Institutional Change and Gender Inequalities at Labour Market Entry: A Comparison of Estonia, Russia, and East and West Germany

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Abstract

Our study investigates how gender inequalities in job opportunities evolved during communist and post-communist times in former state-socialist countries. Theoretical arguments (mainly based on studies referring to Western countries) led to the expectation of a surge in gender inequalities in these countries after the collapse of communism. Empirically, we explore the gender gap in job authority upon labour market entry by using life-history data from Russia, Estonia, and East Germany, with West Germany serving as a control case. The selection of countries was motivated primarily by the availability of rich life-history data, covering four decades of (post-) state socialism but also by divergences in institutional set-ups in the course of transition from state socialism to a liberalised market economy. Our findings yield four major results. First, accounting for education and the branch of economy, women were not disadvantaged during Soviet times; instead, we have even found evidence of a slight female advantage in Estonia and East Germany. Thus, our findings mirror the communist regime's effectiveness in equalising women's and men's opportunities at work. Second, in the pre-collapse decade, the advantage of women in terms of job authority decreased in East Germany and Estonia, whereas in Russia, women fell behind men. Third, with the Soviet Union collapse, a remarkable female disadvantage emerged in all formerly state socialist countries under scrutiny. In addition, we observe a growing gender gap in West Germany in the same period. The latter result strengthens the conclusion that times of economic liberalisation may go hand-in-hand with increasing gender inequalities.

Key words: Gender inequality, job authority, labour market entry, comparative research, institutional change, Russia, Estonia, Germany

Introduction

In this paper, we explore the dynamics of gender inequalities in job authority among labour market entrants in the very peculiar context of formerly state-socialist countries. These countries constitute a special case within modern societies because of their proclaimed full gender-equality principles under state socialism. The integration of women into the workforce was mainly driven by labour shortages and by the state ideology that work is a duty. However, the yardstick of gender equality was mainly female employment. No such equality existed in regard to earnings and opportunities for advanced labour market positions (e.g. McAuley, 1981), despite the fact that Soviet women outperformed Soviet men in education (e.g. Gerber, 2003). The Soviet Union collapse was associated not only with unprecedented transformations in the political, social, and labour-market-related systems but also with escalating women's labour market exits and the emergence of earning inequalities between genders in many formerly state-socialist societies (e.g. van der Lippe and Fodor, 1998).

Although previous research addressed gender inequalities in (former) state-socialist societies (e.g. Brainerd, 2000; Gerber and Mayorova, 2006; Kosyakova et al., 2015; van der Lippe and Fodor, 1998), we still do not know much about how gender inequalities developed over the course of

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transition. Most of the research on transitional societies was initiated in the first decade after the Soviet Union collapse. Windows of observation were rather short and, consequently, too limited to enable conclusions about the institutional change's long-term impact on gender inequality, particularly because the establishment of the new economic and social institutions took time. In turn, we rely on life-history data, spanning an observation window of the last four decades, large enough to trace the long-term consequences of the institutional change.

Our study involves three important cases – Russia, Estonia, and (East) Germany – all of which exhibit a remarkable diversity of approaches to reforming institutional configurations. Estonia and Russia were parts of the former Soviet Union. It means that their origin state was quite similar. However, outcomes of transformation differ substantially in these countries. After achieving independence in 1991, Estonia implemented a classical liberal economic policy with low welfare state benefits and an emphasis on market solutions (Bohle and Greskovits, 2007). In contrast, Russia's transformation has been shaped not only by rapidly emerging market economy, but also by persisting elements of the formerly state-socialist system (for example, the emerging importance of networks, acquaintanceship and connections in relevant authority, see Gerber and Hout, 1998). East Germany's transformation was unique, taking the form of 'shock therapy' through the rapid and radical adoption of West German standards and institutions (Ferree, 1995). We thus include West Germany as a control case in our study. Examination of these different country cases allows to cover a new empirical ground on changes and continuities in gender inequalities over the liberalisation of markets in different societies sharing similar economic and cultural heritage. The second reason for choosing these specific countries is the availability of favourable retrospective data.

To study gender inequality, we focus on job authority for three main reasons. First, job authority is a valued job characteristic, which by definition is linked to more responsibility and power and is associated with higher wages (Smith, 2002). Second, in the state-socialist context, specifically, job authority was further tied with various non-monetary benefits and privileges as well as access to scarce consumer goods (Yanowitch, 1977: 44–45). In turn, earnings (due to strong wage compressions) or employment (due to full employment principles) appear to be less convenient employment outcomes, because both might mask important gender inequalities at work. Third, gender inequality in workplace authority might promote the sustainability of further labor market related inequalities between sexes (Kanter, 1977).

Due to apparent data limitations, our empirical measurement of job authority differs across country cases, and therefore, we are cautious with numerical comparisons of results obtained from the three country-specific case studies. Nevertheless, by assessing direction and change in gender inequalities within studied countries our contribution is important as such, because it provides a portrayal of how gender inequalities in job authority were developing over the course of transition in different previously state-socialist societies.

Assessing gender inequality in job authority, we focus on labour market entrants who represent a more homogeneous group as compared to the whole working population both in terms of career resources (e.g., the amount and type of experience and job-related training) and family obligations (e.g., marriage, number and age of children) (Marini and Fan, 1997). Given that education plays a decisive role at the beginning of the career (Bukodi and Dex, 2009) and considering pronounced women's advances in education, focusing on the first career phase can help us to understand when and why gender inequalities arise. Moreover, early access to job authority may lead to reproduction and persistence of work-related gender inequalities over the life course. Finally, access to employment had been more or less guaranteed under state socialism, whereas the end of the state-socialist regime freed young people from coercive state institutions while also making their social position more precarious (Kogan et al., 2011). However, previous research indicates that the transition from school to work differs significantly in different formerly state-socialist countries (Saar et al., 2008).

Correspondingly, the present study directs attention to formerly state-socialist countries and compares trends in gender inequality in terms of entry into authority positions between countries under scrutiny. Specifically, our main research question is: How does the gender gap in job authority

develop over time and across regime shifts? The examination of different cohorts that entered the labour market between 1970-2004 in formerly state-socialist countries and – as a reference – one country without experience of state socialism allows for tracing the consequences of major institutional changes. Previous research has indicated that the growing number of working women have benefitted from some forms of liberalisation in advanced industrial countries (Wren, 2012). However, our analysis includes countries where liberalisation and deregulation were accompanied by government interference running counter to the neoliberal ethos and rejecting Soviet-style gender equality. In this sense, our study appeals to a wider readership, since cross-comparative literature asserts the importance of institutional set-ups for both job-related gender inequalities and school-to-work transition processes (see next section). Accordingly, we use institutional approaches to formulate expectations about time-dependent differences in the gender gap in job authority in the different analysed contexts.

