Three Essays on Transition Countries:
Political Trust, Gender, and Job Satisfaction

By

Hye Young Woo

Dissertation

Submitted to

KDI School of Public Policy and Management

In Partial Fulfillment of the Requirements

For the Degree of

DOCTOR OF PHILOSOPHY

IN DEVELOPMENT POLICY

2020

Three Essays on Transition Countries:
Political Trust, Gender, and Job Satisfaction

By

Hye Young Woo

Dissertation

Submitted to

KDI School of Public Policy and Management

In Partial Fulfillment of the Requirements

For the Degree of

DOCTOR OF PHILOSOPHY

IN DEVELOPMENT POLICY

2020

Professor Changyong CHOI

Three Essays on Transition Countries:
Political Trust, Gender, and Job Satisfaction

By

Hye Young Woo

Dissertation

Submitted to

KDI School of Public Policy and Management

In Partial Fulfillment of the Requirements

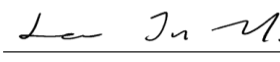
For the Degree of

DOCTOR OF PHILOSOPHY

IN DEVELOPMENT POLICY

Committee in charge:

Professor Changyong CHOI, Supervisor 

Professor Ju-ho LEE 

Professor Eun Mee KIM 

Professor Hisam KIM 

Professor Shun WANG 

Approval as of December, 2020

ACKNOWLEDGEMENTS

This thesis would not have been possible without the contribution of many people who, throughout the years, gave encouragement for me to concentrate on my study while balancing work and family.

First and foremost, I would like to express my deepest gratitude to my supervisor, Professor Changyong Choi, who inspired me in every way of life values. It was my biggest luck to have met him at the KDI as my supervisor. Under his guidance and affection, I was encouraged to start Ph.D. courses at KDI School and endure hard times with gratitude. He taught me not only the critical thinking and writing but also the life attitudes as a scholar and a professional. Also, I would like to express my sincere appreciation for my four committee professors, Professor Ju-ho Lee, Professor Eun Mee Kim, Professor Hisam Kim, and Professor Shun Wang for their time and kind advice. Professor Eun Mee Kim reviewed my dissertation for the Master's degree at Ewha Womans University, and I thank her for her continuous guidance.

I also would like to express heartfelt gratitude for my supervisors and colleagues at work. The executive director of CID, Dr. Sanghoon Ahn, and the director of policy consultation Dr. Hokyung Bang have supported me to pursue a degree and work at the same time. Also, I would like to thank my supervisors at CID Dr. Kyoung Doug Kwon, Dr. Song Chang Hong who gave me valuable advice and encouragement at every important stages. A very special gratitude goes to my supervisor and senior, Dr. Seungju Kim, who showed me writing a good thesis is possible while being devoted to family and work. I would like to appreciate another

senior Ph.D. Min Young Seo at KDI School, who always gave me a hope that I can finish the journey of Ph.D. course while being a good mother and a worker. I would also like to express sincere gratitude to my colleagues Ms. Taeyeon Lee, Ms. Miyeon Lee, and Ms. Seoyoung Kim who have been a wonderful advisor throughout Ph.D. program, and my dear team members Ms. Jeehee Yoon, Ms. Heaweon Choi, Ms. Seungju Lee, Ms. Nari Ahn, and Ms. Keunyoung Yoon for their support with their sincere fellowship. Although I cannot list everyone supported me in the acknowledgement, I would like to express everyone who gave me kind encouragement.

Finally, my dissertation is dedicated to my grandmothers, parents and parents-in-law, dear sisters Hye Jin, Hye Rin, Hye Jeong, my husband Jaehyouk Jang, and my lovely daughter Yuna Jang who always gave me unconditional support and love, which were the core essence of this dissertation.

Table of Contents

List of Tables

Chapter 1. Political trust in the transition countries

Chapter 2. Gender wage gap in times of crisis of the Central and Eastern European (CEE) transition countries

Chapter 3. Job satisfaction in post-socialist countries

List of Figures

Chapter 1. Political trust in the transition countries

Chapter 2. Gender wage gap in times of crisis of the Central and Eastern European (CEE) transition countries

Chapter 3. Job satisfaction in post-socialist countries

Chapter 1. Political trust in the transition countries

Transition in the early 1990s in the Central European countries and the formal Soviet Union was a grand institutional transformation in both international and domestic politics as well as economy. Political trust is important to conduct economic reforms and build the legitimacy of new governments. This paper aims to highlight the origin of political trust and the role of governments to improve the level of citizens' confidence. This research supports that socialization under communism make a resistant effect toward democracy and a market economy, but the significance weakens when objective economic and political situations are included in the empirical test. Being a state-sector employee and self-employer during the transition is positively associated with political trust while frequent changes in jobs are negatively correlated. The key contribution of this research is that it adds values to the political trust literature by applying different components of trust (core concept, confidence in government, and interpersonal trust) and labor market experience. The policy implication of this research is valid for the economies under the transition with an institutional transformation.

Keywords: political trust, democracy, a market economy, labor market experience

1.1. Introduction

"Where does individual political trust come from?" is perhaps a question to start with. There are two contradicting theories regarding this question; one is the socialization (or culturalism) theory, and the other is the institutional theory (Mishler & Rose, 2001; Pop-Eleches & Tucker, 2014; Závecz, 2017). While the socialization theory emphasizes one's experience with cultural background, the institutional theory treats political trust as an endogeneous factor of institutions and one's evaluation of regimes' economic and political performance. The question is hard to answer as one's life is continuous under similar regimes;

therefore, cultural and institutional effects cannot to be distinguished from one another. However, there is one exception to explain such difficult question: the experience of citizens in the transition countries, which observed a grand institutional transformation from centrally-planned communism to capitalist democracy.

Political trust is indeed a complex concept. To make it simple, Citrin and Stroker (2018) explain that it is the feelings of citizens toward their government and is domain-specific. In that sense, this paper takes interest in citizens' feelings toward core values (democracy and a market economy), government institutions (presidency, government, parliament, and political parties), and other citizens (interpersonal trust) along with the effect of experience under socialism. Pop-Eleches and Tucker (2014) found evidence that an individual exposed to communism brings an indoctrinating effect and has low support for democracy and capitalism. While this research tests the direction of the effect of experience under socialism, it additionally considers the *multivariate characteristics of political trust* from specific to generalized trust.

There is a well-known problem of understanding economic and social performance of a government as a source of political satisfaction, which is the reference point (to the past or to the current neighbor countries?) (Nye, 1997). In this regard, this study includes individual evaluation of political/economic situations and compare it to the past rather than the current evaluation. Another contribution of this paper is the investigation of the effect of labor market experience on political trust during the transition period. It serves as a starting point that one's labor status and the number of job changes are significantly associated with the attitude towards political and interpersonal trust.

The methodology of this research is ordinary least squares (OLS). Country and time were set as dummies to control unobserved heterogeneity across country and time. Also, this

study tests one's subjective evaluation of the current political and economic situation compared to the past, macroeconomic variables, and basic individual characteristics (age, gender, education, and religious denomination) with a key independent variable (exposure to socialism). The novelty of this paper is that this research covers 27 transition countries in the Central Eastern and Baltics (CEB), Southeastern Europe (SEE), and the Commonwealth of Independent States (CIS)[1]. While previous researches focused mainly on the CEB countries, this research gives a more comprehensive picture of political trust of the transition countries.

1.2. Conceptual Framework: Political Trust and Social Trust

1.2.1. Components of political trust

Easton (1965) established the spectrum of political support (or system support in his term) with two categories at extreme: specific and generalized (or diffused) political support. Specific political support means people's trust in office-holders within nation-state institutions. It can be measured by the popularity of politicians or high-ranking government officials. On the other hand, generalized support is established on more abstract ideas on values and principles to build up the nation-state and its institutions. Theoretically, specific and generalized political support can be both dichotomous and continuous. In countries with fragile legitimacy, distrust toward incumbent high-level politicians can raise a question to their constitutional arrangements. However, citizens with deep historical roots of legitimacy would keep their firm belief in the regime even if their political leaders disappoint them.

[1] Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovak Republic, Slovenia (CEB, 8 countries), Albania, Bosnia and Herzegovina, Bulgaria, Croatia, FYR Macedonia, Montenegro, Romania, Serbia (SEE, 8 countries), Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyz Republic, Moldova, Russia, Tajikistan, Ukraine, Uzbekistan (CIS, 11 countries)

This research adopts the framework of Norris (2017), which was established upon the theoretical framework of Easton (1965). Norris (2017) defines five components of political supports from the most specific to the most diffuse level. The first and the most specific component is the approval of incumbent office-holders, and this means evaluations on the performance and qualification of presidents, prime ministers, politicians, civil servants, etc. The second component deals with the confidence in regime institutions including the legislature, executive, judiciary, and other government bodies. The third component covers the evaluation of regime performance, and it is more abstract than the first two components as it evaluates the performance and process of government policies. The fourth component is the approval of the core regime, such as support for democratic ideas and rejection of autocratic principles. Lastly, the fifth component is the most diffused concept, which is national identities. This category particularly covers the feelings of patriotism and national pride.

Researches on political trust in the post-communist countries focused on each of the components from the specific to generalized level as indicated in Norris' (2017) work. On one hand, some studies emphasized the most specific political support toward particular parliamentary parties (Fidrmuc, 2000), but on the other, other research concentrated on the confidence in government or parliamentary institutions (Mishler & Rose, 1997; Lovell, 2001; Mishler & Rose, 2001; Catterberg & Moreno, 2005; Sapsford, 2006; Rothstein & Stolle, 2008; Závecz, 2017). In this dimension, researchers have used global surveys such as the World Value Survey or the New Democracies Barometer to find variables on confidence in political and government institutions.

The third component (evaluation of regime performance) has also largely been explored in previous literature (Kasse, 1999; Earle & Gehlbach, 2003; Delhey & Newton, 2005; Kim &

Pirttilä, 2006; Alesina & Fuchs-Schündeln, 2007; Chu et al., 2008; Neundorf, 2010; Chiru & Gherghina, 2012). For instance, government policies for privatization (Earle & Gehlbach, 2003) or economic reforms (Kim & Pirttilä, 2006) represent the context of the post-communist countries. The fourth category is more generalized political trust, which translates the approval of the core (new) regime, such as democracy and a market economy, in this region (Evans & Whitefield, 1995; Pop-Eleches & Tucker, 2014). Lastly, the full stateness from the transition can be found in the studies of Kuzio (2001). According to Kuzio, a shared national identity is the precondition of democratization in the post-communist countries.

1.2.2. Political trust and social trust

The relationship between political trust and social trust has not been clear in existing empirical studies. Although many researchers failed to find strong correlations between social and political trust at the individual level (Kasse, 1999; Delhey & Newton, 2003), there was found a positively significant relationship at the country level (Delhey & Newton, 2005). From the aggregate-level correlation between social and political trust, Newton and Norris (2000) argue that general trust has a positive impact on social and political institutions and effective governments. Interpersonal trust differentiates the level of trust and distrust toward political institutions because it can 'spill over' to political institutions and create a civic culture (Mishler & Rose, 2001). The causal direction is not clear, however, because a well-functioning government institution can build up social capital (Rothstein & Stolle, 2008; Delhey & Newton, 2005). In the context of the transition countries, Letki and Evans (2005) argue that democratization in Central and Eastern Europe entailed a 'top-down' process, where social capital was affected by political and economic institutions (Letki & Evans, 2005).

1.3. Origins of political trust – socialization and institutionalism

Political trust or system support or confidence in government institutions are basically the good (bad) feeling of citizens towards their government (Citrin & Stoker, 2018). From the individual viewpoint, as shown in Figure 1, the course of political trust can be summarized as two parts – socialization and institutional theories. The early debate on the two origins of political trust – socialization and institutionalism - was well addressed in Mishler and Rose's paper (2001). According to the socialization theory, political trust is exogenous as it is shaped by cultural norms and early-life socialization. For example, the exposure of communism indoctrinated individuals' attitudes with the suppression of the private sector and heavy reliance on the central government rather than resistance against the old system (Pop-Eleches, 2007; Neundorf, 2010; Pop-Eleches & Tucker, 2014).

Furthermore, failures of the planned economy allowed people to use inter-personal relations to cope with socio-economic problems rather than relying on public institutions and laws. Therefore, the new democracy inherited low levels of trust even after the collapse of the previous regime (Rose-Ackerman, 2001). Comparing the East Germans with West Germans, Alesina and Fuchs-Schündeln (2007) found that communism shifted individual preferences toward a more redistributive government due to both direct and indirect impact (through economic downturn).

On the contrary, institutional theories insist that political trust is endogenous to institutional performance, and thus it is conditioned by government capabilities (Mishler & Rose, 1997; Mishler & Rose, 2001). Several studies have analyzed government performance and political trust. For example, Stevenson and Wolfers (2011) studied such a relationship in the U.S. context, and they evinced that the increasing unemployment resulted in a great loss in confidence in the government as well as the financial sector. In the European context, Van Erkel

and Van Der Meer (2015) found that longitudinal changes in economic performance – economic growth, government deficits, unemployment rate, and inflation – affected the level of political trust.

1.4. Government Performance and Political Trust in the Context of Transition

1.4.1. Political trust and government performance

Government performance and its evaluation are at the center of the institutionalism theory. However, it is not a simple concept and needs to be carefully analyzed in research. Political trust is a relational and domain-specific concept (i.e., A trusts B to do X) (Citrin & Stoker, 2018). Citizens evaluate their government with its performance of their interested policy areas. The mechanism is graphically shown in Figure 1. A government decides how to utilize scarce resources in the society by implementing policies. In the process of decision making and implementation, the government chooses a certain time frame and expects the impact of the policies. Once the policies become effective, results would be discovered, and the citizens would evaluate the performance based on their everyday experience and the eyes of the mass media.

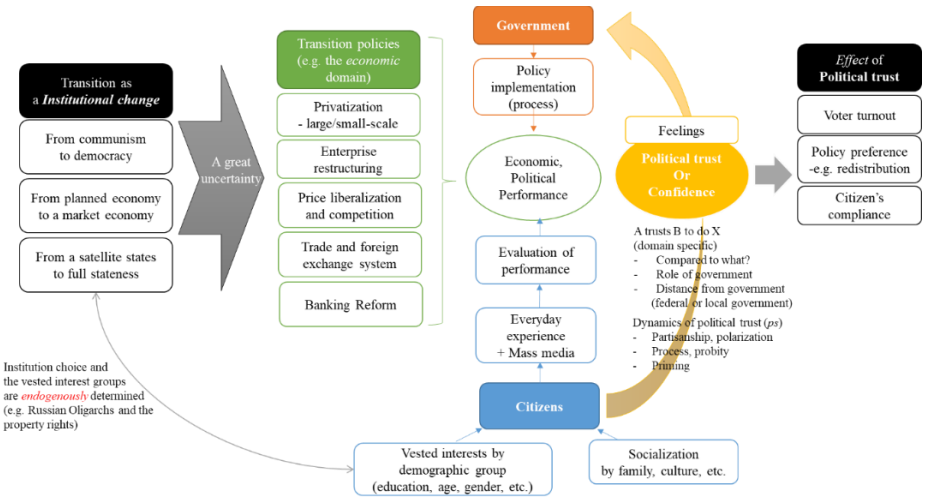
As Nye (1997) pointed out, there are several problems of recognizing government performance as a cause of political satisfaction/dissatisfaction. First, it is hard to measure government performance (*whose performance compared to what?*). For example, Van Erkel and Van Der Meer (2015) argue that economic performance of a nation is meaningful to understand political support when it is compared to one's own past performance rather than to other countries.

Second, each individual has different perception of the role of government. People who

experienced communism tend to support state intervention because they are inclined to believe that it is the government's responsibility to secure citizens' living when someone becomes unemployed or needy (Alesina & Fuchs-Schündeln, 2007). Third, the evaluation of performance depends on one's perception of distance from the government (either federal or local government) or the gap between real and perceived performance. In this context, citizens' everyday experience through government services is important. When someone witnesses daily small-scale corruption, it lowers his/her support for the political regime in power (Reisinger, 2017).

On the aggregate level, political trust can be changed due to 1) below *p*s - partisanship and polarization and 2) process and probity (Hetherington & Rudolph, 2008; Citrin & Stoker, 2018). First, partisanship and polarization can be a source of the downward trend of political trust as it amplifies conflicts between parties and increases brinkmanship. Second, citizens evaluate the government not only based on the outcome but also the process and probity. The hypothesis of this research proposes that when the government shows respect to its citizens and gives them a fair hearing, citizens become willing to overcome some painful results for long-term policy goals. Other hypothesis presents that political trust depends on the citizens' views of the national congress; therefore, the legitimacy of representative democracy can be decreased by the incidence of political scandals.

Figure 1. Conceptual framework of political trust in the post-communist context



Source: author

1.4.2. Transition as a large-scale institutional change and political trust

Institutional context is an important aspect in explaining political trust as it influences citizens' policy preferences as well as patterns of social division (Edlund, 1999). For example, the design of a tax system under the welfare state regime would determine government legitimacy (Edlund, 1999) and the power of income on the policy preferences for redistribution (Beramendi & Rehm, 2016). In such a way, individual positions and demands are determinants of the level of political trust. Different factors, such as the occupational status of individuals, income, and their perception of social mobility, shape the preferences for redistribution (Guillaud, 2013).

The transition economies should be analyzed in the context that they underwent a large-scale institutional change from communism to democracy, from a centrally planned economy to a market economy, and from satellite states to full stateness (Závecz, 2017). Each government implemented transition policies such as privatization, enterprise restructuring, price liberalization and competition, trade and foreign exchange systems, and banking reforms.

The newly introduced capitalist democracy needs trust to establish the fundamental for commercial exchange, contracts, agreements between people, and confidence in the legitimacy of the new government (Lovell, 2001). However, the low level of political trust in the post-communist countries remains as one of the consistent obstacles in previous literature (Mishler & Rose, 1997; Mishler & Rose, 2001; Lovell, 2001; Letki & Evans, 2005; Sapsford, 2006). The lack of trust (or distrust) in government continues to be a problem in this region as it has a great influence on voter turnout, policy preferences, and citizens' compliance.

In addition, the post-communist countries show regional divergence. While the former Soviet Republics[2] experienced a consistent decline in confidence in the parliament both in the initial period of transition and consolidation period, the new democracies in the Central and Eastern European countries[3] saw much significant decrease in confidence in the later consolidation period due to the 'post-honeymoon disillusion' (Catterberg & Moreno, 2005).

Among three big institutional changes, the process of economic transformation includes the creation and development of a market economy, property rights, and other political and legal changes, leading to privatization and economic restructuring (Dewatripont & Roland, 1996).

From another perspective, the transition countries can be understood as a part of young democracy. The institutional transformation gave path to the declining political trust due to the 'post-honeymoon disillusionment' rather than the existence of critical citizens (Catterberg & Moreno, 2005). Also, citizens in the young democracy might show different levels of trust in

[2] Belarus, Estonia, Latvia, Lithuania, Russia, Ukraine

[3] Bulgaria, Czech Republic, East Germany, Hungary, Poland, Romania, Slovenia, Slovakia

each component of political trust. For example, citizens of the Kyrgyz Republic showed pro-democracy attitudes concerning corruption, but they expressed distrust in existing government institutions at the same time (Collins & Gambrel, 2017). This indicates that past experiences of the authoritarian political power with the lack of democratic participation and commodity shape citizens' perception of the role of government and the measurement of its performance.

1.4.3. Economic reform of the transition governments and political trust

Under the complex process of the institutional change, citizens in the transition countries were left with a great uncertainty about who would benefit after the reform was complete. Considering that political trust is essential for the pursuit of social investment (meaning citizens first pay the cost, expecting subsequent benefits) (Jacobs & Matthews, 2017), public support was the key to successful economic restructuring for stabilization in the transition countries. In this sense, civic culture matters in the relationship between uncertainty and political trust. The lack of civic culture strengthens citizens demand for more state regulations and intervention even though they recognize corruption. When people believe that entrepreneur activities are using uncivic methods, they would want more regulations – although it is administered by corrupt government officials – to control the entry of entrepreneurs (Aghion et al., 2010).

Early debates on the governments' economic reform policies and political trust establishment focused on the speed and magnitude of policy implementation. On the one side, advocates of the "big bang" approach supported speedy and comprehensive economic and structural reforms when the "window of opportunity" was created at the early state of the institutional transformation. On the other side, the gradualist strategy supported a sequential reform implementation to check up the policy success at each stage (Roland, 2002; Iwasaki &

Suzuki, 2016).

The core question of the debate was how to build up citizens' support for economic reforms in the trade-off between ex ante political constraints (feasibility constraints) and ex post constraints (backlash and political reversal) (Roland, 2002). In reality, policymakers of the actual economic reforms in the transition countries argued that the dichotomy between the big bang and gradual approach was not clearly defined because the structural reform policies were the series of incomplete and spontaneous policy implementation before the conceived "window of opportunity" closed down (Sonin, 2013). Some scholars argue that perceived fairness in the process of economic and political transformation – rather than the speed and magnitude of reforms – is more important to political trust (Mishler & Rose, 1997; Kluegel & Mason, 2004).

The change of institutional settings produced winners and losers in the transition countries. A previous empirical study on four European transition countries (the Czech Republic, Hungary, Poland, and the Slovak Republic) found that private employers, office workers, and highly-educated citizens benefitted from the economic reform and thus supported reformist parties (Orazem & Vodopivec, 1995 (for Slovenia); Brainerd, 1998 (for Russia); Fidrmuc, 2000).

Although the institutional framework resulted in positive effects on certain demographic groups, institutional choice and vested interest groups were endogenously determined. In fact, autocrats, who had economic and political rent before the transition, preferred a low quality of institutions and government to secure their monopoly power (Melville & Mironyuk, 2016). One of the notable examples is Russian oligarchs, they are, large private owners other than politicians or government officials. Although they made a contribution to Russia's economic recovery, they simultaneously weakened Russia's economic

and democratic institutions through the capture of state (Guriev & Rachinsky, 2005). Mass privatization before the establishment of institutions to secure property rights allows powerful individuals to strip state assets and gives them incentives to vote against the rule of law (Hoff & Stiglitz, 2004).

The grand institutional change in the post-communist countries has been almost 30 years. Some even said the transition ends with academic legacies of the formation of modern political economies in development issues and of economic reform disciplines (Sonin, 2013). Although the initial economic reform package was due in the 1990s and 2000s, the governance gap of the transition countries compared to advanced economies still persists, leading to negative consequences, such as spreading uncertainty in society, damaged competitiveness, and unequal opportunities (EBRD, 2019). Accordingly, this study on political trust in the transition economies is not confined to the post-communist countries but presents important lessons of economic development and reform policies with the institutional transformation to other regions.

1.5. Research design to contribute to the previous political trust discussion

This research investigates important issues of the origin of political trust. Unlike other countries, the transition countries give a unique research opportunity as there is a discrepancy in the institutional context before and after the transition. It can also be interpreted as the legacy of communism in terms of people's attitude toward government. Economic performance is represented as a subjective evaluation (compared to their own past) as well as objective macroeconomic indicators. To emphasize the role of individual experience as a mechanism to the formulation of political trust, this research included the individual labor market history in the regression. Political trust, the dependent variable, is two-folds – the core concepts of

democracy and a market economy and the confidence in government institutions – and interpersonal trust was tested afterwards.

1.6. Empirical strategy

This research aims to test culturalism and institutionalism in three dimensions; they are, social trust, confidence in government institutions, and the core concepts of the new regime (i.e., democracy and a market economy). The main motivation of this research is Pop-Eleches and Tucker's study (2014), in which the socialization theory was tested using the "age-period-cohort (APC)" effect. To test the origin of political trust in the post-communist countries, the main independent variable was built on the "cohort effect," where the cohort means the group of people who experienced the communist rule. The challenge of this research question was to isolate this cohort effect from the age and period effects.

The main data of this research was the *Life in the Transition Survey* (LITS) created by European Bank for Reconstruction and Development (EBRD) in collaboration with the World Bank (WB). The aim of the data is to survey public attitudes, well-being, and the impact of economic and political changes in more than 30 transition countries and also their neighboring countries for a comparison. It was conducted three times in the year 2006, 2010, and 2016. This study selected 27 transition countries from CEB, SEE, and CIS (see Table 1).

The basic regression model is as follows:

$$Trust_{iyc} = \beta_0 + \beta_1 \text{Exposure}_{iyc} + \beta_2 \text{Political Situation}_{iyc} + \beta_3 \text{Economic Situation}_{iyc} + \beta_4 \log(\text{GDPpercap PPP})_{yc} + \beta_5 \text{UR}_{yc} + \beta_6 \text{Inflation}_{yc} + X'\gamma + \beta_7 \text{History}_{ic} + \theta_c + \varphi_y + u_{icy}$$

The dependent variable $Trust_{iyc}$ is the level of trust of individual i of country c in

year y. In terms of trust, it is composed of three dimensions. One is the approval of the core system (democracy and a market economy), and it was coded as 1 if one answers that a market economy (or democracy) is preferable to any other form of economic (or political) system. Second is the level of trust in national institutions (presidency, government, parliament, and political parties), and each answer was scaled from 1 (completely distrust) to 5 (completely trust). The last dependent variable is general trust. The survey asked "generally speaking, would you say that most people can be trusted, or that you can't be too careful in dealing with people?," and the answers were also scaled from 1 (completely distrust) to 5 (completely trust).

