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## Perceptions of gender equality in post-crisis Europe

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**Article history.** Received 19 July 2016; first revision required 3 January 2017; accepted 24 April 2017

**Abstract.** The paper aims to compare the perceptions of gender equality of individuals more or less affected by economic crisis in Europe. Crisis touched the economy of most European countries but to a different extent. Special focus is given to the perceptions of gender equality of vulnerable groups (female, lesser-educated, one-adult households with children). The data is Eurobarometer 2011. The sample is limited to respondents aged 18-65. According to the results of multilevel regression analysis, those who have suffered from crisis assess lower the current level of gender equality whereas perceptions of gender equality do not differ depending on the effect of crisis upon the country. Women assess gender equality more positively compared to men. Those who live in one-adult households with children have higher perceptions of gender equality compared to those who live in other types of households. The discrepancy between lesser-educated and higher educated is larger in countries that suffered less from crisis. However, when the change in GDP per capita is taken as a measure of crisis the effects for family structure and education are not robust.

**Keywords.** Gender equality; economic crisis; cross-cultural comparison; Europe; vulnerable groups

**JEL classification.** J16; J21; J24; J81; C02

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### 1. Introduction

The article aims at revealing perceptions of gender equality of the individuals affected by economic crisis of 2008 to different extent. I disclose the impact of the changes in the current economic situation upon the assessment of gender equality in the labor market.

Tolerance toward gender equality is one of the fundamental components of modernization (Welzel, 2013). According to the OECD report, gender equality fosters economic growth in education and the labor market (OECD 2012). However, actual gender equality is not possible when traditional gender attitudes prevail. Gender attitudes reflect the relation to the position of women in the labor market and society in general (Inglehart and Welzel, 2005: 111). Bergh defines gender attitudes as 'normative beliefs about what gender relations in society should be like, or the extent to which a person supports the norm of gender equality' (Bergh, 2006: 6). To be more specific, positive attitudes towards traditional gender roles regard men as a breadwinner and women as a homemaker, whereas positive attitudes towards non-traditional gender roles suppose that men and women should share labor market and household duties

(Voicu and Constantin, 2016). In current paper, I focus more on perceptions of gender equality in European countries, in other words, on individual assessments of gender equality across Europe.

Values and attitudes are largely dependent upon the living conditions. The change in the objective conditions of living in turn leads to the change of attitudes. Hence, gender attitudes are formed largely by a current economic situation. Economic and political collapses often result in shift to values and attitudes that are more traditional (Inglehart and Welzel, 2005: 111). Economic crisis of 2008-2009 was not as huge but still had an impact upon the conditions of living of people in different countries (World Bank indicators). Furthermore, it is also likely to affect gender norms (Elson 2010; Rubery, 2014).

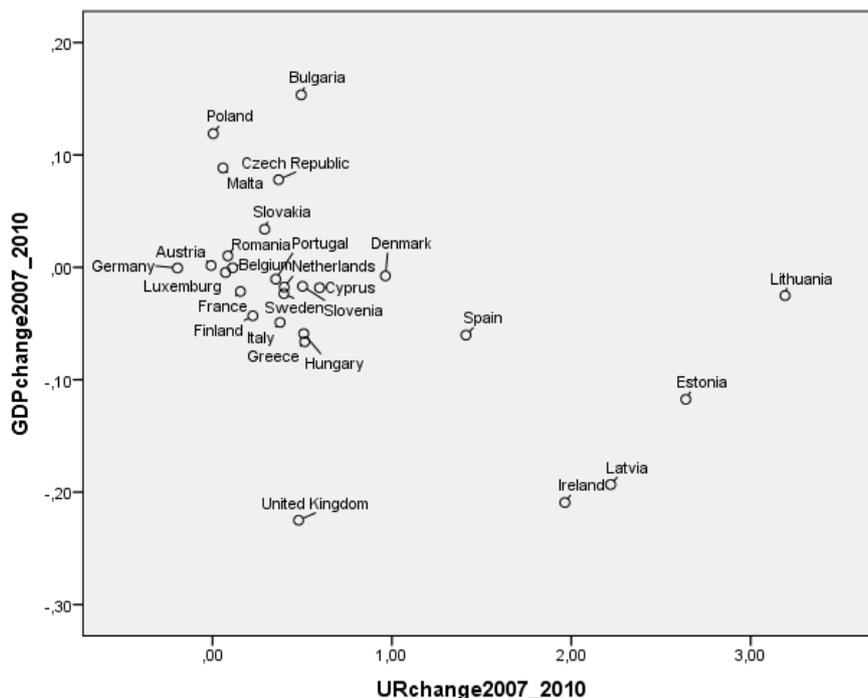
The research on gender attitudes is vast. Some authors analyzed the structure of gender attitudes and its change it time (Alesina and Giulino, 2010; Bolzendahl and Myers, 2004; Braun and Gloeckner-Rist, 2011; Cunningham, 2008; Guiso, 2003; Guveli, Need and de Graaf, 2007, Pampel, 2011; Voicu and Tufis, 2012; Voicu and Constantin, 2016). In addition, there is research on the impact of crisis on labor market outcomes in gender perspective (Rubery, 2014; Bettio and Verashchagina, 2014; Karamessini and Rubery, 2014; Seguino, 2009). However, there the issue of perceptions of gender equality for individuals more or less affected by economic crisis of 2008-2009 is not yet covered.