Gendered labour market entry processes in different institutional contexts

Empirical results for the whole working population assert a female disadvantage (compared to men) in having job authority (for review, see Smith, 2002). This female disadvantage varies from country to country and is explained by both employers' and (female) employees' decisions and preferences, and both are embedded in and shaped by specific institutional setups (e.g. Abendroth et al., 2013; Dämmrich and Blossfeld, 2016; Yaish and Stier, 2009). Following the literature on school-to-work transition and gender inequalities (in job authority), the subsequent section discusses (1) the existence of gender inequalities upon labour market entry from the perspective of individuals and how these are framed by (2) institutional characteristics, more specifically the link between education and employment system, family policies and the gender culture, and (3) major changes that have taken place during the transition process.[1]

Individual level decisions and preferences

Since job seekers' productivity is not fully evident in the labour market, employers face uncertainty when making hiring decisions (Arrow, 1973). Therefore, employers not only rely on a candidate's current human capital, but also on stereotyped information based on the productivity characteristics of the specific group the candidate belongs to ('statistical discrimination'; see Arrow, 1973; Phelps, 1972). For instance, due to women's higher tendency to leave or interrupt their careers after childbirth, employers are inclined to evaluate (even childless) female candidates as a riskier investment compared with male candidates. Statistical discrimination against women might be even more pronounced for positions with job authority, because such positions are not only usually higher-paid but also often require overtime and time flexibility, and they are characterised by more complex tasks and longer training periods compared to positions without (Smith, 2002). Moreover, gender-stereotyped assumptions about women's lack of important characteristics for such positions, women's higher sensitivity, or men's better representativeness and higher status worthiness may also affect employers' decisions (Kanter, 1977). Hence, hiring practices based on statistical discrimination can lead to gender inequalities in labour market outcomes even for equally educated and still childless men and women already upon labour market entry.[2]

In turn, female *employees* might be less likely to start their labour market career in positions with job authority, since the ambitious character of these positions might deter them due to two reasons. First, women are said to have lower self-esteem and, consequently, are more likely to accept lower-level jobs compared to men (see Marini and Fan, 1997 for empirical support). Second, job authority positions are difficult to combine with family responsibilities and it is harder to

1 We acknowledge that our theoretical reasoning does not include all institutional characteristics that may have an impact on work-related gender inequalities. Nevertheless, the selected settings are of crucial theoretical importance for gendered school-to-work transitions as results of cross-national examinations have shown (Breen, 2005).

2 Importantly, we refer here to a 'net' gender gap (i.e., a gender difference over and above differences by educational level), since higher educational attainment is undoubtedly associated with more opportunities for job authority. Thus, without accounting for educational level, the overall gender gap is driven by the extent to which educational distributions of men and women differ

achieve a high work-life balance (cf. Hakim, 2006). Hence, even if the percentage of mothers is likely to be lower among labour market entrants, expectations about a future combination of family responsibilities with working life might affect (female) employees' application decisions as early as in the first stages of the career (Barbulescu and Bidwell, 2012).

Macro-level institutional setup

Educational certificates serve as an effective instrument to screen job applicants, as they possess a signalling value of individuals' acquired knowledge and skills. The higher this signalling value is, the lower the insecurity employers face with regard to job applicants' future productivity and suitability is (Müller and Shavit, 1998), and the lower the reliance upon ascription in the recruitment process is. Two characteristics of the educational system – standardisation and occupational specificity – are said to affect the signalling power of certificates. Standardisation denotes the degree to which educational standards and the quality of certificates is uniform, trustworthy, and known nation-wide (Allmendinger, 1989). Occupational specificity reflects the extent to which skills and knowledge demanded for a specific occupation are transmitted during education (Müller and Shavit, 1998).

Both standardisation and occupational specificity increase the education-occupation linkage and signalling power of the certificates and, therefore, the weight of credentials in the recruitment process. In countries with educational systems providing standardised and occupation-specific certificates, rational employers rely on school qualifications to a larger extent, as it is likely that these qualifications reflect the true skills and productivity required for a specific job. In these contexts, allocation into jobs with authority is less likely to be dependent on ascriptive characteristics such as gender. Vice versa, in countries where credentials have lower signalling power, employers might be more prone to (additionally) rely on ascription in their hiring decisions. Thus, gender inequalities between equally equipped men and women should be more pronounced. The next set of arguments connects the role of the state and predominant gender norms regarding the (re-)production of gender-stereotyped behaviour. Both factors shape employers' recruitment decisions and (female) employees' incentives to apply for authoritative positions.

State-provided family policies, such as paid leave after childbirth and childcare, are argued to reduce women's time conflicts between paid and unpaid work, especially for women with family responsibilities (Stier et al., 2013). While the availability of childcare, in particular, increases women's tendency to re-enter or stay in employment, long leaves and a lack of childcare are likely to foster higher female labour market absenteeism (Mandel and Semyonov, 2006). Though not directly relevant for most labour market entrants (no children yet), these policies may frame employers' expectations about applicants' future behaviour. Accordingly, calculating replacement costs linked to females' career interruptions (e.g., selection, screening, and training costs of replacement worker), employers would be more prone to recruit male applicants, particularly for demanding positions in which these replacement costs are higher (Mandel and Semyonov, 2006). Likewise, a lack of state support in childcare may affect women's ambitions towards more 'conservative' occupational strategies (i.e., less demanding job positions) in order to reconcile work and family duties.

No less important is the consideration of the societal order of labour division between sexes, that is, the division of paid and unpaid work between men and women. The traditional family model considers men as being responsible for financial family matters ('breadwinner') and women as being responsible for the household and childcare ('homemaker'). These cultural aspects can influence the extent to which gender-typical behaviour is manifested in the labour market. A less traditional gender culture means that women are perceived as equal to men, which should result in a higher reluctance of employers to discriminate against women in terms of job authority (see Triventi 2013 for similar arguments). Additionally, women should be less deterred to apply for top positions, as they consider themselves to be equally attached to the labour market as men.

Countries' background during state socialism and the post-socialist era

State socialism had strong homogenising effects on the organisation of the educational system. The educational systems of East Germany, Estonia, and Russia were highly centralised and standardised in order to ensure a sufficient supply of graduates whose qualifications would properly match the skills required by the economy. The transition from school to work was coordinated by state institutions: graduates from vocational and tertiary programs were mandatorily *assigned* to particular jobs, ensuring high occupational specificity. The assignment in the occupational hierarchy was highly based on merit and dependent on the obtained educational degrees. This led to strong education-occupation linkage (Gerber, 2003), while income inequalities attached to different jobs were less pronounced (rewards for manual jobs were even above those of more skill-intensive non-manual jobs) (Atkinson and Micklewright, 1992). Likewise, West Germany was and is characterised by relatively smooth transitions to the labour market, both before and after reunification (Jacob et al., 2012). However, this is mainly due to its 'dual system' of secondary education, which combines theoretical learning and in-firm apprenticeships. It equips graduates with strongly standardised certificates (Müller and Shavit, 1998), which often results in continued employment in the same firm where the apprenticeship took place (Jacob et al., 2012).

With the collapse of the Soviet regime, the state monopoly on education was eliminated in the early 1990s. The following growth of paid educational programs and private universities in Russia and Estonia induced expanded enrolment rates in tertiary education, particularly among women (e.g. Tõnisson, 2011). At the same time, mandatory job assignment was abandoned, the school-to-work transition process became subject to market forces, and employers' involvement in the development of professional standards waned. The previously strong education-occupation linkage virtually disappeared. Nevertheless, some typical paths from educational systems to particular hierarchical positions continued to exist in Russia, in particular in the state-controlled labour market segments (Gerber, 2003). The situation changed slightly after 1999, when Russia moved towards a more capitalist market economy, and Russia's economy began to recover. The school-to-work transition became mostly different compared to the era of state socialism, with a growing number of mismatches between education and occupation (Kogan et al., 2011: 12). Empirical research further acknowledges deteriorating opportunities for women in job quality (Gerber and Mayorova, 2006) and a growing gender wage gap (Brainerd, 2000).

In Estonia, the break from the state-socialist system was more abrupt (Kogan and Unt, 2005). Hence, educational certificates became much weaker 'signalling devices' of the applicants' productivity level in Estonia compared to Russia in the first transition decade. The transition in Estonia stimulated the change from a 'gerontocratic' to a 'youth-oriented' society, which prompted the replacement of a large share of middle-aged managers and high level officials by younger ones (Terk, 1998: 14–17). As result, adaptation to the new environment was relatively successful for cohorts entering the labour market in the early 1990s, and particularly for young men (Kogan and Unt, 2005). However, the window of opportunity for the next cohort closed at the end of the 1990s because of the economic crisis and the fact that all higher posts were occupied by the previous generation. At the same time, the second transition decade was associated with growing opportunities for women, owing particularly to their educational success (Titma et al., 2009).

