kriis aset leidis. Sellest tulevalt analüüsitakse töös kriisi lühiajalisi mõjusid ebavõrdsusele, pikemaajaliste mõjude kohta on hetkel veel liialt vara järeldusi teha.

Eraldi pööratakse töös rõhku äsja kõrghariduse omandanute tööturu ebavõrdsusele viimase majanduskriisi ajal. Tegu on huvipakkuva tööturukategooriaga, kuna reeglina on kõrgharidusega inimeste tööturupositsioon parem kui madalama haridustasemega inimestel – nende töötuse määr on madalam ning ka kriisi ajal tõuseb töötus vähem. Samas võib kriisiperioodil nende ligipääs tööturule olla keerukam. Lisaks üldistele arengutele analüüsitakse töös sügavuti kahte teemat: kõrghariduse omandanud sotsiaal- ja reaalteaduste lõpetanute vahel ilmnevaid ebavõrdsusi tööturul ning soolist palgalõhet.

## Töö ülesehitus

Töö koosneb kuuest sisupeatükist. Esimeses kahes peatükis antakse ülevaate tööturul ilmnevate ebavõrdsuste teoreetilisest taustast ja töös uuritavatest teemadest. Esimeses peatükis käsitletakse tööturul ilmnevate ebavõrdsuste olemust ja mõjutegureid. Esimese peatüki esimeses alapeatükis tutvustatakse erinevaid kaasaegseid filosoofilisi ebavõrdsuse ja jaotusliku võrdsuse käsitlusi, tööturul ilmnevate ebavõrdsuste olemust ning selle positsiooni ebavõrdsuste süsteemis, et asetada uurimisteema laiemasse ebavõrdsuste konteksti. Tööturul ilmnevad ebavõrdsused on majandusliku ebavõrdsuse (*economic inequality*) üheks osaks, mis on omakorda seotud haridusliku, tervishoiu ja sotsiaalse ebavõrdsustega. Esimese peatüki teises alapeatükis antakse ülevaade tööturul ilmnevaid ebavõrdsusi mõjutavatest teguritest ning tutvustatakse erinevaid teooriaid, mis selgitavad, mistõttu ning millises suunas võivad majanduslanguse perioodil toimuda muutused tööturul ilmnevates ebavõrdsustes.

Teises peatükis kirjeldatakse töös käsitletavaid uurimisküsimusi ja -väiteid. Püstitatud uurimisküsimused ja -väited tuginevad esimeses peatükis tutvustatud teooriale ning Vene kriisi kogemusele, mis on ainus majanduslangus, mille Eesti on pärast siirdeperioodi lõppu üle elanud. Kuigi tuleb arvestada, et Vene kriisi kogemus ei ole 2000. aastate lõppu ülekantav, kuna Eestis on kümne aasta jooksul, mis kahte kriisi lahutab, toimunud olulised muudatused (näiteks ühine mine Euroopa Liiduga on majanduse avatust märkimisväärselt suurendanud), annab varasem kogemus siiski olulist infot, kuidas võib tööturg kriisi tingimustes reageerida. Samuti tutvustatakse teises peatükis töös kasutatavaid andmeid, näitajaid, mida kasutatakse tööturul ilmnevate ebavõrdsuste mõõtmiseks ning töös kasutatavaid andmeanalüüsi meetodeid.

Kolmas ning neljas töö peatükk on empiirilised ning koosnevad eraldiseisvatena teadusartiklitenä avaldatud publikatsioonidest. Erandiks on peatükk 3.3., kus antakse ülevaade Suure Majanduslanguse ajal Euroopa Liidu riikides toimunud tööturu arengutest ning muudatustest tööturul ilmnevates ebavõrdsustes. See analüüs on vajalik, et asetada Eesti tulemused laiemasse rahvusvahelisse konteksti ning mõista, kas Eestis kasutatud kohanemismehhanismid ja nende ulatus olid sarnased teiste liikmesriikide kogemusega või oli Eesti eripärane.

Kolmas alapeatükk keskendub tööturul toimunud üldistele arengutele ja ebavõrdsuse muutustele. Alapeatükis 3.1 analüüsitakse tööturul ilmnevate ebavõrdsuste arengut Suure Majanduslanguse esimestel aastatel. Tegu on ühega esimestest publikatsioonidest, mis tutvustas Eesti kriisiaja tööturu kohandumisi ja ebavõrdsuste arenguid rahvusvahelisele lugejaskonnale. Töö selles osas antakse ülevaade erinevatest kohanemismehhanismidest (vallandamise, osajaga töötamine, sunnitud puhkused, palgaalandamised jms), mida Eesti tööturul Suure Majanduslanguse ajal kasutati. Peatüki alguses antakse lühiülevaade teguritest, mis viisid Eestis majanduse ülekuumenemise ja konkurentsivõime vähenemise ohuni, et luua vajalik taustateadmine tööturul toimuvate arengute mõistmiseks. Seejärel analüüsitakse, kuidas muutusid tööturul erinevate tööturugruppide vahel ilmnevad ebavõrdsused kriisiperioodil. Peatükk

sisaldab ka kahte juhtumiuuringut, neist esimene annab ülevaate viies Eesti suures ettevõttes kriisiperioodil kasutatud tööturualastest kohanemismehhanismidest. Teise juhtumiuuringu fookuses on kriisiperioodil tehtud töötajaskonnaga seotud kohandamised Eesti Politsei- ja Piirivalveametis, mis on suurim avaliku sektori tööandja.

Alapeatükis 3.2 on fookuses majanduskriisi ajal toimunud muudatused Eesti avalikus sektoris, tuues paralleelse erasektoriga. Eesti eripära avaldub selle teema puhul selgelt, kuna erinevalt teistest riikidest kärbiti avaliku sektori kulusid juba 2009. aasta alguses. Artiklis antakse põhjalik ülevaade, milliseid kohanemismehhanisme kasutati Eesti avalikus sektoris tööjõukulude kärpimiseks ja milliseid muutusi ebavõrdsustes võrreldes erasektoriga need kaasa tõid. Artikkel sisaldab kahte juhtumianalüüsi. Neist esimene analüüsib, kuidas mõjutasid tervishoiusektoris kriisi ajal tehtud kärped tervishoiuteenuste kättesaadavust. Teise juhtumianalüüsi fookuses on kriisiajal tehtud kärpete tulemusena toimunud muutused Eesti Päästeameti teenuste kvaliteedis ja hõives. Mõlemas artiklis käsitletakse ka tööturuinstitutsioonide rolli kriisi tingimustes muudatuste tegemisel.