In this paper, I analyze a somewhat different aspect, namely perceptions of gender equality in Europe after the crisis. Crisis is less likely to change the attitudes and perceptions of gender equality completely than to strengthen the current tendencies mostly making them more traditional. Therefore, the assessment of the perceptions of gender equality in Europe after the economic crisis is a very relevant issue.

The economic crisis could be truly called “gendered” because the crisis influenced differently men and women and in some way reinforced gender equality (Walby, 2015). Economic crisis and recession should change not only objective positions of men and women in the labor market (namely contribution to family income, caring work and access to benefits) but also social norms regarding gender role-attitudes in direction that is more traditional. Women are likely to reduce their participation in the labor market (Rubery, 2014: 20). Furthermore, crisis is likely to have different impact upon various social groups (Seguino, 2009; Elson, 2010; Rubery, 2014). In this respect, the study of the state of gender attitudes after the economic crisis in Europe is of great importance. I reveal the effect of crisis both on country level as the change in objective parameters and, on micro-level, I measure the perceived impact of crisis on the individual. Hence, the main research objectives are as follows. First, I reveal the state of perceptions of gender equality in post-crisis Europe. Second, I analyze whether perceptions of gender equality differ for people more or less affected by crisis. Finally, I focus upon perceptions of gender equality of vulnerable groups (women, lesser educated, living in one-adult households with children) in post-crisis Europe.

## 2. The negative impact of crisis

The crisis had a negative impact upon the economies of most of the European countries. While in 2008 there was no effect of crisis upon macro-level indicators, most countries experienced tremendous decline in GDP per capita and increase in unemployment rate in 2009. In 2010 the unemployment situation in most countries began to normalize and the level of GDP per capita reached the level of 2008. These two indicators tap slightly different aspects of crisis. Change in GDP per capita reflects the general decline of the economic development of the country. Change in unemployment rate refers specifically to the situation in the labor market and firstly touches the economically active population. For the paper, the unemployment indicator is of high importance because labor market status is closely connected with gender attitudes and could to a large extent influence them. However, the correlation between the change in GDP and the change in unemployment rate is rather high (-0.503). In Figure 1, it could be seen that the most of the countries are located on the same line. However, there are some outliers. The United Kingdom experienced a substantial drop in GDP per capita but a low increase in the unemployment rate. Estonia and especially Lithuania, on the contrary, suffered from high increases in unemployment rates and rather modest change to the GDR.<sup>1</sup>



**Figure 1.** Change of GDP per capita and change in unemployment rate between 2007 and 2010 (in %).

Source: World Bank indicators: <http://data.worldbank.org/indicator>

<sup>1</sup> If we look at GDP per capita change and unemployment rate change between 2008 and 2009 the situation is a bit different. The correlation between two indicators is a bit higher (-0.608). Consequently, more countries are located on the same line. However, there is a group of outliers that experienced rather dramatic decline in GDP per capita and rather low increase in unemployment rate, namely Sweden, United Kingdom, Poland, Romania and Hungary.

The other important point is the diverse effect of crisis upon different groups in society. Some authors regard the differences of consequences of crisis for men and women (Elson, 2010; Walby, 2015). According to Walby (2015), the nature of the crisis is gendered. Four stages of the crisis could be pointed out namely finance, real economy, labor market and democracy. All four stages could be characterized by the dominance of men. Women are absent from decision-making process in all the phases of the crisis (Elson, 2010; Walby, 2015). Elson (2010) analyzed the gendered aspects of economic crisis in developing countries. In her analysis, she distinguished gender numbers and gender norms in all economic spheres such as finance, production (formal and informal) and reproduction. In the financial sphere women face more difficulties in commercial bank and crisis may influence female risk-aversion because they are mainly responsible for children's well-being. In production, the consequences of crisis include the losses of both female and male employment. In general, whether men and women are first to suffer because of the crisis depends on industry. However, if both men and women are employed in the field of work 'male breadwinner norms' are likely to prevail. It is considered in the society that it is men's duty to earn money and consequently women are the first to be fired. Governmental policy in its turn is often also more in favor of men. The situation in financial and production spheres are likely to affect the sphere of reproduction. In some cases, sons will have preferences in getting education and women will be firstly responsible for the household. Government social policy may play a role in formation of gender norms (Elson, 2010).

Seguino (2009) demonstrated these differences by comparing developing and developed countries. In developing countries, women are more likely to suffer more from crisis because they are more often employed in export manufacturing industries. In developed countries (for instance, US) men are often working in manufacture and construction and hence are likely to be the first to lose jobs. Women are likely to lose jobs a bit later when cuts in public service are made. At the same time, women are likely to suffer more from crisis as the gender roles are such that in the case of job scarcity men have more right to have a job. Although in developed countries gender attitudes are more egalitarian, still there is evidence that some women withdraw from the labor market (become economically inactive). Hence, women are more likely to be targeted by job layoffs and hence the policy of recovery should primarily address women (Seguino, 2009).

Karamessini and Rubery (2014) revealed a number of common tendencies of impact of crisis upon female employment in Europe and the US. The first one is the growth of this female labor force participation rate in spite of the fall of female employment. The reason of this is that many men lost their jobs. Hence, some women became sole breadwinners, other women entered the labor market and switched from being economically inactive to being unemployed. "Their growing attachment to careers for reasons of economic independence, personal fulfillment or economic necessity (to secure the family income or to improve living standards, thus seems irreversible in advanced economies even in the context of major economic crisis such as the one we are living through". Second, the crisis led to the narrowing gender inequality in employment and by employment type (part-time and temporary jobs), "because of greater job

loss and spread of flexible forms of employment among men.” To the third consequence refer austerity and fiscal consolidation policies along with an employment crisis in the public sector in the second phase of the crisis. Those employed in the public sector experienced “employment contraction, pay freezes and cuts and deterioration of working conditions”. The public sector is the most popular employer for women (first of all for the more highly educated) (Karamessini and Rubery, 2014: 346).