East Germany differed insofar as there was mainly a 'transfer' of the West German educational system. The sovereignty of educational matters was decentralised and allocated to the federal states, and hence, standardisation lessened (Waterkamp, 2010). Just as in Estonia and Russia, employers were less responsive to vocational training and the supply of internship-based training sharply declined, with many apprenticeship places being shifted to external (state-subsidised) training institutions (Kogan et al., 2011: 62). East German tertiary education was also reformed according to the West German model, competition among universities emerged and admission became merit-based. In the West German educational system, standardisation was high before reunification and is so until now. Yet, the quality and content covered in the same study field in different universities was much more centralized in state-socialist East Germany (Waterkamp, 2010). Altogether, the education-occupation linkage is likely to have diminished in East Germany

after reunification, and this happened quite rapidly through prompt reforms, whereas it remained stable in West Germany.

In regard to gender aspects, the basic tenet of state socialism was legal gender equality (Anderson and Vöörmann, 1997), and as a result, females' participation in gainful (full-time) employment was quite high during the Soviet times. To make women's full-time labour force participation possible, some female duties, such as childcare, were partly taken over by the state by providing comprehensive childcare and long school days with lunch (Waterkamp, 2010). Gender attitudes, nevertheless, were quite traditional. Married women were perceived as homemakers, and there were no efforts to increase men's participation in domestic domains (Adler and Brayfield, 1996). A traditional division of gender roles was mirrored in the legislation: childcare leave was only available for mothers. Hence, the double burden of paid and unpaid work remained on women (Ferree, 1995; Pascall and Manning, 2000). Unlike the Soviet patterns, in West Germany, significantly less women (and particularly mothers) participated in paid work. A clear labour division in terms of the male-breadwinner model prevailed (Adler and Brayfield, 1996).

The collapse of the Soviet regime further instigated the 're-domestication' of women in both political and cultural spheres in Estonia, Russia, and East Germany. The idea of 'freeing' women from the double burden of market and non-market work and returning to a more traditional gender ethos became very popular among Russian and Estonian politicians (Racioppi and See, 1995). Public childcare support diminished (Hofäcker et al., 2011) and parental leave was extended (Teplova, 2007), which together led to women's prolonged career interruptions. Maintained by the orthodox church, attitudes towards traditional gender values were reinforced in Russia, with a growing appreciation of women devoting themselves to their families (Motiejunaite and Kravchenko, 2008). In Estonia, popular support for traditional gender role attitudes was recalled via a strong rejection of Soviet-style gender equality in particular (Kaskla, 2003; UNDP, 1995). In the course of Estonia's accession preparation to the EU, the gender mainstreaming strategy and gender equality policies were introduced and were likely to advance developments towards a greater gender egalitarianism in the Estonian society (van der Molen and Novikova, 2005: 152). Nevertheless, empirical evidence suggests that traditional gender role attitudes still prevail among the Estonian population (Estonian Ministry of Social Affairs, 2006).

In the aftermath of the rapid transformation to the more traditionally oriented West German standard, East Germany experienced a similar development in social policies, albeit public childcare provision remained higher as compared with West Germany. State-socialist gendered division of labour encountered an adaptation to the West German family model with women 'giving up' a higher share of the market work and concentrating in part-time employment (Rosenfeld et al., 2004). Accordingly, the reunification strengthened traditional gender attitudes and (historically pronounced) 'patriarchal' societal structures in East Germany (Adler and Brayfield, 1996: 257). The traditional West German family model, in turn, underwent changes in the opposite direction – towards lower female involvement in non-market instead of market work (Rosenfeld et al., 2004). These trends are also reflected in the (inter)national surveys: support for traditional gender roles was more marked among East compared with West German women in 1994. Concurrently, women expressed a higher support for female employment in East Germany (Blossfeld and Hofmeister, 2006). East and West Germany still differ in respect to female employment patterns, childcare usage, and gender-related values, being more traditional in the West (Pfau-Effinger and Smidt, 2011).

Expectations

Applying the above-introduced theoretical considerations to the countries under scrutiny, we might expect that the credentials should represent skill content reliably in countries under state socialism because of the strong education-occupation linkage. Hence, we should find no inequalities in job authority between equally educated male and female entrants during the period of state socialism *(H1a)*. However, the duty to work and the burden of household and family tasks suggests that a higher share of employed women were not primarily career-oriented, but rather concerned with

finding a sound working-life balance, thereby avoiding demanding authority positions (see Hakim 2006). This would advocate for the existence of a (net) disadvantage of females to holding authority positions during the period of state socialism *(H1b)*.

After the institutional change, the sharply reduced signalling power of the certificates in Estonia and Russia, which heighten employers' uncertainty about job applicants' characteristics, should increase employers' tendency to rely on ascriptive characteristics, and, hence, promote gender inequalities to women's disadvantage. This should be further be reinforced by the compounded possibilities for women to combine family and work, owing to the adoption of traditionally oriented family policies. Similarly, albeit less pronounced patterns might also be true for East Germany, the signalling power of certificates decreased there as well and childcare services shrank. Nonetheless, due to the data limitations, we are cautious to predict and compare the size of the gender gap across countries. Therefore, our basic prediction is that gender inequality in job authority should have been growing after the Soviet Union collapse in Russia, Estonia and East Germany in the first transition decade as compared to the period of state socialism *(H2)*.

For Russia, we further expect a growing gender gap in job authority in the second transformation period starting in the late 1990s *(H3)*, owing to accelerated developments towards capitalist economy, on the one hand, and further reducing signalling power of the certificates, on the other hand. Yet, the relative increase of the gender gap is likely to be less pronounced, since institutional progression is not as radical as in the first post-socialist period. In contrast, we expect some decrease of the gender gap for Estonia in the second post-socialist period *(H4)* due to the closing window of opportunity for male entrants compared to the previous cohort. We further argue that the gender gap in job authority in East Germany should stay quite stable after the first transition decade *(H5)*, as most changes in the system were applied rapidly in the first years after reunification (e.g. von Below et al., 2013).

For West Germany, strong but, nevertheless, lower education-occupation linkage compared to East Germany as well as traditional gender values suggests the existence of (net) gender inequalities to the disadvantage of women *(H6)*. These gender inequalities, however, should have been shrinking over time due to the spread of more gender egalitarian values and the rise in female employment *(H7)*. Finally, we expect a convergence of gender inequalities in the two parts of Germany, which should take place mainly in the first period after unification because of the rapid implementation of Western standards. After the first period of alignment, we do not expect to find any notable differences in gender inequalities between the two German regions *(H8)*.

Research design

We employ the most recent retrospective data that allows for analyses of the school-to-work transition both during and after state socialism in the countries of interest covering a time period of approximately four decades. For Estonia, we use data from the nationally representative household survey named the Estonian Social Survey (ESS), collected in 2004 by the Estonian Statistical Office. For Germany, we analyse data from the German National Educational Panel Study (NEPS) (Blossfeld et al., 2011). We use the adult cohort of the NEPS, which is representative of the adult population in Germany in 2010. For Russia, we rely on data from the Education and Employment Survey (EES)[3] collected in 2005, which is a subsample of the first wave of the nationally representative Russian 'Generations and Gender' Survey (GGS), carried out in 2004. Details on the sample selection are summarised in Table 1.

3 The EES for Russia was conducted by the Max Planck Institute for Demographic Research (Rostock), the Independent Institute of Social Policy (Moscow), and the Demoscope Independent Research Center (Moscow). For the survey instruments, see Bühler et al. (2007).