Neljandas peatükis on fookus kõrgkooli lõpetajate vahel tööturul ilmnevate ebavõrdsuste analüüsil. Alapeatükis 4.2 analüüsitakse tööturul ilmnevaid ebavõrdsusi sotsiaal- ja reaalteaduste lõpetanute vahel. Artikkel koosneb teema olulisuse motivatsioonist, Eesti kõrgharidussüsteemi ja analüüsi aluseks olevate andmete tutvustusest ning sotsiaal- ja reaalteaduste lõpetanute tööturul ilmnevate ebavõrdsuste analüüsist. Alapeatükis 4.2 on huviorbiidis kõrgkoolilõpetajate sooline palgalõhe suurus ning seda selgitavate tegurite analüüs.

Viiendas peatükis selgitatakse sünteesitult erinevate artiklite peamisi tulemusi, tuginedes teises peatükis sõnastatud uurimisküsimustele. Kuuendas peatükis esitatakse kokkuvõtvalt töö põhijäreldused, sh teoreetiline taust, empiirilised tulemused ning nende süntees.

## **Andmed ja uurimismetoodika**

Töös on põhirõhk Eestis Suure Majanduslanguse ajal toimunud ebavõrdsuse arengute analüüsil, kuid laiema tausta loomiseks kõrvutatakse üldiste tööturul ilmnevate ebavõrdsuste analüüsis Eesti kogemust teiste Balti riikide ja ka laiemalt teiste Euroopa Liidu liikmesriikidega. See võimaldab asetada Eesti tulemused laiemasse rahvusvahelisse võrdluskonteksti, andes ühtlasi infot selle kohta, millised arengud olid Eestile ainuomased ja millised sarnased teistes riikides toimunuga.

Töös on kasutatud mitmeid andmeallikaid. Agregeeritud andmete allikaks on Eurostati ja Balti riikide statistikaameti andmebaasid. Erinevate tööturugruppide vaheliste ebavõrdsuste analüüsimiseks on kasutatud indiviidi tasandi andmebaase. Soolise, vanuselise, haridusliku ja rahvuslase ebavõrdsuse analüüs tugineb suuresti Eesti tööjõu-uuringu andmetele. Kõrgkoolilõpetanute soolise palga-

lõhe ja sotsiaal- ja reaalteaduste lõpetanute vahel tööturul ilmnevate ebavõrdsuste analüüsimisel kasutakse kõrgkoolide vilistlaste uuringute andmeid.

Juhtumiuuringutes on kasutatud nii avalikult kättesaadavaid allikaid kui uuringu raames kogutud andmeid, eelkõige läbiviidud intervjuude tulemusi, aga ka andmeid, mida erinevad asutused, mille kogemusi analüüsi, võimaldasid kasutada. Selline kombineeritud andmete kasutamine võimaldab anda olukorrast sügavuti mineva ülevaate, kus erinevatest allikatest saadud andmed ning teostatud andmeanalüüs toetavad tervikliku pildi saamist.

Kasutatud on nii kvantitatiivseid kui kvalitatiivseid andmeanalüüsi meetodeid. Lisaks kirjeldavale statistilisele analüüsile kasutatakse töös tööturuvoogude analüüsi ning mitmeid ökonomeetrilisi andmeanalüüsimeetodeid, näiteks lineaarseid regressioonimudelid, probit-mudeleid ning kvintiilide analüüsi. Erinevates töö osades on kasutatud ka Oaxaca-Blinderi dekomponeerimist, et eristada selgitatud ja selgitamata osa ebavõrdsusest. Kvalitatiivsetest uurimismeetoditest kasutati töös peamiselt mallianalüüsi (*template analysis*).

Ebavõrdsusi käsitledes on selge, et see saab ilmned kellegi/millegi vahel. Töös analüüsitakse soolist, vanuselist, rahvuselist ja hariduslikku ebavõrdsust. Vanuselise ebavõrdsuse analüüsis eristatakse kolme gruppi: noored (vanuses 15–24), keskmise vanusegruppi kuulujad (vanuses 25–49) ja vanemaelised (vanuses 50 ja enam).

## **Teoreetiline taust**

Amartya Sen (1973) on tabavalt märkinud, et ebavõrdsuse olemus on ühtaegu nii lihtne kui keeruline. See on nii lihtne, et enamik inimestest mõistab selle olemust, samas sedavõrd keerukas, et on ajendanud paljusid filosoofe, riigiteadlasi, sotsiolooge ja majandusteadlasi juba aastatuhandeid arutlema selle sisu üle. Kõige lihtsamalt võiks ebavõrdsust määratleda kui võrdsuse puudumist, kuid see varjaks kontseptsiooni keerukat loomust. Ebavõrdsuse käsitluse puhul on peamisteks küsimusteks, millised ebavõrdsused ning mil määral on aktsepteeritavad või isegi soovitud.

Seega on ebavõrdsuse diskursus tihedalt seotud jaotuslike ja võrdsuse küsimustega. Riigiteaduste juured ulatuvad nende teemade käsitlemisel Vana-Kreekasse, ka Rooma õiguses leidub viiteid võrdsuse küsimuste käsitlemisele. Tänapäevaste teoreetilise lähenemiste autoriks jaotusliku võrdsuse küsimuse käsitlemisel loetakse J. Bethamit, kes 18. sajandil pani aluse utilitarismile, mille põhipostulaadiks on seisukoht, et ressursid tuleks ühiskonnas jagada nii, et maksimeeritaks ühiskonna heaolu. Mitmed jaotusliku õigluse teooriad on utilitaristide vaadet edasi arendanud, alates 1970. aastatest on paljud mõjukad filosoofid nagu A. Sen, J. Rawls, R. Dworkin ja J. Roemer andnud ebavõrdsuse kontseptsiooni arendamisse tugeva panuse.