The key independent variable of this paper is $Exposure_{iyc}$, which is the years of exposure to the communist rule of individual i of country c in year y. The identification strategy was to utilize the within-country variation (years of living under the communist regime when an individual turned age six) and the cross-country differences of the communism period (1918-1989 for CIS countries and 1945-1989 for European countries). In addition to this, other individual- and country-level control variables were added in the regression. First is the perception of the political and economic situation ($\text{Political Situation}_{iyc}$ and $\text{Economic Situation}_{iyc}$). LITS asked whether the economic (political) situation in their country was better today than around 4 years ago. Again, the answers were scaled from 1 (strongly disagree) to 5 (strongly agree).

Second, macroeconomic variables were added as independent variables, such as log of GDP per capita (PPP adjusted), unemployment rate, and inflation rate ($\log(\text{GDPpercap PPP})_{yc}$, UR_{yc}, and Inflation_{yc}). The macroeconomic variables were extracted from the World Development Indicators. Third is a vector of individual characteristics ($X'\gamma$), such as age, gender (1 if one is a female, 0 otherwise), religion (1 if one has a religion,

0 otherwise), education (1 no degree/no education, 2 compulsory school education, 3 secondary education, 4 professional and vocational school/training, 5 higher professional degree (university, college), and 6 post graduate degree), and health status (ranging from 1 (very bad) to 5 (very good)).

Lastly, as the personal employment situation is a crucial factor for one's political attitude (Hayo, 2004), variables for labor market experience in the transition period (from 1989 to 2006) were added (History_{ic}). The first wave of LITS surveyed individual history under socialism, and the respondents' answers were recreated as variables, such as the number of jobs as an employee, a self-employer, the number of moves to a better or worse job, if one ever experienced voluntary or involuntary job switches, the number of years in the state-sector employment, and the number of years receiving unemployment benefits. One's specific labor market experience gives a more concrete picture of determinants to the system than the status or types of employment.

Table 1. Summary statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Dependent variables					
core value					
market economy	87,631	0.40	0.49	0	1
democracy	89,403	0.53	0.50	0	1
trust in national institutions					
presidency	91,458	3.09	1.38	1	5
government	93,539	2.72	1.33	1	5
parliament	92,567	2.59	1.29	1	5
political parties	90,980	2.36	1.22	1	5
General trust					
trust	93,786	2.80	1.13	1	5
Independent variables					
experience under socialism	80,070	23.17	13.20	1	65

Variable	Obs	Mean	Std. Dev.	Min	Max
age	97,946	47.41	17.62	18	99
age squared	97,946	2558.27	1766.64	324	9801
female	97,938	0.59	0.49	0	1
religion	96,717	0.91	0.28	0	1
education	97,953	3.47	1.06	1	6
health	97,644	3.41	0.96	1	5
Labor market experience in transition					
Number of Jobs as an employee	27,002	1.01	0.99	0	6
Number of years as a self-employer	26,993	1.05	3.35	0	18
Number of moves to a better job	3,790	1.27	1.98	0	18
Number of moves to a worse job	3,862	4.03	4.97	0	18
Ever experienced voluntary job switches	12,172	0.58	0.49	0	1
Ever experienced involuntary job switches	11,951	0.40	0.49	0	1
Number of years in state-sector employment	27,002	4.43	6.23	0	18
Number of years receiving unemployment benefits	3,610	1.53	2.46	0	18
Transition countries					
Latvia	97,969	0.04	0.19	0	1
Lithuania	97,969	0.04	0.19	0	1
Slovak Republic	97,969	0.04	0.19	0	1
Slovenia	97,969	0.04	0.19	0	1
Estonia	97,969	0.04	0.19	0	1
Czech Republic	97,969	0.04	0.19	0	1
Poland	97,969	0.04	0.20	0	1
Hungary	97,969	0.04	0.19	0	1
Croatia	97,969	0.04	0.19	0	1
Bulgaria	97,969	0.04	0.19	0	1
Romania	97,969	0.04	0.19	0	1
Albania	97,969	0.04	0.19	0	1
Bosnia	97,969	0.04	0.19	0	1
Macedonia	97,969	0.04	0.19	0	1
Montenegro	97,969	0.04	0.19	0	1
Serbia	97,969	0.04	0.20	0	1
Belarus	97,969	0.04	0.19	0	1
Kazakhstan	97,969	0.04	0.19	0	1
Armenia	97,969	0.04	0.19	0	1

Variable	Obs	Mean	Std. Dev.	Min	Max
Azerbaijan	97,969	0.04	0.19	0	1
Georgia	97,969	0.04	0.19	0	1
Kyrgyzstan	97,969	0.04	0.19	0	1
Moldova	97,969	0.04	0.19	0	1
Tajikistan	97,969	0.04	0.19	0	1
Ukraine	97,969	0.04	0.20	0	1
Uzbekistan	97,969	0.04	0.20	0	1
Russian Federation	97,969	0.04	0.20	0	1

1.7. Key findings

1.7.1. Descriptive analysis

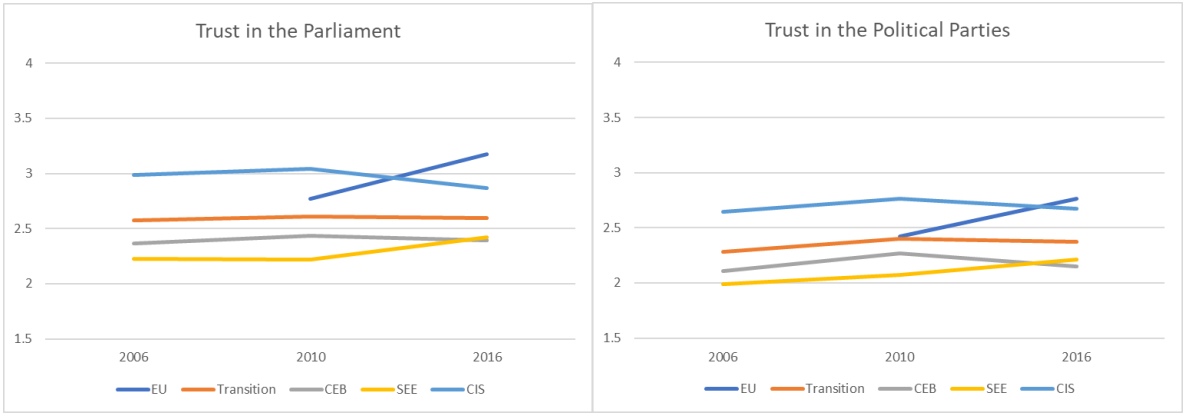
For a cross-country comparison, Figure 2 descriptively shows the level of political trust and general trust in the transition countries and the EU. The EU countries include France, Sweden, the U.K. (in 2010), and Germany (in 2016). The preferences for the core concepts (democracy and a market economy) declined in the CEB and SEE countries from 2006 to 2010 while there showed an increase in the CIS countries. The preferences for both democracy and a market economy were higher in the EU countries, but the level of trust for a market economy in the CIS countries were almost comparable to the EU in 2010. By contrast, the level of trust in the CEB countries decreased in 2010, and it can be the reflection of the economic downturn started from 2008 in the region.

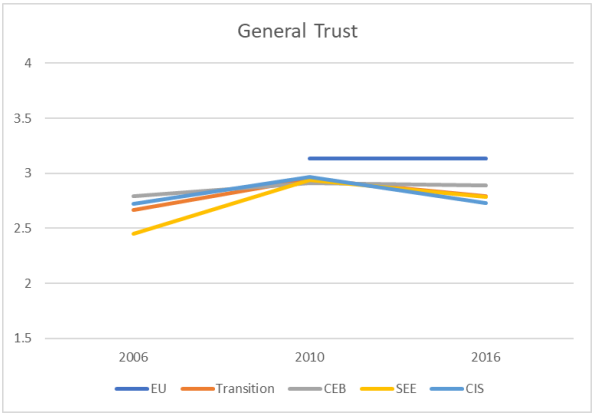
Second, trust in national institutions showed regional diversity. On one hand, the level of trust in the SEE countries was the lowest whereas the CIS countries reported the highest. The confidence in the presidency in the CIS countries even surpassed that of the EU countries. The distrust in government institutions in the CEB countries supports the observation in previous literature (Mishler & Rose, 2001; Závecz, 2017). The puzzling level of trust in the

core concepts (at least during the economic crisis) and national institutions in the CIS region can be partly explained by the low civic culture. According to Aghion et al. (2010), low civic culture leads to more demand for government intervention in social problems even when political corruption is present. As such, economic difficulties might have triggered an increase in political trust in the CIS region.

Third, the level of general trust in the post-communist countries showed less divergence across the transition regions. General trust of the transition countries increased in 2010 and then decreased in 2016. The level of trust was slightly below the EU level.

Figure 2. Political trust and general trust in the post-communist countries and EU





Note. Author's calculation from LITS

1.7.2. Empirical results

Table 2 shows results of the regression for the core concepts under the democratic capitalist systems. The preference for a market economy and democracy decreased around 0.0018, 0.0017 for column (1) and column (2), respectively. It can be interpreted as one year of experience under the socialist rule is correlated with the less preference for the political and economic system around 0.002. As the mean year of experience under socialism is around 23 years (Table 1), on average, the exposure to socialism is associated with 0.046 (23 * 0.002): less preference for democracy and a market economy more than any other system. Considering that the preference for capitalist democracy is a dummy variable between 0 and 1, the number represents 4.6 percent of the total magnitude of the variable.

As one recognized that the political (or economic) situation was better than the past, it increased the preference to democracy and market economy. When the macro variables were counted, however, the experience under socialism became statistically insignificant. Therefore, the social and economic environment presented as macroeconomic variables were more important than the experience under socialism. The coefficients for individual characteristics support Hayo's work (2004) as older, female, and less educated respondents were less supportive to democracy and market economy.

The r-squared of Table 2 shows approximately 0.05 (ranged from 0.048 to 0.066) and is comparable to the baseline regression of Pop-Eleches and Tucker (2014)'s study without country and year dummies (0.057). The difference might be from the number of years of study; three in this study and six in Pop-Eleches and Tucker (2014)'s study.

Table 2. Political trust in the core values of a market economy and democracy

	(1) Market economy	(2) Democracy	(3) Market economy	(4) Democracy	(5) Market economy	(6) Democracy
Experience under socialism	**-0.00182*** (0.000675)**	**-0.00173** (0.000720)**	**-0.00152** (0.000713)**	**-0.00152** (0.000756)**	**-0.000570 (0.000722)**	**-0.000579 (0.000766)**
Political situation			0.0209*** (0.00231)	0.0306*** (0.00231)	0.0177*** (0.00233)	0.0270*** (0.00234)
Economic situation			0.0352*** (0.00227)	0.0241*** (0.00228)	0.0292*** (0.00233)	0.0183*** (0.00234)
log (GDP per capita PPP)					0.161*** (0.0348)	0.139*** (0.0349)
Unemployment rate					-0.000944 (0.000989)	-0.00180* (0.00100)
Inflation					0.00233** (0.000972)	0.00170* (0.000986)
Age	0.00346** (0.00138)	0.00468*** (0.00143)	0.00364** (0.00148)	0.00540*** (0.00152)	0.00197 (0.00150)	0.00340** (0.00155)
Age squared	-0.000037*** (0.00000884)	-0.000040*** (0.00000906)	-0.000041*** (0.00000948)	-0.000049*** (0.00000968)	-0.000032*** (0.00000962)	-0.000037*** (0.00000983)
Female	-0.0360*** (0.00369)	-0.0284*** (0.00372)	-0.0332*** (0.00380)	-0.0268*** (0.00383)	-0.0303*** (0.00386)	-0.0231*** (0.00390)
Religion	0.0163** (0.00707)	0.0174** (0.00719)	0.00982 (0.00728)	0.0145* (0.00742)	0.00176 (0.00729)	0.00313 (0.00742)
Education	0.0363*** (0.00179)	0.0531*** (0.00179)	0.0347*** (0.00186)	0.0505*** (0.00185)	0.0376*** (0.00189)	0.0540*** (0.00188)
Health	0.0465*** (0.00224)	0.0413*** (0.00228)	0.0384*** (0.00234)	0.0341*** (0.00238)	0.0366*** (0.00237)	0.0324*** (0.00241)
country dummies	yes	yes	yes	yes	yes	yes
year dummies	yes	yes	yes	yes	yes	yes
N	71,057	72,392	65,824	66,992	63,418	64,675
R-sq	0.048	0.051	0.060	0.063	0.061	0.066

Note. Robust standard errors in parentheses; * p<0.10, ** p<0.05, *** p<0.01

Table 3 is the same model as Table 2 but with different dependent variables; such variables indicate trust in national institutions. Again, the exposure to socialism decreased the confidence in national institutions, and the magnitude of the coefficients was around 0.0038 (column (1) to (4)). On average, the experience under socialism (around 23 years, refer to Table 1) is associated with a decrease of preference for democracy and a market economy around 0.087 (0.0038 * 23), which is the amount of 8.7 percent. However, when the macro variables were accounted, the exposure variable lost its significance.

Among the macro-level variables, log of GDP per capita (PPP adjusted) was negatively correlated with political trust, and it is due to the less political trust in the CEB and SEE (where the log of GDP per capita is higher) countries than the CIS countries. Just as the core concepts, trust in the institutions was affected by the socio-economic environment rather than the amount of experience under the socialist regime. The subjective political and economic situation was positively correlated with political trust. Unlike the confidence in the core concepts, females showed more trust in the institutions while less confidence was revealed among more educated individuals.

Table 3. Political trust in national institutions

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Presidency	Government	Parliament	Political Parties	Presidency	Government	Parliament	Political Parties	Presidency	Government	Parliament	Political Parties
Experience under socialism	**-0.00390****	**-0.00388****	**-0.00377****	**-0.00348****	**-0.00262**	**-0.00298***	**-0.00340****	**-0.00303***	**-0.000942**	**-0.0000337**	**-0.0000148**	**0.000788**
	(0.00186)	**(0.00180)**	**(0.00176)**	**(0.00171)**	**(0.00188)**	**(0.00175)**	**(0.00172)**	**(0.00171)**	**(0.00191)**	**(0.00178)**	**(0.00174)**	**(0.00173)**
Political situation					0.272***	0.322***	0.277***	0.213***	0.265***	0.312***	0.264***	0.199***
					(0.00589)	(0.00559)	(0.00547)	(0.00538)	(0.00596)	(0.00563)	(0.00548)	(0.00537)
Economic situation					0.132***	0.162***	0.152***	0.136***	0.128***	0.152***	0.138***	0.121***
					(0.00573)	(0.00548)	(0.00537)	(0.00534)	(0.00588)	(0.00559)	(0.00545)	(0.00539)
log (GDP per capita PPP)									-0.602***	-0.432***	-0.499***	-0.141*
									(0.0815)	(0.0795)	(0.0793)	(0.0804)
Unemployment rate									-0.00652***	-0.000301	-0.00353	0.00713***
									(0.00245)	(0.00224)	(0.00218)	(0.00216)
Inflation									0.00922***	0.0134***	0.0182***	0.0226***
									(0.00240)	(0.00223)	(0.00218)	(0.00223)
Age	0.00353	-0.00417	-0.00569	-0.00248	0.00779**	0.00249	0.00203	0.00239	0.00338	-0.00439	-0.00587*	-0.00550
	(0.00367)	(0.00356)	(0.00352)	(0.00344)	(0.00373)	(0.00353)	(0.00350)	(0.00349)	(0.00379)	(0.00360)	(0.00354)	(0.00352)
Age squared	0.0000704***	0.000129***	0.000127***	0.0000886***	0.0000137	0.0000527**	0.0000473**	0.0000351	0.0000437*	0.0000976***	0.0000981***	0.0000814***
	(0.0000230)	(0.0000224)	(0.0000221)	(0.0000217)	(0.0000233)	(0.0000222)	(0.0000220)	(0.0000220)	(0.0000237)	(0.0000226)	(0.0000222)	(0.0000222)
Female	0.0513***	0.0273***	0.0174**	-0.00202	0.0543***	0.0318***	0.0193**	0.00115	0.0589***	0.0381***	0.0261***	0.00835
	(0.00928)	(0.00894)	(0.00872)	(0.00856)	(0.00904)	(0.00840)	(0.00832)	(0.00838)	(0.00920)	(0.00857)	(0.00842)	(0.00840)
Religion	0.0881***	0.151***	0.169***	0.182***	0.0630***	0.115***	0.138***	0.151***	0.0471**	0.0857***	0.103***	0.117***
	(0.0187)	(0.0174)	(0.0167)	(0.0159)	(0.0184)	(0.0164)	(0.0161)	(0.0160)	(0.0184)	(0.0163)	(0.0160)	(0.0158)
Education	0.00579	-0.00452	-0.0187***	-0.0411***	0.00152	-0.00798*	-0.0208***	-0.0433***	0.00971**	0.00592	-0.00497	-0.0300***
	(0.00462)	(0.00445)	(0.00432)	(0.00420)	(0.00453)	(0.00421)	(0.00415)	(0.00413)	(0.00461)	(0.00429)	(0.00420)	(0.00415)
Health	0.121***	0.135***	0.130***	0.123***	0.0675***	0.0658***	0.0694***	0.0699***	0.0655***	0.0608***	0.0627***	0.0616***
	(0.00582)	(0.00557)	(0.00541)	(0.00529)	(0.00575)	(0.00531)	(0.00522)	(0.00522)	(0.00583)	(0.00539)	(0.00527)	(0.00525)
country dummies	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
year dummies	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
N	73,772	75,496	74,712	73,382	68,428	70,072	69,476	68,398	66,801	67,484	66,970	66,134
R-sq	0.226	0.197	0.189	0.135	0.31	0.331	0.303	0.22	0.291	0.292	0.263	0.185

Note. Robust standard errors in parentheses; * p<0.10, ** p<0.05, *** p<0.01

Table 4. General trust and experience under socialism.

	(1) trust	(2) trust	(3) trust
Experience under socialism	**0.00204**	**0.00134**	**-0.00125**
	(0.00166)	**(0.00173)**	**(0.00175)**
Political situation		0.111***	0.116***
		(0.00525)	(0.00529)
Economic situation		0.0720***	0.0637***
		(0.00519)	(0.00531)
log (GDP per capita PPP)			-0.648***
			(0.0810)
Unemployment rate			-0.0295***
			(0.00219)
Inflation			-0.0178***
			(0.00216)
Age	-0.00274	0.000707	0.00465
	(0.00331)	(0.00349)	(0.00354)
Age squared	0.0000506**	0.0000215	0.00000303
	(0.0000207)	(0.0000219)	(0.0000222)
Female	0.00953	0.0176**	0.0133
	(0.00820)	(0.00836)	(0.00844)
Religion	0.0244	-0.000222	0.00941
	(0.0156)	(0.0160)	(0.0161)
Education	0.0561***	0.0562***	0.0574***
	(0.00404)	(0.00413)	(0.00418)
Health	0.141***	0.113***	0.111***
	(0.00521)	(0.00536)	(0.00541)
country dummies	yes	yes	yes
year dummies	yes	yes	yes
N	75,655	69,598	66,998
R-sq	0.062	0.089	0.094

Note. Robust standard errors in parentheses; * p<0.10, ** p<0.05, *** p<0.01

General trust was not significantly correlated with the experience under socialism (Table 4). Among other independent variables, the subjective recognition of the political and economic situation and the education and health status were significantly and positively correlated with general trust.

Table 5. Labor market experience during the transition and political trust

	(1) Market economy	(2) Democracy	(3) Presidency	(4) Government	(5) Parliament	(6) Political Parties	(7) Trust
Number of Jobs as an employee	-0.00523	-0.00126	**-0.0186***	**-0.0539*****	**-0.0540*****	**-0.0506*****	0.00412
	(0.00372)	(0.00368)	**(0.00969)**	**(0.00870)**	**(0.00849)**	**(0.00817)**	(0.00896)
	22155	22153	20707	21369	21361	21020	21531
	0.084	0.084	0.263	0.234	0.22	0.144	0.096
Number of years as a self-employer	**0.00316*****	**0.00220****	0.000596	0.00344	-0.00284	-0.00395	-0.00383
	(0.000978)	**(0.000967)**	(0.00265)	(0.00246)	(0.00239)	(0.00242)	(0.00243)
	22149	22147	20702	21364	21357	21014	21525
	0.084	0.084	0.263	0.233	0.219	0.143	0.096
Number of moves to a better job	0.00162	0.00626	**-0.0196***	-0.0161	-0.0173	-0.00289	0.008
	(0.00456)	(0.00452)	**(0.0114)**	(0.0111)	(0.0108)	(0.0106)	(0.0108)
	3194	3192	3030	3112	3110	3100	3117
	0.089	0.102	0.204	0.185	0.179	0.108	0.068
Number of moves to a worse job	-0.000148	-0.000790	-0.00663	-0.00598	-0.00769	-0.00645	0.00274
	(0.00200)	(0.00195)	(0.00549)	(0.00490)	(0.00470)	(0.00452)	(0.00507)
	3274	3274	3120	3183	3177	3167	3191
	0.065	0.09	0.201	0.198	0.172	0.098	0.07
Ever experienced voluntary job switches	0.0164	0.00581	**-0.0521***	-0.0204	0.00956	-0.0165	0.01
	(0.0102)	(0.0103)	**(0.0276)**	(0.0256)	(0.0247)	(0.0241)	(0.0254)
	10475	10473	9826	10110	10115	9984	10225
	0.089	0.092	0.247	0.222	0.208	0.137	0.09
Ever experienced involuntary job switches	**-0.0224****	-0.00372	0.0171	-0.0302	**-0.0488****	-0.0385	**-0.0603****
	(0.0103)	(0.0103)	(0.0274)	(0.0255)	**(0.0246)**	(0.0238)	**(0.0252)**
	10283	10281	9640	9921	9926	9802	10038
	0.089	0.092	0.246	0.221	0.208	0.138	0.088
Number of years in state-sector employment	0.000503	**0.00149*****	0.00154	**0.00251***	0.00204	0.000513	**0.023*****
	(0.000586)	**(0.000577)**	(0.00154)	**(0.00144)**	(0.00141)	(0.00138)	**(0.00144)**
	22155	22153	20707	21369	21361	21020	21531
	0.084	0.084	0.263	0.233	0.219	0.143	0.097
Number of years receiving unemployment benefits	-0.00333	-0.00415	-0.00654	0.000865	-0.00527	0.00865	0.000205
	(0.00367)	(0.00378)	(0.0112)	(0.0107)	(0.0105)	(0.00984)	(0.00983)
	3174	3173	3025	3077	3075	3071	3070
	0.086	0.104	0.155	0.179	0.165	0.093	0.099

Note. Robust standard errors in parentheses; * p<0.10, ** p<0.05, *** p<0.01. Each regression is a separate regression, and only the coefficient of labor market experience is shown. Other independent variables include the perception of the political and economic situation, macroeconomic variables, and individual characteristics (age, gender, education, and health).

The labor market experience is a dimension of everyday experience, and it can be one mechanism to evaluate the performance of government. Indeed, the individual job market experience during the transition was closely correlated with political and general trust (Table 5). The number of jobs as an employee was negatively correlated with trust in national institutions while the number of years as a self-employer showed a positive correlation with support toward market economy and democracy. The self-employers were the new sector after the transition (Boeri & Terrell, 2002), and they showed political support for the new regime of democracy and market economy. The number of moves to a better job was not correlated with political trust but only for trust in presidency, which appeared negative. Although one ever

experienced voluntary job switches, he or she showed less support for the presidency. Moreover, if one ever experienced involuntary job switches, he or she showed less support for market economy and the parliament. It was also revealed that those individuals expressed less general trust. The number of years in the state-sector was positively correlated with the support for democracy, government, and general trust. The number of moves to a worse job and the number of years receiving unemployment benefits were not significantly correlated with political trust nor general trust.

1.8. Discussion

This paper used the robust standard errors in the main regressions to test the statistical significance. However, academic journals usually recommend to use clustered standard errors by country level. Therefore, the regression results with clustered errors are shown in the discussion session for further studies with more robust standard errors (Table 6 to 9). Overall, the regression results showed that the experience under communism lost their statistical significance once the standard errors were clustered. This is possibly because LITS has been conducted only three times so far (2006, 2010, and 2016), and the experience under socialism was calculated in the identical way by country (years of living under the communist regime when individuals turned age six, and the communism period was identical in one country; 1918-1989 for the CIS countries, 1945-1989 for the European countries).