Table 1. Stages of sample selections

Country **Dataset** **Original sample**	**Russia** EES M=2,460; W=3,995 aged 18-55 in 2004	**Estonia** ESS M=4,030; W=4,876 aged 15-79 in 2004	**East and West Germany** NEPS M=5,867; W=6,063 aged 24/25-66/67 in 2010
Sample restrictions			
- Born before 1948 and after 1986	M=1; W=2	M=1,666; W=2,279	M=418; W=398
- Non-entrants	M=225; W=387	M=2; W=3	M=194; W=222
- Censoring on the right[1]	M=4; W=3	M=33; W=30	M=6; W=1
- Job entry cohort before 1969 and after 2004	M=83; W=149	M=131; W=184	M=673; W=630
- Job entry outside Germany	Not applicable	Not applicable	M=238; W=276
= Population of interest (in % from original sample	**M=2,093; W=3,442 (85.77%)**	**M=2,198; W=2,380 (51.40%)**	**West: M=3,364; W=3,586 East: M=806; W=882 (74.38%)**
- Missing for job location	Not applicable	Not applicable	M=168; W=68
- Job entry into armed forces	M=50; W=7	M=16; W=0	M=112; W=0
- Missings on DV and IV variables[2]	M=4; W=5	M=47; W=43	M=52; W=49
=Final sample (in % from population of interest)	**M=2,093; W=3,442 (98.82%)**	**M=2,135; W=2,337 (97.68%)**	**West: M=3,235 W=3,539 East: M=771 W=880 (94.94%)**

Notes: M=men, W=women, DV=dependent variables, IV=independent variables.

1 Individuals who entered their first significant job 6 months before the interview date.
2 Missings in branch of economy are controlled for the multivariate models. Further testing showed that using multiple imputation method (Rubin, 1987) with chained equations (adding 10 observations per imputation) did not substantially alter the reported results.

As illustrated in Table 1, our analytical samples include individuals who completed their initial education (left educational system for more than 12 months) and entered their first significant job (6 months or more)[4]. Jobs begun during studies are considered if they lasted at least 6 months after the completion of initial education. Individuals who entered their first significant job 6 months before the interview date were excluded to reduce a potential selectivity bias due to right censoring. We restricted our sample to the birth cohorts 1948-1986 (comparable life-stage event experiences; reduction of bias due to sampling undercoverage of entrants from older birth cohorts) and to labour market entry cohorts after 1968 (to reduce the recall bias) and before 2005 (to cover the same period for all countries under consideration).

To distinguish between East and West Germany, we rely on the federal state in which the first significant job was located. For labour market entries in Berlin, we define those born in East Germany (inclusive East Berlin) as labour market entrants in East Berlin; a similar procedure is used to capture entries in West Berlin. Individuals who entered the labour market outside Germany and those for whom information on the location of the working place is missing were ignored (see Table 1, for more information).

4 Most of these non-entrants never left initial education or were right-censored, hence, the selectivity concerns are negligible.

Our outcome of gender inequality is entering in an authoritative position. The definition differs among the countries due to apparent data limitations.

In Germany, job authority includes (1) all positions with leadership and executive tasks, (2) self-employment with employees, and (3) managerial positions derived from the International Standard Classification of Occupations (ISCO, the 1988 version, the first major group). Non-authoritative positions include positions without leadership and executive tasks, or self-employment without employees. Armed forces are excluded for all countries (see Table 1, for more information).

In Russia, this variable comprises being (1) a team leader, (2) a foreman, (3) an employee who performs an important task autonomously or has a few subordinates, (4) a leader with significant managerial authority with the right to take important decisions, (5) a freelancer hiring their own employees, and (6) individuals having an own business and hiring own employees. It additionally includes occupations such as (1) senior manager in state administration, in a public or political organisations, and trade unions and (2) top manager. No authority is assigned to all other workers and employees (including agricultural employees), as well as self-employed individuals or freelancers who do not hire own employees.[5]

Due to data unavailability on the individual level on job authority upon labour market entry for Estonia, we applied a matching approach. We approximated job authority in the first job by relying on estimated propensity scores for job authority for each ISCO category based on a probit model. To do this, we first pooled information on proportions of leadership positions in current occupations from ESS (year 2004) and 4 rounds of the Labour Force Survey (years 2006-2009). Second, we calculated propensity scores by estimating the probability of job authority in a specific ISCO category at a 3-digit level using probit approach (which links the probability to a standard normal distribution of the scores). Third, we merged the obtained scores to the Estonian sample based on ISCO occupations [Mean=−1.35; Min=−2.33, Max=2.20]. This procedure does allow job authority to vary only between, not within occupations. Thus, the individual variance in job authority is underestimated. That implies for the Estonian case that the actual gender gap is likely to be underestimated.

To explore how gender inequalities evolved over time, we distinguish four (labour market) entry cohorts in line with the societal and political development in the formerly state-socialist countries: 1969-1979, 1980-1990, 1991-1998, and 1999-2004. The first and second cohorts cover periods of the Soviet era characterised by economic stagnation and 'Perestroika' (restructuring and reformation period), respectively. The third and fourth cohorts refer to times after the Soviet Union collapse, with a transition crisis followed by a rapid economic recovery.
Our analytical strategy involves two consecutive steps and exploits logistic (for Germany and Russia) and OLS regression models (for Estonia) with authoritative positions in the first job as a dependent variable.

First, we inspect how the total (unconditional) gender gap in the population of entrants evolved over time separately for each country. To do this, we define a simple model with the gender, entry cohort, and their interaction terms (for Germany, the interaction terms are gender, entry cohort, and location of job). We express the gender gap in the average difference in predicted probabilities between female and male entrants as conditional on the covariates in the model and their distribution in the sample.[6]
Second, we inspect the entry-cohort-specific gender gap among entrants with the same educational

5 We do not exclude the self-employed, because self-employed bosses (versus non-bosses) are likely to enjoy valuable market and non-market benefits in the post-socialist period. For Russia, self-employment was identified for 0.29% of entrants during the Soviet period and for 3.39% of entrants during the post-socialist period. These numbers were 1.23% and 9.34% for East Germany and 4.90% and 9.35% for West Germany. For Estonia, no information on self-employment in the data is available. According to Statistics Estonia, the self-employment sector made about 6% in 2004. Replicating our results with exclusion of self-employed individuals for Russia and Germany, as well as slightly different definitions of the dependent variables, did not change any substantial conclusions

6 To calculate predicted probabilities for Estonia, we converted the OLS predictions to probabilities by using standard normal distributions.

level and the branch of economy entered – variables that may confound the association between gender and authority. We control for educational level due to the higher tendency of the more educated to occupy authoritative positions and the gains of women in education in recent decades. We control for the branch of economy, since access to authoritative positions may strongly depend on the branch of economy, and male and female graduates enter these branches differently (Tomaskovic-Devey and Skaggs, 2002).[7] In this sense, we refer to the net (conditional) gender gap, as outlined by our theoretical predictions.

The Appendix provides descriptive statistics by gender and by job authority for Russia, Estonia, and East and West Germany (Tables A1, A2, and A3, respectively). The stepwise model building and common-data-fit indicators for model comparisons are documented in the Appendix as well (Tables A4, A5 and A6, for Russia, Estonia, and East and West Germany, respectively).

Results

Tables 2, 3 and 4 summarise the results for the unconditional (total) and the conditional (net of education and entered sector) gender gap in authority overall (Models 1 and 3) and over historical periods (Models 2 and 4) for Russia, Estonia, and East and West Germany, respectively. We additionally illustrated the development of the unconditional and conditional gender gap for each country in Appendix Figure A1.