Bettio and Verashchagina (2014: 58-59) focused on explanation of the women’s behavior in the labor market during the period of crisis. ‘Added’ workers enter the labor market when the heads of the household lose their jobs. According to the segmentation hypothesis, women are more likely to be employed in secondary jobs, and hence are more likely to suffer during the crisis. According to the gender segregation hypothesis, female occupations tend to be more traditional and are likely to be less affected by crisis

However, the authors mainly studied the impact of crisis on actual gender equality. Rubery (2014: 20) stresses that crisis should touch not only the objective position of men and women in the family and labor market including “contribution to family income, to caring work and access to benefits and public services but also social norms with respect to the appropriate and expected gender roles”.

Rubery’s assertion fits into the modernization theory of Inglehart and Welzel. The major economic and political crises, collapses of political regimes and social systems lead to the shift from self-expression to survival values, and to decrease of subjective well-being. Such events make life insecure and unpredictable. Therefore, in eastern ex-communist countries survival values are more spread than in low-income countries (Inglehart and Welzel, 2005: 111). However, for instance, it was shown that in Russia subjective well-being increased to 2011 but it still was lower than in 1981 (Inglehart *et al.*, 2013). Survival values are associated with low support of gender equality, whereas self-expression values assume high support of gender equality. Gender attitudes are quite polarized among different countries and social groups. (Inglehart and Welzel, 2005: 54). Following the logic above, my first hypothesis is as follows.

- Individuals who were more affected by crisis or live in countries that were more affected by crisis should have more negative perceptions about current state of gender equality.

### **3. Formation of gender attitudes: theoretical background**

The causal relationship between gender attitudes and behavior could be regarded in different ways. Some researchers view gender attitudes as a cause that influences the gender behavior (Campa, 2009; Fortin, 2005; Stickney and Konrad, 2007). Others, on the contrary, regard them as an effect (Bolzendahl and Myers, 2004; Braun and Gloeckner-Rist, 2011; Guiso *et al.*, 2003; Voicu and Tufis, 2012). In my framework, the second approach is more relevant because the economic crisis on individual and country level worsens the objective situation and hence should have an impact upon attitudes and perceptions.

The impact of current living conditions upon gender attitudes could be explained with the help of several approaches. In accordance with the social role theory, people adopt the attitudes which are consistent with the roles they occupy (Eagly and Karau, 2002). This could also be explained by the cognitive dissonance theory. When a social role does not match a gender-role attitude, the person is likely to change either the role or the attitude. When the behavioral change is impossible, people modify their attitudes (Kroska, 1997).

In research of gender attitudes interest-based and exposure-based perspectives of analysis are distinguished. In the framework of **interest-based approach**, the individuals that benefit from egalitarian gender attitudes usually have more egalitarian work-related gender attitudes. From this perspective, some categories of society (for instance, males, highly educated and highly paid jobs) gain more from being employed. According to **exposure-based approach**, individuals change their ideas and attitudes when they meet the situation that discords with these ideas. In respect to gender issues it is possible to point out work-force participation, education as well as mother's work status and mother's education (Bolzendahl and Myers, 2004; Pampel, 2011). In line with this approach, the gender attitudes of a person are formed in the environment and social groups (family, education, and job). If a person enters a different environment (for example, as a result of crisis), he is likely to change the attitudes.

If we follow these conceptions, when the behavior of individuals or their families becomes more egalitarian, their gender attitudes are also likely to change to be more egalitarian in order to correspond to the behavior. The conception by West and Zimmerman "Doing gender" represents a different framework. The authors emphasize that most differences between genders are not biological but socially constructed. After they are constructed, they sustain and strengthen biological differences. Hence, when gender identity is somehow threatened a person is likely to stress it and shift to even more traditional gender identity (West and Zimmerman, 1987).

Voicu and Constantin demonstrated that "doing gender" conception could explain gender attitudes in the situation of unemployment by studying the impact of employment status in couples upon gender attitudes. When crisis of identity happens, individuals and couples tend to emphasize their traditional gender roles. Female employment does not always foster egalitarian gender attitudes and that partner's employment status should be taken into account. Besides, the income inequality in the country (GINI) also affects gender attitudes (Voicu and Constantin, 2013).

I can suggest that the effect of crisis could be the same as the effect of unemployment. In case of crisis, there is usually an involuntary shift in behavior and hence the individuals may tend to emphasize their traditional gender roles. In this respect, it is likely that those who have suffered more after the crisis are likely to become more traditionally oriented. It could concern women, single parents living with children and the lesser educated. As it was shown above, women are more likely to lose jobs as well as shift from being economically inactive to unemployed in order to support the families. This involuntary change according to "doing gender conception" could influence gender attitudes. I can thus derive the following hypothesis.

- Female perceptions towards gender equality are proved to be more egalitarian compared to their male counterparts (Alwin *et al.*, 1992; Bolzendahl and Myers, 2004); however, in countries where the situation worsened more after the crisis female perceptions of gender equality should be more traditional and should differ less from male perceptions.