Table 6. Political trust in core values of a market economy and democracy

	(1) Market economy	(2) Democracy	(3) Market economy	(4) Democracy	(5) Market economy	(6) Democracy
Experience under socialism	-0.00182	-0.00173	-0.00152	-0.00152	-0.000570	-0.000579
	(0.00118)	(0.00133)	(0.00120)	(0.00137)	(0.00131)	(0.00134)
Political situation			**0.0209*** **	**0.0306*** **	**0.0177*** **	**0.0270*** **
			(0.00485)	**(0.00540)**	**(0.00477)**	**(0.00491)**
Economic situation			**0.0352*** **	**0.0241*** **	**0.0292*** **	**0.0183*** **
			(0.00576)	**(0.00559)**	**(0.00423)**	**(0.00495)**
log (GDP per capita PPP)					**0.161***	0.139
					(0.0892)	(0.113)
Unemployment rate					-0.000944	-0.00180
					(0.00354)	(0.00589)
Inflation					0.00233	0.00170
					(0.00316)	(0.00340)
Age	**0.00346***	**0.00468***	**0.00364***	**0.00540****	0.00197	0.00340
	(0.00187)	**(0.00240)**	**(0.00191)**	**(0.00247)**	(0.00218)	(0.00245)
Age squared	**-0.0000367*****	**-0.0000403*****	**-0.0000408*****	**-0.0000485*****	**-0.0000323****	**-0.0000367****
	(0.0000115)	**(0.0000141)**	**(0.0000117)**	**(0.0000144)**	**(0.0000131)**	**(0.0000146)**
Female	**-0.0360*****	**-0.0284*****	**-0.0332*****	**-0.0268*****	**-0.0303*****	**-0.0231*****
	(0.00559)	**(0.00547)**	**(0.00499)**	**(0.00523)**	**(0.00475)**	**(0.00455)**
Religion	0.0163	0.0174	0.00982	0.0145	0.00176	0.00313
	(0.0168)	(0.0167)	(0.0154)	(0.0150)	(0.0134)	(0.0121)
Education	**0.0363*****	**0.0531*****	**0.0347*****	**0.0505*****	**0.0376*****	**0.0540*****
	(0.00470)	**(0.00577)**	**(0.00419)**	**(0.00527)**	**(0.00348)**	**(0.00442)**
Health	**0.0465*****	**0.0413*****	**0.0384*****	**0.0341*****	**0.0366*****	**0.0324*****
	(0.00596)	**(0.00556)**	**(0.00470)**	**(0.00483)**	**(0.00452)**	**(0.00487)**
country dummies	yes	yes	yes	yes	yes	yes
year dummies	yes	yes	yes	yes	yes	yes
N	71,057	72,392	65,824	66,992	63,418	64,675
R-sq	0.048	0.051	0.060	0.063	0.061	0.066

Note. Standard errors clustered by country in parentheses; * p<0.10, ** p<0.05, *** p<0.01

Table 6 replicates the regression of political trust in core values (democracy and a market economy) on the experience under socialism and other individual variables with the clustered errors. The independent variable, the experience under socialism, lost its significance when the standard error became more robust. However, subjective economic and political evaluations compared to the past were still significant and positive in the table. In other words, socialization is not important in the sample countries, but the subjective evaluation is more important for building trust on the core concepts. Table 7 shows the same results for political trust in national institutions, and Table 8 shows similar results to Table 4.

Table 7. Political trust in national institutions

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Presidency	Government	Parliament	Political Parties	Presidency	Government	Parliament	Political Parties	Presidency	Government	Parliament	Political Parties
Experience under socialism	-0.00390	-0.00388	-0.00377	-0.00348	-0.00262	-0.00298	-0.00340	-0.00303	-0.009	-0.000	-0.000	0.009
	(0.00543)	(0.00515)	(0.00482)	(0.00446)	(0.00428)	(0.00398)	(0.00381)	(0.00391)	(0.00380)	(0.00334)	(0.00286)	(0.00296)
Political situation					**0.272*** **	**0.322*** **	**0.277*** **	**0.213*** **	**0.225*** **	**0.283*** **	**0.249*** **	**0.198*** **
					(0.0200)	**(0.0139)**	**(0.0124)**	**(0.0125)**	**(0.0198)**	**(0.0150)**	**(0.0118)**	**(0.0111)**
Economic situation					**0.132*** **	**0.162*** **	**0.152*** **	**0.136*** **	**0.110*** **	**0.139*** **	**0.132*** **	**0.122*** **
					(0.0173)	**(0.0146)**	**(0.0165)**	**(0.0193)**	**(0.0179)**	**(0.0130)**	**(0.0122)**	**(0.0115)**
log (GDP per capita PPP)									-0.299	-0.226	-0.271	-0.081
									(0.509)	(0.465)	(0.400)	(0.432)
Unemploy-ment rate									-0.033	-0.002	-0.020	0.043
									(0.0207)	(0.0109)	(0.0101)	(0.00930)
Inflation									0.027	0.042	0.059	**0.077** **
									(0.0149)	(0.0126)	(0.0111)	**(0.0102)**
Age	0.00353	-0.00417	-0.00569	-0.00248	0.00779	0.00249	0.00203	0.00239	0.037	-0.051	-0.071	-0.070
	(0.00976)	(0.0100)	(0.00879)	(0.00819)	(0.00793)	(0.00854)	(0.00771)	(0.00766)	(0.00709)	(0.00729)	(0.00571)	(0.00599)
Age squared	0.0000704	**0.000129** **	**0.000127** **	**0.0000886***	0.0000137	0.0000527	0.0000473	0.0000351	0.052	**0.125** **	**0.131*** **	**0.115** **
	(0.0000547)	**(0.0000585)**	**(0.0000494)**	**(0.0000443)**	(0.0000438)	(0.0000506)	(0.0000448)	(0.0000423)	(0.0000397)	**(0.0000425)**	**(0.0000329)**	**(0.0000344)**
Female	**0.0513** **	0.0273	0.0174	-0.00202	**0.0543*** **	**0.0318** **	**0.0193** **	0.00115	**0.021*** **	**0.015** **	**0.010*** **	0.004
	(0.0188)	(0.0169)	(0.0115)	(0.0112)	**(0.0182)**	**(0.0140)**	**(0.00859)**	(0.00869)	**(0.0185)**	**(0.0140)**	**(0.00899)**	(0.00898)
Religion	0.0881	**0.151** **	**0.169** **	**0.182*** **	0.0630	**0.115*** **	**0.138*** **	**0.151*** **	0.010	**0.019*** **	**0.024*** **	**0.029*** **
	(0.0758)	**(0.0642)**	**(0.0613)**	**(0.0565)**	(0.0600)	**(0.0410)**	**(0.0416)**	**(0.0432)**	(0.0555)	**(0.0298)**	**(0.0275)**	**(0.0325)**
Education	0.00579	-0.00452	-0.0187	**-0.0411** **	0.00152	-0.00798	-0.0208	**-0.0433*** **	0.008	0.005	-0.004	**-0.028*** **
	(0.0176)	(0.0197)	(0.0177)	**(0.0161)**	(0.0151)	(0.0154)	(0.0148)	**(0.0140)**	(0.0148)	(0.0121)	(0.0108)	**(0.0102)**
Health	**0.121*** **	**0.135*** **	**0.130*** **	**0.123*** **	**0.0675*** **	**0.0658*** **	**0.0694*** **	**0.0699*** **	**0.045*** **	**0.045*** **	**0.048*** **	**0.050*** **
	(0.0112)	**(0.0152)**	**(0.0161)**	**(0.0160)**	**(0.0104)**	**(0.00969)**	**(0.0106)**	**(0.00997)**	**(0.0106)**	**(0.00854)**	**(0.00873)**	**(0.00765)**
country dummies	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
year dummies	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
N	73,772	75,496	74,712	73,382	68,428	70,072	69,476	68,398	66,801	67,484	66,970	66,134
R-sq	0.226	0.197	0.189	0.135	0.31	0.331	0.303	0.22	0.291	0.292	0.263	0.185

Note. Standard errors clustered by country in parentheses ; * p<0.10, ** p<0.05, *** p<0.01

Table 8. General trust and experience under socialism.

	(1) trust	(2) trust	(3) trust
Experience under socialism	0.00204	0.00134	-0.00125
	(0.00349)	(0.00321)	(0.00310)
Political situation		**0.111*** **	**0.116*** **
		(0.00907)	**(0.00873)**
Economic situation		**0.0720*** **	**0.0637*** **
		(0.00733)	**(0.00834)**
log (GDP per capita PPP)			**-0.648** **
			(0.301)
Unemployment rate			**-0.0295*** **
			(0.00760)
Inflation			**-0.0178*** **
			(0.00541)
Age	-0.00274	0.000707	0.00465
	(0.00553)	(0.00510)	(0.00504)
Age squared	**0.0000506***	0.0000215	0.00000303
	(0.0000293)	(0.0000273)	(0.0000284)
Female	0.00953	0.0176	0.0133
	(0.0109)	(0.0111)	(0.0109)
Religion	0.0244	-0.000222	0.00941
	(0.0256)	(0.0233)	(0.0236)
Education	**0.0561*** **	**0.0562*** **	**0.0574*** **
	(0.00947)	**(0.00859)**	**(0.00916)**
Health	**0.141*** **	**0.113*** **	**0.111*** **
	(0.00700)	**(0.00680)**	**(0.00662)**
country dummies	yes	yes	yes
year dummies	yes	yes	yes
N	75,655	69,598	66,998
R-sq	0.062	0.089	0.094

Note. Standard errors clustered by country in parentheses ; * p<0.10, ** p<0.05, *** p<0.01

Table 9 is the replication of Table 5 which shows the association of the labor market experience with political trust. Other results remain significant while the coefficient for the number of years as a self-employer to democracy (column 2), and the number of jobs as an employee, ever experienced voluntary job switches to the presidency (column 3), and the number of years in state-sector employment to the government (column 4) lost their significance.

Table 9. Labor market experience during the transition and political trust

	(1) Market economy	(2) Democracy	(3) Presidency	(4) Government	(5) Parliament	(6) Political Parties	(7) Trust
Number of Jobs as an employee	-0.00523	-0.00126	-0.0186	**-0.0539*** **	**-0.0540*** **	**-0.0506*** **	0.00412
	(0.00498)	(0.00567)	(0.0148)	**(0.0117)**	**(0.0124)**	**(0.0131)**	(0.00967)
	22155	22153	20707	21369	21361	21020	21531
	0.084	0.084	0.263	0.234	0.22	0.144	0.076
Number of years as a self-employer	**0.00316** **	0.00220	0.000596	0.00344	-0.00284	-0.00395	-0.00383
	(0.00123)	(0.00177)	(0.00320)	(0.00350)	(0.00320)	(0.00352)	(0.00264)
	22149	22147	20702	21364	21357	21014	21525
	0.084	0.084	0.263	0.233	0.219	0.143	0.096
Number of moves to a better job	0.00162	0.00626	**-0.0196***	-0.0161	-0.0173	-0.00289	0.00468
	(0.00410)	(0.00584)	**(0.00980)**	(0.0169)	(0.0131)	(0.0103)	(0.0151)
	3194	3192	3030	3112	3110	3100	3117
	0.089	0.102	0.204	0.185	0.179	0.108	0.068
Number of moves to a worse job	-0.000148	-0.000790	-0.00663	-0.00598	-0.00769	-0.00645	0.00274
	(0.00216)	(0.00300)	(0.00674)	(0.00628)	(0.00598)	(0.00520)	(0.00454)
	3274	3274	3120	3183	3177	3167	3191
	0.065	0.09	0.201	0.198	0.172	0.098	0.07
Ever experienced voluntary job switches	0.0164	0.00581	-0.0521	-0.0204	0.00956	-0.0165	0.0252
	(0.0142)	(0.0115)	(0.0311)	(0.0286)	(0.0274)	(0.0277)	(0.0254)
	10475	10473	9826	10110	10115	9984	10225
	0.089	0.092	0.247	0.222	0.208	0.137	0.09
Ever experienced involuntary job switches	**-0.0224** **	-0.00372	0.0171	-0.0302	**-0.0488** **	-0.0385	**-0.0603** **
	(0.0107)	(0.0110)	(0.0285)	(0.0258)	**(0.0246)**	(0.0277)	**(0.0275)**
	10283	10281	9640	9921	9926	9802	10038
	0.089	0.092	0.246	0.221	0.208	0.138	0.088
Number of years in state-sector employment	0.000503	**0.00149** **	0.00154	0.00251	0.00204	0.000513	**0.00436** **
	(0.000807)	**(0.000642)**	(0.00171)	(0.00180)	(0.00192)	(0.00156)	**(0.00178))**
	22155	22153	20707	21369	21361	21020	21531
	0.084	0.084	0.263	0.233	0.219	0.143	0.097
Number of years receiving unemployment benefits	-0.00333	-0.00415	-0.00654	0.000865	-0.00527	0.00865	0.000205
	(0.00432)	(0.00520)	(0.00911)	(0.0113)	(0.0127)	(0.00874)	(0.00996))
	3174	3173	3025	3077	3075	3071	3070
	0.086	0.104	0.155	0.179	0.165	0.093	0.099

Note. Standard errors clustered by country in parentheses ; * p<0.10, ** p<0.05, *** p<0.01. Each regression is a separate regression, and only the coefficient of labor market experience is shown. Other independent variables include perception of political and economic situation, macroeconomic variables, and individual characteristics (age, gender, education, and health).

1.9. Conclusion

By utilizing a comprehensive dataset in the transition countries, this research attempted to test two competing theories in the origin of political and general trust: socialization and institutional theories. The transition from the post-socialist countries have two important dimensions: political (from communism to democracy) and economic (from a centrally-planned economy to a market economy) aspects. The discrepancy in socio-economic institutions before and after the transition gave a research opportunity to test the formulation of political trust. This chapter aimed to contribute to the previous literature by employing two layers of political trust (the approval of the core system and confidence in national institutions) as well as interpersonal trust to test the impact of the legacy of communism.

Political trust or confidence is citizens' feelings towards their government, and it is a very complex concept as it is domain-specific and dynamic in nature. This chapter focused on the importance of the labor market experience in everyday life during the transition. The citizens in the consolidation period of the transition might have determined their level of political trust through their success or difficulties in participating in the labor market under the new institutions. The hands-on transition experience might have influenced their evaluation of government performance, shifting the trust for the government. The inclusion of the labor market experience to the discourse of political trust was another contribution of this chapter in understanding the formulation of political trust.

This research supports that the experience under socialism was significantly correlated with political trust. For the preference for the core concepts (democracy and a market economy), the experience under socialism was negatively correlated. This implies that more experience under the communist rule made people resist against a new regime after the transition. The

number of years under communism was also negatively correlated with national institutions, such as presidency, government, parliament, and political parties. However, it became insignificant when macroeconomic variables were added. This means that the social and economic environment represented by macroeconomic variables were more important than the socialization theory.

The labor market experience in the transition period was investigated as a possible mechanism of governments' performance evaluation at the individual level. Consequently, the result showed that the job market experience was closely correlated with political trust. While the number of years as a self-employer and the number of years in the state-sector employment were positively correlated with political and general trust, the number of jobs as an employee, the number of moves to a better job, and the voluntary or involuntary job switches were negatively correlated. It reflects that individual heterogeneity in work-history influenced political support as well as general trust.

The conclusion of this research does not merely apply to the post-communist countries during the transition. Nevertheless, the result of this chapter shows that the macroeconomic performance of national government is important while socialization affects political trust. Also, the result indicates that the governments should make efforts to secure employment in turbulent times. All in all, the results give a message to any modern society that is going through institutional changes or/and economic vulnerability of the role of government to secure its political trust.

References

Aghion, P., Algan, Y., Cahuc, P., & Shleifer, A. (2010). Regulation and distrust. *The Quarterly Journal of Economics, 125*(3), 1015-1049.

Alesina, A., & Fuchs-Schündeln, N. (2007). Good-Bye Lenin (or not?): The effect of communism on people's preferences. *The American Economic Review, 97(*4*),* 1507-1528.

Beramendi, P., & Rehm, P. (2016). Who gives, who gains? Progressivity and preferences. *Comparative Political Studies, 49*(4), 529-563.

Boeri, T., & Terrell, K. (2002). Institutional determinants of labor reallocation in transition. *The Journal of Economic Perspectives, 16(*1*),* 51-76.

Catterberg, G., & Moreno, A. (2005). The individual bases of political trust: Trends in new and established democracies. *International Journal of Public Opinion Research, 18*(1), 31-48.

Citrin, J., & Stoker, L. (2018). Political trust in a cynical age. *Annual Review of Political Science, 21*, 49–70.

Collins, K., & Gambrel, R. (2017). Corruption and popular support for democracy and government in transition contexts: The case of Kyrgyzstan. *Europe-Asia Studies, 69*(8), 1280-1309.

Delhey, J., & Newton, K. (2005). Predicting cross-national levels of social trust: Global pattern or Nordic exceptionalism? *European Sociological Review, 21*(4), 311-327.

Dewatripont, M., & Roland, G. (1996). Transition as a process of large-scale institutional

change. *Economics of Transition, 4*(1), 1-30.

Earle, S. J., & Gehlbach, S. (2003). A spoonful of sugar: Privatization and popular support for reform in the Czech Republic. *Economics and Politics, 15*(1), 1-32.

Easton, D. (1965). *A framework for political analysis,* NJ: Prentice-Hall: Englewood Cliffs.

European Bank for Reconstruction and Development (EBRD). (2019). *Transition report 2019-20: Better governance, better economies,* London: EBRD.

Edlund, J. (1999). Trust in government and welfare regimes: Attitudes to redistribution and financial cheating in the USA and Norway. *European Journal of Political Research, 35*, 341-370.

Fidrmuc, J. (2000). Political support for reforms: Economics of voting in transition countries. *European Economic Review, 44*(8), 1491-1513.

Guillaud, E. (2013). Preferences for redistribution: An empirical analysis over 33 countries. *The Journal of Economic Inequality, 11*, 57-78.

Guriev, S., & Rachinsky, A. (2005). The role of oligarchs in Russian capitalism. *Journal of Economic Perspectives, 19*(1), 131-150.

Hayo, B. (2004). Public support for creating a market economy in Eastern Europe. *Journal of Comparative Economics, 32*, 720-744.

Hoff, K., & Stiglitz, J. (2004). After the big bang? Obstacles to the emergence of the rule of law in post-communist societies. *American Economic Review, 94*(3), 753-763.

Jacobs, A. M., & Matthews, J. S. (2017). Policy attitudes in institutional context: Rules, uncertainty, and the mass politics of public investment. *American Journal of Political*

Science, 61(1), 194-207.

Kim, B.-Y., & Pirttilä, J. (2006). Political constraints and economic reform: Empirical evidence from the post-communist transition. *Journal of Comparative Economics, 34*, 446-466.

Kuzio, T. (2001). Transition in post-communist states: Triple or quadruple? *Politics, 21*(3), 168-177.

Letki, N., & Evans, G. (2005). Endogenizing social trust: Democratization in East-Central Europe. *British Journal of Political Science, 35*(3), 515-529.

Lovell, D. W. (2001). Trust and the politics of postcommunism. *Communist and Post-Communist Studies, 34*(1), 27-38.

Melville, A., & Mironyuk, M. (2016). "Bad enough governance": State capacity and quality of institutions in post-Soviet autocracies. *Post-Soviet Affairs, 32*(2), 132-151.

Mishler, W., & Rose, R. (2001). What are the origins of political trust?: Testing institutional and cultural theories in post-communist societies. *Comparative Political Studies, 23(*1*),* 30-62.

Newton, K., & Norris, P. (2000). Confidence in public institutions: Faith, culture, or performance? In: S. F. Pharr & R. D. Putnam, eds. *Disaffected democracies: What's troubling the trialteral countries? (*pp. 52-73*).* Princeton: Princeton University Press.

Norris, P. (2017). The conceptual framework of political support. In: S. Zmerli & T. W. van der Meer, eds. *Handbook on political trust (*pp. 19-32*).* UK: Cheltenham: Edward Elgar.

Nye, J. S. (1997). Introduction: The decline of confidence in government. In: J. S. Nye, ed. *Why people don't trust government* (pp. 1-18). Cambridge: Harvard University Press.

Pop-Eleches, G., & Tucker, J. A. (2014). Communist socialization and post-communist economic and political attitudes. *Electoral Studies, 33*, 77-89.

Reisinger, W. M. (2017). Does everyday corruption affect how Russians view their political leadership? *Post-Soviet Affairs, 33*(4), 255-275.

Roland, G. (2002). The political economy of transition. *Journal of Economic Perspectives, 26*(1), 29-50.

Rose-Ackerman, S. (2001). Trust and honesty in post-socialist societies. *Kyklos, 54*(2-3), 415-444.

Sonin, K. (2013). The end of economic transition: Lessons for future reformers and students of reform. *Economics of Transition, 21*(1), 1-10.

Stevenson, B., & Wolfers, J. (2011). Trust in public institutions over the business cycle. *American Economic Review, 101*(3), 281-287.

Van Erkel, P. F., & Van Der Meer, T. W. (2015). Macroeconomic performance, political trust and the Great Recession: A multilevel analysis of the effects of within-country fluctuations in macroeconomic performance on political trust in 15 EU countries, 1999–2011. *European Journal of Political Research, 55*(1), 177-197.

Závecz, G. (2017). Post-communist societies of Central and Eastern Europe. In: S. Zmerli & T. W. van der Meer, eds. *Handbook on political trust* (pp. 440-460). Cheltenham: Edward Elgar Publishing.

Chapter 2. Gender wage gap in times of crisis of the Central and Eastern European (CEE) transition countries

At the early stage of the financial crisis (from 2008 to 2010), the gender wage gap significantly decreased in the Central and Eastern European (CEE) countries. The economic crisis made an impact on the gender wage gap as the industrial trend affected individuals differently by their genders. This chapter aims to investigate the change in the gender wage gap in the European transition countries based on the theory of female labor market outcome along with business cycle and industry. Specifically, this research examines the role of gender segregation and its heterogeneity among females. The outcome of this study suggests that gender segregation in the service sector gives a protective role in times of the economic recession at the end of the 2000s, and the relatively less-educated female group (non-tertiary level) who lost jobs in manufacturing found increased share in the retail trade and other service sectors.

Keywords: gender pay gap, gender segregation, economic recession, service industry

2.1. Introduction

Since the early 1990s, post-communist countries have experienced dramatic political, social, and economic changes. On the path to adopting a market economy and relevant institutions, such as privatization, enterprise restructuring, price liberalization, trade system, and financial sectors (The European Bank for Reconstruction and Development [EBRD], 1994), transition countries witnessed boom-bust cycles for almost 30 years. Following the initial stabilization and economic turmoil period (1990s) and economic boom (2000s), the countries went through an economic crisis from 2008 to 2013 due to external financial shocks as well as the absence of strong market institutions (International Monetary Fund [IMF], 2014). While the economic crisis had many aspects, one of the key highlighted features was that the impact

of the crisis was deeply gendered as the economic sectors were considerably gender-typed on the demand side, and there was a certain degree of income roles of males and females on the supply side (European Commission, 2013).

This chapter aims to study changes of female labor market outcome (employment and wage) before and after the economic recession in the late 2000s. The gender wage gap in fact decreased sharply during the crisis by an amount of two percentage point (from 14 percent to 12 percent); therefore, transition countries' experience in the recession leaves several interesting research questions. First is the source of the decreasing gender wage gap. Theoretically, female performance in the job market is affected by occupational segregation, individual workers' commitment, and government and social supports (Rubery & Rafferty, 2013). This study focuses on *short-term* changes of female labor market outcome along with the business cycle, and thus mainly investigates occupational segregation since the other two factors do not fluctuate in the short period of time. Specifically, this research aims to examine whether occupational gender segregation protects female employment and wages through a descriptive study and a shift-share analysis.

Second is gender heterogeneity in the labor market during the economic crisis. For this purpose, a decompose approach is used for age, education, and other work characteristics. Previous studies which investigated the impact of the Great Recession either treated a female group as a homogenous one (Cho & Newhouse, 2013) or decomposed by wage quantile and educational level (Perugini & Pompei, 2017). In this study, the quantile gap measure approach is used, analyzing within-female heterogeneity between 90^{th}, 50^{th}, and 10^{th} quantiles with an industrial division.

Moreover, this study aims to add values to existing literature on female employment

by emphasizing the role of industries in determining employment and wage at times of economic crises. Specifically, this study examines the effects of the expanding service sector on female workers in the context of transition countries.