Looking at the overall gender inequalities in Russia (Model 1, Table 2), we find that of 100 female entrants, about 17 can be expected to occupy an authoritative position at the beginning of their career, while of 100 male entrants, only about 12 (=17.31-5.38) are estimated to occupy such positions. Accordingly, on average female predicted probability is 5 percentage points higher than that of males, and this gender gap is statistically significant.

Table 2: Unconditional and conditional gender gaps in job authority over entry cohorts in Russia (N=5,535)

Unconditional gender gap						
	Model 1: G+C			Model 2: GxC		
Entry cohort	Female PP, in %	Female APE, in % points	Female APE *p*-value	Female PP, in %	Female APE, in % points	Female APE *p*-value
1969-1979	17.42 (0.65)	5.38 (0.96)	0.000	14.88 (0.97)	6.64 (1.46)	0.000
1980-1990				19.34 (1.17)	6.59 (1.74)	0.001
1991-1998				19.02 (1.59)	5.14 (2.24)	0.021
1999-2004				16.43 (1.99)	-0.57 (2.94)	0.845
Conditional gender gap						
	Model 3: G+C+E+S			Model 4: GxC+E+S		
1969-1979	14.07 (0.45)	-4.49 (0.96)	0.000	17.01 (0.82)	-0.63 (1.74)	0.719
1980-1990				14.76 (0.75)	-4.63 (1.60)	0.004
1991-1998				12.40 (0.93)	-5.12 (1.74)	0.003
1999-2004				9.05 (0.99)	-8.43 (1.96)	0.000

Notes: Own calculations based on the Education and Employment Survey, 2005. PP=(average) predicted probability, APE=average partial effect (standard errors obtained via the Delta method). G=gender (woman), C=entry cohort, E=educational level, S=Branch of economy. Standard errors in parentheses.

7 In our data, we do not have information on field of studies. To account for horizontal dimension in educational choices, we opted for the second best solution – detailed information on entered branch of economy in the first job – that is likely to conform to the educational field the most, and particularly during the Soviet period.

Observing trends over time, we find a statistically significant gender gap to the female advantage of about 7 percentage points during the 1970s, which decreases in the following decades and becomes statistically non-significant after the Soviet Union collapse (Model 2, see also Panel A in Figure A1). If we look at the predicted probabilities, we find that these developments were due to declining female opportunities for job authority and the enhancement of male ones. Nevertheless, the interaction between gender and entry cohort does not contribute to the overall explanatory power of the model: the likelihood ratio (LR) test implies no statistically significant improvement in model prediction (Models 2 versus 1: p=0.059),[8] indicating that gender differences in job authority did not change significantly over entry cohorts.

However, these conclusions do not hold when examining the conditional gender gap that controls for education and the branch of economy (Models 4 versus 3: p=0.006). Notably, accounting for heterogeneity in education and the entered sector changes the whole picture (Model 4, see Panel A in Figure A1). While – ceteris paribus – male and female entrants were equally likely to occupy authoritative positions in the 1970s, in the 1980s we find a genesis of the gender gap to the female disadvantage. With the collapse of the Soviet Union, the chances for authority became weaker for both genders, but more so for women. In the 2000s, women's chances for job authority declined further, while no such decline can be observed for men. This resulted in the widening of the gender gap.

In Estonia, the results in Table 3 demonstrate that overall opportunities for job authority are relatively low, and only about 9 of 100 female entrants and 8 of 100 male entrants are expected to occupy authoritative positions in their first job (Model 1). In this context, a small gender gap in absolute terms (statistically significant APE) appears to be rather substantial.

Table 3: Unconditional and conditional gender gaps in job authority over entry cohorts in Estonia (N=4,472)

Unconditional gender gap						
	Model 1: G+C			Model 2: GxC		
Entry cohort	Female PP, in %	Female APE, in % points	Female APE *p*-value	Female PP, in %	Female APE, in % points	Female APE *p*-value
1969-1979	9.47 (0.29)	1.37 (0.40)	0.001	10.12 (0.49)	2.55 (0.67)	0.000
1980-1990				10.07 (0.50)	1.56 (0.69)	0.024
1991-1998				7.83 (0.64)	-0.43 (0.90)	0.633
1999-2004				7.91 (0.81)	0.14 (1.07)	0.896
Conditional gender gap						
	Model 3: G+C+E+S			Model 4: GxC+E+S		
1969-1979	10.72 (0.29)	0.88 (0.42)	0.036	11.84 (0.47)	2.34 (0.67)	0.000
1980-1990				10.99 (0.45)	1.33 (0.65)	0.041
1991-1998				8.66 (0.59)	-1.71 (0.86)	0.045
1999-2004				9.55 (0.79)	-0.55 (1.05)	0.599

Notes: Own calculations based on the Estonian Social Survey, 2004. PP=(average) predicted probability, APE=average partial effect (standard errors obtained via the Delta method). G=gender (woman), C=entry cohort, E=educational level, S=sector of economy. For predicted probabilities, the OLS predictions are converted into probabilities using standard normal distributions. Standard errors in parentheses.

8 The null hypothesis, which states that the additional interaction parameters are simultaneously zero, was tested.

While including an interaction between gender and entry cohort marginally increases the goodness of fit in the unconditional gender gap model (Models 2 versus 1: p=0.049), the LR test for the conditional gender gap model is statistically significant (Models 4 versus 3: p=0.001). Therefore, in the following, we concentrate on Model 4 (see Panel B in Figure A1). During the Soviet period, the relative women's chances for job authority were higher than those for men. In absolute terms, we find a two-percentage-point gender gap to the female advantage during the 1970s, which decreased during the 1980s. With the Soviet Union collapse, the inequalities between genders reversed (two-percentage-point gender gap to the female disadvantage). This phenomenon was a consequence of two opposite trends. While chances for job authority increased for male entrants, they dropped for female entrants. Nevertheless, between 1999 and 2004, the chances of job authority for female entrants seemed to improve, which alleviated the gender inequalities.

The results for East Germany indicate a non-significant absolute gender gap in neither substantial nor statistical terms (Model 1). In contrast, West German male entrants are more likely to occupy authoritative positions in their first job than female entrants, which is quantified to a 5-percentage-points absolute gender gap.

Turning to the cohort-specific gender inequalities, the LR test for both the unconditional and conditional gender gap models turned out to be statistically not significant at the conventional 5% level (Models 2 versus 1: p=106; Models 4 versus 3: p=0.083).[9] Nevertheless, more detailed analyses of the cohort-specific gender inequalities implied some variation in gender inequalities.

The results reveal that just as in Russia and Estonia, East German gender relationships began from a 'female advantageous context', with – *ceteris paribus* – female entrants being more likely to have job authority relative to male entrants in the 1970s (Model 4, see Panel C in Figure A1). Mainly due to the upturn of men's chances for job authority in the next decades, we observe the genesis of a gender gap to the female disadvantage that came to a climax in the first post-socialist period. In the 2000s, the likelihood of job authority slightly declined for male entrants, which negligibly reduced gender inequalities. Nevertheless, in neither case is the absolute gender gap statistically significant. Unfortunately, the sample size for East Germany is comparably small to provide adequate statistical power, particularly in the models with many degrees of freedom (N = 1,651).

Unlike the formerly state-socialist countries under scrutiny, West German female entrants were historically less likely to enter authoritative positions, though this improved in the pre-collapse period. In the course of reunification after the Soviet Union collapse, the gender gap to the female disadvantage widened in West Germany, as a result of advancing opportunities for men and worsening ones for women. This trend persisted in the second decade after reunification, with men being able to improve their positions even further.