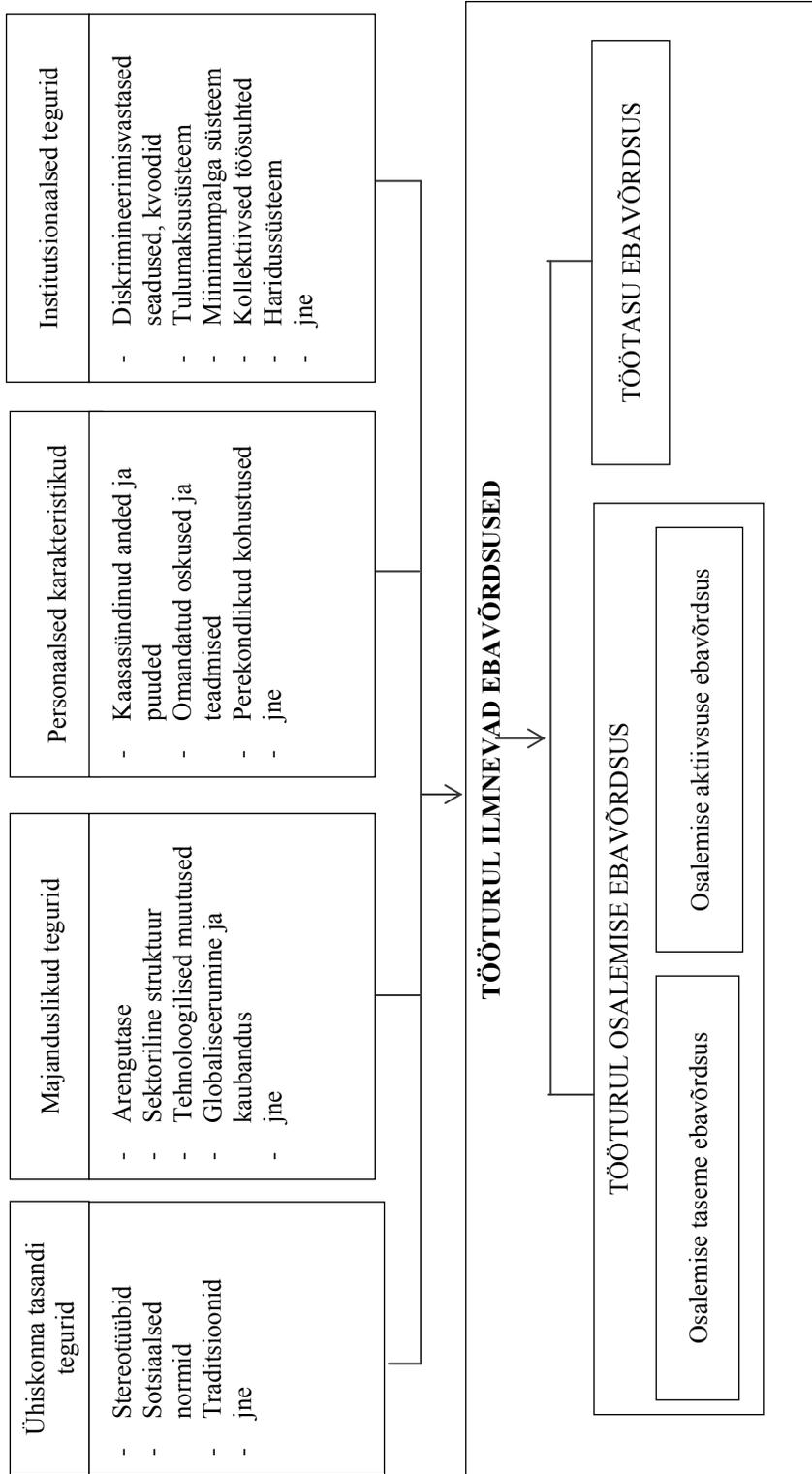
Kuigi erinevate kaasaegsete jaotusliku võrdsuse filosoofiliste lähenemiste vahel on erinevusi, on neil ka ühiseid jooni, seda ka ebavõrdsuse käsitlemisel.

Võrdsuse kontseptsioonis eristatakse kahte vormi: võimaluste võrdsust (*equality of opportunity*) ja tulemuse võrdsust (*outcome equality, results equality*). Võimaluste võrdsus tähendab, et neid, kes on sarnased, koheldakse sarnaselt (Roemer 1998a). Kaasaegsed jaotuslikule võrdsusele ja selle õigusele kesken-duvad filosoofilised voolud on valdavalt ühisel arvamusel, et riigi ülesandeks on eeskätt tagada võimaluste võrdsus, kuigi teatud aspektides (näiteks soolise segregatsiooni vähendamisel sektorite ja ametialade lõikes) toetatakse ka tulemuste võrdsust. Samuti on erinevad võrdsuse teooriad ühisel seisukohal, et tulemuste võrdne jaotus ei ole õiglane jaotus, kuna ühelt poolt on inimeste võimed ja eelistused erinevad ning teisalt vähendaks võrdne jaotus andekate motivatsiooni oma võimeid maksimaalselt rakendada.

Ebavõrdsuste süsteemis võib eristada nelja tüüpi ebavõrdsuseid: majanduslikku, sotsiaalset, hariduslikku ja tervisehoiualast ebavõrdsust. Käesolevas töös on vaatluse all tööturul ilmnevad ebavõrdsused, mis on osa majanduslikust ebavõrdsusest, käsitledes selle tööturu poolseid aspekte. Majanduslikku ebavõrdsust on Oxfordi Handbook of Economic Inequality defineerinud kui „ebavõrdsuseid, millel on majanduslik mõju või päritolu, olles sama palju selle aluseks olevate majandusprotsesside tulemus kui nende protsesside sisend“ (Salverda jt 2011, lk 8).

Autori koostatud ebavõrdsuse kontseptsioon toob kokku tööturul osalemise ja tasustamise aspektid (vt joonis 1). Tööturul osalemise ebavõrdsus jaguneb omakorda kaheks: taseme ja aktiivsuse ebavõrdsuseks. Taseme ebavõrdsus tähendab erisusi tööturul osalemises, mida töös mõõdetakse töötuse ja hõive määra kaudu ning aktiivsuse ebavõrdsus tähistab erisusi tööturul panustamisel, st erinevusi tööajajas mõõdetuna töötundide, sh osajaga töötamise kaudu. Töötasu ebavõrdsust mõõdetakse töös palgaerinevuste kaudu.

Tööturul ilmnevaid ebavõrdsusi mõjutavad erinevad tegurid, mis on töös jaotatud neljaks grupiks: ühiskonna tasandi suhtumine, personaalsed karakteristikud, majanduslikud tegurid ja institutsionaalsed tegurid (vt joonis 1).



**Joonis 1.** Tööturul ilmnevate ebavõrdsuste kontseptsioon ja neid mõjutavate olulisemad tegurid (autori koostatud)

Personaalsed karakteristikud on isikuomadused, mis mõjutavad inimese tööturul osalemise edukust. Need võib jagada kaheks: individuaalsed ja perekondlike kohustustega seotud aspektid. Individuaalsed isikuomadused, mis mõjutavad tööturuedukust, on ühelt poolt kaasasündinud anded ja puuded ning karakteristikud, mida inimene mõjutada ei saa (näiteks sugu, rahvus, rass), kuid millel võib olla mõju tööturule ligipääsule ja seal hakkamasaamisele, ning teisalt omandatud teadmised ja oskused (haridustase, töökogemus). Samuti on olulised perekondlikud karakteristikud nagu vara suurus, suhtumine haridusse ja perekondlikud kohustused.

Ühiskonna tasandi teguritest mõjutavad tööturul ilmnevaid ebavõrdsusi kõige enam stereotüübid, normid ja traditsioonid. Need tegurid viivad ebavõrdsuste tekkeni, mis pole sageli objektiivselt põhjendatavad ning takistavad teatud tööturugruppide tööturule ligipääsu või seal võrdsetel alusel osalemist, sh diskrimineerimiseni. Näideteks on sooga seotud ning rassilised stereotüübid.