2.2. Three factors of the gender wage gap: education, industry, economic crisis

2.2.1. Gender wage gap and education as a human capital

One of the importantly observed factors of human capital characteristics is educational attainment. In advanced countries, the gender difference in education is reversed, and its role as a determinant of the gender wage gap has been diminished since the 2010s (Blau & Kahn, 2017). Female educational attainment is supported by the development of birth control pills, which lowers the cost of long-term investment in professional education and reinforcement of anti-discrimination legislation in the area of education, such as Title IX in the U.S. (Goldin & Katz, 2002). However, females are often underrepresented in science, technology, engineering, and mathematics (STEM), and it can be due to the pre-college environment and discrimination rather than the biological difference (Ceci et al., 2014). Nollenberger et al. (2016) argue that a gender-equal culture can create a positive effect on girls' math performance following their analysis using the Program for International Student Assessment (PISA) in 35 different countries.

Furthermore, female educational attainment has a positive impact on the labor participation rate. In fact, as the demand for educated and skilled workers increased, the labor allocation of college graduates and females rose between 1960s and 1980s (Katz & Murphy, 1992). As a result, educated females experienced an increase in real wage than the less educated. Moreover, it was revealed that highly educated females tend to marry males with the equivalent education level, and this led to a relatively faster growth in the labor participation rate of highly

educated couples than others (Blau, 1998). Recent literature even state that there is a growing proportion of females who earn more than their husbands, and they argue that it is not solely driven by male unemployment (Van Bavel et al., 2016). Despite the trend, there shows compelling evidence indicating that gender identity norms (Bertrand et al., 2015) and the role of parenthood are important factors in explaining the gender pay gap (Angelov et al., 2016).

In the early transition period (early 1990s), returns to educational attainment rapidly increased for both genders. The increase was higher for males (75 to 117 percent) than females (23 to 84 percent), and for general secondary schools and tertiary education than vocational schools (Boeri & Terrell, 2002). In the context of Central and Eastern European (CEE) countries, such a trend indicates a regional divergence. The substantial decrease in female relative wages was offset by the return to education and skills as well as a decline in gender discrimination. However, a decrease in real wages of women was observed in Russia and Ukraine (Brainerd, 2000). A recent survey on the transition countries reported that the years of education was high for both boys and girls (EBRD, 2017), and it was also revealed that the percentage of female tertiary education level was higher than males in Russia and Central and Eastern European and Baltic (CEB) countries. The survey addressed that the education of girls is limited in some countries due to cultural and social norms, such as marriage at an early age.

2.2.2. Gender wage gap and the service industry

While the gender education gap has reduced, gender differentials in industries and workplaces remain salient concerning the gender wage gap (Blau & Kahn, 2017). According to Blau and Kahn (2017), females have reduced their overrepresentation in administrative support and service jobs and increased their probability to work in male-predominant areas, such as science, law, and medicine professions. However, occupational segregation continues

to have significant effects on the gender wage gap particularly in the U.S. Blau et al. (2013) found that heterogeneity exists in decreasing occupational segregation by education, and the biggest progress was made by college-level educated females. They observed only little changes among the less educated. Despite the fact that highly educated females entered high-ranking occupations, they are often encountered a glass ceiling which means higher wage differentials between males and females at the top of the wage distribution even when controlling for education, age, and other labor market characteristics (Albrecht, et al., 2003). Such evidence of glass ceiling effects is also found across European countries (Arulampalam et al., 2007) including Spain (de la Rica et al., 2008). By educational attainment level, de la Rica et al. (2008) found that the gap increases along with the wage distribution for workers with college (or tertiary) education (*glass ceiling*) while the gap decreases for less educated (primary or secondary) groups (*floor patterns*). For the post-communist countries, Ganguli and Terrell (2005) found a persistent glass ceiling effect during transitions (1986, 1991, 2003) from the analysis of the Ukrainian Longitudinal Monitoring Survey (ULMS).

Explanations for glass ceiling effects vary from traditional labor market discrimination (Cotter et al., 2001) to recent non-market factors, such as psychological attributes and demand for flexibility (Bertrand, 2018). According to Cotter et al. (2001), glass ceiling effects imply a specific type of labor market discrimination, which makes the inequality at the higher level of outcome, and the differences increase as one moves up the work hierarchy. It is also supported by previous researches who studied female workers' experience of discrimination in academic hierarchies (Knights & Richards, 2003), business (Roth, 2006), as well as science and engineering (Tang, 1997). Recently, alternative explanations for the glass ceiling have been discussed while discrimination and sexism still exist in the workplace (Bertrand, 2018). For example, Croson and Gneezy (2009) stated that female workers are more likely to be risk-

averse and less prone to competition than male workers, increasing their unwillingness to take risks for high earnings in competitive settings (Bertrand, 2018). Another explanation concerns the demand for flexibility. Cortés and Pan (2019) found that while highly educated and skilled women benefit from increasing substitutes for household work, they still face constraints due to overwork and a lack of flexibility in working time.

When it comes to the service industry, expansion is argued to be beneficial to overcome the glass ceiling as it provides more jobs with women's psychological comparative advantage and increases substitutes for household production (Ngai & Petrongolo, 2017). Therefore, expansion in the service industry is an important factor to increase a relative demand for female workers. Ngai and Petrongolo (2017) argue that the process of *structural transformation* (the labor reallocation from goods to service industries) and the *marketization of home production* increased female market hours and relative wages. Aligned with the theoretical framework, the study by Bridgman et al. (2018) provides empirical evidence of rising marketization (decrease in average household hours per working-age population) and acceleration of a structural change (increase in hours in producing services) as GDP per capita increases. Moreover, in their comparative case study of the U.S. and European Union member states, Freeman and Schettkat (2005) revealed that the level of the substitution of traditional home production (food preparation, family care, cleaning, etc.) was higher in the U.S. than the EU; therefore, it contributed to an increase in female time worked in the U.S. relative to the EU.

In the pre-transition period, females of the CEE and the Commonwealth of Independent States (CIS) countries, were under a considerable amount of pressure, burdened with work and housework due to a lack of services and modern appliances (Brainerd, 2000). After the transition, the post-communist countries pursued a deindustrialization process and

observed a decline in agriculture, mining, and manufacturing industries. This led to an increase in gender segregation in employment as males moved to the construction sector, and females found work in non-market services, such as public administration or education (EBRD, 2019).

At present, the availability or the quality of public services for caring for children, the elderly, and other family members is still not sufficient in this region. Females spend three or more hours a day on unpaid housework than males, and they often seek part-time, informal, or home-based work due to the burden of care-related responsibilities. Evidently, this contributes to the widening of the gender wage gap (EBRD, 2019). Saxonberg (2006)'s research on family policies in four post-communist countries (the Czech Republic, Poland, Slovak Republic, and Hungary) supports that the direction of the family policies is *familist* (where childbearing costs and childcare are considered as family responsibilities) and discourages women from staying in the labor market. Saxonberg further argues that the existing family policies are the interplay of the legacy of communism (ideology, economy, and institutions) and the current shifts in economic, social, and political values.

2.2.3. The impact of the 2008 economic crisis on the gender wage gap

Rubery and Ratterty (2013) emphasized three factors in explaining female behavior as a flexible condition over the business cycle: gender segregation patterns along with employment changes, female commitment to labor market participation, and social support for female employment. The 2008 financial crisis gives an opportunity to empirically explore relevant theories in the context of gender equality achievements of today.

The European Commission (2013) reported that the impact of the 2008 economic crisis was deeply gendered. It was concluded that the gender gaps in the labor market (i.e., employment, unemployment, wages, and poverty) subsequently decreased mainly due to the

pervasive unemployment and lowered wages for both genders. Gender segregation in the labor market not only sheltered female jobs in the early years of the crisis, but it also encouraged females to behave similar to that of males instead of considering themselves as employment buffers.

However, the subsequent austerity policies reduced welfare provisions for both genders. For example, health and care related cash transfers declined, resulting in a disproportionate impact on females. Cho and Newhouse (2013) studied middle-income countries to see the effects of the crisis on developing countries and found that it had more detrimental impact on males (whose employment was concentrated in hard-hit industries). Little support was found for the added-worker effect on females.

2.3. Data and Methods

This paper consists of descriptive investigation and an empirical analysis on the gender wage gap associated with education and industry before and after the financial crisis of 2008, which had a huge impact on the labor market in the post-communist European countries (IMF, 2014). For the descriptive study, the *shift-share analysis* was applied to draw a comparison between predicted values calculated on the share of the baseline (year 2007 and 2008) and actual changes (year 2010). As the main research question in this study centers on the gender wage gap in the European transition countries, the analysis investigated the changes in the predicted and actual female shares in different industries (the European classification of economic activities, NACE 2.0). Also, for the detailed labor market data observation, the change in employment and earnings was investigated at both micro and macro levels.

The data used in this chapter is as follows.

Macro data

- Gender pay gap in unadjusted form by NACE Rev. 2 activity-based on the structure of earnings survey methodology (Eurostat)
- Structure of earnings survey: hourly earnings (Eurostat)
- Employment in industry/services (World Bank database)

Micro data

- European Union statistics on income and living conditions (EU-SILC)

The EU-SILC is cross-sectional and longitudinal microdata on income, poverty, social exclusion, and living conditions of the EU member states. This study relied on the 2007 and 2010 cross-sectional samples of ten post-communist countries (Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovenia, and Slovak Republic). The main advantage of this data set was its harmonized questions and answers for the member countries, which enabled the cross-country analysis. The sample was limited to employees aged between 16 and 64. The summary statistics are reported in Table 1.

Table 1. Summary statistics of EU-SILC dataset (year 2007, 2010)

Variable	Obs	Mean	Std. Dev.	Min	Max
Age	135,481	41.31	11.05	17	64
Age squared	135,481	1,828.35	911.53	289	4096
Female	135,479	0.48	0.50	0	1
Primary education	135,481	0.02	0.13	0	1
Secondary education	135,481	0.68	0.46	0	1
Tertiary education	135,481	0.30	0.46	0	1
log(hourly wage)	131,178	1.18	0.75	-6.71	5.38
Fulltime	135,481	0.96	0.20	0	1
Part-time	135,481	0.04	0.20	0	1
Temporary contract	119,723	0.12	0.33	0	1
Permanent contract	119,723	0.88	0.33	0	1
Agriculture	134,324	0.03	0.18	0	1
Industry	134,324	0.28	0.45	0	1
Construction	134,324	0.08	0.28	0	1
Trade	134,324	0.13	0.34	0	1

Accommodation	134,324	0.03	0.18	0	1
Transport	134,324	0.07	0.26	0	1
Financial service	134,324	0.02	0.15	0	1
Business service	134,324	0.07	0.25	0	1
Public administration	134,324	0.08	0.28	0	1
Education	134,324	0.09	0.29	0	1
Health	134,324	0.07	0.25	0	1
Other service	134,324	0.03	0.18	0	1
Bulgaria	135,481	0.07	0.26	0	1
Czech Republic	135,481	0.12	0.32	0	1
Estonia	135,481	0.08	0.26	0	1
Hungary	135,481	0.11	0.31	0	1
Lithuania	135,481	0.07	0.25	0	1
Latvia	135,481	0.06	0.24	0	1
Poland	135,481	0.16	0.37	0	1
Romania	135,481	0.08	0.27	0	1
Slovenia	135,481	0.16	0.37	0	1
Slovak Republic	135,481	0.09	0.29	0	1
Year 2007	135,481	0.51	0.50	0	1
Year 2010	135,481	0.49	0.50	0	1

Note. Retrieved from the EU-SILC data set

The empirical model of this research adopted a modified model from Perugini and Pompei (2017) as follows.

$$lhwage_{ic} = \beta_o + \beta_1 female_{ic} year07 + \beta_2 female_{ic} year10 + \sum_{n=1}^{3} \lambda_n female_{ic} industy_{ic,n} year07 + \sum_{n=1}^{3} \lambda_n female_{ic} industy_{ic,n} year10 + X'_{ic,n}\gamma_n + u_c + u_y + \varepsilon_{ic}$$

$lhwage_{ic}$ represents the log of hourly wage of individual (i) of country (c). To investigate changes in female income, two interaction terms ($female_{ic} year07$ and $female_{ic} year10$) were included. The comparison group of the terms are male workers in a pooled (by country and by year) sample. The fourth and fifth regression represents female income by country before and after the crisis. Industries were classified into three categories: goods (agriculture, industry, and construction), business services (trade, accommodation, transport, real estate, science and technology, and other professional business services), and

other services (education, health, arts, and others). The vector of individual and job characteristics (*X'*) included marital status, working hours (fulltime, part-time), contractual types (permanent, temporary), and occupation. The model also controlled country and time (u_c, u_y) using the fixed-effects (FE) methods. ε_{ic} is an error term.

2.4. Labor market outcome and the gender wage gap during the 2008 financial crisis

2.4.1 Industrial changes in the labor market from macro and micro data

To compare changes in the labor market before and after the financial crisis, this paper descriptively observed the worker characteristics by gender (Table 2). The overall trend found in the data shows that the age of workers increased around 1.2 years possibly due to great employment dislocations of young workers (Cho & Newhouse, 2013). By education, workers with secondary education lost their shares (especially female workers) while highly educated workers with tertiary education increased their shares. The number of full-time workers decreased slightly whereas the number of part-timers increased although most of the workers in this data set reported that they were working full time (97 percent for males and 94 percent for females). By contrast, temporary workers lost their shares in work while permanent workers gained their shares up to 89 percent.

By occupation, while professional jobs (legislators, professionals, and technicians) slightly increased their shares, workers in craft, plant, and machine operation as well as elementary occupations experienced a drop in their shares. By industry, a notable decrease in employment share was observed in industrial sectors especially for females. Additional declines occurred in the construction, transportation, and other service sectors while the business services, public administration, and education sectors experienced a slight increase.

Table 2. Worker characteristics from micro data

Variable		Year 2007		Year 2010		Difference	
		Male	Female	Male	Female	Male	Female
Age		40.27	41.22	41.46	42.37	1.18	1.15
Highest education completed	Primary	0.03	0.02	0.02	0.01	-0.01	0.00
	Secondary	0.75	0.64	0.74	0.61	-0.01	-0.03
	Tertiary	0.22	0.35	0.24	0.38	0.02	0.04
Type of employment	Full-time	0.98	0.94	0.97	0.94	-0.01	-0.01
	Part-time	0.02	0.06	0.03	0.06	0.01	0.01
Type of contract	Temporary	0.14	0.13	0.11	0.11	-0.03	-0.02
	Permanent	0.86	0.87	0.89	0.89	0.03	0.02
Occupation	Legislators, senior officials and managers	0.06	0.04	0.07	0.05	0.01	0.01
	Professionals	0.10	0.18	0.11	0.21	0.01	0.02
	Technicians and associate professionals	0.12	0.20	0.13	0.21	0.01	0.01
	Clerks	0.04	0.12	0.04	0.12	0.00	0.00
	Service workers and shop and market sales workers	0.08	0.18	0.09	0.18	0.01	0.00
	Skilled agricultural and fishery workers	0.01	0.01	0.01	0.01	0.00	0.00
	Craft and related trades workers	0.29	0.07	0.26	0.05	-0.03	-0.02
	Plant and machine operators and assemblers	0.20	0.07	0.19	0.06	-0.01	-0.01
	Elementary occupations	0.09	0.12	0.09	0.12	-0.01	-0.01
	Armed forces	0.01	0.00	0.01	0.00	0.00	0.00
Industry	Agriculture	0.04	0.02	0.05	0.02	0.00	0.00
	Industry	0.35	0.24	0.33	0.20	-0.02	-0.04
	Construction	0.15	0.02	0.14	0.02	-0.01	0.00
	Trade	0.10	0.16	0.11	0.17	0.00	0.01
	Accommodation	0.02	0.05	0.02	0.05	0.00	0.00
	Transport	0.10	0.05	0.10	0.04	-0.01	-0.01
	Financial service	0.01	0.03	0.01	0.03	0.00	0.00
	Business service	0.05	0.05	0.08	0.08	0.03	0.03
	Public administration	0.07	0.09	0.08	0.10	0.01	0.01
	Education	0.03	0.15	0.04	0.16	0.00	0.01
	Health	0.02	0.11	0.02	0.11	0.00	0.00
	Other service	0.04	0.04	0.02	0.04	-0.01	-0.01

Note. Author's calculation from the EU-SILC data set

Table 3 also presents evidence that the average differences in wage by gender decreased from 0.15 to 0.12 log wage level. The decomposition table also gives a clue that both the explained and unexplained parts in each independent variable has decreased (for the explained: from -0.09 to -0.10; for the unexplained: from 0.24 to 0.21). The impact of industry

was negative for both the explained and unexplained parts, and the magnitude increased. From the decomposition, it can be assumed that the industry factor resulted in a positive impact on the decrease in the average gender wage gap.

Table 3. Blinder-Oaxaca decomposition of average gender wage gap

	(1) **Log(wage) Year 2007**	(2) **Log(wage) Year 2010**
Differential		
Prediction_1	1.044***	1.256***
	(0.00395)	(0.00401)
Prediction_2	0.890***	1.139***
	(0.00415)	(0.00400)
Difference	0.154***	0.117***
	(0.00573)	(0.00566)
Explained		
Age	-0.0109***	-0.0116***
	(0.000697)	(0.000726)
Education	-0.0458***	-0.0503***
	(0.00161)	(0.00166)
Part-time	-0.000811	-0.00211***
	(0.000552)	(0.000537)
Temporary	-0.00168***	-0.000228
	(0.000392)	(0.000179)
Industry	-0.0282***	-0.0320***
	(0.00262)	(0.00268)
Total	-0.0875***	-0.0963***
	(0.00323)	(0.00325)
Unexplained		
Age	0.247***	0.215***
	(0.0727)	(0.0756)
Education	0.00515	-0.0142
	(0.0402)	(0.0423)
Part-time	-0.00268**	-0.00340***
	(0.00122)	(0.00123)
Temporary	-0.0125***	-0.00558***
	(0.00211)	(0.00182)
Industry	-0.0931***	-0.123***
	(0.00857)	(0.00895)
Constant	0.0977	0.144
	(0.0845)	(0.0878)
Total	0.242***	0.213***
	(0.00598)	(0.00594)
Observation	57,944	57,566

Note. Author's calculation from the EU-SILC data set.

* p<0.10, ** p<0.05, *** p<0.01

Table 4 shows the association among work characteristics with a log of hourly wage before and after the economic recession. The magnitude of the age variable increased in the same positive direction, and it is also presumably due to the exit of young workers from the labor market (Cho & Newhouse, 2013). Moreover, the decrease in the coefficient to the female dummy leaves a significant implication of this paper's main research question. The education variable compared to the omitted primary education variable was more important. In addition, being a part-timer was positively associated with the wage while being a temporary worker showed a negative association. This result possibly reflects the fact that the contractual status was still important while the number of highly paid part-timers increased. The industrial sectors, ranging from agriculture to other services were compared with the omitted industry sector including manufacturing. The direction of the association between the industry dummy and log of wage did not change although the magnitude was slightly differentiated. The three-year term (between 2007 and 2010) was a relatively short period to reflect the labor market turbulences from the economic crisis to hourly wage. Therefore, this paper moved on to the employment change in each industrial sector using the macro data set, such as the structure of earnings survey and the World Bank database.

Table 4. Determinants of log hourly wage from micro data

Worker's characteristics	year 2007	year 2010
	log(wage)	log(wage)
Age	0.0369***	0.0417***
	(0.00188)	(0.00190)
Age squared	-0.000415***	-0.000460***
	(0.0000228)	(0.0000225)
Female	-0.242***	-0.213***
	(0.00589)	(0.00587)
Secondary education	0.125***	0.192***
	(0.0202)	(0.0232)
Tertiary education	0.487***	0.548***
	(0.0208)	(0.0236)
Part-time	0.0246*	0.0598***
	(0.0143)	(0.0133)
Temporary	-0.139***	-0.0703***

Worker's characteristics	year 2007	year 2010
	log(wage)	log(wage)
	(0.00845)	(0.00908)
Agriculture	-0.203***	-0.262***
	(0.0153)	(0.0156)
Construction	-0.0347***	-0.0896***
	(0.0105)	(0.0108)
Trade	-0.120***	-0.129***
	(0.00911)	(0.00899)
Accommodation	-0.145***	-0.148***
	(0.0162)	(0.0158)
Transport	0.0247**	0.0310***
	(0.0107)	(0.0112)
Financial service	0.424***	0.364***
	(0.0199)	(0.0187)
Business service	0.121***	0.0913***
	(0.0131)	(0.0110)
Public administration	0.180***	0.139***
	(0.0108)	(0.0104)
Education	0.147***	0.130***
	(0.0108)	(0.0106)
Health	0.0397***	0.0566***
	(0.0120)	(0.0119)
Other service	-0.0588***	-0.0732***
	(0.0144)	(0.0168)
constant	0.0918**	0.113**
	(0.0423)	(0.0450)
Observation	57,944	57,566
R-squared	0.136	0.132

Note. Author's calculation from the EU-SILC dataset.

* p<0.10, ** p<0.05, *** p<0.01

Unlike the wage, the sector share of employment and female intensity among the total employment showed a drastic change by industry. Most of the transition countries experienced a decline in the number of employees in the industry and service sectors except Poland, which was the only country whose number of employees grew during the early stage of the economic recession (Table 5). In the service sector, some countries (Bulgaria, Latvia, Poland, Romania, Slovenia, and the Slovak Republic) observed an expansion of business services during the crisis. Lastly, the service activities other than the business service shrank during the early years of the economic crisis.

Table 5. Change in employment (2006-2010) from macro data

(Unit: 1,000)

	Industry, construction and services (except public administration, defense, compulsory social security)				Industry and construction			
	2006	2010	Change (2006-2010)		2006	2010	Change (2006-2010)	
			Number	Percent			Number	Percent
BG	1,826	1,701	-125	-6.8	847	690	-156	-18.4
CZ	3,554	3,162	-392	-11.0	1,669	1,393	-276	-16.5
EE	406	351	-56	-13.8	153	114	-39	-25.5
HU	728	536	-192	-26.4	210	142	-69	-32.9
LT	1,006	870	-136	-13.5	366	252	-114	-31.1
LV	1,985	1,787	-198	-10.0	696	641	-55	-7.9
PL	6,600	6,935	**335**	5.1	2,624	2,707	**83**	3.2
RO	4,065	3,666	-399	-9.8	2,079	1,557	-522	-25.1
SI	556	528	-28	-5.0	253	214	-39	-15.4
SK	1,584	1,461	-123	-7.8	687	550	-137	-19.9
Total	2,231	2,100	-131	-5.9	958	826	-132	-13.8
	Services of the business economy				**Education; human health and social work activities; arts, entertainment and recreation; other service activities**			
	2006	2010	Change (2006-2010)		2006	2010	Change (2006-2010)	
			Number	Percent			Number	Percent
BG	583	694	**111**	19.0	396	316	-79	-19.9
CZ	1,258	1,185	-73	-5.8	626	584	-42	-6.7
EE	148	140	-8	-5.4	105	97	-8	-7.6
HU	317	231	-86	-27.1	200	163	-37	-18.5
LT	351	347	-4	-1.1	289	271	-19	-6.6
LV	713	735	**21**	2.9	575	411	-164	-28.5
PL	2,247	2,530	**284**	12.6	1,729	1,698	-32	-1.9
RO	1,217	1,365	**148**	12.2	769	744	-25	-3.3
SI	185	200	**15**	8.1	118	113	-4	-3.4
SK	519	598	**79**	15.2	379	313	-65	-17.2
Total	754	802	49	6.5	519	471	-48	-9.2

Note. Structure of earnings survey (year 2006, 2010), hourly earnings. Retrieved from Eurostat.

The sector share of employment and female intensity among the total employment showed a decreasing pattern of industry share as well as the increasing intensity of the service sector (Table 6). Overall, three Baltic states (Estonia, Latvia, and Lithuania) showed the largest reduction in industry and high increase in services (sector share of employment). Following the trend, the female intensity also decreased in industry and increased in services in this region.