Comparing East and West Germany, East German female entrants seemed to be better off during the 1970s in their chances for job authority, yet, they faced fewer opportunities in the periods before and after reunification. In the 2000s, we observe some convergence between East and West German female entrants, while West German male entrants are much better off compared with the East German ones. However, lower sample sizes for East Germany do not allow any firm conclusions on the period-specific East-West gap comparison in the gender effects.

Discussion

Comparative research implies that the work-related gender inequalities are shaped by the institutional frameworks in which they are embedded. Extending former research, we have taken on a dynamic perspective and have examined how shifts from state socialism to a liberalised market economy are pertained to gender inequalities in terms of job authority upon labour market entry. Our main expectation was, accordingly, that in the case institutions do matter, we should

9 The model specification with an interaction between gender and working place (Models 1 and 3) versus the model specification with an interaction between gender, entry cohort, and working place (Models 2 and 4) was tested.

also find such impact in the countries under scrutiny – i.e., Russia, Estonia, and East Germany (with West Germany as a control case) – which experienced a change in their institutional structures after the collapse of the Soviet regime in 1991.

Our results revealed that the early communist regime was quite successful in equalising female and male labour market positions. In three formerly state-socialist economies, female entrants – with comparable characteristic to men – either enjoyed a slight advantage in entering into authoritative positions (in Estonia and East Germany, although less clear in statistical terms) or competed at equal grounds with male entrants (in Russia). Hence, the results for Russia corroborate *H1a* (predicting no net gender inequalities), whereas results for Estonia and East Germany contradict both *H1a* and *H1b* (predicting existence of the net female disadvantage). In contrast to the state-socialist economies – *ceteris paribus* – female entrants were disadvantaged in the capitalist West German control case in the 1970s, which supports our prediction *(H6)*. Against our expectations, the last ruling decade of the communist regime was characterised by a genesis of a net gender gap to the female disadvantage in Russia and East Germany and by an eroding of the net female advantage in Estonia. Probably the overproduction of highly-educated graduates, especially among women, and the economic slowdown in the pre-transition decade has engendered lower returns to education particularly for female entrants already before institutional change (see Gerber, 2003). At the same time, the net disadvantage of West German female entrants decreased in the 1980s (as predicted by *H7*).

With the collapse of the communist regime, a net gender gap to the female disadvantage emerged in Estonia and grew in Russia and East Germany. Women faced unequal chances for superior positions, all conforming to our prognoses for the first post-socialist decade *(H2)*. Notably, in Estonia and Russia, the evolution of the net gender gap after 1991 can be traced back to a growing disadvantage of female entrants rather than to a growing advantage of male entrants. Elimination of the state control in the school-to-work transition process together with the weakened education-occupation linkage led to a stronger selection based not only on merit but also on ascription on the employers' side. Such a selection process evidently disadvantages female entrants more strongly than male entrants. Although less clear in statistical terms, in East Germany, a net gender gap seems to have arisen as a result of the growing advantage of male entrants. Obviously, East German men have particularly benefited from integration into a conservative welfare regime characterised by a rather traditional gender culture.

For West Germany, reunification was associated with an expansion of the net gender gap to the female disadvantage. This finding counters our expectations *(H7)*. Apparently, the growing integration of women into the West German labour market after reunification did not increase women's bargaining power, as is assumed by the literature (see Charles, 1992). This is often explained in terms of preferences of working women ('adaptive women', Hakim, 2006). Since a greater share of female workers have preferences for better reconciliation of work and family, they are less likely to opt for job authority due to the demanding character of such positions. Moreover, our findings alluded to a convergence between East and West German female entrants after the re-unification, but no such convergence seems to happen between East and West German male entrants (although less clear in statistical terms). Therefore, *H8* is not supported.

In the second transition decade, net gender inequalities further underwent some changes. In Russia, the level of opportunity to enter authoritative positions decreased even more for female entrants. Hence, we observe growing net gender inequalities in Russia, conforming to *H3*. For Estonia, *H4* expecting a reduction of net gender inequalities in the second transition decade is supported. Interestingly, this reduction was not due to a closing window of opportunity for male entrants as we expected but because of increased opportunities for female entrants.[10] The results for East Germany corroborate *H5*, predicting stabilisation of the gender gap in East Germany (though the statistical uncertainty is too high to make any firm conclusions). Altogether, Russian

10 This conclusion might contradict previous results which indicated the existence of the glass ceiling in terms of access to managerial positions (see Saar and Helemäe, 2016). Note, however, that the definition of job authority used in this article is much broader than in Saar and Helemäe (2016). They studied gender differences in managerial positions defined as ISCO first category.

and East German women seem to lose after the Soviet Union collapse, whereas the disadvantages of Estonian female entrants after the Soviet Union collapse were quite short-term, and their chances have been improving afterwards. Considering our results as well as the results of other studies (see Roosalu and Hofäcker, 2016) it is possible that – despite the short-term weakening of female labour power – slow developments towards gender egalitarianism may take place over time.

Another interesting result of our analyses is the discovery of a widening of the net gender gap in job authority in all four contexts after 1991. In this sense, having West Germany as a control case suggests that it is not the Soviet Union collapse *per se* that shaped gender inequalities, but possibly the liberalisation and restructuring of the associated institutions, which took place in the 1990s in most European countries. Liberalisation intensifies competition, thereby increasing labour market uncertainty and the 'privatisation' of risks. Under such conditions, women are likely to have jeopardised career perspectives because rational employers tend to decide in favour of men in the recruitment process, particularly for superior positions. Nevertheless, this remains an open question, and future research should deliberately and strategically either select countries that experienced liberalisation reforms at the same time point but followed different liberalisation strategies (see Thelen, 2014) or countries that had already passed through this process.

Overall, our findings highlight the relevance of specific institutional settings for the development of gender inequalities in formerly state-socialist countries. However, despite the comparable data, samples, and definitions of the dependent variables, measurement differences between the countries under scrutiny restrict the generalisation of our results. Replication studies for other formerly state-socialist countries experiencing an institutional change might shed more light on institutional impact and gender inequalities. Other occupational rewards (e.g., wages, prestige) could also be studied if data allow. Moreover, we focused on the specific career stage, when family obligations are still rather negligible. One promising extension would be to investigate the impact of intuitional change for gender inequalities in later career attainment, when the double burden of family and work become stronger determinants of female labour supply. Another essential question is to what extent job authority itself might be intrinsically related to gender, since both men and women view men as being more suitable for authoritative positions and have higher preferences for male bosses (Hakim, 1996). In such cases, gender inequality is a rather vague concept. Nevertheless, this should not be the case in a meritocratic society oriented towards personal characteristics that are crucial for specific job tasks.