Kui ühiskonna ja isiku tasandi tegurid selgitavad tööturul ilmnevate ebavõrdsuste tekkepõhjusi gruppide vahel, siis majanduslikud tegurid on nõ välised mõjutajad, mis toovad peamiselt kaasa muutusi ebavõrdsustes. Olulisimateks majanduslikeks teguriteks on riigi arengutase ja sektoraalne jaotus. Viimane on ebavõrdsuste käsitlemisel oluline eeskätt tööturul ilmneva sektorilise ja ametialase segregatsiooni tõttu. Samuti on tööturul ilmnevate ebavõrdsuste mõjutamisel oluline roll globaliseerumisel ja rahvusvahelisel kaubandusel, mis mõjutab muuhulgas ka sektorilist jaotust ja riigi arengutaset.

Kui ühiskonna, isiku tasandi ja majanduslikud tegurid selgitavad tööturul ilmnevate ebavõrdsuste tekkepõhjusi, siis institutsionaalsed tegurid võivad nii ebavõrdsusi tekitada kui vähendada. Võimaluste võrdsuse tagamisel on oluline roll diskrimineerimisvastastel seadustel ja kvootidel ning nende rakendamisel. Miinimumpalk võib vähendada tööturul ilmnevaid töötasu ebavõrdsusi, seades minimaalse piiri, millest madalama tasu maksmine on keelatud. Üksikisiku tulumaksusüsteem võib mõjutada ebavõrdsusi, progressiivne tulumaksusüsteem on üks olulistest tulu ümberjaotamise võimalustest. Ka haridussüsteem võib oluliselt mõjutada tööturul ilmnevaid ebavõrdsusi, kas vähendades või tugevdades sotsiaalse kihistumise efekte. Tugevad ametiühingud võivad mõjutada tööturu ebavõrdsusi, tagades teatud töötajatele (oma liikmeskonnale või teatud sektoris) teistest soodsamaid tingimusi.

Tööturul ilmnevate ebavõrdsuste areng majanduslanguse perioodil sõltub eeskätt majanduslanguse iseloomust ja rakendatavatest institutsionaalsetest meetmetest. Tööturul ilmnevate ebavõrdsuste areng kriisi ajal on tihedalt seotud tööturu paindlikkusega, st võimega paindlikult kohaneda sisemiste ja välimiste tasakaalustamatustega. Tööturu paindlikkus näitab tööturu kohanemisvõimet ning tööturul ilmnevad ebavõrdsused seda, milliseid gruppe muutused enam mõjutavad.

Mitmed teooriad selgitavad, miks võivad ebavõrdsused majanduslanguse ajal ilmneda. Vaikimisi lepingute teooria (*implicit contract theory*) kohaselt eelistab tööandja teatud (üldjuhul ettevõtte jaoks väärtuslikumate) töötajatega

sõlmida vaikumisi pikaajalised kokkulepped, et ka majanduse langusperioodil ei muudeta palkasid. Efektiivsuspalga teooria (*efficiency wage theory*) kohaselt väldivad ettevõtted ka kriisiperioodil palkade langetamist, kuna palk on seotud töötaja tootlikkusega. Seega eelistatakse kasutada teisi tööjõukulude vähendamise meetmeid, nagu töötundide ning vajadusel ka tööjõu hulga vähendamist. Kuna ettevõttele on väärtuslikumad suurema töökogemuse ja paremate oskustega töötajad, on kriisi tingimustes haavatavad eeskätt need töötajad, kelle töökogemus ja ettevõttespetsiifiline inimkapital on väiksem. Tööjõu volavuse mudeli (*turnover model*) ja negatiivse valiku mudeli (*adverse selection model*) kohaselt mõjutab palgatase mitte üksnes töötaja tootlikkust, vaid ka töökohalt lahkumise tõenäosust. Seetõttu on tõenäoline, et palka alandatakse vajadusel eeskätt neil töötajatel, keda ettevõttes on lihtsam asendada. Sees- ja väljasolijate teooria (*insider-outsider theory*) kohaselt on kriisiajal „seesolijad“ ehk pikema tööstaazi ja ettevõtte jaoks väärtuslike teadmistega töötajad tööturul eelisseisus ning ettevõtted vallandavad töötajaid või valivad, kelle palka alandada, eelkõige nende ettevõttes töötamise aega arvesse võttes. Tööjõu varu teooria (*labor hoarding theory*) kohaselt eelistavad ettevõtted vähemasti kriisiperioodi alguses hoida teatud tööjõuvaru, st vähendavad töötajate arvu nõudluse langusest vähem, kuna tööjõukohandumiste tegemine on kulukas ning majanduskasvu taastudes võib olla keerukam leida ettevõtte vajalike oskuste ja teadmistega töötajaid.

Kuigi on palju teooriaid, mis selgitavad, milliseid kohanemismehhanisme (töötajate arvu või töötundide vähendamine, palga alandamine) tööandjad võivad kriisi ajal kasutada, on eri teooriad suuresti samal seisukohal küsimuses, kes on kriisiperioodil haavatavamad. Juhul, kui ettevõttel on tarvis tööjõukulusid vähendada, on töökoha kaotamise või töötasu vähendamise risk kõrgem väiksema töökogemuse ning madalamate oskuste ja teadmistega töötajatel.

## **Uurimisväärted ja tulemused**

Tööturu teooriatele ja Vene kriisi kogemustele toetudes püstitati töös kolm uurimisküsimust ning kümme uurimisväärtet.

**Uurimisküsimus 1:** milliseid kohanemismehhanisme kasutatakse Eesti tööturul Suure Majanduskriisi ajal ning millised on erinevused avaliku ja erasektori vahel?

Uurimisväited	Teoreetilised seisukohad	Varasemad uuringud	Empiirilise analüüsi järeldus
<u>Uurimisväide 1:</u> Eestis kasutatakse majanduskriisile reageerimisel kõiki kolme kohanemismehhanismi, nii hõive, töötundide kui palga kohandamist.	Majandustsüklitele reageerimiseks on võimalik asutada hõive, töötundide ja palga kohandamist. Mehhanismide valik ja nende kasutamise ulatuslikkus sõltub eeskätt tööturuinstitutsioonidest, tööandja eelistustest ning ametiühingute tugevusest.	Vene kriisi ajal kasutati Eestis majanduslangusele reageerimisel peamiselt hõive ja palga kohandamist. ELi riikides kasutati Suure Majanduslanguse ajal kõiki kolme kohanemismehhanismi, kuid enim vähenes hõive.	Väide on tõene. Eestis kasutati Suure Majanduslanguse ajal tööjõuturul kõiki kolme kohanemismehhanismi: tööjõu, töötundide ja palga kohandamist.
<u>Uurimisväide 2:</u> palga ebavõrdsus Eesti tööturul väheneb Suure Majanduskriisi ajal	Majanduslanguse mõju palga ebavõrdsusele sõltub kriisi iseloomust. Kui majanduslanguse tulemusena kaovad proportsionaalselt rohkem madalpalgalised töökohad, siis palga ebavõrdsus väheneb.	Venemaa majanduskriisi ajal palkade ebavõrdsus vähenes. Suure Majanduskriisi ajal ei muutunud keskmine palga ebavõrdsus mõõdetuna detšiilide suhtena (D9/D1) ELis, kuid töökohad kadusid enim palgajaotuse keskmises osas.	Väide on osaliselt tõene. D9/D1 palgaebavõrdsus ei muutunud, kuid keskmise palga saajad kannatasid kriisi tõttu kõige enam.
<u>Uurimisväide 3:</u> avalikus ja erasektoris kasutatakse erinevaid kohanemismehhanisme. Avalikus sektoris on muutused väiksemad, erasektoris kasutatakse võrreldes avaliku sektoriga rohkem hõive ja töötundide vähendamist.	Sektorid, mis toodavad eksporditavaid kaupu, on kriisi mõjudele avatumad kui sektorid, mis põhiosas teenivad siseturgu.	Enamikus riikides avaldusid kriisi negatiivsed mõjud tööturul avalikus sektoris hiljem kui erasektoris. Nii hõive, töötunnid kui palgad on ELis erasektoris vähenenud rohkem kui avalikus sektoris.	Väide on tõene. Sektoriti olid erinevused hõive, töötundide ja palga kohandamises märkimisväärsed. Erasektoris kasutati kõiki kolme kohanemismehhanismi, erinevused tegevusalade lõikes olid suured. Avalikus sektoris kasutati peamiselt palga kohandamist, aga samuti ka tasustamata puhkepäevi. Hõive ja töötundide langus oli avalikus sektoris väiksem kui erasektoris.