Single parents living with children are likely to start with more egalitarian gender attitudes because they are obliged to combine work and family responsibilities (independently from gender). During the period of crisis, this category is likely to be more affected compared to other categories because single parents have to earn money for themselves and for children. This could make them stress the traditional gender identity and lead to the change in attitudes. Hence, my next hypothesis is as follows:

- Perceptions of gender equality of those who live in single-adult households with children are likely to be more positive compared to those of other types of families. However, in countries that were more influenced by crisis they are likely to be less positive.

The same logic could be applied to lesser-educated groups that are most likely to suffer as the result of crisis. For them there are fewer possibilities in the labor market so they are more likely to become unemployed. Hence, during the crisis they are likely to stress their traditional gender identity (West and Zimmerman, 1987). The gender attitudes of lesser-educated groups are likely to become more traditional after the crisis.

- Perceptions of gender equality of lesser-educated groups are likely to be less positive in the countries where the economy was damaged more by crisis compared to the countries that were less affected by crisis.

#### **4. Data, measures, and methods**

##### **4.1 Data**

To reveal the perceptions of gender equality depending upon the impact of crisis I use Eurobarometer 76.1 dataset of 2011, which covers the following areas: the economic and financial crisis, European Parliament energy policy, financial services, corruption, development aid, and gender equality. The Eurobarometer is a unique cross-national and cross-temporal survey program conducted on behalf of the European Commission (for more information see <https://www.icpsr.umich.edu/icpsrweb/ICPSR/studies/34552>). I have chosen this dataset for a number of reasons. First, it covers a wide range of European countries. The following 27 countries are covered in the chosen dataset and included into analysis: Belgium, Bulgaria, Czech Republic, Denmark, Germany, Estonia, Ireland, Greece, Spain, France, Italy, Cyprus,

Latvia, Lithuania, Luxembourg, Hungary, Malta, Netherlands, Austria, Poland, Portugal, Romania, Slovenia, Slovakia, Finland, Sweden and United Kingdom. Second, it allows us to estimate the impact of crisis not only on country level (by adding macro level) but also on individual level. Third, the socio-demographic variables are relevant for testing the hypotheses.

In the current research, I am primarily interested in economically active population because they are more likely either to lose a job or begin to work as a necessity during the crisis. I limited the sample by age including those who are 18 – 65 years old.

Multilevel regression model with maximum likelihood estimation serves as the main research method. For my research, it is a relevant method because I have to distinguish two levels of analysis (Albright & Marinova, 2010; Hox, 2010; Snijders & Bosker, 1999). Individuals are nested in countries. Level 1 is individual level and level 2 is country level. I include in the model both individual level and country level indicators.

## 4.2. Measures

The main **dependent variable** is the index of perceptions of gender equality. This index consists of three indicators: 1) Women are less interested than men in positions of responsibility; 2) Women are less willing than men to fight to make a career for themselves; 3) Women do not always have the necessary qualities and skills to fill positions of responsibility. The respondents had to agree or disagree with the statements above. The scaling categories were as follows: totally agree (1), tend to agree (2), tend to disagree (3) and totally disagree (4). The indicators were rescaled from 0 to 10, summed up and then the index was divided by 3. For index construction, first I calculated 2-tailed correlations between items. The correlation between the items 1 and 2 is 0.568<sup>\*\*2</sup>, the correlation between items 1 and 3 is 0.426<sup>\*\*</sup> and the correlation between items 2 and 3 is 0.387<sup>\*\*</sup>. Then I ran exploratory factor analysis for both pooled data and by country. These three items form in exploratory factor analysis a single factor. Higher values indicate more negative perceptions of gender equality. Cronbach alpha for three items is 0.719.

This index could be named 'women are not less competent for public duties'. These items tap attitudes regarding female involvement in public space namely work and public duties. This aspect is quite relevant for the focus of the current research because I look at perceptions of women's position and chances in the labor market in countries more or less suffered by crisis. In the rest of the paper, I will name this index 'perceptions of gender equality. The agreement with the statements reflects negative perceptions of gender equality. Disagreement with the statements could be interpreted as that women are not less suitable for the positions of responsibility than men.

The main **independent variables** on **individual level** are the following. The indicator of effect of crisis on individual level was measured by the statement: "You have lost your job \ your partner (husband or wife, partner, etc.) has lost his / her job. The baseline includes the

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<sup>2\*\*</sup>p-value<0.01

respondents to whom this has not happened at all. Two dummy variables comprise the following responses: “Yes, as a direct consequence of the crisis” and “Yes, but not as a direct consequence of the crisis”. The difference between these two dummies is vague to some extent, because it is likely that crisis has contributed to job loss of the people who do not admit it or when it was just not the direct reason. However, I kept the two distinct variables in order to see the difference between these two categories of respondents.

Furthermore, the following control variables are taken into account. Gender is coded as a dichotomous variable (women – 1, men – 0). I distinguish four types of the households: 2-parent household without children (baseline), single-parent household without children, single household with children and 2-parent household with children. Single-parent household with children is likely to be the most vulnerable category.

By the level of education, respondents were divided into two groups. Those who have finished their education after being 20-year old or are still studying refer to high- or middle-educated. Low-educated are those who finished education before the age of 20 or have not received full-time education. Low-educated is a very vulnerable category and are likely to suffer during the crisis. Unfortunately, there is no better variable for education in the data and the finer educational categories cannot be distinguished.