Table 6. Sector share of employment and female intensity from macro data

Country	Sector	Sector Share of Employment			Female Intensity		
		2007	2010	Change	2007	2010	Change
BG	Industry	35.5	33.0	**-2.5**	28.5	24.1	**-4.4**
	Service	57.0	60.2	**3.3**	65.9	70.7	**4.9**
CZ	Industry	40.2	38.0	**-2.2**	26.8	23.2	**-3.6**
	Service	56.2	58.9	**2.7**	70.7	74.9	**4.2**
EE	Industry	35.1	30.3	**-4.8**	21.8	18.0	**-3.8**
	Service	60.1	65.5	**5.4**	75.1	79.2	**4.1**
HU	Industry	32.5	30.7	**-1.8**	21.1	19.8	**-1.3**
	Service	62.9	64.8	**1.9**	76.6	77.9	**1.3**
LT	Industry	30.5	24.6	**-6.0**	19.7	16.6	**-3.1**
	Service	58.1	66.6	**8.5**	71.7	76.9	**5.2**
LV	Industry	28.6	23.1	**-5.6**	15.5	13.6	**-1.9**
	Service	61.2	68.3	**7.1**	76.7	80.7	**4.0**
PL	Industry	30.7	30.3	**-0.4**	17.8	16.1	**-1.7**
	Service	54.5	56.6	**2.1**	68.0	71.2	**3.2**
RO	Industry	31.4	28.3	**-3.1**	24.7	19.9	**-4.8**
	Service	39.1	40.7	**1.6**	44.3	47.7	**3.4**
SI	Industry	35.2	32.6	**-2.7**	23.0	20.5	**-2.4**
	Service	54.9	58.6	**3.7**	66.8	70.9	**4.1**
SK	Industry	39.4	37.1	**-2.3**	24.3	21.1	**-3.2**
	Service	56.4	59.7	**3.2**	73.5	77.1	**3.7**
Average	Industry	33.9	30.8	**-3.1**	22.3	19.3	**-3.0**
	Service	56.0	60.0	**3.9**	68.9	72.7	**3.8**

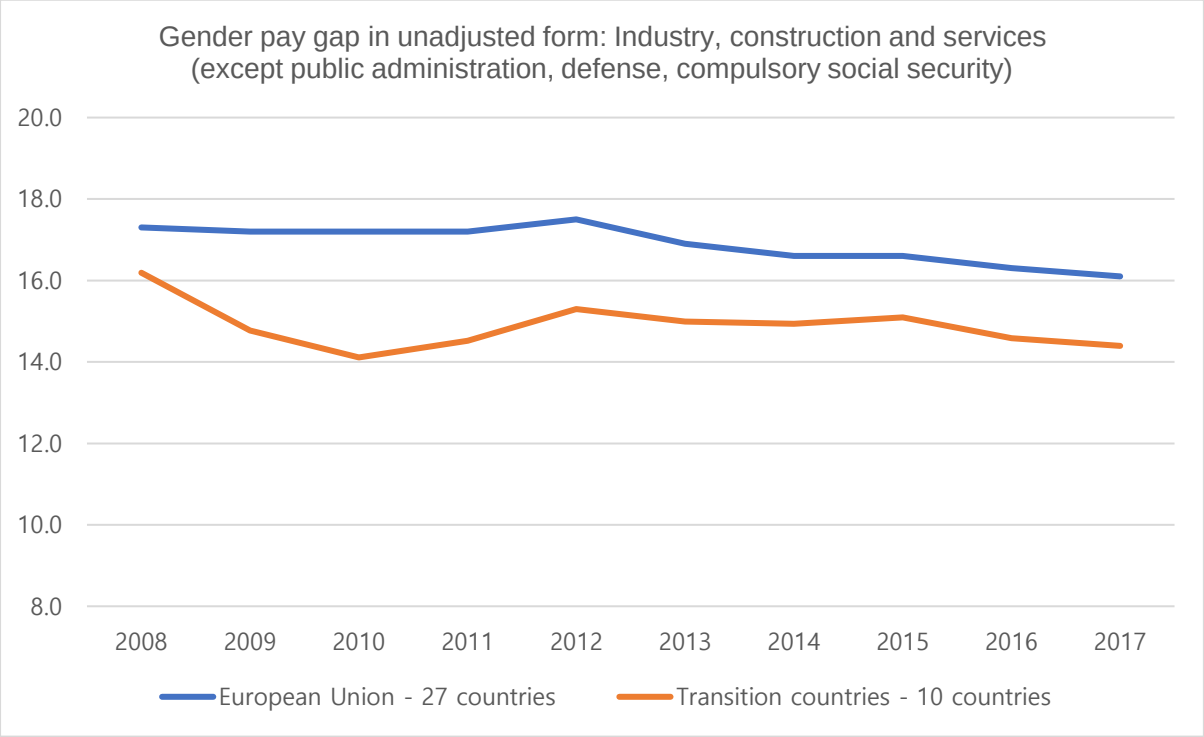
Note. Employment in industry/services (% of total employment) (modeled ILO estimate) for the sector share of employment, and Employment in industry/services, female (% of female employment) (modeled ILO estimate) for the female intensity. Retrieved from World Bank database.

2.4.2. Change in the gender wage gap *among* industries

The transition countries in Europe experienced a stronger decrease in the gender pay gap than other European countries. In the early stages of the financial crisis (from 2008 to 2010), the gender pay gap decreased around two percentage points (Figure 1).

Figure 1. Gender pay gap in Europe and transition countries (industry, construction and services)

(Unit: percentage)



Note. **(European Union 27 countries)** Austria, Belgium, Bulgaria, Republic of Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and the UK**; (Transition 10 countries)** Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, Slovenia**; (Gender pay gap)** The unadjusted gender pay gap (GPG) represents the difference between average gross hourly earnings of male paid employees and of female paid employees as a percentage of average gross hourly earnings of male paid employees. Retrieved from Gender pay gap in unadjusted form by NACE Rev. 2 activity - structure of earnings survey methodology, Eurostat.

By industry, the industry and construction sectors (including construction and manufacturing) experienced the most significant decrease in the gender wage gap – around three percentage points. The overall decline in the gender wage gap from 2008 to 2017 largely resulted from the reduction in this period. The service sectors (both business services and others) observed a moderate decline in the gender wage gap (Table 7).

Table 7. Gender wage gap in unadjusted form by NACE Rev. 2 activity

(year, %p)

	2008-2017	2008-2010	2010-2013	2013-2017
Industry and construction				
Mining and quarrying	**-6.2**	-5.5	0.2	-1.0
Construction	**-3.1**	-3.7	1.2	-0.6
Manufacturing	**-4.2**	-2.0	-0.4	-1.8
Water supply; sewerage, waste management and remediation activities	**-0.5**	-3.3	1.8	0.9
Electricity, gas, steam and air conditioning supply	**-5.0**	-0.6	-3.0	-1.4
Average	**-3.8**	**-3.0**	**0.0**	**-0.8**
Services of the business economy				
Wholesale and retail trade; repair of motor vehicles and motorcycles	**-1.4**	-1.9	-0.4	1.0
Accommodation and food service activities	**-4.8**	-1.9	-3.2	0.3
Transportation and storage	**-7.2**	-1.9	-4.6	-0.8
Financial and insurance activities	**-3.4**	-1.0	-0.5	-1.8
Information and communication	**0.5**	-0.8	1.6	-0.3
Real estate activities	**0.2**	2.3	-1.4	-0.7
Administrative and support service activities	**-12.2**	-9.4	-0.9	-1.8
Professional, scientific and technical activities	**-2.9**	-2.3	0.3	-0.9
Average	**-3.9**	**-2.1**	**-1.1**	**-0.6**
Education; human health and social work activities; arts, entertainment and recreation; other service activities				
Arts, entertainment and recreation	**-1.2**	-3.9	2.1	0.7
Education	**-1.8**	-1.2	2.5	-3.1
Human health and social work activities	**-0.2**	-0.7	1.5	-1.0
Other service activities	**-4.3**	2.4	-4.7	-2.0
Average	**-1.9**	**-0.9**	**0.4**	**-1.4**

Note. Countries: 10 transition countries (Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, Slovenia). Retrieved from gender pay gap in unadjusted form by NACE Rev. 2 activity - structure of earnings survey methodology [earn_gr_gpgr2], Eurostat.

Using the EU-SILC data set, this study descriptively observed the change in the gender wage gap by country (Table 8). The Baltic countries (Estonia, Latvia, and Lithuania) experienced the most significant decrease in the gender wage gap in the early period of the economic crisis (2007-2010). On the contrary, most of the CEE countries experienced a moderate reduction in the gender wage gap, except for Hungary and Slovenia that presented an increase in the gender wage gap.

Table 8. Mean earnings by gender and changes in the gender wage gap (2007-2010)

	2007					2010					GWG Change (2007-2010)
	Male		Female		Gap	Male		Female		Gap	
	earning	obs	earning	obs		earning	obs	earning	obs		
BG	1.26	1,961	1.05	1,729	16.7	2.18	2,799	1.89	2,608	13.3	-3.4
CZ	4.35	4,555	3.34	3,850	23.2	5.55	3,997	4.35	3,464	21.6	-1.6
EE	4.11	2,778	2.93	2,811	28.7	5.36	2,047	4.08	2,331	23.9	-4.8
HU	3.27	3,716	3.09	3,423	5.5	3.71	3,806	3.38	3,735	8.9	3.4
LT	3.36	2,283	2.83	2,326	15.8	3.76	1,945	3.65	2,330	2.9	-12.9
LV	3.02	1,762	2.46	1,977	18.5	4.59	1,967	4.06	2,430	11.5	-7.0
PL	3.66	5,872	3.49	4,969	4.6	4.16	5,188	3.99	4,624	4.1	-0.5
RO	1.84	2,916	1.59	2,334	13.6	2.00	2,757	1.78	2,152	11.0	-2.6
SI	8.35	5,749	7.91	5,084	5.3	10.15	5,533	9.33	5,197	8.1	2.8
SK	2.97	2,973	2.40	2,862	19.2	4.62	3,176	3.74	3,160	19.0	-0.2
Total (Aver.)	**4.12**	**34,565**	**3.61**	**31,365**	**12.4**	**5.05**	**33,215**	**4.47**	**32,031**	**11.5**	**-0.9**

Note. Author's calculation from EU-SILC dataset; only employees are included in the sample, aged between 17 and 64. Earning is in Euro on hourly basis.

2.4.3. Gender wage gap and segregation by industry

To explore gender segregation and its impact on the employment, this paper adopted *the shift-share analysis* by Rubery and Rafferty (2013) to predict female employment in year 2010 based on the gender share of sectors at 2007 rates (Table 9). If females lose more jobs

than expected, than it can be interpreted that females were employed in buffer-type jobs. Moreover, if females are employed more than expected, then it can be inferred that gender segregation protected their jobs. In that regard, Table 9 indicates that females lost their industry and construction sector shares disproportionately from the downturn. If the sector shares maintained at 34.7 percent, 136,000 more jobs would have been secured for female workers. It is assumed that females were mostly employed in buffer-type jobs in the industry and construction sectors.

On the contrary, there is evidence that females were protected in the service sectors. Females were expected to be employed in the business service sector about 3.7 million females if the female share remained at the 2006 level (46.4 %) with 225,000 more jobs created. However, 305,000 jobs were actually created, and the gap between the prediction was 80,000 jobs. In other service sectors, the female sector share increased (from 72.7% to 75.5%), but the number of female jobs decreased was about 215,000 as the total employment was reduced. However, the number of actual female jobs outnumbered the expected jobs calculated from the female share in 2006, and additional 132,000 jobs were created than expected. This result indicates that females were protected in overall service jobs.

Table 9. Changes in economic activity (2006-2010)

	Female sector share 2006 (%)	Female sector share 2010 (%)	Female sector share change 2006-2010	Actual change male jobs 2006-2010 (thousands)	Actual change female jobs 2006-2010 (thousands)	Actual minus predicted female change 06-10 with 06 female sector share (thousands)	Women's job loss as % total job loss 2006-10
Industry and construction	34.7	33.0	-1.6	-729	-595	-136	44.9
Services of the business economy	46.4	47.4	1.0	181	305	80	(62.8)*
Other service activities	72.7	75.5	2.8	-262	-215	132	45.1
Business economy**	39.8	40.1	0.3	-547	-215	44	34.6
Industry, construction and services***	47.5	48.0	0.6	-809	-504	119	38.4

Note. * Increase in female employment among total employment growth, ** Industry and construction, Services of the business economy, *** all except public administration, defense, compulsory social security. Retrieved from structure of earnings survey (year) hourly earnings [earn_ses_hourly], Eurostat.

For detailed observations, this chapter investigated heterogeneity among two educational levels (tertiary and non-tertiary levels) (Table 10). In the manufacturing sector, non-tertiary female workers were employed for fewer jobs than predicted based on the sector share in year 2007. Likewise, non-tertiary females working for the transportation and storage sectors had fewer jobs than their tertiary counterparts. Non-tertiary females had more jobs in the service sectors, including wholesale and retail trade and others. Tertiary-level educated female workers, however, experienced a less significant decline in manufacturing as well as an increase in jobs in professional sectors (real estate, science and technology, support service, education, health and social work, etc.). As female workers with high education had more opportunities in the labor market, it is highly likely that this contributed to the lower gender wage gap after the financial crisis.

Table 10. Changes in economic activity by industry (2007-2010s)

	Female sector share 2007 (%)	Female sector share 2010 (%)	Female sector share change 2007-2010	Actual change male jobs 2007-2010	Actual change female jobs 2007-2010	Actual minus predicted female change 07-10 with 07 female sector share	Women's job loss as % total job loss 2007-10
Manufacturing, mining and quarrying and other industry (N: 37,494)							
All	38.5	37.0	-1.5	-1,189	-1,166	-260	49.53
Tertiary	41.7	40.1	-1.6	42	-56	-50	400.00
Non-tertiary	37.9	36.3	-1.6	-1,231	-1,110	-224	47.44
Construction (N: 11,227)							
All	9.1	10.1	1.1	-526	11	58	9.1
Tertiary	23.4	26.7	3.3	-39	23	27	NA
Non-tertiary	6.7	7.2	0.5	-487	-12	21	2.4
Wholesale and retail trade (N: 17,980)							
All	58.7	60.3	1.6	-62	268	147	(130.10)
Tertiary	60.9	62.1	1.2	29	111	26	(79.29)
Non-tertiary	58.0	59.7	1.7	-91	157	119	(237.88)
Transportation and storage (N: 9,766)							
All	29.8	26.9	-2.9	-370	-344	-131	48.18
Tertiary	43.2	41.5	-1.7	-87	-92	-15	51.40
Non-tertiary	26.4	23.4	-3.0	-283	-252	-111	47.10
Real estate, professional, scientific and technical activities, administrative and support service activities (N: 8,955)							
All	45.5	46.8	1.3	939	914	70	(49.33)
Tertiary	47.7	50.2	2.5	390	467	58	(54.49)
Non-tertiary	44.0	44.3	0.3	549	447	9	(44.88)
Accommodation and food service activities (N: 4,442)							
All	67.7	67.3	-0.3	36	52	-8	(59.09)
Tertiary	70.7	72.7	2.0	-5	9	6	(225.00)
Non-tertiary	67.2	66.5	-0.7	41	43	-13	(51.19)
Financial intermediation (N: 2,897)							

	Female sector share 2007 (%)	Female sector share 2010 (%)	Female sector share change 2007-2010	Actual change male jobs 2007-2010	Actual change female jobs 2007-2010	Actual minus predicted female change 07-10 with 07 female sector share	Women's job loss as % total job loss 2007-10
All	69.8	69.5	-0.3	51	104	-4	(67.10)
Tertiary	65.4	67.2	1.8	32	105	15	(76.64)
Non-tertiary	74.7	72.5	-2.2	19	-1	-14	NA
Education (N: 12,525)							
All	80.4	80.7	0.3	30	227	20	(88.33)
Tertiary	78.9	79.5	0.6	27	228	27	(89.41)
Non-tertiary	83.3	83.1	-0.1	3	-1	-3	NA
Health and social work (N: 8,818)							
All	81.5	84.2	2.7	-106	180	120	(243.24)
Tertiary	80.9	84.5	3.6	-35	226	71	(118.32)
Non-tertiary	82.0	84.0	2.0	-71	-46	50	39.32
Other service (N: 4,531)							
All	53.1	62.8	9.7	-549	-234	182	29.89
Tertiary	57.0	63.6	6.6	-118	-52	45	30.59
Non-tertiary	51.2	62.3	11.0	-431	-182	132	29.69

Note. Author's calculation from the EU-SILC micro data set

2.4.4. Changes in the gender wage gap *within* industries along with the wage distribution

The results of the empirical analysis are reported in Table 11, which includes both the OLS and quantile regression results. The results from the OLS estimation cover all income groups while the quantile regression was conducted for three income classifications (10%, 50%, and 90%). Table 7 shows the comparison before (year 2007) and after (year 2010) the financial crisis in Europe. It is noted that female workers earned significantly lower wages than their male counterparts once other determinants to wages were controlled. The overall gender wage gap decreased from 0.25 to 0.22 log points (column (1)). The result supports previous literature,

which found a decreased gender wage gap during the financial crisis in the transition countries (Perugini & Pompei, 2017).

Furthermore, married females earned more than other category groups (never married, separated, widowed, and divorced), and age was positively correlated with earnings in vertical U shape. The positive correlation between marital status and earnings was driven by the middle and high income groups. In the U.S., the rising participation rate of married women contributed to narrowing the gender wage gap (Goldin, 2006), and the marital status of women in the European transition countries was also positively correlated with earnings, provided that they belonged to higher than middle income categories.

Education was also significantly and positively correlated with wages as individuals with tertiary education earned 0.32 log points than those with primary education (baseline). Interestingly, part-time workers earned slightly more (0.02 log points) than full-time workers. This reflects that there were high income part-timers on hourly basis. The premium to education (secondary and tertiary) almost doubled for the high income group compared to the lowest income group. The impact of the part-time worker status was negatively correlated with income for the lower income group, but it turned positive for the high income group. The result indicates that the scope of part-time jobs is diverse from low-income jobs to high-income (maybe professional) ones. Additionally, temporary jobs were significantly and negatively correlated with all income groups, and the negative impact was biggest for the lower-income group, which is in line with previous studies (Aleksynska, 2018; Perugini & Pompei, 2017).

The columns (1) to (3) show the baseline results from the quantile regression. The gender wage gap declined both in the lower (10%) and middle (50%) income groups. In the lower income group (10%), females earned 0.17 log points before the crisis, and the number

decreased to 0.12 log points afterwards. Females in the middle income group experienced slightly lower wages (0.01 log points) after the crisis. On the contrary, the high income group experienced no change in their income. Considering that the gender wage gap reflected the employment shock in the crisis (European Commission, 2013), it can be interpreted that the lower income male workers were worse off than the females even when undereducated female workers (who were supposed to earn less than the highly educated) were treated poorly in the labor market.

After the baseline regression, this study conducted a quantile regression with industry (goods and services) and year dummies to investigate changes in the gender wage gap before and after the economic recession by industry type. Overall, the impact of the industry remained at the 2007 level (column (5), (9), and (13)), but it showed heterogeneity by industrial distinction. First, in the goods industry (column (5) to (8)), female workers in the lower income group (10%) became worse off possibly due to decreased employment opportunities in the manufacturing sector. Other income groups did not experience lower income after the crisis. Second, in the business service sector (column (9) to (12)), the overall gender wage gap slightly decreased (0.01 log points), driven by the achievement of female high incomers (column (12)). Lastly, in other service sectors, the overall gender wage gap remained the same, but the lower income group earned more while the high income group showed fewer income after the crisis.

Table 11. Determinants of hourly wages (OLS and quantile regressions, 2007 and 2010)

VARIABLES	(1) OLS	(2) q (.10)	(3) q (.50)	(4) q (.90)	(5) OLS	(6) q (.10)	(7) q (.50)	(8) q (.90)
Female*2007	-0.25***	-0.17***	-0.24***	-0.32***	-0.23***	-0.16***	-0.23***	-0.31***
	(0.004)	(0.006)	(0.004)	(0.008)	(0.005)	(0.006)	(0.005)	(0.010)
Female*2010	-0.22***	-0.12***	-0.23***	-0.32***	-0.21***	-0.10***	-0.22***	-0.31***
	(0.004)	(0.006)	(0.005)	(0.008)	(0.005)	(0.006)	(0.006)	(0.008)
Female*2007*Goods					-0.04***	-0.03***	-0.04***	-0.03**
					(0.007)	(0.009)	(0.006)	(0.014)
Female*2010*Goods					-0.04***	-0.05***	-0.03***	-0.03**
					(0.007)	(0.010)	(0.007)	(0.015)
Married	0.02***	0.01	0.02***	0.02**	0.02***	0.01	0.02***	0.02***
	(0.003)	(0.006)	(0.003)	(0.006)	(0.003)	(0.004)	(0.003)	(0.006)
Age	0.03***	0.03***	0.03***	0.03***	0.03***	0.03***	0.03***	0.03***
	(0.001)	(0.002)	(0.001)	(0.003)	(0.001)	(0.002)	(0.001)	(0.002)
Age squared	-0.00***	-0.00***	-0.00***	-0.00***	-0.00***	-0.00***	-0.00***	-0.00***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Secondary	0.12***	0.10***	0.11***	0.18***	0.12***	0.09***	0.11***	0.19***
	(0.011)	(0.016)	(0.010)	(0.019)	(0.011)	(0.018)	(0.011)	(0.021)
Tertiary	0.32***	0.24***	0.29***	0.45***	0.32***	0.24***	0.29***	0.46***
	(0.012)	(0.017)	(0.011)	(0.021)	(0.012)	(0.020)	(0.012)	(0.023)
Part-time	0.02*	-0.14***	0.00	0.21***	0.02*	-0.15***	0.00	0.21***
	(0.009)	(0.012)	(0.009)	(0.022)	(0.009)	(0.011)	(0.010)	(0.019)
Temporary	-0.17***	-0.23***	-0.16***	-0.12***	-0.17***	-0.23***	-0.16***	-0.12***
	(0.005)	(0.010)	(0.005)	(0.010)	(0.005)	(0.009)	(0.004)	(0.010)
Occupation	yes	yes	yes	yes	yes	yes	yes	yes
country dummy	yes	yes	yes	yes	yes	yes	yes	yes
year dummy	yes	yes	yes	yes	yes	yes	yes	yes
Constant	0.01	-0.35***	0.04	0.41***	0.00	-0.35***	0.05*	0.41***
	-0.025	(0.041)	(0.029)	(0.056)	(0.025)	(0.037)	(0.025)	(0.050)
Observations	110,635	110,635	110,635	110,635	110,635	110,635	110,635	110,635
R-squared	0.515				0.515			

Note. Author's calculation from the EU-SILC micro data set; (goods) agriculture, industry, and construction, (business service) trade, accommodation, transport, real estate, science and technology, other professional business service, (other service) education, health, arts, and others

Table 11. Determinants of hourly wages (OLS and quantile regressions, 2007 and 2010) (continued)

VARIABLES	(9) OLS	(10) q (.10)	(11) q (.50)	(12) q (.90)	(13) OLS	(14) q (.10)	(15) q (.50)	(16) q (.90)
Female*2007	-0.24***	-0.16***	-0.24***	-0.32***	-0.24***	-0.18***	-0.24***	-0.30***
	(0.005)	(0.006)	(0.004)	(0.008)	(0.005)	(0.006)	(0.005)	(0.009)
Female*2010	-0.22***	-0.11***	-0.22***	-0.33***	-0.22***	-0.13***	-0.22***	-0.29***
	(0.005)	(0.006)	(0.004)	(0.009)	(0.005)	(0.007)	(0.004)	(0.011)
Female*2007*Business Service	-0.03***	-0.05***	-0.03***	-0.01				
	(0.006)	(0.010)	(0.008)	(0.012)				
Female*2010*Business Service	-0.02***	-0.05***	-0.02***	0.03*				
	(0.007)	(0.009)	(0.007)	(0.015)				
Female*2007*Other Service					-0.02***	0.02**	-0.01*	-0.07***
					(0.006)	(0.008)	(0.007)	(0.012)
Female*2010*Other Service					-0.02***	0.04***	-0.03***	-0.10***
					(0.006)	(0.007)	(0.005)	(0.011)
Married	0.02***	0.00	0.02***	0.02**	0.02***	0.01	0.02***	0.02***
	(0.003)	(0.004)	(0.004)	(0.006)	(0.003)	(0.004)	(0.004)	(0.005)
Age	0.03***	0.03***	0.03***	0.03***	0.03***	0.03***	0.03***	0.03***
	(0.001)	(0.002)	(0.001)	(0.002)	(0.001)	(0.002)	(0.001)	(0.002)
Age squared	-0.00***	-0.00***	-0.00***	-0.00***	-0.00***	-0.00***	-0.00***	-0.00***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Secondary	0.12***	0.10***	0.11***	0.18***	0.12***	0.09***	0.10***	0.18***
	(0.011)	(0.021)	(0.011)	(0.021)	(0.011)	(0.019)	(0.009)	(0.019)
Tertiary	0.32***	0.24***	0.29***	0.45***	0.32***	0.24***	0.29***	0.45***
	(0.012)	(0.022)	(0.012)	(0.021)	(0.012)	(0.019)	(0.011)	(0.022)
Part-time	0.02**	-0.14***	0.00	0.22***	0.02**	-0.14***	0.00	0.22***
	(0.009)	(0.014)	(0.008)	(0.020)	(0.010)	(0.013)	(0.009)	(0.024)
Temporary	-0.17***	-0.23***	-0.16***	-0.12***	-0.17***	-0.23***	-0.16***	-0.12***
	(0.005)	(0.010)	(0.005)	(0.011)	(0.005)	(0.009)	(0.006)	(0.009)
Occupation	yes	yes	yes	yes	yes	yes	yes	yes
country dummy	yes	yes	yes	yes	yes	yes	yes	yes
year dummy	yes	yes	yes	yes	yes	yes	yes	yes
Constant	0.01	-0.35***	0.05*	0.41***	0.00	-0.35***	0.04	0.40***
	(0.025)	(0.037)	(0.025)	(0.050)	(0.025)	(0.036)	(0.027)	(0.040)
Observations	110,635	110,635	110,635	110,635	110,635	110,635	110,635	110,635
R-squared	0.515				0.515			

2.5. Conclusion

This chapter attempted to investigate the gender wage gap in the transition countries. All in all, one could infer that the female workers in the post-communist countries went through a unique experience in the labor market. Before the transition, they were encouraged to participate in the labor market and given social support – although the actual provision and quality were not enough – from the government. As a result, they recorded a better labor market participation rate and average wage than their counterparts in the Western countries. The life under communism was also featured by dual burden at home and work under the male breadwinner social norm and scarce modern appliances. After the transition, they were advantaged by increasing returns to education but disadvantaged by rising wage differentials as they were likely to be hired in the low-wage service sector.