Suur Majanduslangus näitas, kui haavatav on Eesti majandus välistele šokkidele. Kriisi mõjud avaldusid Eestis varem kui enamikus teistest ELi riikidest, mis sundis riiki ka teistest varem jätkusuutlikke lahendusi otsima, mis võimaldaksid kriisist väljuda ning majanduse konkurentsivõimet taastada ja tugevdada. Sestap rakendati Eestis ka kohanemismehhanisme teistest riikidest varem ning ulatuslikumalt. Eestis kasutati kriisiga toimetulemiseks tööturul kõiki kolme kohanemismeedet, eeskätt hõive ja palga, aga ka töötundide kohandamist. Töötuse kasv oli kriisi algusperioodil Eestis üks kõrgemaid ELis, jäädes alla vaid Lätile. Eestis kasutati palkade alandamist märksa enam kui teistes ELi riikides. Perioodil 2008–2010 vähenes keskmine palk Eestis 4% ning palka alandati enam kui 40% töötajatest. Töötundide abil kohandamist kasutati kriisiperioodi alguses aastatel 2008–2009, kui polnud kindel, kui sügavaks kriis kujuneb. Edasistel aastatel on töötundide arv kasvanud ning taastunud kriisieelsel tasemel.

Kuivõrd eurotsooniga liitumiseks tuli Eestil täita Maastrichti kriteeriume, seadis see selged piirangud eelarvedefitsiidi ja välisvõla suurusele. Avalikus sektoris toimus kohanemine Eestis peamiselt läbi palga alandamise, töötajate arvu ja töötunde kohandati vähem. Ka erasektoris olid kohanemismehhanismid tegevusalade lõikes märkimisväärselt erinevad. Sarnaselt teiste ELi liikmesriikidega mõjutas kriis kõige enam tööstus- ja ehitussektorit, kus oli kriisi eel hõivatud kolmandik hõivatutest. Ligikaudu  $\frac{3}{4}$  kriisiperioodil kaotatud töökohtadest olid neis kahes sektoris.

Palga ebavõrdsus mõõdetuna 1. ja 9. detšiili palkade suhtena ei muutunud kriisi algusperioodil oluliselt. Küll aga suurenes D9/D5 ja vähenes D5/D1 näitaja, viidates sellele, et majanduskriis mõjutas alguses negatiivselt eeskätt palgajaotuse keskmises osas olijaid. Sarnane areng toimus ka mitmetes teistest ELi riikides. Alates 2010. aastast on D9/D1 näitaja ning madalapalgaliste osakaal hõivatute seas suurenenud, viidates, et taastumisperioodil on palga osas eelis pigem kõrgemapalgalisel tööjõul.

**Uurimisküsimus 2:** kuidas mõjutavad tööturuinstitutsioonid Eesti tööturul ilmnevaid ebavõrdsusi Suure Majanduslanguse ajal?

Uurimisväited	Teoreetilised seisukohad	Varasemad uuringud	Empiirilise analüüsi järeldus
Uurimisväide 4: tööturuinstitutsioonidel on kriisi-perioodil piiratud mõju Eesti tööturul ilmnevatele ebavõrdsustele.	Tööturul kasutatavad kohanemismehhanismid sõltuvad lisaks tööandja eelistustele tööturuinstitutsioonidest, eeskätt hõive kaitse seadusandlusest, ametiühingute tugevusest ja miinimum-palkadest.	Vene kriisi ajal oli Eesti tööturg paindlik hoolimata jäigast hõive kaitse seadusandlusest.	Väide on tõene. Ametiühingute läbirääkimisvõime oli nii ettevõtte kui riigi tasandil madal, ametiühingud nõustusid tööandjate otsustega. Uus töölepingu seadus vähendas töötajate vallandamise ja koondamise kulusid, suurendades seeläbi paindlikkust, kuid kuivõrd seadus laienes kõikidele töötajatele ühtmoodi, ei olnud sellel otsust mõju tööturul ilmnevatele ebavõrdsustele. Miinimumpalk ei muutunud Suure Majanduslanguse ajal.

Tööturuinstitutsioonidel ei olnud Suure Majanduslanguse ajal olulist mõju ebavõrdsuste arengule tööturul. Uus, 2009. aastal jõustunud töölepingu seadus, mis muutis töötajate vallandamise ja koondamise märksa hõlpsamaks ja vähem kulukaks, ei teinud erisusi töötajate vahel, mistõttu polnud sellel ka otsust mõju ebavõrdsustele. Küll aga võis see suurendada kasutatud kohanemismehhanismide ulatuslikkust, kuna liigsetest töötajatest vabanemine muutus tööandjate jaoks senisest lihtsamaks ja odavamaks.

Ametiühinguliikmelisuse ja kollektiivlepingutega kaetuse määr jäid ka Suure Majanduslanguse ajal madalale tasemele. Ametiühingute läbirääkimisvõime oli nõrk ning mõju tööturul ilmnevatele ebavõrdsustele tagasihoidlik, kuna enamik läbirääkimistest toimub Eestis ettevõtte tasandil. Ka avalikus sektoris, kus ametiühinguliikmelisus on kõrgem ning läbirääkimisvõime tugevam, olid ametiühingud sunnitud aktsepteerima palga langetamist, kuna tunnetati, et riiklike kulude kärpimine vähenevate riigi tulude valguses oli vajalik. Kriisi ajal muutus otsuste tegemine tsentraliseeritumaks: riigi tasandil olid sotsiaalpartnerid sunnitud aktsepteerima riigi tehtud otsuseid (näiteks sotsiaalgarantiide vähendamist, töötuskindlustusmäära tõusu).