Furthermore, I distinguished three categories by their labor market status: high qualified (baseline), low or middle qualified or not working. It is likely that low qualified and who do not work would be more shaken by crisis than highly qualified. To the high qualified refer the following categories of workers: professionals (lawyer, medical practitioner, accountant, architect, etc.), business proprietors, owner (full or partner) of a company, employed professional (employed doctor, lawyer, accountant, architect), general management, director or top management (managing directors, director general, other director) and middle management, other management (department head, junior manager, teacher, technician). Low and middle qualified comprise farmers, fishermen, owners of a shop, craftsmen, other self-employed persons, employed working mainly at a desk, travelling (salesmen, driver, etc.) or in a service job (hospital, restaurant, police, fireman, etc.), supervisors, skilled manual workers, unskilled manual workers and servants. To the category “not working” refer those who never had a job, unemployed or temporarily not working, retired or unable to work through illness as well as students and responsible for ordinary shopping and looking after the home, or without any current occupation, not working.

In addition, I use as a control variable a subjective assessment of level in society as a proxy for the material well-being (income). Unfortunately, the question about actual income is not available in the dataset. However, the level in society is a more permanent category and is less likely to be influenced by a current situation (for example, the drop of material well-being after the crisis). The question was as follows: “On the following, step ‘1’ corresponds to “the lowest level in the society”; step ‘10’ corresponds to “the highest level in the society”. Could you tell me on which step you would place yourself?”

Finally, respondents were divided into four age groups: 18-24 year old (baseline), 25-39, 40-

54 and 55-65.

On the **contextual level**, I use GDP per capita from year 2011 in the logarithmic form to control the level of economic development and modernization. To test the impact of crisis on country level, I use the drop of GDP between 2007 and 2010 (calculated as  $(GDP_{2010} - GDP_{2007}) / GDP_{2007}$ ) and the drop of GDP between 2008 and 2009 (calculated as  $(GDP_{2009} - GDP_{2008}) / GDP_{2008}$ ). I chose the broader period as the main indicator because it is important whether the country managed to overcome the consequences of crisis. In addition, these two measures allow estimating the robustness of the results.

The second indicator of impact of crisis is the increase in unemployment rate (UR) between 2007 and 2010 ( $(UR_{2010} - UR_{2007}) / UR_{2007}$ ) and between 2008 and 2009 ( $(UR_{2009} - UR_{2008}) / UR_{2008}$ ). Increase in the unemployment rate is to a lesser extent connected to economic development and hence to some extent is a more accurate measure of the effect of crisis. Again, estimation change in unemployment rate for two periods of crisis will show the robustness of the results.

Using both change in GDP per capita and change in unemployment rate enables me to check for the stability of results. I would like to emphasize that GDP per capita **decreases** as a result of crisis whereas the unemployment rate **increases**. Therefore, the interaction effects will have different signs.

## 5. Results

In the last part of the paper, I will consider the main results of the analysis. First, I ran a zero model where perceptions of gender equality serve a dependent variable. The intercept in this model equals 6.866\*\*\*, ICC is 0.096.<sup>3</sup> It means that 9.6 per cent of variance can be explained differences across countries and shows that multilevel analysis is an appropriate method.

In the next four models, I included GDP in logarithmic form (lnGDP) in 2011 and change in GDP between 2007 and 2010. It is possible to see from all four models that in countries with higher GDP per capita perceptions of gender equality are more positive. However, the effect of GDP per capita is not very strong. It could be due to the fact the discrepancy in GDP per capita in European economies is not very salient. The change in GDP per capita between 2007 and 2010 does not affect perceptions of gender equality (Model 1).

On the contrary, the effect of crisis on the individual level has a great impact upon perceptions of gender equality. People who or whose partners have lost their jobs perceive gender equality more negatively. The effect is especially strong for those who claim to have lost the job not because of crisis.

Among the control variables, the main predictors of perceptions of gender equality are gender, age and low level of education. Women have more positive perceptions of gender equality, whereas those who finished education before 20 or no full-time and are 55-65 years old perceive gender equality more negatively. Surprisingly, those who not work or are low or

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<sup>3</sup> AIC=75196, log likelihood= - 44540, N (individuals) = 19729, N (countries) = 27.

middle qualified do not differ in the perceptions of gender equality with the highly qualified.

**Table 1.** Multilevel regression models: dependent variable – index of gender attitudes (unstandardized regression coefficients). Macro level – GDP per capita and GDP change from 2007 to 2010

	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>	<b>Model 4</b>
Intercept	1.874	1.862	1.902	1.946
<b>Individual level</b>				
Yes, as a direct consequence of the crisis	-0.120**	-0.125**	-0.120**	-0.120**
Yes but not as a direct consequence of the crisis	-0.541***	-0.546***	-0.542***	-0.539***
Finished education before 20 or no full-time education	-0.185***	-0.189***	-0.185***	-0.232***
low or middle qualified	-0.057	-0.058	-0.056	-0.056
not working	-0.086	-0.087	-0.085	-0.086
Level in society	-0.016	-0.016	-0.015	-0.016
One adult household without children	0.061	0.058	0.061	0.060
One adult household with children	0.148*	0.154**	0.168**	0.145*
Two+ adult household with children	0.012	0.012	-0.004	0.011
Female	0.754***	0.814***	0.754***	0.756***
25 - 39 years old	-0.081	-0.085	-0.080	-0.081
40 – 54 years old	-0.077	-0.079	-0.077	-0.079
55 – 65 years old	-0.282***	-0.285***	-0.283***	-0.282***
<b>Country level</b>				
Ln GDP 2011	0.484**	0.483**	0.482**	0.481**
Change in GDP per capita 2007-2010	-1.862	-3.020**	-1.611	-0.955
<b>Interactions</b>				
Female*GDPchange		2.056***		
One adult household without children*GDPchange			-0.075	
One adult household with children*GDPchange			0.455	
Two+ adult household with children*GDPchange			-0.615	
Finished education before 20 or no full-time education*GDPchange				-1.434***
<b>Model fit</b>				
AIC	75199	75175	75,202	75,189
Log likelihood	-37582	-37568	-37580	-37576
ICC	0.075	0.075	0.075	0.075
Level 1 (16799 individuals) – R2	0.0583	0.0597	0.0584	0.0590
Level 2 ( 27 countries) – R2	0.1292	0.1306	0.1295	0.1299

**Note:** \*\*\*p-value<0.01, \*\* p-value<0.05, \* p-value<0.1 (2-tailed tests). Data source: Eurobarometer 2011. Sample of EU27 countries.