While it was not possible to investigate more of the early transition period labor market due to data scarcity, it was worth to review the effect of the economic crisis in the late 2000s in the CEE countries and to have examined the gender wage gap and heterogeneity among female workers by industries. Although the conditions of the crisis were not equivalent to that of the early consolidation period in the 1990s, it gave an opportunity to study the impact of the economic crisis and industrial changes in the transition countries.

After the investigation of the gender wage gap and the impact of industrial patterns before and after the economic crisis, this study supports that the gender wage gap decreased due to the recession. As the results showed, the number of employees in the industrial sector decreased while the service sector was expanded in most of the sample countries. This chapter found evidence of the protective role of gender segregation in the service sector as it created more job opportunities than expected by the shift-share analysis.

By educational level, the non-tertiary level female workers became worse off than their tertiary level counterparts in the manufacturing sector, and job vacancies were created in the wholesale and retail trade and other service sectors. Furthermore, the quantile regression presented evidence that the low income female groups experienced a wage reduction in the goods industry, but they earned more in other service sectors. The hourly wage of the high income group did not change before and after the crisis, and their wage increased after the crisis in the business service sector.

References

Aleksynska, M. (2018). Temporary employment, work quality, and job satisfaction. *Journal of Comparative Economics 46,* 722-735.

Angelov, N., Johansson, P., & Lindahl, E. (2016). Parenthood and the gender gap in pay. *Journal of Labor Economics,* 34(*3*), 545-579.

Bertrand, M., Kamenica, E., & Pan, J. (2015). Gender identity and relative income within households. *The Quarterly Journal of Economics,* 130(*2*), 571-614.

Blau, F. D. (1998). Trends in the well-being of American women, 1970–1995. *Journal of Economic Literature,* 36(*1*), 112-165.

Blau, F. D., Brummund, P., & Liu, A. Y.-H. (2013). Trends in occupational segregation by gender 1970-2009: Adjusting for the impact of changes in the occupational coding system. *Demography,* 50(*2*), 471-492.

Blau, F. D., & Kahn, L. M. (2017). The gender wage gap: Extent, trends, and explanations. *Journal of Economic Literature,* 55*(3),* 789-865.

Boeri, T., & Terrell, K. (2002). Institutional determinants of labor reallocation in transition. *Journal of Economic Perspectives,* 16*(1),* 51–76.

Brainerd, E. (2000). Women in transition: Changes in gender wage differencials in Eastern Europe and the former Soviet Union. *Industrial and Labor Relations Review,* 54*(1),* 138-162.

Bridgman, B., Duernecker, G., & Herrendorf, B. (2018). Structural transformation, marketization, and household production around the world. *Journal of Development*

Economics, 133, 102-126.

Ceci, S. J., Ginther, D. K., Khan, S., & Williams, W. M. (2014). Women in academic science: A changing landscape. *Psychological Science in the Public Interest,* 15(*3*), 75-141.

Cho, Y., & Newhouse, D. (2013). How did the great recession affect differentypes of workers? Evidence from 17 middle-income countries. *World Development,* 41, 31-50.

Cortés, P., & Pan, J. (2019). When time binds: Substitutes for household production, returns to working long hours, and the skilled gender wage gap. *Journal of Labor Economics,* 37(*2*), 351-398.

Cotter, D. A., Hermsen, J. M., Ovadia, S., & Vanneman, R. (2001). The glass ceiling effect. *Social Forces.*

European Bank for Reconstruction and Development (EBRD). (1994). *Transition report,* London: EBRD.

European Bank for Reconstruction and Development (EBRD). (2017). *Life in transition: A decade of measuring transition,* London: EBRD.

European Bank for Reconstruction and Development (EBRD). (2019). *Transition report 2018-19,* London: EBRD.

European Commission. (2013). *The impact of the economic crisis on the situation of women and men and on gender equality policies,* Luxembourg: European Commission.

Freeman, R. B., & Schettkat, R. (2005). Marketization of household production and the EU–US gap in work. *Economic Policy,* 20(*41*), 6-50.

Goldin, C. (2006). The quiet revolution that transformed women's employment, education, and

family. *American Economic Review,* 96(*2*), 1-21.

Goldin, C., & Katz, L. F. (2002). The power of the pill: Oral contraceptives and women's career and marriage decisions. *Journal of Political Economy,* 110(*4*), 730-770.

International Monetary Fund (IMF), (2014). *25 Years of transition post-communist Europe and the IMF,* Washington D.C.: IMF.

Katz, L. F., & Murphy, K. M. (1992). Changes in relative wages, 1963–1987: Supply and demand factors. *The Quarterly Journal of Economics,* 107(*1*), 35-78.

Ngai, R. L., & Petrongolo, B. (2017). Gender gaps and the rise of the service economy. *American Economic Journal: Macroeconomics,* 9(*4*), 1-44.

Nollenberger, N., Rodríguez-Planas , N., & Sevilla, A. (2016). The math gender gap: The role of culture. *American Economic Review,* 106(*5*), 257-261.

Perugini, C., & Pompei, F. (2017). Temporary jobs, insitutions, and wage inequality within education groups in Central-Eastern Europe. *World Development,* 92, 40-59.

Rubery, J., & Rafferty, A. (2013). Women and recession revisited. *Work, Employment and Society,* 27(*3*), 414-432.

Saxonberg, S. (2006). Failing family policy in post-communist Central Europe. *Journal of Comparative Policy Analysis: Research and Practice,* 8(*2*), 185-202.

Van Bavel, J., Schwartz, C. R., & Esteve, A. (2016). The reversal of the gender gap in education and its consequences for family life. *Annual Review of Sociology,* 44, 341-60.

Chapter 3. Job satisfaction in post-socialist countries

This chapter investigates job satisfaction in the context of post-socialist countries as an important aspect of subjective well-being in the region. This research starts with building the conceptual framework of the impact of transition on job satisfaction through growing inequality and socio-psychological factors. Then, it examines the *gender-job satisfaction paradox* in the region by assessing the gender difference in work orientation using two comprehensive datasets, the World Value Survey and Life in the Transition Survey. Results show that females in the transition countries value the "soft" aspect of work than males do and that the increasing inequality after the transition decreased male job satisfaction who value the "hard" aspect, such as payment and security. The theoretical framework and the empirical result is valuable as it considers the inequality and subjective well-being *trend* before and after the transition while previous literature treated the gender differentials in transition as a time constant concept.

Keywords: job satisfaction, work orientation, transition, gender

3.1. Introduction

Literature on job satisfaction and gender poses an interesting research question, named the *gender-job satisfaction paradox* (Clark, 1997). Although the objective work quality of female workers is not as generous as that of males, they often report a higher level of satisfaction at work. The traditional explanation of the paradox focuses on the lower expectation of females from their job market participation. That is, as females expect less from work, they are generally satisfied with their given work quality. Recently, different work orientation by gender has empirically supported such argument. While male workers emphasize "hard" aspects (payment and job security), females tend to find "soft" aspects of a job (good

relations with management) important in determining their level of job satisfaction.

In post-socialist countries, job satisfaction has to be understood in the context of growing inequality and decreasing job security during the economic consolidation after the transition. The transition created a far-reaching change in daily life, and most notably, in their work. It brought a soaring unemployment rate, and workers were reallocated from the "old" sectors of public enterprises to the "new" private sectors (Boeri & Terrell, 2002). In the pre-transition period, female workers were encouraged to join the labor market under the socialist regime, and they fared better than their counterparts in Western European countries. However, the increased wage inequality during the transition suppressed female relative wages (Brainerd, 2000).

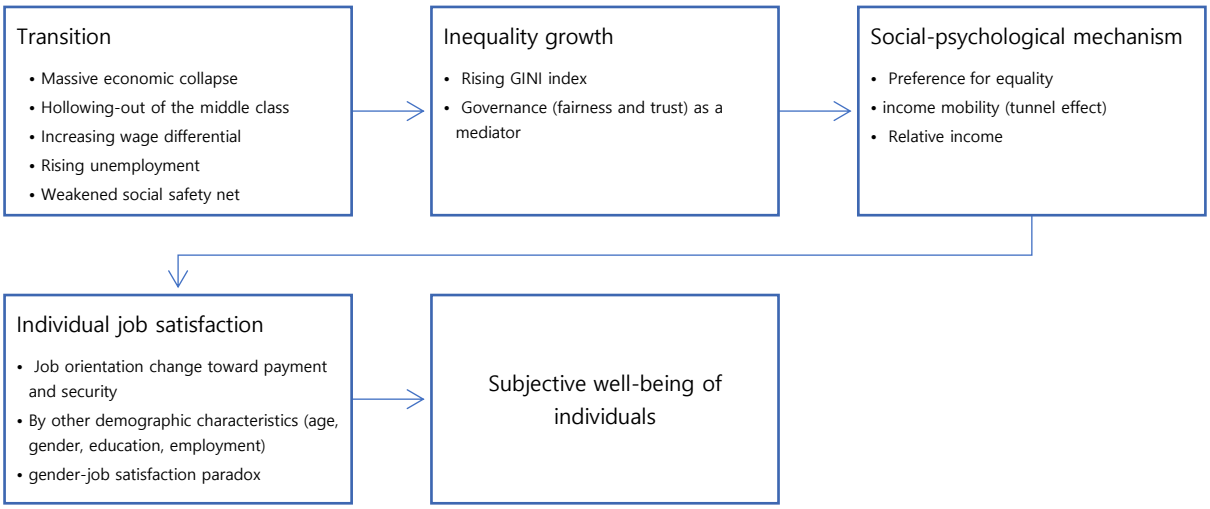
This research aims to examine the transition countries' gender difference in job satisfaction in line with work orientation literature. Specifically, this paper investigates three research hypotheses with empirical evidences. First, this research tests whether the *gender-job satisfaction paradox* is valid in the transition countries by comparing the level of job satisfaction by gender. Second, as job satisfaction is an important dimension of subjective well-being (SWB), this paper attempts to find a correlation between individual work orientation and happiness by gender. Finally, this paper studies whether the gender work orientation was systematically changed after the transition.

3.2. Transition and SWB through an institutional and social-psychological mechanism

The analysis of this chapter follows the conceptual framework described in Figure 1, which starts from the transitional context (economic hardship and inequality growth) to job satisfaction (job orientations, demographic characteristics, and gender difference) and subjective well-being through a social-psychological mechanism. The conceptual framework

is developed upon two stream of literature, namely, inequality growth in the transition countries and transition happiness gap. First, inequality increased in overall transition countries due to the hollowing out of the middle class and widened wage distribution (Milanovic, 1999). Second, inequality growth negatively affected individual subjective well-being (Guriev & Zhuravskaya, 2009), and it was through a social-psychological mechanism, such as preference for equality (Sanfey & Teksoz, 2007; Carola & Klasen, 2012), tunnel effect (Senik, 2004; Guriev & Zhuravskaya, 2009), and relative income (Easterlin & Plagnol, 2008). More explanation on the theories are followed in the rest of the chapter.

Figure 1. From transition to the SWB



Source: author

3.2.1 Transition and inequality growth: Labor market context

After the transition from a centrally planned economy to a market economy, transition economies faced a massive economic downturn (GDP falling to 50 to 85 percent level

compared to the 1989 level), which is comparable to the Great Depression (Easterlin, 2009). The government of each transition economy had to cope with the economic hardship with structural reforms to build economic institutions from scratch, but many transition countries found themselves stuck in the 'development trap (economic development is hampered due to incapable political institutions)' (Sonin, 2013). Consequently, the economic and political hardship resulted in the 'transition happiness gap (the difference in the level of life satisfaction between transition and non-transition countries when controlling for national-level and individual-level explanatory variables)' specifically due to five sources: an increase in inequality, a decrease in public goods, an increase of volatility and uncertainty of earnings, an increase in aspiration levels, and a depreciation of human capital accumulated before the transition (Guriev & Zhuravskaya, 2009). Almost thirty years after the transition, recent literature found evidence that the happiness gap has been converged, and the five factors have been subsided driven by the next generation (middle-income young population) (Guriev & Melnikov, 2018).

The five factors of the transition happiness gap are primarily associated with the labor market and human capital. Growing inequality, the first and the foremost factor of the happiness gap, has been accelerated by the structural change of the labor market in the new capitalist economies. According to Milanovic (1999), one of the important characteristics of the labor market is the removal of legal restrictions on the private sector. As a result, the labor market players were transformed from a two-tier (composed of a small private sector and a large state sector) to a three-tier (a private sector, capitalists, and a state sector) structure. The economic restructure and privatization of the low-productive public sector increased the unemployment of state-sector workers. When the governments failed to facilitate job opportunities in the "new" private sectors, they fell into long-term unemployment (in European countries) or

underemployment (in CIS countries) (Rutkowski & Scarpetta, 2005). The 'hollowing-out' of the state-sector middle class was one of the major forces that increased inequality during the transition (Milanovic, 1999). A recent paper found evidence that the *past* unemployment experience left a mental scar, and it explains eight percent of the transition happiness gap (Norton et al., 2018).

Literature on the transition experience in the labor market reveals that the real wage distribution among workers increased after the economic transformation (Milanovic, 1999). Before the transition, the wage distribution was compressed under the egalitarian ideology and centralized wage-setting system (Rutkowski & Scarpetta, 2005). Using the Slovenian workers data from 1987 to 1991, Orazem and Vodopivec (1995) concluded that the relative wages and employment increased for the most-educated workers across all economic sectors due to the rising returns to skills. Moreover, the wage distribution among equivalent skilled-workers was diversified. Female workers were favored because they were concentrated on the less-affected sectors. A similar trend was observed in Russia in the early 1990s. The wage inequality increased as twice as before the transition because of the rising skill premium within groups. Unlike the Slovenian population, Russian female wage declined relative to men across all wage distribution (Brainerd, 1998). The degree of wage disparities was extremely high in the CIS region compared to the CEE region, partially due to the low minimum wages with weak enforcement (Rutkowski & Scarpetta, 2005).

3.2.2 Inequality - Subjective well-being nexus

SWB in this study was measured by survey questions asking to what degree someone is satisfied with his/her overall life. SWB contrasts to the traditionally revealed preferences, which is based on individuals' actual choices and decisions (Kahneman & Krueger, 2006).

SWB studies highlight behavioral and psychological human nature, which overcomes the boundary of revealed preferences and its utility maximization. For example, Easterlin (1974) tested the relationship between national economic growth and happiness and found a paradox, in which average well-being did not linearly increase with national average income growth. Clark et al. (2008) tried to explain the paradox with the notion of 'relative income,' compared to own objective incomes to others, including own family, coworkers, neighborhood in the region (social comparison), or oneself in the past (habituation). An important study of Europe found that the income comparison is associated with the lower level of SWB and greater preferences for income redistribution in consistent with the relative income theory (Clark & Senik, 2010). The impact is not homogenous and differs along the individual sensitivity to income distribution, which is modified by social and cultural capital (Bárcena-Martín et al., 2017). Additionally, Perez-Truglia (2020) found that as income transparency shows actual income of neighbors, it widens the gap in SWB between richer and poorer population by 29 percent. In transition countries, one's income can be a translation of their current social class under the economic transformation (Milanovic, 1999).

Table 1. Inequality and life satisfaction in the transition countries context

Study	Data/Methods	Total effect of inequality to life satisfaction or SWB	Mechanism
Senik **(2004)**	Data: Russia Longitudinal Monitoring Study (RLMS) in Russia Methods: ordered probit, logit with FE	+	Tunnel effect In a *rapidly changing society,* relative position lose significant, and information is used rather used in order to form their *expectations*
Sanfey & Teksoz **(2007)**	Data: WVS Methods: OLS, FE	- (+ for non-transition countries)	An *aversion to inequality* inherited from socialist systems
Easterlin & Plagnol **(2008)**	Data: Socio-Economic Panel (SOEP) survey for West and East Germany Methods: OLS	(relative wage) +	Evaluation of one's absolute income with national average (*relative income*) is closely associated with life satisfaction
Easterlin **(2009)**	Data: WVS, Eurobarometer, GSOEP for Former GDR Methods: OLS	+ to the *inequality* in life satisfaction	Rise in income inequality, growth of unemployment, demise of the social policy
Guriev & Zhuravskaya **(2009)**	Data: WVS Methods: OLS, FE	- (+ for non-transition countries)	- sense of unfairness + tunnel effect
Grosfeld & Senik **(2009)**	Data: CBOS in Poland Methods: OLS	+ at the beginning of transition (1992-1996) - afterwards (1997-2005)	+ signal of *increased opportunity* - *dissatisfaction of economic situation and reforms*, skepticism about the legitimacy
Carola & Klasen **(2012)**	Data: European and WVS Methods: OLS, FE	- at the beginning of transition (1994-2004), not significant later (2005-2008)	Preference for equality (inherited from socialist system) Generational effect with older generations feeling less satisfied

Previous empirical studies on the inequality and transition nexus showed diverse effects of rising inequality on the path to a capitalist democracy in different contexts (Table 1). First, the total effect of inequality to the subjective well-being was negative and significant except at the beginning of transition in the 1990s. This can be analogically explained as the 'tunnel effect' (Hirschman & Rothschild, 1973). In this metaphor, social mobility is compared to a situation of a driver in a tunnel with a heavy traffic jam. He or she might have a good feeling and hope when he or she first observes other cars in the next lane move out of the tunnel, but it would turn into anger if the situation prolonged. Likewise, increasing inequality at the early stage of rapid economic development can be a sign of opportunity to increase one's

welfare in the near future; thus, it can earn society's tolerance. Existing literature found evidence of the tunnel effect in Russia (Senik, 2004), Poland (Grosfeld & Senik, 2009), and the transition countries in general (Guriev & Zhuravskaya, 2009). Later, the expectation turns into dissatisfaction with economic situations and reforms (Grosfeld & Senik, 2009) and the sense of unfairness (Guriev & Zhuravskaya, 2009).

Second, rising inequality brought adverse effects to people in the transition countries as they inherited a preference for equality (Sanfey & Teksoz, 2007; Carola & Klasen, 2012). This comes from a more psychological background assuming that people have a general tendency of distaste for inequality and even consider it as a 'social evil' (Alesina et al., 2004). According to Alesina et al. (2004), distaste for inequality is prominent in a country where a redistribution policy is strong. Pre-transition countries were under the communist regime based on extensive social policies and compression of income under the socialist regime. Therefore, researchers consider the preference for equality as a legacy of the communist regime.

Third, pervasive inequality increases not only dissatisfaction with life but also inequality in life satisfaction between demographic groups (Easterlin, 2009). Research pointed out that inequality in the transition countries is caused by rising income inequality, growth of unemployment, and demise of social policies. Other researches focused on the role of relative income to life satisfaction in transition (Easterlin & Plagnol, 2008). The level of inequality can affect the perceived income level in a society, hence the negative impact on the SWB.

Although the social-psychological mechanism (rising unemployment, distaste the inequality, the importance of relative income, etc.) is considered as an explanation of the 'transition happiness gap,' the dimension of job satisfaction has not been discussed in the previous literature. Therefore, this research aims to fill the gap between inequality and

happiness in the domain of workplace.

3.2.3 Job satisfaction by gender

Happiness at work or job satisfaction is an important subdimension of one's SWB, and it is significantly positively correlated with each other (Bowling et al., 2010). Moreover, job satisfaction can have a spillover effect on another domain of SWB, such as marital happiness. For example, a high level of stress in the work domain can reduce family satisfaction and increase the level of work-family conflict (Carlson & Kacmar, 2000). Job satisfaction is also an important determinant in labor mobility (Freeman, 1978; Green, 2010), productivity (Fisher, 2010; Böckerman & Ilmakunnas, 2012), and mental health, such as burnout, self-esteem, depression, and anxiety (Faragher et al., 2005). Individuals from post-communist countries inherited the legacy of less satisfaction with their jobs and more support the state intervention in the job market (Blanchflower & Freeman, 1997). Apart from the legacy of communism, the low level of subjective well-being in the work domain is affected by the after transition consolidation period, which is featured by the increasing instability in jobs, mismatches between employees and the job market, and wage arrears (Selezneva, 2011).

Job satisfaction can be used to measure job quality considering that one cannot add all job determinants except for apparent objective job quality, such as income, hours, and job security (Clark, 2011). However, job satisfaction does not accurately reflect objective job characteristics (salary, working day, unemployment rate, or distribution) as it includes workers' expectations and adaptation (de Bustillo Llorente & Mac´ıas, 2005). In line with this theoretical background, Clark (1997) raised the *gender-job satisfaction paradox*. His argument is that although females are treated worse in the job market than males (gender pay gap, employment, job content, opportunities for promotion, discrimination, etc.), females report a higher level of

job satisfaction. He tested four explanations: difference in tasks, expectations at work, sample selection problem, and differentials in expectations. Clark concluded that females evaluate their jobs more generously than males as their position has already improved in the labor market, and their expectation at work is not high as their male counterparts. His empirical test suggested that females' higher expectation is transitory as the gender differential is not found for young and highly educated workers as well as those in the professional jobs.

Other studies also tried to explain the gender-job satisfaction paradox. Zou (2015) found that work orientation is closely associated with job satisfaction, and different work orientation makes gender satisfaction differentials. Sousa-Poza and Sousa-Poza (2000) also pointed out the gender difference in values. While females value "soft" aspects of a job (good relations with management), males have a tendency to value "hard" aspects (payment and job security). Bender et al. (2005) argue that women report higher job satisfaction in female dominated workplaces as those jobs provide job flexibility, which females highly value. When it comes to the trend of female job satisfaction, Sousa-Poza and Sousa-Poza (2003) argue that the paradoxical situation is transitory as female expectation changes over time.

Under the communist regime, females were treated better in the labor market due to favorable social policies, such as high minimum wages, maternity leave, and childcare systems (Brainerd, 2000). However, the transition from a centrally planned economy to a market economy brought both advantages and challenges to females in the region. On the negative side, females experienced more unemployment and underemployment than men (LaFont, 2001), a decrease in female dominant low-wage jobs (Brainerd, 2000), and a sharp decline in the financial support for children (Paci, 2002). On the positive side, females benefited from the increased rate of returns to education (Boeri & Terrell, 2002). Lange (2008) investigated job

satisfaction by gender in Central and Eastern Europe, and he found that being the main earner, high income, higher educational achievements, and hours of work have a strong and positive impact on males. On the other hand, middle and upper educational degrees showed a negative effect on females reflecting that there are perceived barriers in the workplace for females who achieved higher educational attainments. Likewise, the hours of work were negatively associated with females' job satisfaction as a response to the work-family conflict from long working hours.

The higher wage difference by gender at the top of the wage distribution is called the 'glass ceiling effect' (Albrecht et al., 2003). As the wage distribution is highly associated with educational attainment, the glass ceiling effect refers to the barriers that highly educated females face when they enter managerial occupations. Glass ceiling occurs due to various factors such as the labor market discrimination (Cotter et al., 2001), psychological attributes and demand for flexibility (Bertrand, 2018). In transition countries, Semykina and Linz (2013) found that the perceived career opportunity of being a senior-level of employee was positively correlated with job satisfaction in six post-socialist countries (Armenia, Azerbaijan, Kazakhstan, Kyrgyzstan, Russia, and Serbia).

3.3. Data and Methods

The empirical studies in this chapter are divided into two categories; one is the regression of job satisfaction on the individual and job characteristics and the gender equality index (both objective and subjective terms), and the other is the regression of happiness on work orientations. This study used two datasets for each empirical test, taking advantage of each dataset. First, for the job satisfaction regression, the third wage of LITS was used. The dataset was produced by the European Bank for Reconstruction and Development (EBRD) in

collaboration with the World Bank. It has started in 2006 and conducted two more waves in 2010 and 2016. The LITS III survey for 33 countries, the most recent dataset, included twenty six transition countries[4] and seven other countries[5]. The strength of the third wave of LITS conducted in the year 2016 followed by the 2006 and 2010 surveys is the detailed survey on the labor status (including wage) and the perception on the females' role in the economic and political arenas. The summary statistics are presented in Table 2.