Miinimumpalk säilis perioodil 2008–2011 samal tasemel (278 EUR ehk 33% keskmisest palgast). Eesti Statistikaameti andmete kohaselt kasvas kolme madalamatesse palgadetsiili kuulujate osakaal hõivatutest kriisiaastatel, Maksu-

ja Tolliameti andmete kohaselt kasvas miinimumpalga saajate arv 10800-lt aastal 2008 15 700-ni aastal 2010. Arvestades hõivatute üldarvu, moodustavad miinimumpalga saajad siiski väikese osa hõivatutest, seega oli miinimumpalga roll tööturul ilmnevate ebavõrdsuste mõjutajana tagasihoidlik.

**Uurimisküsimus 3:** Kuidas muutuvad tööturul ilmnevad ebavõrdsused soo, vanuse, rahvuse ja haridustaseme lõikes Suure Majanduslanguse ajal Eestis?

Uurimisväited	Teoreetilised seisukohad	Varasemad uuringud	Empiirilise analüüsi järeldus
<u>Uurimisväide 5:</u> naiste-meeste tööturul osalemise ja palgalõhe väheneb Eestis majanduskriisi ajal.	Sektorid, mis toodavad eksporditavaid kaupu, on kriisi mõjudele avatumad kui sektorid, mis põhiosas teenindavad siseturgu.	Vene kriisi ajal vähenes meeste-naiste hõive lõhe ning suurenes meeste-naiste töötuse lõhe. Suure Majanduslangus mõjutas ELi riikides mehi negatiivsemalt kui naisi.	Väide on tõene. Mehi mõjutas Suur Majanduslangus negatiivsemalt kui naisi: meeste töötuse määr kasvas rohkem, töötunnid vähenesid enam ning palgalangus oli suurem kui naistel.
<u>Uurimisväide 6:</u> tööturul osalemise ja palgalõhe vanuse lõikes kasvab Eestis majanduskriisi ajal, st noortel on kriisi tingimustes keerulisem tööturul hakkama saada.	Väiksema staaži ja madalamate oskustega töötajatel on kriisi ajal suurem tõenäosus töökoht kaotada ning kogeda palgalangust.	Vene kriisi ajal kasvas noorte töötus märksa rohkem kui teistes vanusegruppides. Suure Majanduslanguse ajal kasvas noorte töötus märksa enam kui teistes vanusegruppides, osajaga töötamine noorte seas ELis keskmiselt ei suurenenud.	Väide on tõene. Noorte seas oli töötuse kasv ning töötundide ja palga vähenemine ulatuslikum kui teistes vanusegruppides.
<u>Uurimisväide 7:</u> tööturul osalemise ja palgalõhe eestlaste ja mitte-eestlaste kasvab Eestis majanduskriisi ajal.	Madalamate oskustega töötajatel on kriisi ajal suurem tõenäosus töökoht kaotada ning kogeda palgalangust.	Vene kriisi ajal mitte-eestlaste ja eestlaste vaheline töötuse lõhe kasvas ja palgalõhe vähenes. Suure Majanduslanguse ajal on vähemusrahvuste esindajate töötuse määr EL-is kasvanud rohkem kui põlisrahvastiku seas.	Väide on tõene. Võrreldes eestlastega oli mitte-eestlaste seas töötuse määra kasv Suure majanduslanguse ajal kõrgem ning töötundide vähenemine ja palga alanemine ulatuslikum.

Uurimisväited	Teoreetilised seisukohad	Varasemad uuringud	Empiirilise analüüsi järeldus
Uurimisväide 8: tööturul osalemise ja palgalõhe kõrgelt- ja madalalt haritute vahel kasvab Eestis majanduskriisi ajal, st madalama haridustasemega inimestel on kriisi tingimustes keerulisem tööturul hakkama saada.	Madalamate oskustega töötajatel on kriisi ajal suurem tõenäosus töökoht kaotada ning kogeda palgalangust.	Vene kriisi ajal kasvas töötuse lõhe madalamalt ja kõrgemalt haritud töötajate vahel. Suure Majanduskriisi ajal kasvas töötuse lõhe madalamalt ja kõrgemalt haritud töötajate vahel.	Väide on tõene. Võrreldes kõrgemalt haritutega oli madalamalt haritute seas töötuse määra kasv Suure majanduskriisi ajal kõrgem ning töötundide vähenemine ja palga alanemine ulatuslikum.

Majanduslanguse algusperioodil tabas kriis mehi valusamalt kui naisi: meeste seas kasvas töötuse määr enam kui naistel (kui 2008. aastal oli meeste ja naiste töötuse määr võrdne, siis 2009. aastal kasvas see 6,6 protsendipunktini), samuti oli ulatuslikum töötundide ja palga vähenemine. Sooline palgalõhe vähenes ligi 31%-lt aastal 2007 26,6%-ni 2009 and 22,9%-ni 2011. Nii soolise töötuse kasv kui palgalõhe vähenemine on selgitatav eeskätt sektorilise ja ametialase segregatsiooniga. Meeste ja naiste vahel kriisiperioodil ilmnunud muutused ebavõrdsustes olid ajutised ning kahanesid majanduse taastudes, olles taas seotud soolide segregatsiooniga tööturul: sektorid, mille töötajaskonnas domineerivad mehed, taastusid kriisist kiiremini kui need, kus on hõivatute hulgas ülekaalus naised.

Kriisiperioodil kasvas töötus kõikides vanusegruppides, kuid enim noorte (15–24-aastaste) seas. Noorte nõrgem tööturupositsioon võrreldes teiste vanusegruppidega ei ole üllatav ning on põhjendatav nende madalama töökogemuse ja oskuste tasemega, küll aga eristus Eesti kriisiperioodi alguses teistest riikidest noorte töötuse rekordilise kasvu poolest. Vaid kahe aastaga noorte töötuse määr enam kui kolmekordistus, ulatudes 2010. aastal 33%-ni. Siiski suutis riik saada noorte töötuse kontrolli alla ning 2011. aastal oli täheldatav noorte töötuse määra vähenemine.

Murettekitav on pikaajaliste töötute osakaalu kasv töötute hulgas eelkõige vanemaeliste (50 ja enama aastaste) töötute seas. 2011. aastal oli 2/3 vanemaelistest töötutest olnud töötutena enam kui aasta. Pikaajaliste töötute osakaal on kasvanud ka teistes vanusegruppides: 25–49-aastaste töötute seas oli 2011. aastal pikaajaliselt töötuid 58% ning noorte (15–24-aastaste) seas 39%. Palgalangust kogesid kriisiperioodil noored märksa vähem kui teiste vanusegruppide töötajad, mis võib olla selgitatav sellega, et need noored, kes kriisi ajal tööd ei kaotanud, olid tööandjatele oma teadmiste ja oskuste taseme tõttu väga väärtuslikud ning tööandjad ei soovinud riskida sellega, et palga alandamise tõttu noored lahkuvad.