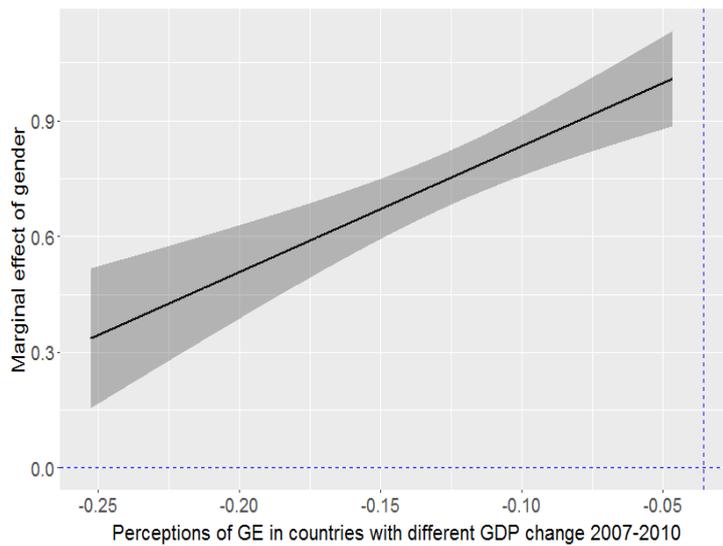
In Models 2, 3 and 4 I estimate the interaction effects between the impact of crisis on country level (GDP change) and micro variables. I also calculated the marginal effects with standard errors of interaction effects for more precise interpretation (Figures 2 and 3).

From Model 2 it can be seen that women in the countries where GDP per capita dropped more there is less discrepancy in women's and men's perceptions of gender equality. In countries where GDP change was less, there is more discrepancy between men and women. At the same time in all the countries, women have more favorable perceptions of gender equality than men (Figure 2). The same result was found for the drop of GDP between 2008 and 2009.

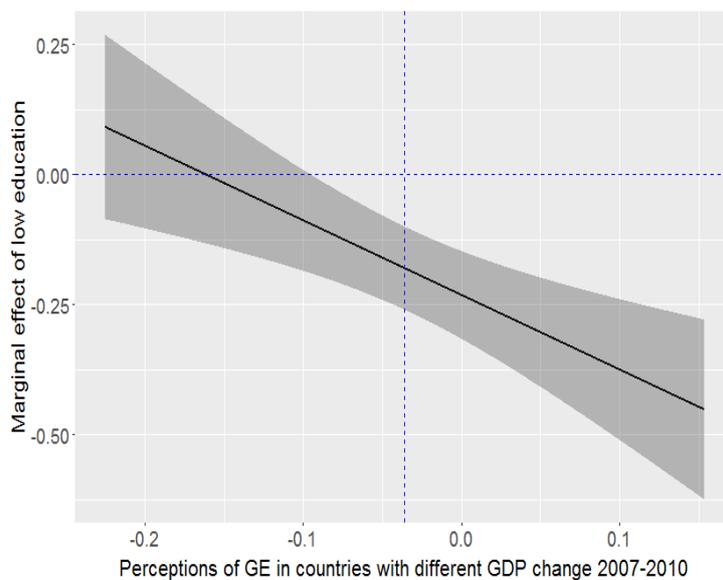
Model 3 shows that there is no interaction effect between family structure and the drop of GDP. However, the expected interaction was found for the drop of GDP 2008 and 2009 but it

cannot be considered robust.

Furthermore, I found a quite unexpected interaction effect between having finished education before 20 or having no full-time education and unemployment rate growth (Model 4, Figure 3). In countries where GDP dropped more the discrepancy between perceptions of gender equality of the lesser-educated and middle and higher educated groups is not significant. At the same time, in countries where GDP dropped less, the lowlier educated have less positive perceptions of gender equality. Probably it could be explained by the fact that in countries where GDP per capita grew more the qualification in the labor market played a more important role than in countries that experienced higher unemployment rate growth. However, this interaction effect was not significant in the model with GDP change from 2008 to 2009.



**Figure 2.** Effect of gender upon perceptions of gender equality in countries with different GDP change



**Figure 3.** Effect of low education upon GA in countries with different GDP change.

To sum up, only interaction effect between gender and drop of GDP proved to be robust. The effects of family structure and education proved to be not stable.

Next, I ran models with unemployment rates in 2011 and their changes between 2007 and 2010 as the main country variables in order to confirm the impact of crisis at country level. Unemployment rates in 2011 itself as well as changes in unemployment rate between 2007 and 2010 do not influence gender attitudes (Model 5).