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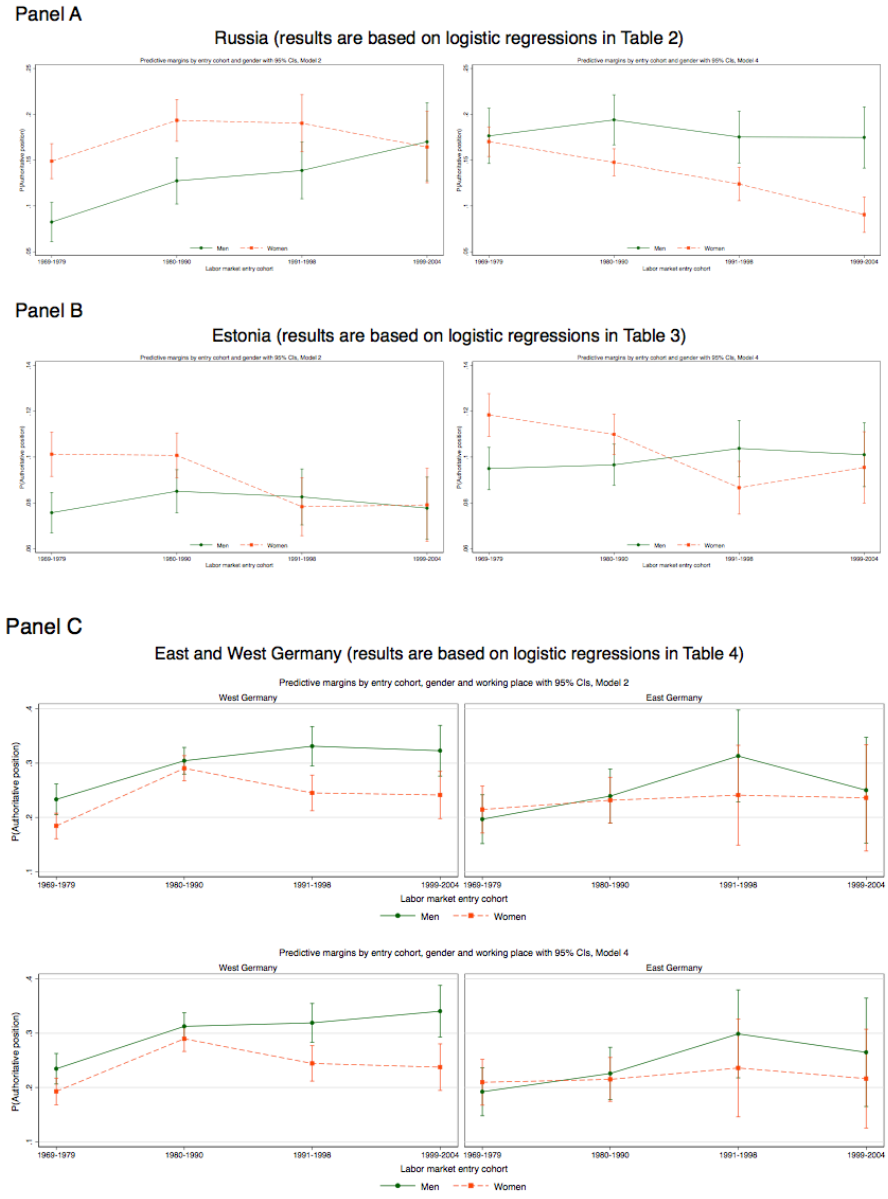
Appendix

Figure A1: Predicted probabilities for authoritative position in Russia, Estonia, and East and West Germany



Notes: Own calculations based on the Education and Employment Survey, 2005, for Russia; the Estonian Social Survey, 2004, for Estonia; and the National Education Panel Study, Starting Cohort 6 (release 3.0.1), for East and West Germany.

Table A1: Means (and standard deviations) of labour market entrants in Russia, by gender, in total and by job authority

Variable	Men		Women		Total		Authoritative job	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Job authority	0.12	(0.33)	0.17	(0.38)	0.15	(0.36)	1.00	(0.00)
Woman	0.00	(0.00)	1.00	(0.00)	0.62	(0.48)	0.70	(0.46)
C: 1969-1979	0.31	(0.46)	0.39	(0.49)	0.36	(0.48)	0.30	(0.46)
C: 1980-1990	0.32	(0.47)	0.33	(0.47)	0.33	(0.47)	0.36	(0.48)
C: 1991-1998	0.23	(0.42)	0.18	(0.38)	0.20	(0.40)	0.22	(0.41)
C: 1999-2004	0.14	(0.35)	0.10	(0.30)	0.12	(0.32)	0.13	(0.33)
E: Incomplete secondary	0.17	(0.37)	0.11	(0.31)	0.13	(0.34)	0.01	(0.12)
E: Lower vocational	0.31	(0.46)	0.21	(0.41)	0.25	(0.43)	0.06	(0.24)
E: Secondary completed	0.26	(0.44)	0.23	(0.42)	0.24	(0.43)	0.07	(0.26)
E: Secondary professional	0.16	(0.37)	0.31	(0.46)	0.26	(0.44)	0.34	(0.47)
E: Higher	0.10	(0.30)	0.14	(0.35)	0.13	(0.33)	0.51	(0.50)
I: Agriculture	0.23	(0.42)	0.08	(0.28)	0.14	(0.34)	0.08	(0.26)
I: Mining	0.03	(0.16)	0.01	(0.09)	0.02	(0.13)	0.01	(0.09)
I: Manufacturing	0.27	(0.45)	0.25	(0.43)	0.26	(0.44)	0.14	(0.35)
I: Power industry	0.02	(0.13)	0.01	(0.09)	0.01	(0.11)	0.01	(0.10)
I: Construction	0.11	(0.31)	0.04	(0.20)	0.07	(0.25)	0.05	(0.23)
I: Trade and consumer services	0.07	(0.26)	0.18	(0.38)	0.14	(0.35)	0.07	(0.25)
I: Transport and communication	0.10	(0.30)	0.05	(0.22)	0.07	(0.25)	0.04	(0.20)
I: Finance services	0.00	(0.07)	0.01	(0.11)	0.01	(0.10)	0.02	(0.15)
I: State services	0.07	(0.26)	0.04	(0.19)	0.05	(0.22)	0.06	(0.24)
I: Health	0.02	(0.13)	0.09	(0.29)	0.06	(0.25)	0.07	(0.26)
I: Education	0.03	(0.17)	0.16	(0.37)	0.11	(0.31)	0.39	(0.49)
I: Personal, social and communal services	0.03	(0.17)	0.04	(0.20)	0.04	(0.19)	0.04	(0.20)
I: Other or missing	0.02	(0.14)	0.02	(0.15)	0.02	(0.15)	0.02	(0.13)
Observations	2,093		3,442		5,535		850	

Notes: Own calculations based on the Education and Employment Survey, 2005. Mean coefficients; standard errors in parentheses. C = Entry cohort, E = Education, I = Industry.

Table A2: Means (and standard deviations) of labour market entrants in Estonia, by gender, in total and by job authority

Variable	Men		Women		Total		Authoritative joba	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Job authority	-1.40	(0.87)	-1.31	(0.79)	-1.35	(0.83)	0.56	(1.12)
Woman	0.00	(0.00)	1.00	(0.00)	0.52	(0.50)	0.52	(0.50)
C: 1969-1979	0.32	(0.47)	0.38	(0.49)	0.35	(0.48)	0.37	(0.48)
C: 1980-1990	0.34	(0.47)	0.37	(0.48)	0.36	(0.48)	0.39	(0.49)
C: 1991-1998	0.19	(0.40)	0.15	(0.36)	0.17	(0.38)	0.15	(0.36)
C: 1999-2004	0.14	(0.35)	0.10	(0.30)	0.12	(0.32)	0.10	(0.29)
E: Basic	0.11	(0.32)	0.09	(0.28)	0.10	(0.30)	0.03	(0.16)
E: Secondary general	0.20	(0.40)	0.28	(0.45)	0.24	(0.43)	0.11	(0.31)
E: Vocational	0.38	(0.49)	0.25	(0.43)	0.31	(0.46)	0.06	(0.23)
E: Lower tertiary	0.18	(0.39)	0.26	(0.44)	0.22	(0.42)	0.31	(0.46)
E: Higher	0.12	(0.33)	0.13	(0.33)	0.12	(0.33)	0.50	(0.50)
I: Agriculture	0.28	(0.45)	0.12	(0.33)	0.20	(0.40)	0.29	(0.45)
I: Mining	0.01	(0.11)	0.00	(0.05)	0.01	(0.09)	0.01	(0.08)
I: Manufacturing	0.26	(0.44)	0.24	(0.43)	0.25	(0.43)	0.23	(0.42)
I: Power industry	0.02	(0.13)	0.01	(0.08)	0.01	(0.11)	0.01	(0.10)
I: Construction	0.13	(0.34)	0.03	(0.16)	0.08	(0.27)	0.11	(0.31)
I: Trade and consumer services	0.07	(0.26)	0.23	(0.42)	0.15	(0.36)	0.06	(0.25)
I: Transport and communication	0.10	(0.30)	0.04	(0.19)	0.07	(0.25)	0.04	(0.20)
I: Finance services	0.04	(0.19)	0.05	(0.23)	0.05	(0.21)	0.08	(0.27)
I: State services	0.02	(0.15)	0.03	(0.18)	0.03	(0.17)	0.06	(0.24)
I: Health	0.01	(0.09)	0.07	(0.26)	0.04	(0.20)	0.05	(0.22)
I: Education	0.03	(0.18)	0.13	(0.33)	0.08	(0.27)	0.03	(0.16)
I: Other or missing	0.00	(0.00)	0.00	(0.00)	0.00	(0.00)	0.00	(0.00)
Observations	2,135		2,337		4,472		463	