Sarnaselt teiste riikidega olid vähemusrahvuste esindajad võrreldes eestlastega Suure Majanduslanguse ajal tööturul haavatavamad: võrreldes eestlastega kasvas mitte-eestlaste seas töötus märksa enam (perioodil 2008–2010 vastavalt 12 ja 9 protsendipunkti). Ka töötundide langus on mitte-eestlaste seas võrreldes eestlastega kõrgem ning nende hõivatute osakaal, kelle palkasid alandati, kõrgem. Kuigi süvaanalüüsi selliste arengute põhjuste väljaselgitamiseks töös ei tehtud, on potentsiaalseteks selgitusteks ametialane segregatsioon (eestlased on proportsionaalselt enam esindatud kõrgematel ning mitte-eestlased madalamatel ametikohtadel) ning mitte-eestlaste kehvem keeleoskus.

Suure Majanduslanguse ajal ilmnes selgelt hariduse mõju tööturu edukuse tagajana. Kuigi töötuse kasv oli rahvusvahelises võrdluses märkimisväärne ka teise ja kolmanda haridustasemega inimeste seas, kasvas esimese taseme haridusega inimeste töötus kriisiperioodil kõige enam (20 protsendipunkti, ulatudes 2010. aastal 31%-ni), jäädes alla vaid Lätile ja Leedule. Ka töötundide vähenemine oli selle haridustaseme töötajate seas kõrgeim, 2009. aastal töötas iga kolmas esimese haridustasemega hõivatute osaajaga mittevabatahtlikult, kolmanda haridustasemega hõivatute seas oli mittevabatahtlikult osaajaga töötajaid 15%. Kriisiperioodil ilmnes selgelt hariduslik palgapreemia ning esimese ja teise haridustasemega inimesed kogesid palgalangust märksa sagedamini kui kolmanda haridustasemega hõivatud.

**Uurimisküsimus 3.1:** kui suured on tööturul ilmnevad ebavõrdsused Eesti tööturul sotsiaal- ja reaalteaduste kõrgkoolilõpetajate vahel?

Uurimisväited	Teoreetilised seisukohad	Varasemad uuringud	Empiirilise analüüsi järeldus
Uurimisväide 9: sotsiaalteaduste lõpetanute tööturuväljavaated on võrreldes reaalteaduste lõpetajatega Eesti tööturul paremad.	Spetsiifilisemate oskustega töötajad on tööandja jaoks väärtuslikumad.	Varasemad uuringud Eestis puuduvad. Teistes riikides tehtud uuringud viitavad, et reaalteaduste lõpetanute tööturupositsioon võib olla parem.	Sotsiaalteaduste lõpetanute hulgas on võrreldes reaalteaduste lõpetanutega rohkem neid, kes töötasid õpingute ajal ning pärast lõpetamist. Töötuse määr on nii sotsiaal- kui reaalteaduste lõpetanute hulgas madal. Magistritaseme lõpetanute hulgas on sotsiaalteaduste vilistlaste palgad kõrgemad kui reaalteaduste lõpetanutel, bakalaureusetaseme lõpetanud sotsiaal- ja reaalteaduste vilistlaste palgad on võrdsed.

Vastupidiselt üldiselt levinud arvamusele saavad sotsiaalteaduste tudengid tööturul paremini hakkama kui reaalteaduste tudengid. Töötuse määr on mõlema grupi puhul ka kriisiperioodil (aastal 2010) väga madal, kuid magistritasemel on sotsiaalteaduste lõpetanute palgatase kõrgem kui reaalteaduste lõpetanutel. See on osaliselt selgitatav töökogemuste erinevustega: õpingute ajal töötab märksa suurem osa sotsiaalteaduste tudengitest.

**Uurimisküsimus 3.2:** kui suur on sooline palgalõhe kõrgkooli lõpetanute seas Eestis?

Uurimisväited	Teoreetilised seisukohad	Varasemad uuringud	Empiirilise analüüsi järeldus
<u>Uurimisväide 10:</u> sooline palgalõhe kõrgkooli lõpetanute hulgas on madalam kui keskmine palgalõhe Eestis.	Kõrgkooli lõpetajate sooline palgalõhe peaks olema keskmisest palgalõhest madalam, kuna varases tööelu staadiumis on meeste ja naiste perekondlikud kohustused, töökogemus ja oskused sarnased.	Karjääri alguses on sooline palgalõhe keskmisest palgalõhest madalam.	Väide ei ole tõene. Kõrgkoolilõpetajate sooline palgalõhe on Eestis kõrge ja võrreldav üldise soolise palgalõhega (ca 25%) ning selgitatav peamiselt ametialaste erinevustega.

Eestis on kõrgkoolilõpetanute seas aasta pärast lõpetamist sooline palgalõhe võrreldav üldise palgalõhega (25%). Seejuures esinevad märkimisväärsed erinevused õppevaldkondade lõikes: palgalõhe on praktiliselt olematu teenindusvaldkonna lõpetanute hulgas ning 40% tervise ja heaolu valdkonna lõpetanutel. Palgalõhe on selgitatav meeste ja naiste ametialase segregeeritusega, mis selgitab 30% selgitatud palgalõhest.

### Analüüsi järeldused

Eesti tööturg oli kriisi ajal paindlik ning seda tuuakse rahvusvahelistes võrdlustes esile positiivse kohandumise näitena, kus hoolimata riigi väiksusest ning kriisi suurest mõjust suutis riik rakendada meetmeid ning seejärel pöörata sügava languse peagi tõusuks. Eest avaliku sektori kärped võimaldasid hoida riigivõla kasvust ning hoida avaliku sektori eelarvedefitsiit kontrolli all.

Kuigi 2011.–2012. aastal Eesti majandus kasvas, on hetkel veel liialt vara öelda, et kriis on lõplikult möödas. Suur Majanduslangus on kõige tõsisem majanduskriis, mida Euroopa Liit on kogunud ning hetkel ei ole veel selge, kas kõige keerulisem periood on ületatud. Teatud ELi liikmesriikidel on tõsisemid raskusi ning esseeisvad aastad näitavad, kas stabiilsusmehhanism suudab liidu majanduse stabiilsuse taastada.