Table 2. Summary statistics (LITS dataset for the job satisfaction regression)

Variable	Obs	Mean	Std. Dev.	Min	Max
Age	30,579	42.08136	13.03457	18	64
Age squared	30,579	1940.736	1100.243	324	4096
Female	30,579	0.554989	0.496975	0	1
Tertiary level educated	30,579	0.262566	0.440036	0	1
Health status (subjective)	30,460	3.63759	0.873577	1	5
Marital status					
Married	30,579	0.611989	0.487305	0	1
Single	30,579	0.22074	0.414752	0	1
baseline: widowed, divorced, separated					
Number of children	30,579	0.611138	0.967032	0	8
Number of the elderly	30,579	0.123974	0.372418	0	3
Household size	30,067	3.038414	1.651772	1	10
Dwellings and assets					
Detached house	30,579	0.571994	0.494798	0	1
Part of house	30,579	0.045227	0.207805	0	1
Apartment in building with less than 10 dwellings	30,579	0.063671	0.24417	0	1
Apartment in building with 10 or more dwellings	30,579	0.30812	0.461724	0	1
baseline: hostel, primitive/mobile dwellings, others					
Employment status					
Employee	17,572	0.880662	0.324195	0	1
Self-employed, employer, unpaid	17,572	0.119338	0.324195	0	1
unemployed	6,490	0.191371	0.393411	0	1
inactive	6,490	0.69661	0.459758	0	1
Log(hourly wage)	11,358	1.074362	1.173462	-7.1038	7.543308
Hours of work	17,572	40.57276	13.05499	1	140
Sector of economic activities					
Agriculture/forest/fishing	17,572	0.070396	0.255821	0	1
Mining	17,572	0.009276	0.095868	0	1
Construction	17,572	0.086843	0.281612	0	1
Manufacturing	17,572	0.112395	0.31586	0	1
Transport and public utilities	17,572	0.065787	0.247916	0	1
Wholesale trade	17,572	0.034145	0.181607	0	1
Retail trade	17,572	0.092306	0.289466	0	1

[4] Albania, Armenia, Azerbaijan, Bosnia and Herzegovina, Belarus, Bulgaria, Croatia, Czech Republic, Estonia, FYR Macedonia, Georgia, Hungary, Kazakhstan, Kyrgyz Republic, Latvia, Lithuania, Moldova, Montenegro, Poland, Romania, Russia, Serbia, Slovak Republic, Slovenia, Tajikistan, Ukraine, Uzbekistan.

5 Cyprus, Germany, Greece, Italy, Kosovo, Mongolia, Turkey.

Variable	Obs	Mean	Std. Dev.	Min	Max
Finance, insurance, real estate	17,572	0.048828	0.215514	0	1
Service	17,572	0.247553	0.431603	0	1
baseline: public administration, nonclassifiable establishments					
Types of business					
Public sector	17,572	0.161109	0.367642	0	1
State-owned enterprise	17,572	0.147906	0.355017	0	1
Bank	17,572	0.013658	0.11607	0	1
Foreign firms	17,572	0.034771	0.183205	0	1
Second job	17,572	0.057762	0.2333	0	1
Firm size					
11 to 20 people	16,931	0.172051	0.377436	0	1
21 to 100 people	16,931	0.264308	0.440977	0	1
101 or more people	16,931	0.176009	0.380839	0	1
baseline: 1 to 10 people					
Contractual arrangement					
permanent with a written contract	15,475	0.738998	0.439195	0	1
permanent without a written contract	15,475	0.092795	0.290154	0	1
temporary (fixed-term) with a written contract	15,475	0.091567	0.288423	0	1
temporary (fixed-term) without a written contract	15,475	0.019257	0.137431	0	1
baseline: seasonal/daily labourer					

Note. 26 transition countries (Albania, Armenia, Azerbaijan, Bosnia and Herzegovina., Bulgaria, Croatia, Czech Rep., Estonia, FYR Macedonia, Georgia, Hungary, Kazakhstan, Kyrgyz Rep., Latvia, Lithuania, Moldova, Montenegro, Poland, Romania, Russia, Serbia, Slovak Rep., Slovenia, Tajikistan, Ukraine, Uzbekistan) are included

Second, the happiness regression was based on the WVS, which is a comprehensive dataset of questionnaires on changing values and their effects on social, political, and economic life. The WVS enables cross-country comparison studies in the region of the transition countries, including the pre-transition period. It contains survey questions on work orientation by asking interviewees the following question; "*Here are some more aspects of a job that people say are important. Please look at them and tell me which ones you personally think are important in a job?*" The presented job aspects were "*good pay, not too much pressure, good job security, a job respected by people in general, good hours, an opportunity to use initiative, generous holidays, a job in which you feel you can achieve something, a responsible job*." Also, it has questions on the values of individual attitudes, such as "*we need larger income differences as incentives for individual effort, private ownership of business and industry should be increased, people should take more responsibility to provide for themselves*" as well as "*when jobs are scarce, men (citizens) should have more right to a job than women (immigrants)*."

The WVS covers twenty-four transition countries from the 1980s to the early 2000s as

listed in Table 2, and the total number is 43,463 individuals. Among them, Belarus (1990), Hungary (1982), Russian Federation (1990), and Slovak Republic (1990) citizens were interviewed before the transition[6]. The summary statistics are described in Table 3 and Table 4.

Table 3. Transition countries in WVS

Country	1982	1990	1991	1995	1996	1997	1998	2001	2002	2003	Total
Albania	0	0	0	0	0	0	999	0	1,000	0	1,999
Azerbaijan	0	0	0	0	0	2,002	0	0	0	0	2,002
Armenia	0	0	0	0	0	2,000	0	0	0	0	2,000
Bosnia	0	0	0	0	0	0	800	1,200	0	0	2,000
Bulgaria	0	0	0	0	0	1,072	0	0	0	0	1,072
Belarus	0	1,015*	0	0	2,092	0	0	0	0	0	3,107
Croatia	0	0	0	0	1,196	0	0	0	0	0	1,196
Czech Rep.	0	0	924	0	0	0	1,147	0	0	0	2,071
Estonia	0	0	0	0	1,021	0	0	0	0	0	1,021
Georgia	0	0	0	0	2,008	0	0	0	0	0	2,008
Hungary	1,464*	0	0	0	0	0	650	0	0	0	2,114
Kyrgyzstan	0	0	0	0	0	0	0	0	0	1,043	1,043
Latvia	0	0	0	0	1,200	0	0	0	0	0	1,200
Lithuania	0	0	0	0	0	1,009	0	0	0	0	1,009
Moldova	0	0	0	0	984	0	0	0	1,008	0	1,992
Montenegro	0	0	0	0	240	0	0	1,060	0	0	1,300
Poland	0	0	0	0	0	1,153	0	0	0	0	1,153
Romania	0	0	0	0	0	0	1,239	0	0	0	1,239
Russia	0	1,961*	0	2,040	0	0	0	0	0	0	4,001
Serbia	0	0	0	0	1,280	0	0	1,200	0	0	2,480
Slovakia	0	466*	0	0	0	0	1,095	0	0	0	1,561
Slovenia	0	0	0	1,007	0	0	0	0	0	0	1,007
Ukraine	0	0	0	0	2,811	0	0	0	0	0	2,811
Macedonia	0	0	0	0	0	0	995	1,055	0	0	2,050
Total	1,464	3,442	924	3,047	12,832	7,236	6,925	4,515	2,008	1,043	43,436

* Before the transition period

Table 4. Summary statistics (WVS dataset for the happiness regression)

Variable	Obs	Mean	Std. Dev.	Min	Max
Happiness	74,184	2.857597	0.875025	1	10
Female	74,184	0.544147	0.498051	0	1
Age	72,677	43.66032	16.67576	16	97
Age squared	74,184	2140.245	1591.792	1	9,409
Education	65,719	5.017894	2.058478	1	8
Income (subjective)	66,585	4.554239	2.263015	1	10
Fulltime	74,184	0.401677	0.490241	0	1
Part-time	74,184	0.055066	0.22811	0	1
Self-employed	74,184	0.052127	0.222285	0	1
Unemployed	74,184	0.09463	0.292705	0	1
Chief wage earner	68,789	0.501723	0.500001	0	1
Married	74,184	0.657379	0.474589	0	1
Single	74,184	0.179527	0.383795	0	1
Work orientation					
Pay	43,436	0.889815	0.313124	0	1
Pressure	43,436	0.383277	0.48619	0	1

[6] The transition year: Belarus (1992), Hungary (1990), Poland (1990), Russian Federation (1992), Slovak Republic (1991) (Fischer & Sahay, 2004)

Variable	Obs	Mean	Std. Dev.	Min	Max
Security	43,436	0.715812	0.451032	0	1
Respect	43,436	0.4901	0.499908	0	1
Hour	43,436	0.507966	0.499942	0	1
Initiative	43,436	0.386546	0.486964	0	1
Holiday	43,436	0.342941	0.474698	0	1
Achieve	43,436	0.533313	0.498895	0	1
Responsive	43,436	0.355742	0.478743	0	1
Male job 1st	70,755	1.9828	0.905943	1	3
Citizen job 1st	70,222	2.585486	0.730249	1	3
More incentive	69,890	5.776148	2.988301	1	10
More private	74,184	6.255864	3.690642	1	16
Self-responsibility	74,184	4.450043	3.372483	1	16

Clark (1997) addressed the theoretical framework of the utility function (u) of job satisfaction as a sub-utility of SWB as follows.

$$u = u\ (y,\ h,\ i,\ j,\ E)$$

One's utility from work (u) is determined by income (y), hours of work (h), individual characteristics (i), job-specific characteristics (j), and finally a vector of comparison levels (or expectation, E). Higher expectation (E) lowers the current job satisfaction, and vice versa. Clark (1997) argues that the low level of expectation from job is the reason of high job satisfaction of females. The empirical equations to test the hypothesis is as follows.

For the job satisfaction regression, this chapter employed the methodology used by Perugini and Vladisavljević (2019).

$$JS_{ik} = \beta_o + \beta_1 female_{ik} + X'_{ikn}\gamma_n + u_k + IMR'_{ikm}\lambda_m + \varepsilon_{ik}$$

JS_{ik} is the level of job satisfaction of individual (i) in country (k). LITS asked its interviewees about how much they agree with the sentence "*all things considered, I am satisfied with my job as a whole*," and the answers were coded from strongly disagree (1) to strongly agree (5). $female_{ik}$ is a dummy variable equals to 1 if one is a female. X'_{ikn} is a matrix of individual and job characteristics, including age, age squared, marital status, education

(whether one has attained more than tertiary-level education), log of hourly wage, working hour in a week, sector of work, owner of firm, presence of an additional job, size of firm, and contract type.

IMR'_{ikm} is the inverse Mills ratio (IMR) based on the probability to be four work status (an employee, a self-employed or others, an unemployed, an inactive) following the estimation variables, including age, age squared, education, marital status, the number of children and elderlies, household size, health status, and the type of house ownership. IMR'_{ikm} is to correct the selection bias for the samples of employees in the regression, and it is not determined randomly. Females not satisfied with their jobs might want to do housework more frequently than males do (Perugini & Vladisavljević, 2019). u_k is a country dummy, and ε_{ik} is an error term. The regression was conducted using both ordinary least squares (OLS) and ordered probit methods.

For the happiness regression, below empirical equation was used.

$$Happiness_{iky} = \beta_o + \beta_1 female_{iky} + X'_{ikyn}\gamma_n + u_k + Value'_{ikym}\lambda_m + \varepsilon_{iky}$$

$Happiness_{iky}$ is the self-declared sense of happiness scaled from "*not at all happy* (1)" to "*very happy* (4)" of individual *i* in country *k* of year *y*. X'_{ikyn} is the matrices of individual and job characteristics, such as age, age squared, education (1 inadequately completed elementary education, 2 completed (compulsory) elementary education, 3 incomplete secondary school, 4 completed secondary school, 5 incomplete secondary, 6 completed secondary, 7 some university without degree, 8 university with degree), work status (full-time, part-time, self-employed, unemployed), being a chief wage earner, and marital status. $Value'_{ikym}$ is a set of individuals values, including work orientations. u_k and ε_{ik} are a

country dummy and an error term, respectively.

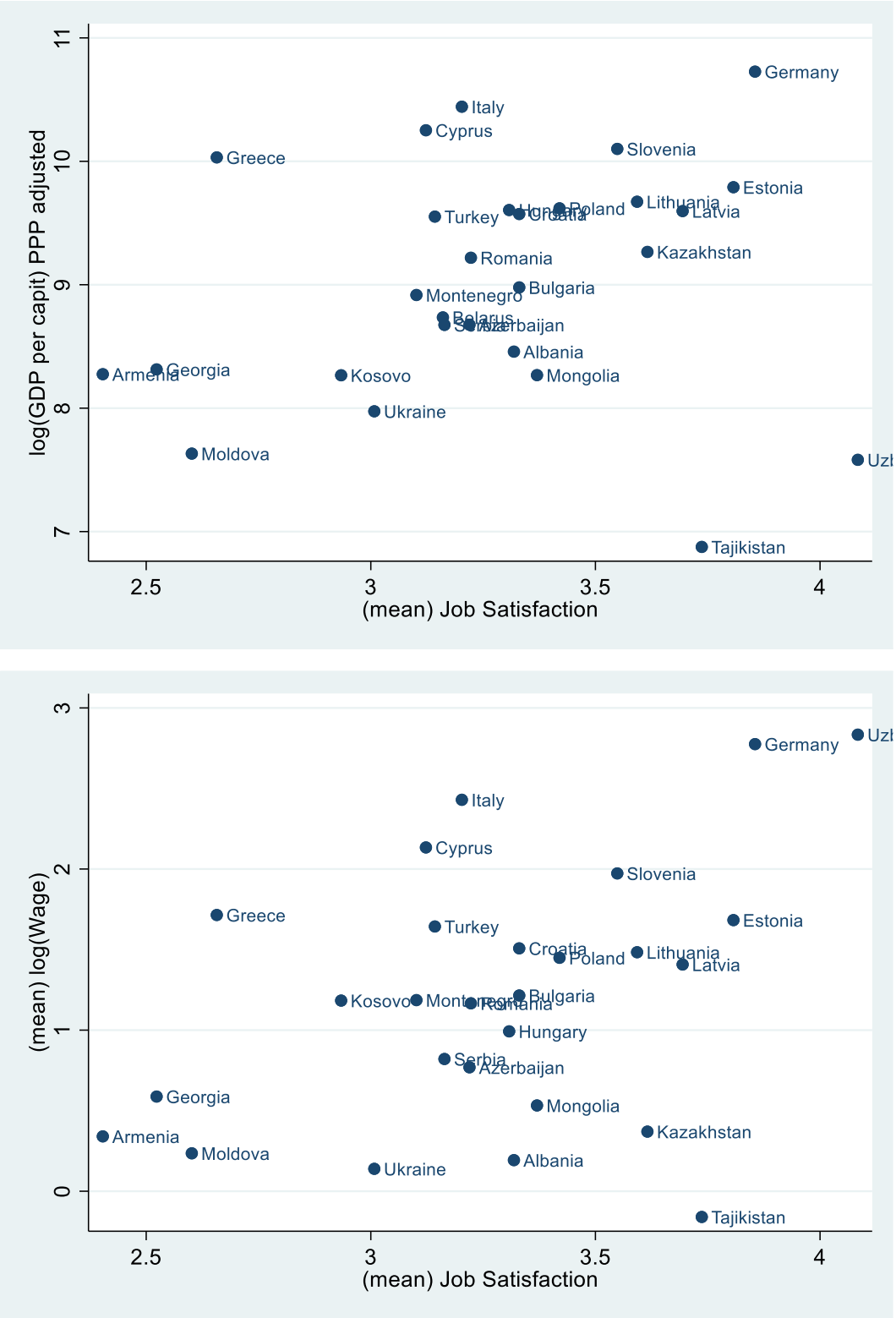
3.4. Key findings

3.4.1. Job satisfaction in the transition countries

Figure 2 shows the comparison at the aggregate level between job satisfaction and income level (log of GDP per capita (PPP adjusted) and the log of hourly wage). The graph shows a linear trend between job satisfaction and living, except for Italy, Cyprus, Greece (where the income level is high but the job satisfaction level is low), and Tajikistan[7] (where job satisfaction is high despite the low-income level). The linear relationship looks stronger with national wealth (GDP per capita) than individual wage. The result suggests that job satisfaction is determined other than the objective income level, and one of the possible hidden determinants is value and expectation as Clark (1997) indicated.

[7] The sample of Uzbekistan reported higher log of hourly wage compared to their GDP per capita level.

Figure 2. Cross-country comparison of job satisfaction by income level



Note. Author's calculation from the LITS Ⅲ dataset

Table 5 shows the determinants of job satisfaction and its direction as well as the magnitude of correlation. Supporting the existing *gender-job satisfaction paradox* in the transition countries' context, females reported a higher job satisfaction level than males based on a 0.05 scale. The coefficient for the female dummy was a proxy for gender differentials arising from lower expectations as other individual and job characteristics were controlled (Perugini & Vladisavljević, 2019). Log of hourly wage and working hour were positively associated with job satisfaction. In the literature, hours were negatively correlated, but in this research, the number of working hours was associated with the full-time and part-time working status. The part-time status is usually correlated negatively with job satisfaction especially in developing countries (López Bóo et al., 2010).

Age did not show a significant result, yet married and well-educated individuals reported higher job satisfaction. The positive coefficient of the tertiary (or higher) education dummy contrasts from the empirical result of other developed regions (Clark, 1997; Perugini & Vladisavljević, 2019), where highly educated people reported less satisfaction at work possibly due to high expectation or skills mismatch. The positive association between education and job satisfaction can be interpreted as individuals with tertiary education are rewarded better than their expectations.

The job sectors also affected job satisfaction. Compared to public administration (which was omitted in the regression table), agriculture, construction, manufacturing, transportation and public utilities, trade (both wholesale and retail trade), and services jobs were negatively and significantly associated with job satisfaction. This result supports that the public sector employment provides better job quality; therefore, it brings higher job satisfaction (Aleksynska, 2018).

In line with the previous literature, the public ownership of firms showed a positive association with job satisfaction, compared to private sector enterprises (omitted from the result). Individuals in large firms also reported higher job satisfaction supporting the previous research (Clark, 1997). Contract type was also an important determinant of job satisfaction, and the result showed that permanent contract satisfies more for their jobs, also supporting the previous research (Aleksynska, 2018). The result did not apply differently by the existence of a written contract book, and it means that the contract type is more important than the forms of contract (formal or informal jobs).

Table 5. Job satisfaction in the transition countries (baseline regression)

	OLS (1) Job satisfaction		Ordered Probit (2) Job satisfaction	
Female	0.0522*	(0.0258)	0.0572**	(0.0277)
ln wage	0.0501**	(0.0205)	0.0588**	(0.0236)
Hours	0.00157	(0.00108)	0.00238*	(0.00126)
Age	0.00366	(0.0185)	0.00484	(0.0207)
Age squared	0.0000177	(0.000226)	0.0000108	(0.000251)
Married	0.212***	(0.0317)	0.229***	(0.0341)
Tertiary education	0.194***	(0.0282)	0.232***	(0.0337)
Agriculture, Forestry, and Fishing	-0.109**	(0.0444)	-0.131***	(0.0466)
Mining	-0.198	(0.146)	-0.239	(0.153)
Construction	-0.135***	(0.0387)	-0.154***	(0.0433)
Manufacturing	-0.195***	(0.0394)	-0.227***	(0.0435)
Transportation and public utilities	-0.0558	(0.0357)	-0.0745*	(0.0423)
Wholesale trade	-0.0828	(0.0552)	-0.110*	(0.0598)
Retail trade	-0.245***	(0.0452)	-0.278***	(0.0486)
Finance, Insurance, and Real Estate	0.0674	(0.0540)	0.0701	(0.0638)
Services	-0.123***	(0.0312)	-0.139***	(0.0329)
Public sector (education, administration)	0.0636*	(0.0371)	0.0745*	(0.0420)
State-owned enterprise	0.0609	(0.0374)	0.0702*	(0.0421)
Bank	0.0512	(0.0778)	0.0169	(0.0932)
Foreign firm	0.0883	(0.0604)	0.123*	(0.0692)
Having a second job	-0.0328	(0.0345)	-0.0336	(0.0401)
Firm size 11-20	0.00266	(0.0232)	-0.00967	(0.0278)
Firm size 21-100	0.0930***	(0.0299)	0.101***	(0.0330)
Firm size 101 or more	0.142***	(0.0466)	0.162***	(0.0503)
Permanent with a written contract	0.291***	(0.0689)	0.317***	(0.0647)
Permanent without a written contract	0.204**	(0.0808)	0.224***	(0.0789)
Temporary (fixed-term) with a written contract	0.0813	(0.0819)	0.0856	(0.0810)
Temporary (fixed-term) without a written contract	-0.0945	(0.130)	-0.0613	(0.130)
IMR1(employee)	-0.0139	(0.773)	-0.0489	(0.848)
IMR2(self_employed, employer, unpaid)	-0.119	(0.329)	-0.158	(0.362)
IMR3(unemployed)	0.839***	(0.243)	0.984***	(0.269)
IMR4(inactive)	1.256***	(0.209)	1.423***	(0.231)
country dummies	yes		yes	
Constant	0.446	(1.150)		
Cut1			0.388	(1.228)
Cut2			1.153	(1.240)
Cut3			1.835	(1.234)
Cut4			3.384***	(1.231)
N	10,719		10,719	
R-sq	0.118			

Note. Standard errors are clustered at the country level, significance levels: * p<0.1, ** p<0.05, *** p<0.01

3.4.2. Work orientation by gender in the transition countries

This section utilizes the WVS to test work orientation in the post-communist countries (see Table 2 for the detailed list of countries). Work orientation is closely associated with one's job satisfaction, and it is a useful concept to understand job differentials in job satisfaction (Zou, 2015). It is also a part of norms and expectations that determine job satisfaction (Brown et al., 2012) as well as an evaluation of jobs for different rewards from employment (Zou, 2015). The dependent variable here was set as happiness rather than job satisfaction as the variable "job satisfaction" was asked within a very limited time frame with limited samples.

Table 6 shows the results. The self-reported SWB decreased with age and then increased after age hit 60. Education and income were positively correlated with happiness, and unemployed status was negatively and significantly associated. Consistent to the previous literature, being a chief wage earner was positively correlated with the SWB as the role of the main earner strengthened the male identity in the transition period (Lange, 2008). Married and single individuals were happier than others (widowed, separated, and divorced).

Concerning work orientation, while the pursuit of good payment was negatively correlated, respect and responsiveness at work were positively correlated with one's happiness. Males and females showed the same tendency (same direction to the respective coefficients), and this is adversary evidence of existing literature where males value "hard" aspects of work outputs (high income and job security), and females value "soft" aspects (such as good relationship) in the transition countries (Sousa-Poza & Sousa-Poza, 2000).

When males were prioritized in the event of job scarcity, males became less happy while females reported a stronger happiness level. The prioritization of male employees might lower (increase) the job satisfaction of females (males); thus, it gives the contrasting direction

of impact. The pro-market economy values (more incentives, more private, and self-responsibility) were positively associated with happiness in the transition countries.