**Table 2.** Multilevel regression models: dependent variable – index of gender attitudes (unstandardized regression coefficients). Macro level – unemployment rate change 2007-2010

	<b>Model 5</b>	<b>Model 6</b>	<b>Model 7</b>	<b>Model 8</b>
Intercept	6.762***	6.705***	6.771***	6.802***
<b>Individual level</b>				
Yes, as a direct consequence of the crisis	-0.121**	-0.122**	-0.120**	-0.123**
Yes but not as a direct consequence of the crisis	-0.541***	-0.544***	-0.544***	-0.540***
Finished education before 20 or no full-time education	-0.187***	-0.194***	-0.187***	-0.248***
low or middle qualified	-0.057	-0.057	-0.058	-0.057
not working	-0.086	-0.088	-0.089	-0.087
Level in society	-0.015	-0.015	-0.015	-0.015
One adult household without children	0.062	0.060	0.073	0.061
One adult household with children	0.149**	0.156**	0.288***	0.149**
Two+ adult household with children	0.012	0.014	-0.029	0.012
Female	0.754***	0.865***	0.754***	0.756***
25 - 39 years old	-0.080	-0.081	-0.082	-0.082
40 – 54 years old	-0.076	-0.073	-0.074	-0.077
55 – 65 years old	-0.280***	-0.274***	-0.280***	-0.279***
<b>Country level</b>				
Unemployment rate	0.019	0.019	0.019	0.019
UR change 2007-2010	-0.089	0.002	-0.093	-0.134
<b>Interactions</b>				
Female* URchange		-0.163***		
One adult household without children* URchange			-0.014	
One adult household with children * URchange			-0.189**	
Two+ adult household with children * URchange			0.060	
Finished education before 20 or no full-time education*URchange				0.084**
<b>Model fit</b>				
AIC	75207	75193	75203	75205
Log likelihood	-37585	-37577	-37580	-37583
ICC	0.099	0.098	0.098	0.098
Level 1 (16799 individuals) – R2	0.0332	0.0340	0.0337	0.0334
Level 2 (27 countries) – R2	0.1284	0.1292	0.1285	0.1280

**Note:** \*\*\*p-value<0.01, \*\* p-value<0.05, \* p-value<0.1 (2-tailed tests). Source: Eurobarometer 2011. Sample of EU27 countries.

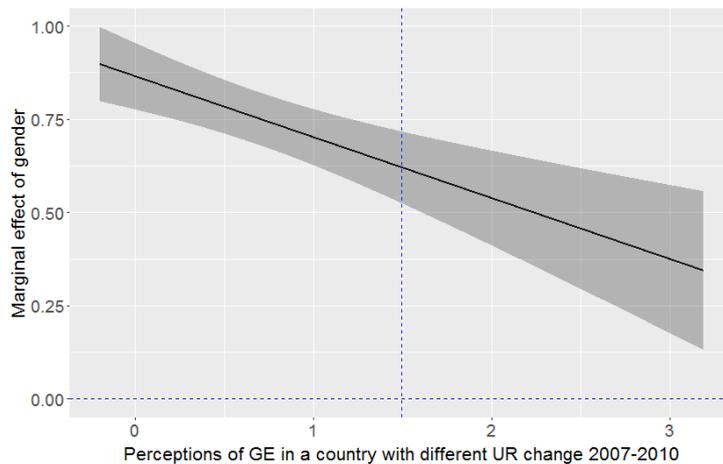
Cross-level interactions with unemployment rates are similar as with the GDP per capita. Marginal effects with standard errors are plotted in Figures 4 to 6. (Figures 4-6).

In countries where unemployment rates increased because of crisis women's perceptions of gender equality differ from men's to a lesser extent. At the same time in all countries, women evaluate gender equality more positive than men do (Model 6, Figure 4). Hence, it is likely that women suffered from economic crisis more and even if they had to find job or become employed they did not consider it appropriate behavior. The crisis could have stressed the female traditional social role. It is worth emphasizing that change in the unemployment rate is not always less in more economically developed countries.

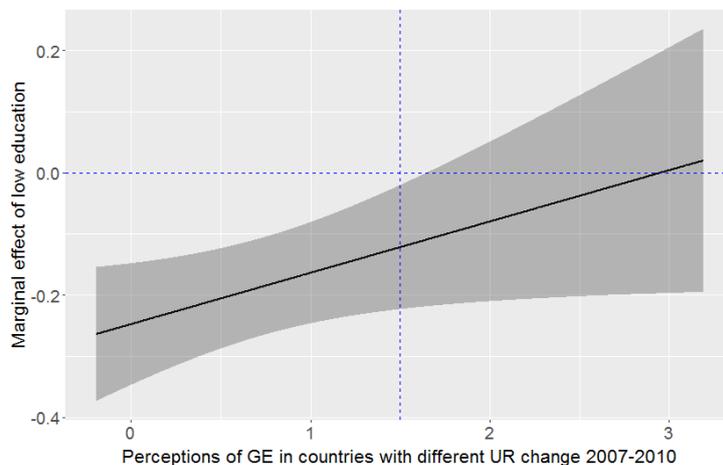
The same tendency is true for those who live in one-parent households with children (Model

7, Figure 5). In countries where unemployment rate raised more those who live in one-parent households with children have the same perceptions of gender equality compared to those who live in 2-parent households without children. However, in the countries where unemployment rates did not change, the perceptions of gender equality of those who live in one-adult household with children are more positive compared to the perceptions of those who live in 2-parent households. Although this group is likely to possess more positive perceptions of gender equality for the countries where unemployment rate dropped more as a result of crisis this is not true. It is possible that in these countries such a situation is not regarded as normal and hence these individuals emphasize more traditional gender roles. When a single breadwinner either loses her or his job or begins to earn less, his or her perceptions of gender equality could be shaken because he or she is unable to cope with the situation alone.