Kriis näitas selgelt, kui avatud on Eesti majandus välistele šokkidele ning kui võrd kiiresti võib kiire majanduskasv pöörduda sügavaks languseks. Seega

tuleb taastumisperioodil pöörata tähelepanu neile tasakaalustamatustele, mis võivad ohustada jätkusuutlikku arengut tulevikus. Suure Majanduslanguse ajal Eesti tööturul ilmnenud ebavõrdsused võib jaotada kahte gruppi. Esimesse kuuluvad lühiajalised ebavõrdsused, mis majanduse taastudes kadusid, näiteks meeste-naiste töötuse lõhe. Teine grupp hõlmab ebavõrdsusi, mis võivad pikemas perspektiivis piirata majanduskasvu ning millega toimetulemiseks on vaja rakendada asjakohaseid poliitikameetmeid. Kriisi ajal ilmnenud ebavõrdsuste analüüs näitab, et noored, vähemusrahvused ja madalama haridustasemega inimesed olid tööturul kriisi mõjude osas kõige enam haavatavad, kuigi ka teistes gruppides, näiteks vanemaaliste ja kesk- ning kõrgharidusega inimeste seas kasvas Eestis töötus võrreldes ELi riikidega enam.

Kriis ja taastumisperiood on näidanud, et majanduslik olukord ei ole selline nagu kriisi eel. Jätkusuutliku arengu seisukohalt on võtmesõnaks liikumine teadmispõhise majanduse poole, mis nõuab oskuste tõusu. Seega on hariduspoliitikal oluline roll tagamaks, et töötajate teadmised ja oskused vastavad tööturu vajadustele. Hiljutised uuringud (Espenberg et al. 2012b; Kasearu, Trumm 2013) viitavad kutseharidussüsteemi probleemidele ning vajadusele seda reformida. Elukestva õppe toetamiseks on oluline jätkata selliste programmidega, nagu KUTSE, TULE ja VÕTA, mis tooksid haridustee katkestanud tagasi kooli.

Kõrgharidusega noored olid ka kriisiperioodil edukad. Nii sotsiaal- kui reaalteaduste lõpetanute seas oli ka kriisi kõige sügavamas faasis töötute osakaal marginaalne. Analüüsitulemused viitavad, et karjäärите alguses on magistritaseme lõpetanute seas sotsiaalteaduste lõpetanute palgad mõnevõrra kõrgemad kui reaalteaduste lõpetanutel, mis selgitab ka seda, miks hoolimata sellest, et riiklik hariduspoliitika soosib reaalteaduste õpinguid, otsustab siiski märkimisväärne osa noortest õppida sotsiaalteadusi, kuigi enamikul tuleb õpingute eest ise maksta.

Taastumisperioodil on nii vähemusrahvuste hulgas kui vanusegruppides 25–49 ning 50 ja enam kasvanud pikaajaliselt töötute arv (nii absoluutarvuna kui osakaaluna töötutest). 2011. aastal oli 2/3 50–74-aastastest töötutest ning 62% vähemusrahvusest töötutest olnud tööta enam kui aasta. Kuivõrd pikaajaline töötus tõstab sotsiaalse tõrjutuse riski, on oluline rakendada asjakohaseid poliitikameetmeid nende inimeste tööturule tagasitoomiseks. Hiljutise uuringu tulemused (Espenberg jt 2012c) viitavad vajadusele rakendada aktiivsete tööturumeetmete, eeskätt nõustamise puhul rohkem individuaalset lähenemist.

Kuigi soolise palgalõhe temaatikale on viimastel aastatel Eestis tähelepanu pööratud, on selle teemaga tarvis jätkuvalt tegeleda. Uuringu tulemused viitavad, et sooline palgalõhe ilmneb juba tööalase karjääri alguses ning ei ole selgitatav meeste ja naiste ametialase ja sektoripõhise segregatsiooniga. Seega võib oma roll olla ka diskrimineerimisel ning ühiskonnas juurdunud arusaamadel naiste ja meeste rollidest.

Institutsioonide roll jäi Eesti tööturul ilmnevate ebavõrdsuse mõjutajatena majanduslanguse tingimuses võrdlemisi tagasihoidlikuks.

### **Soovitused edasisteks uurimusteks**

Kuivõrd töö on kirjutatud laial ja väga kompleksel teemal, siis on seda võimalik mitmes suunas edasi arendada. Alljärgnevalt on toodud viis võimalust, mida autor peab kõige olulisemaks. Esiteks, kuna töös oli vaatluse all kriisi algusperiood, siis on võimalik laiendada analüüsi ajalist perspektiivi, käsitledes taastumisperioodil ilmnevaid efekte. Pikemaajaliselt võivad kriisi tulemusena avalduda struktuursed muutused ning mõjud, mis lühiajaliselt ei ilmnenu. Neile asjakohaste poliitikameetmetega reageerimine võib tugevdada majanduskasvu ning vähendada tööturu haavatavust.

Teiseks, kuiõrd töös analüüsiti tööturul ilmnevaid ebavõrdsusi majanduskriisi ajal, on üheks edasiarendamise suunaks ilmnenu ebavõrdsuste tagajärgede analüüs. Ebavõrdsus on halb mitte iseenesest, vaid juhul, kui see toob kaasa negatiivseid kõrvalmõjusid. Sestap on oluline sügavuti analüüsida kriisi ajal ilmnenu ebavõrdsuste pikemaajalisi tagajärgi, sh mõju vaesusele ja sotsiaalsele tõrjutusele.

Kolmandaks, kuiõrd indiviidi heaolu sõltub mitte üksnes tema, vaid ka teiste leibkonnaliikmete majanduslikust olukorrast, on üheks võimalikuks töö edasiarendamise suunaks majanduslike ebavõrdsuste analüüs laiemalt. Samuti on oluline analüüsida, millised on tööturul ilmnevate ebavõrdsuste seosed teiste ebavõrdsustega (sotsiaalne, hariduslik, tervishoiu alane ning majanduslik ebavõrdsus laiemalt).

Neljandaks töö võimalikuks edasiarendamise suunaks on kulutuste ebavõrdsuse analüüs, kuiõrd mitte niivõrd tulud, vaid eeskätt kulutused määravad indiviidi heaolu. Nagu analüüsitulemused viitavad, vähendati Suure Majanduslanguse ajal paljude hõivatute palkasid ning töötus kasvas olulisel määral. Seega oleks huvitav analüüsida, kuidas need arengud mõjutasid inimeste heaolu.

Viiendaks töö arendamise võimaluseks, mis sisaldab endas tegelikkuses mitmeid soovitusi, on minna tehtust enam süvitsi teatud uurimisteedadega, mida käsitleti käesolevas töös võrdlemisi üldiselt. Näiteks võiks põhjalikumalt uurida, mis põhjustas tööturul ilmnenu ebavõrdsusi rahvuse ja vanuse lõikes. Samuti oleks kasulik uurida, kuidas muutus palgajaotus kriisi ajal erinevates tööturugruppides.

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2010–2011 Growing Inequalities Impacts (7<sup>th</sup> Framework Programme project funded by European Commission)  
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2010–2011 Growing Inequalities Impacts (7. raamprogrammi projekt, rahastajaks Euroopa Komisjon)  
2010 Inequalities in the World of Work: The Effects of the Crisis Assessment and Policy Answers (rahastajateks Euroopa Komisjon ja Rahvusvaheline Tööorganisatsioon)  
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