Table 6. Work orientation by gender in the transition countries

	(1) Happiness (all)	(2) Happiness (males)	(3) Happiness (females)
Female	0.00220		
	(0.0107)		
Age	-0.0236***	-0.0229***	-0.0247***
	(0.00198)	(0.00303)	(0.00264)
Age squared	0.000207***	0.000206***	0.000215***
	(0.0000212)	(0.0000325)	(0.0000283)
Education	0.0200***	0.0227***	0.0185***
	(0.00257)	(0.00376)	(0.00355)
Income	0.0331***	0.0331***	0.0332***
	(0.00232)	(0.00336)	(0.00324)
Fulltime	0.00568	0.0142	0.00923
	(0.0139)	(0.0225)	(0.0181)
Part-time	-0.00538	-0.00144	-0.000711
	(0.0226)	(0.0361)	(0.0291)
Self-employed	0.00236	0.0168	-0.00807
	(0.0235)	(0.0314)	(0.0405)
Unemployed	-0.124***	-0.0797***	-0.142***
	(0.0181)	(0.0276)	(0.0248)
Chief wage earner	-0.0136	0.0723***	-0.0783***
	(0.0114)	(0.0174)	(0.0162)
Married	0.315***	0.316***	0.280***
	(0.0151)	(0.0271)	(0.0194)
Single	0.118***	0.177***	0.0778***
	(0.0206)	(0.0342)	(0.0263)
Pay	-0.0827***	-0.0654***	-0.0945***
	(0.0165)	(0.0248)	(0.0222)
Pressure	-0.00651	-0.0124	-0.000579
	(0.0106)	(0.0156)	(0.0146)
Security	0.00880	-0.00365	0.0203
	(0.0115)	(0.0167)	(0.0158)
Respect	0.0375***	0.0463***	0.0284**
	(0.0105)	(0.0152)	(0.0144)
Hour	-0.000659	-0.0169	0.0133
	(0.0105)	(0.0153)	(0.0144)
Initiative	0.00321	-0.0148	0.0198
	(0.0111)	(0.0158)	(0.0157)
Holiday	0.00401	-0.00407	0.0126
	(0.0111)	(0.0164)	(0.0152)
Achieve	-0.0000266	-0.00698	0.00843
	(0.0106)	(0.0152)	(0.0147)

	(1) Happiness (all)	(2) Happiness (males)	(3) Happiness (females)
Responsive	0.0779*** (0.0109)	0.0832*** (0.0156)	0.0696*** (0.0153)
Male job 1st	-0.00102 (0.00536)	-0.0311*** (0.00795)	0.0232*** (0.00731)
Citizen job 1st	-0.00631 (0.00680)	-0.00375 (0.0101)	-0.00868 (0.00923)
More incentive	0.00602*** (0.00173)	0.00443* (0.00254)	0.00730*** (0.00236)
More private	0.00896*** (0.00162)	0.00965*** (0.00241)	0.00823*** (0.00218)
Self-responsibility	0.00703*** (0.00171)	0.00508** (0.00248)	0.00802*** (0.00237)
Constant	2.783*** (0.0553)	2.749*** (0.0838)	2.809*** (0.0719)
N	28,573	13,530	15,043
R-sq	0.066	0.052	0.082

Note. Country-level fixed effects, significance levels: * p<0.1, ** p<0.05, *** p<0.01

Table 7 shows the comparison of work values before and after the transition by adopting fixed effects at the country level. After the transition, values of good pay and good job security increased with strong significance while other values, including less pressure, good hours, initiative work, generous holidays, and a responsible job decreased their importance among work orientations. Females less valued the good payment (hard value) and more valued the good hours and generous holiday (soft values), supporting the previous literature (Sousa-Poza & Sousa-Poza, 2000). Additionally, females had lower work orientation in the opportunities to use initiatives, achievement, and responsibility than males in the transition countries. Female work orientation did not significantly change after the transition, considering that After*Female coefficients were not significant.

Table 7. Work orientation change after the transition

	Coef.	Std. Err.	t
Good pay (N=36,912)			
After	0.027	0.009	2.880
Female	-0.032	0.011	-2.980
After*Female	0.021	0.011	1.830
Age	0.002	0.001	3.630
Age square	0.000	0.000	-5.720
Income	-0.004	0.001	-4.880
Fulltime	0.012	0.004	2.760
Part-time	-0.005	0.008	-0.620
Unemployed	-0.008	0.006	-1.230
Constant	0.877	0.015	58.510
Not too much pressure (N=36,912)			
After	-0.184	0.015	-12.580
Female	0.001	0.017	0.040
After*Female	0.033	0.017	1.900
Age	0.000	0.001	0.020
Age square	0.000	0.000	-0.560
Income	-0.008	0.001	-6.530
Fulltime	-0.022	0.007	-3.410
Part-time	0.033	0.012	2.780
Unemployed	-0.008	0.010	-0.800
Constant	0.582	0.023	25.020
Good job security (N=36,912)			
After	0.197	0.013	14.750
Female	-0.017	0.015	-1.110
After*Female	0.016	0.016	0.990
Age	0.006	0.001	7.610
Age square	0.000	0.000	-6.540
Income	-0.009	0.001	-8.920
Fulltime	0.040	0.006	6.630
Part-time	0.013	0.011	1.140
Unemployed	0.030	0.009	3.380
Constant	0.414	0.021	19.440
A respected job (N=36,912)			
After	0.018	0.015	1.170
Female	-0.001	0.017	-0.030
After*Female	0.011	0.018	0.590
Age	-0.001	0.001	-1.630
Age square	0.000	0.000	2.520
Income	0.007	0.001	5.570
Fulltime	0.024	0.007	3.520
Part-time	0.013	0.012	1.060
Unemployed	0.006	0.010	0.560
Constant	0.440	0.024	18.300
Good hours (N=36,912)			
After	-0.086	0.015	-5.690
Female	0.115	0.017	6.600
After*Female	-0.027	0.018	-1.480
Age	0.002	0.001	2.210
Age square	0.000	0.000	-4.430
Income	-0.005	0.001	-3.940
Fulltime	-0.003	0.007	-0.420
Part-time	0.065	0.013	5.190
Unemployed	0.005	0.010	0.520
Constant	0.552	0.024	22.800
An opportunity to use initiative (N=36,912)			
After	-0.104	0.015	-7.070
Female	-0.088	0.017	-5.200
After*Female	0.027	0.018	1.550
Age	-0.002	0.001	-2.710
Age square	0.000	0.000	0.890
Income	0.016	0.001	13.500
Fulltime	0.013	0.007	2.000
Part-time	0.032	0.012	2.600
Unemployed	-0.037	0.010	-3.840
Constant	0.524	0.023	22.310
Generous holidays (N=36,912)			

	Coef.	Std. Err.	t
After	-0.141	0.014	-9.780
Female	0.052	0.017	3.120
After*Female	-0.024	0.017	-1.410
Age	-0.001	0.001	-1.140
Age square	0.000	0.000	-0.950
Income	-0.003	0.001	-2.220
Fulltime	0.015	0.006	2.360
Part-time	0.062	0.012	5.250
Unemployed	0.009	0.009	0.970
Constant	0.519	0.023	22.530
That you can achieve something (N=36,912)			
After	0.019	0.015	1.270
Female	-0.054	0.017	-3.110
After*Female	0.015	0.018	0.820
Age	-0.007	0.001	-7.710
Age square	0.000	0.000	4.790
Income	0.015	0.001	12.670
Fulltime	0.006	0.007	0.860
Part-time	0.010	0.012	0.780
Unemployed	-0.032	0.010	-3.250
Constant	0.661	0.024	27.680
A responsible job (N=36,912)			
After	-0.030	0.014	-2.090
Female	-0.041	0.016	-2.460
After*Female	-0.010	0.017	-0.560
Age	-0.001	0.001	-1.530
Age square	0.000	0.000	2.340
Income	0.005	0.001	4.630
Fulltime	0.031	0.006	4.850
Part-time	-0.005	0.012	-0.390
Unemployed	-0.014	0.009	-1.490
Constant	0.372	0.023	16.260

Note. Country-level fixed effects, significance levels: * p<0.1, ** p<0.05, *** p<0.01

3.5. Discussion

The country-level fixed effects regression in this study used normal standard errors. However, academic research papers are often required to use clustered standard errors by country level. Therefore, in this discussion chapter, clustered standard errors are applied for the regression results presented from Table 6 to 7. In Table 8 (which is the replication of Table 6), males and females also show the same tendency at work orientation with values. The payment was negatively associated with happiness while respected jobs and responsiveness were positively associated.

Table 8. Work orientation by gender in the transition countries

	(1) Happiness (all)	(2) Happiness (males)	(3) Happiness (females)
Female	0.00220		
	(0.0118)		
Age	-0.0236***	-0.0229***	-0.0247***
	(0.00237)	(0.00241)	(0.00282)
Age squared	0.000207***	0.000206***	0.000215***
	(0.0000281)	(0.0000290)	(0.0000322)
Education	0.0200***	0.0227***	0.0185***
	(0.00394)	(0.00540)	(0.00430)
Income	0.0331***	0.0331***	0.0332***
	(0.00709)	(0.00792)	(0.00685)
Fulltime	0.00568	0.0142	0.00923
	(0.0190)	(0.0303)	(0.0219)
Part-time	-0.00538	-0.00144	-0.000711
	(0.0173)	(0.0409)	(0.0179)
Self-employed	0.00236	0.0168	-0.00807
	(0.0321)	(0.0455)	(0.0404)
Unemployed	-0.124***	-0.0797***	-0.142***
	(0.0240)	(0.0224)	(0.0379)
Chief wage earner	-0.0136	0.0723***	-0.0783***
	(0.0123)	(0.0164)	(0.0177)
Married	0.315***	0.316***	0.280***
	(0.0246)	(0.0339)	(0.0230)
Single	0.118***	0.177***	0.0778**
	(0.0262)	(0.0277)	(0.0358)
Pay	-0.0827***	-0.0654***	-0.0945***
	(0.0143)	(0.0153)	(0.0198)
Pressure	-0.00651	-0.0124	-0.000579
	(0.0139)	(0.0157)	(0.0171)
Security	0.00880	-0.00365	0.0203
	(0.0126)	(0.0171)	(0.0156)
Respect	0.0375**	0.0463**	0.0284*
	(0.0133)	(0.0180)	(0.0164)
Hour	-0.000659	-0.0169	0.0133
	(0.0138)	(0.0182)	(0.0132)
Initiative	0.00321	-0.0148	0.0198
	(0.0158)	(0.0176)	(0.0183)
Holiday	0.00401	-0.00407	0.0126
	(0.0139)	(0.0178)	(0.0164)
Achieve	-0.0000266	-0.00698	0.00843
	(0.00984)	(0.0167)	(0.0135)
Responsive	0.0779***	0.0832***	0.0696***
	(0.0169)	(0.0194)	(0.0186)
Male job 1st	-0.00102	-0.0311***	0.0232**
	(0.00844)	(0.00919)	(0.0104)
Citizen job 1st	-0.00631	-0.00375	-0.00868
	(0.0137)	(0.0159)	(0.0149)
More incentive	0.00602**	0.00443	0.00730**
	(0.00267)	(0.00336)	(0.00317)
More private	0.00896***	0.00965***	0.00823***
	(0.00217)	(0.00330)	(0.00205)

	(1) Happiness (all)	(2) Happiness (males)	(3) Happiness (females)
Self-responsibility	0.00703*** (0.00190)	0.00508* (0.00265)	0.00802** (0.00286)
Constant	2.783*** (0.0696)	2.749*** (0.0790)	2.809*** (0.0821)
N	28,573	13,530	15,043
R-sq	0.066	0.052	0.082

Note. Country-level fixed effects, Standard errors clustered by country in parentheses, significance levels: * p<0.1, ** p<0.05, *** p<0.01

Table 9 shows the results of Table 7 with clustered standard errors. The value of good job security, initiative, and generous holidays remains significant. Females value good hours and generous holidays while they less valued an opportunity to take initiatives and achieve bigger things. Just as Table 7, females' work orientations did not change after the transition (After*Female coefficients were not significant) except when taking initiatives (positive) and responsibility (negative) in jobs.

Table 9. Work orientation change after the transition

	Coef.	**Std. Err.**	**t**
Good pay (N=36,912)			
After	0.027	0.025	1.09
Female	-0.032	0.019	-1.66
After*Female	0.021	0.020	1.03
Age	0.002	0.001	2.37
Age square	0.000	0.000	-3.95
Income	-0.004	0.001	-4.08
Fulltime	0.012	0.007	1.63
Part-time	-0.005	0.011	-0.44
Unemployed	-0.008	0.007	-1.01
Constant	0.877	0.033	26.91
Not too much pressure (N=36,912)			
After	-0.184	0.125	-1.47
Female	0.001	0.019	0.04
After*Female	0.033	0.019	1.71
Age	0.000	0.001	0.01
Age square	0.000	0.000	0.31
Income	-0.008	0.002	-3.12
Fulltime	-0.022	0.015	-1.49
Part-time	0.033	0.010	3.25
Unemployed	-0.008	0.015	-0.5
Constant	0.582	0.118	4.94
Good job security (N=36,912)			
After	0.197	0.063	3.15
Female	-0.017	0.031	-0.54
After*Female	0.016	0.032	0.49
Age	0.006	0.001	6.73
Age square	0.000	0.000	5.84
Income	-0.009	0.002	-4.96
Fulltime	0.040	0.007	5.69
Part-time	0.013	0.015	0.86
Unemployed	0.030	0.011	2.73
Constant	0.414	0.054	7.7
A respected job (N=36,912)			

	Coef.	Std. Err.	t
After	0.018	0.051	0.34
Female	-0.001	0.011	-0.05
After*Female	0.011	0.012	0.89
Age	-0.001	0.002	-0.96
Age square	0.000	0.000	1.52
Income	0.007	0.001	4.53
Fulltime	0.024	0.013	1.87
Part-time	0.013	0.018	0.72
Unemployed	0.006	0.018	0.31
Constant	0.440	0.059	7.45
Good hours (N=36,912)			
After	-0.086	0.075	-1.15
Female	0.115	0.018	6.35
After*Female	-0.027	0.019	-1.44
Age	0.002	0.002	1.25
Age square	0.000	0.000	2.32
Income	-0.005	0.002	-3.02
Fulltime	-0.003	0.012	-0.24
Part-time	0.065	0.014	4.76
Unemployed	0.005	0.016	0.33
Constant	0.552	0.069	8.04
An opportunity to use initiative (N=36,912)			
After	-0.104	0.049	-2.12
Female	-0.088	0.010	-8.55
After*Female	0.027	0.010	2.74
Age	-0.002	0.001	-1.85
Age square	0.000	0.000	0.64
Income	0.016	0.003	4.94
Fulltime	0.013	0.008	1.58
Part-time	0.032	0.012	2.66
Unemployed	-0.037	0.014	-2.63
Constant	0.524	0.056	9.35
Generous holidays (N=36,912)			
After	-0.141	0.036	-3.97
Female	0.052	0.010	4.98
After*Female	-0.024	0.015	-1.64
Age	-0.001	0.001	-0.73
Age square	0.000	0.000	-0.59
Income	-0.003	0.002	-1.39
Fulltime	0.015	0.009	1.72
Part-time	0.062	0.014	4.34
Unemployed	0.009	0.016	0.58
Constant	0.519	0.040	12.81
That you can achieve something (N=36,912)			
After	0.019	0.065	0.29
Female	-0.054	0.015	-3.56
After*Female	0.015	0.015	0.98
Age	-0.007	0.001	-5.46
Age square	0.000	0.000	3.69
Income	0.015	0.002	7.27
Fulltime	0.006	0.012	0.46
Part-time	0.010	0.017	0.55
Unemployed	-0.032	0.010	-3.21
Constant	0.661	0.068	9.74
A responsible job (N=36,912)			
After	-0.030	0.015	-0.630
Female	-0.041	0.055	-0.540
After*Female	-0.010	0.015	-2.720
Age	-0.001	0.002	-0.860
Age square	0.000	0.000	1.530
Income	0.005	0.002	2.270
Fulltime	0.031	0.009	3.430
Part-time	-0.005	0.016	-0.290
Unemployed	-0.014	0.011	-1.270
Constant	0.372	0.073	5.090

Note. Country-level fixed effects, Standard errors clustered by country in parentheses, significance levels: * p<0.1, ** p<0.05, *** p<0.01

3.6. Conclusion

Job satisfaction is an important sub-dimension of SWB, and it is a dynamic outcome between the socio-economic environment and the psychological mechanism. Under the transition, one of the most important factors affecting SWB has been rising inequality due to the hollowing out of the middle class, increasing wage differentials, and unemployment. Against the backdrop of the socio-economic transformation and rising social inequality, it is worth to investigate the gender difference in job satisfaction to understand the reason of decreasing SWB or 'transition happiness gap.' Rising inequality can provoke the aversion to inequality and sense of unfairness, but it is not always on the negative side. Observing social mobility in neighborhood, work place, or family, one might bear hopes of his/her own upward social mobility, giving a positive feeling for some time until the emotion turns into anger ('tunnel effect').

Meanwhile, female workers have been highly likely to report their job satisfaction higher than male workers even when controlling individual demographic variables including the labor market status ('the gender-job satisfaction paradox'). The reason of the paradox has been explored as females' low expectations, difference in work values, different work orientations, and so on. Among them, this research focused on the hypothesis that male and female workers value different aspects in the workplace and it brought different outcomes in job satisfaction.

Under two theoretical backgrounds (rising inequality and the gender-job satisfaction paradox), this paper investigated the correlation of norms and expectations to job satisfaction by gender as well as individual and job characteristics. In the transition countries, females reported higher job satisfaction than males, consistent to the *gender-job satisfaction paradox.*

The coefficient to the female variable showed a lower expectation to jobs as other possible factors were controlled. In addition, high income earners, the more educated, and public officials have shown high levels of job satisfaction. All in all, females in the transition countries pursued more “soft” values (good hours, generous holidays) while males valued more on the “hard” aspect (payment). Increasing inequality in this region strengthened the “hard” aspect of job satisfaction which male workers appreciated. This partially explains the gender-job satisfaction paradox in this region.

References

Albrecht, J., Björklund, A. & Vroman, S. (2003). Is there a glass ceiling in Sweden? *Journal of Labor Economics, 21*(1), 145-177.

Aleksynska, M. (2018). Temporary employment, work quality, and job satisfaction. *Journal fo Comparative Economics, 46*(3), 722-735.

Alesina, A., Di Tella, R., & MacCulloch, R. (2004). Inequality and happiness: Are Europeans and Americans different? *Journal of Public Economics, 88*(9-10), 2009-2042.

Bárcena-Martín, E., Cortés-Aguilar, A., & Moro-Egido, A. I. (2017). Social comparisons on subjective well-being: The role of social and cultural capital. *Journal of Happiness Studies, 18*, 1121-1145.

Bender, K. A., Donohue, S. M., & Heywood, J. S. (2005). Job satisfaction and gender segregation. *Oxford Economic Papers, 57*(3), 479-496.

Bertrand, M. (2018). Coase lecture - The glass ceiling. *Economica, 85*(338), 205-231.

Blanchflower, D. G., & Freeman, R. B. (1997). The attitudinal legacy of communist labor relations. *Industrial and Labor Relations Review, 50*(3), 438-459.

Böckerman, P., & Ilmakunnas, P. (2012). The job satisfaction-productivity nexus: A study using matched survey and register data. *Industrial and Labor Relations Review, 65*(2), 244–262.

Boeri, T., & Terrell, K. (2002). Institutional determinants of labor reallocation in transition. *Journal of Economic Perspectives, 16(*1*),* 51–76.

Bowling, N. A., Eschleman, K. J., & Wang, Q. (2010). A meta-analytic examination of the

relationship between job satisfaction and subjective well-being. *Journal of Occupational and Organizational Psychology, 83*(4), 915-934.

Brainerd, E. (1998). Winners and losers in Russia's economic transition. *The American Economic Review, 88*(5), 1094-1116.

Brainerd, E. (2000). Women in transition: Changes in gender wage differencials in Eastern Europe and the former Soviet Union. *Industrial and Labor Relations Review, 54(*1*),* 138-162.

Brown, A., Charlwood, A., & Spencer, D. A. (2012). Not all that it might seem: Why job satisfaction is worth studying despite it being a poor summary measure of job quality. *Work, Employment and Society, 26(*6*),* 1007-1018.

Carlson, D. S., & Kacmar, M. K. (2000). Work–family conflict in the organization: Do life role values make a difference? *Journal of Management, 26*(5), 1031-1054.

Carola, G., & Klasen, S. (2012). Has transition improved well-being? *Economic Systems, 36*(1), 11-30.

Clark, A. E. (1997). Job satisfaction and gender: Why are women so happy at work? *Labour Economics, 4*(4), 341-372.

Clark, A. E. (2011). Worker well-being in booms and busts. In: P. Gregg & J. Wadsworth, eds. *The labour market in winter: The state of working Britain.* Oxford: Oxford University Press, 128-143.

Clark, A. E., Frijters, P., & Shields, M. A. (2008). Relative income, happiness, and utility: An explanation for the Easterlin paradox and other puzzles. *Journal of Economic Literature, 46*(1), 95-144.

Clark, A. E., & Senik, C. (2010). Who compares to whom? The anatomy of income comparisons in Europe. *The Economic Journal, 120*(544), 573-594.

Cotter, D. A., Hermsen, J. M., Ovadia, S., & Vanneman, R. (2001). The glass ceiling effect. *Social Forces, 80*(2), 655-682.

De Bustillo Llorente, R. M., & Mac´ıas, E. F. (2005). Job satisfaction as an indicator of the quality of work. *The Journal of Socio-Economics, 34*(5), 656-673.

Easterlin, R. A. (1974). Does economic growth improve the human lot?: Some empirical evidence. *Nations and Households in Economic Growth, 89,* 89-125.

Easterlin, R. A. (2009). Lost in transition: Life satisfaction on the road to capitalism. *Journal of Economic Behavior and Organization, 71*(2), 130-145.

Easterlin, R. A., & Plagnol, A. C. (2008). Life satisfaction and economic conditions in East and West Germany pre- and post-unification. *Journal of Economic Behavior and Organization, 68*(3-4), 433-444.

Faragher, B. E., Cass, M., & Cooper, C. L. (2005). The relationship between job satisfaction and health: A meta-analysis. *Occupational and Environmental Medicine, 62*(2), 105-112.

Fischer, S., & Sahay, R. (2004). *Transition economies: The role of institutions and initial conditions,* s.l.: Calvo Conference, IMF.

Fisher, C. D. (2010). Happiness at work. *International Journal of Management Reviews, 12*(4), 384-412.

Freeman, R. B. (1978). Job satisfaction as an economic variable. *The American Economic*

Review, 68(2), 135-141.

Green, F. (2010). Well-being, job satisfaction and labour mobility. *Labour Economics, 17*(6), 897-903.

Grosfeld, I., & Senik, C. (2009). *The emerging aversion to inequality - Evidence from long subjective data,* s.l.: Paris School of Economics Working Papers no. 2008-19.

Guriev, S., & Melnikov, N. (2018). Happiness convergence in transition countries. *Journal of Comparative Economics, 46*(3), 683-707.

Guriev, S., & Zhuravskaya, E. (2009). (Un)happiness in Transition. *Journal of Economic Perspectives, 23(2),* 143-168.

Hirschman, A. O., & Rothschild, M. (1973). The changing tolerance for income inequality in the course of economic development: With a mathematical appendix. *The Quarterly Journal of Economics, 87*(4), 544-566.

Kahneman, D., & Krueger, A. B. (2006). Developments in the measurement of subjective well-being. *Journal of Economic Perspectives, 20*(1), 3-24.

LaFont, S. (2001). One step forward, two steps back: Women in the post-communist states. *Communist and Post-Communist Studies, 34*(2), 203-220.

Lange, T. (2008). Communist legacies, gender and the impact on job satisfaction in Central and Eastern Europe. *European Journal of Industrial Relations, 14*(3), 327-346.

López Bóo, F., Madrigal, L., & Pagés, C. (2010). Part-time work, gender and job satisfaction: Evidence from a developing country. *Journal of Development Studies, 46*(9), 1543-1571.

Milanovic, B. (1999). Explaining the increase in inequality during transition. *Economics of transition, 7*(2), 299-341.

Norton, C. E., Nizalova, O., & Murtazashvili, I. (2018). Does past unemployment experience explain the transition happiness gap? *Journal of Comparative Economics, 46(*3*)* 736-753.

Orazem, P., & Vodopivec, M. (1995). Winners and losers in transition: Returns to education, experience, and gender in Slovenia. *The World Bank Economic Review, 9*(2), 201-230.

Paci, P. (2002). *Gender in transition,* Washington DC: World Bank.

Perez-Truglia, R. (2020). The effect of income transparency on well-being: Evidence from a natural experiment. *American Economic Review, 110*(4), 1019-54.

Perugini, C., & Vladisavljević, M. (2019). Gender inequality and the gender-job satisfaction paradox in Europe. *Labour Economics, 60*, 129-147.

Rutkowski, J. J., & Scarpetta, S. (2005). *Enhancing job opportunities: Eastern Europe and the former Soviet Union,* Washington DC: The World Bank.

Sanfey, P., & Teksoz, U. (2007). Does transition make you happy? *Economics of Transition, 15*(4), 707-731.

Schröder, M. (2018). Income inequality and life satisfaction: Unrelated between countries, associated within countries over time. *Journal of Happiness Studies, 19*(4), 1021-1043.

Selezneva, E. (2011). Surveying transitional experience and subjective well-being: Income, work, family. *Economic Systems, 35*(2), 139-157.

Semykina, A., & Linz, S. J. (2013). Job satisfaction and perceived gender equality in advanced

promotion opportunities: An empirical investigation. *Kyklos, 66*(4), 591-619.

Senik, C. (2004). When information dominates comparison: Learning from Russian subjective panel data. *Journal of Public Economics, 88*(9-10), 2099-2123.

Sonin, K. (2013). The end of economic transition: Lessons for future reformers and students of reform. *Economics of Transition, 21*(1), 1-10.

Sousa-Poza, A., & Sousa-Poza, A. A. (2000). Well-being at work: A cross-national analysis of the levels and determinants of job satisfaction. *Journal of Socio-Economics, 29*(6), 517-538.

Sousa-Poza, A., & Sousa-Poza, A. A. (2003). Gender differences in job satisfaction in Great Britain, 1991–2000: Permanent or transitory? *Applied Economics Letters, 10*(11), 691–694.

Zou, M. (2015). Gender, work orientations and job satisfaction. *Work, Employment and Society, 29(1),* 3–22.