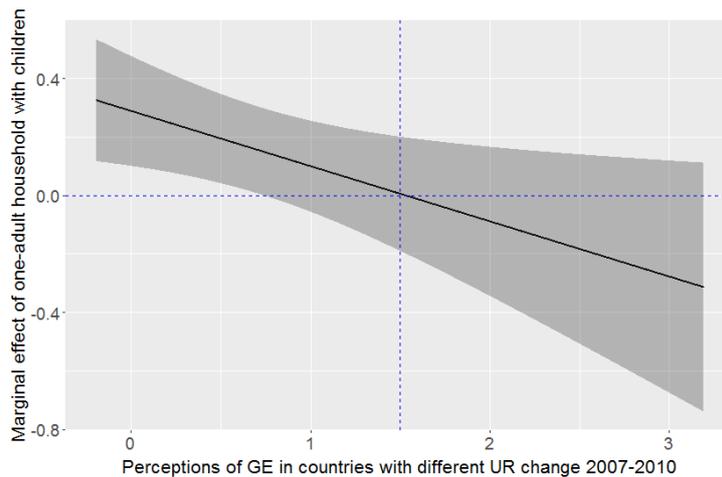
Finally, again I found a quite unexpected interaction effect between having finished education before the age of 20 or having no full-time education, and unemployment rate growth (Model 8, Figure 6). In countries where unemployment rates grew more, the discrepancy between perceptions of gender equality of the lesser-educated and middle and higher educated groups is not significant. At the same time in countries where unemployment rates increased to a lesser extent, the lesser-educated have less positive perceptions of gender equality.



**Figure 4.** Effect of gender upon perceptions of gender equality in countries with different UR change 2007-2010.



**Figure 6.** Effect of low education upon perceptions of gender equality in countries with different UR change 2007-2010.



**Figure 5.** Effect of gender upon perceptions of gender equality in countries with different UR change 2007-2010.

All my results were confirmed when I took a shorter time span for change in unemployment rates (from 2008 to 2009). In addition, I checked the models where I controlled for the unemployment rate in 1998 but its effect is insignificant and it does not have impact upon other effects.

Hence, change in GDP per capita and change in unemployment rates between 2008 and 2009 give almost the same results that show the consistency of measurement.

## 6. Conclusions and discussion

In the current study, I examined the perceptions of gender equality of vulnerable groups that were more and less affected by crisis in 27 European countries using Eurobarometer data from 2011. I used multilevel regression analysis focusing mainly on cross-level interactions.

My hypothesis about the impact of economic crisis on perceptions of gender equality was partly confirmed. On country level change in GDP per capita and in unemployment rate does not influence perceptions of gender equality in general. On the individual level, however, crisis has a strong impact upon perceptions of gender equality. Those who or whose partner has lost the job emphasize more negatively perceived gender equality. This tendency is independent from gender, education, having low or high-qualified job or the general impact of crisis in the country. This result means that individuals usually evaluate the situation from the perspective of their family and micro-environment than on the country level.

Perceptions of gender equality of vulnerable groups vary a lot depending upon the depth of impact of economic crisis in the country. My hypotheses about the impact of economic crisis on women was confirmed. This finding is in line with the “doing gender” conception of West and Zimmerman (1987). In the countries where GDP per capita dropped more or unemployment rate increased more after the economic crisis the perceptions of gender equality are worse. Although many women entered the labor market during the crisis, their employment is often involuntary

and this emphasizes their female identity.

The hypothesis about the impact of economic crisis on one-parent household with children was partly confirmed. Perceptions of gender equality of those who live in one-parent households with children in general are more egalitarian. In countries where unemployment rates increased more after the crisis there is no difference in perceptions of gender equality of different types of households whereas in countries less affected by crisis those who live in one-parent households with children perceive better gender equality. This interaction turned out to be significant for change in GDP per capita from 2008 to 2009 but not from 2007 to 2010. The explanation could be as follows. When the single parent begins to earn less or loses a job it becomes more difficult to cope with the family situation. This change is likely to make the perceptions of gender equality more negative.

My hypothesis about the effect of crisis on the lesser-educated was not confirmed. In countries where unemployment rates grew more there is no significant discrepancy in perceptions of gender equality between the lesser-educated and middle and higher educated groups whereas in countries where unemployment rates increased to a lesser extent perceptions of gender equality of the lesser-educated are more negative compared to other educational groups. The same effect was found when I considered GDP per capita change from 2007 to 2010 (but not 2008 to 2009). Probably the explanation lies in the fact that in countries that experienced high unemployment rate growth, the level of education and qualification diminish in importance.

To sum up, I analyzed the cross-level interactions between individual characteristics (gender, education, family structure) and the changes in economic context. Values and attitudes are closely connected with economic development (Inglehart and Welzel, 2005). Changes in economic condition in the previous years are related to perceptions of gender equality. When individuals negatively assess gender equality in the country, it also partly indicates their willingness and capacity to participate in labor market activities. This increasing vulnerability, in its turn, can to some extent hinder economic growth. The findings provide theoretical and empirical challenges for further study of the mechanisms of perceptions of gender equality in post-crisis Europe.

Undoubtedly, the position of women and especially those who live in single-adult households is more vulnerable in countries that suffered more from the crisis. This should be taken into account in elaboration of policy regarding gender equality in the labor market.

### **Acknowledgements**

The study has been funded by the Russian Academic Excellence Project '5-100'.

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