Notes: Own calculations based on the Estonian Social Survey, 2004. Mean coefficients; standard errors in parentheses. C = Entry cohort, E = Education, I = Industry.

a Propensity score of job authority is higher than 95th percentile of job authority.

Table A3: Means (and standard deviations) of labour market entrants in East and West Germany, by gender, in total and by job authority

	Men		Women		Total		Authoritative job	
EAST GERMANY	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Job authority	0.23	(0.42)	0.23	(0.42)	0.23	(0.42)	1.00	(0.00)
Woman	0.00	(0.00)	1.00	(0.00)	0.53	(0.50)	0.52	(0.50)
C: 1969-1979	0.39	(0.49)	0.39	(0.49)	0.39	(0.49)	0.35	(0.48)
C: 1980-1990	0.36	(0.48)	0.43	(0.50)	0.40	(0.49)	0.41	(0.49)
C: 1991-1998	0.15	(0.36)	0.09	(0.29)	0.12	(0.32)	0.15	(0.35)
C: 1999-2010	0.10	(0.30)	0.08	(0.27)	0.09	(0.29)	0.09	(0.29)
E: Basic	0.02	(0.15)	0.05	(0.22)	0.04	(0.19)	0.02	(0.14)
E: Secondary general	0.08	(0.27)	0.06	(0.24)	0.07	(0.26)	0.03	(0.18)
E: Vocational	0.71	(0.45)	0.59	(0.49)	0.64	(0.48)	0.56	(0.50)
E: Lower tertiary	0.03	(0.18)	0.13	(0.34)	0.09	(0.28)	0.13	(0.34)
E: Higher	0.16	(0.36)	0.17	(0.37)	0.16	(0.37)	0.26	(0.44)
I: Agriculture	0.09	(0.28)	0.05	(0.21)	0.06	(0.25)	0.10	(0.30)
I: Mining	0.03	(0.17)	0.01	(0.11)	0.02	(0.14)	0.01	(0.10)
I: Manufacturing	0.35	(0.48)	0.27	(0.44)	0.30	(0.46)	0.24	(0.43)
I: Power industry	0.02	(0.15)	0.01	(0.12)	0.02	(0.13)	0.01	(0.11)
I: Construction	0.15	(0.36)	0.04	(0.19)	0.09	(0.29)	0.09	(0.29)
I: Trade and consumer services	0.08	(0.28)	0.16	(0.36)	0.12	(0.33)	0.16	(0.36)
I: Transport and communication	0.08	(0.27)	0.04	(0.20)	0.06	(0.24)	0.06	(0.23)
I: Finance services	0.07	(0.26)	0.07	(0.26)	0.07	(0.26)	0.07	(0.26)
I: State services	0.04	(0.20)	0.05	(0.21)	0.04	(0.20)	0.05	(0.22)
I: Health	0.02	(0.12)	0.13	(0.34)	0.08	(0.27)	0.10	(0.30)
I: Education	0.03	(0.18)	0.12	(0.32)	0.08	(0.27)	0.05	(0.22)
I: Personal, social and communal services	0.02	(0.15)	0.04	(0.18)	0.03	(0.17)	0.02	(0.14)
I: Other or missing	0.02	(0.13)	0.01	(0.12)	0.02	(0.13)	0.03	(0.16)
Observations	771		880		1651		380	
WEST GERMANY								
Job authority	0.29	(0.46)	0.25	(0.43)	0.27	(0.44)	1	(0.00)
Woman	0	(0.00)	1	(0.00)	0.52	(0.50)	0.48	(0.50)
C: 1969-1979	0.27	(0.44)	0.29	(0.46)	0.28	(0.45)	0.22	(0.41)
C: 1980-1990	0.42	(0.49)	0.41	(0.49)	0.41	(0.49)	0.46	(0.50)
C: 1991-1998	0.2	(0.40)	0.19	(0.39)	0.19	(0.39)	0.21	(0.41)
C: 1999-2010	0.12	(0.32)	0.11	(0.31)	0.11	(0.32)	0.12	(0.32)
E: Basic	0.08	(0.27)	0.14	(0.35)	0.11	(0.31)	0.08	(0.26)
E: Secondary general	0.13	(0.34)	0.09	(0.29)	0.11	(0.32)	0.07	(0.26)
E: Vocational	0.55	(0.50)	0.55	(0.50)	0.55	(0.50)	0.58	(0.49)
E: Lower tertiary	0.04	(0.19)	0.06	(0.25)	0.05	(0.22)	0.06	(0.24)
E: Higher	0.2	(0.40)	0.15	(0.36)	0.18	(0.38)	0.2	(0.40)
I: Agriculture	0.02	(0.16)	0.01	(0.08)	0.02	(0.12)	0.02	(0.15)
I: Mining	0.01	(0.09)	0	(0.03)	0	(0.07)	0.01	(0.08)
I: Manufacturing	0.32	(0.47)	0.18	(0.38)	0.24	(0.43)	0.22	(0.42)
I: Power industry	0.02	(0.12)	0.01	(0.08)	0.01	(0.10)	0.01	(0.11)
I: Construction	0.11	(0.31)	0.02	(0.14)	0.06	(0.24)	0.08	(0.28)
I: Trade and consumer services	0.12	(0.33)	0.18	(0.38)	0.15	(0.36)	0.18	(0.38)
I: Transport and communication	0.07	(0.25)	0.04	(0.19)	0.05	(0.22)	0.05	(0.21)
I: Finance services	0.14	(0.34)	0.17	(0.37)	0.15	(0.36)	0.16	(0.37)
I: State services	0.06	(0.23)	0.07	(0.25)	0.06	(0.24)	0.05	(0.22)
I: Health	0.04	(0.20)	0.17	(0.38)	0.11	(0.31)	0.13	(0.34)
I: Education	0.05	(0.22)	0.09	(0.28)	0.07	(0.26)	0.04	(0.19)
I: Personal, social and communal services	0.03	(0.17)	0.06	(0.25)	0.05	(0.21)	0.04	(0.20)
I: Other or missing	0.01	(0.10)	0.01	(0.11)	0.01	(0.11)	0.01	(0.08)
Observations	3,235		3,539		6,774		1,817	

Notes: Own calculations based on the Education and Employment Survey, 2005. Mean coefficients; standard errors in parentheses. C = Entry cohort, E = Education, I = Industry.

Table A4: Logistic regression predicting entry into authoritative position among Russian labour market entrants (N=5,535)

	1	2	3	4	5	6	7
Woman (ref. Man)	0.40***	0.43***	0.67***	-0.06	0.28	-0.54***	-0.07
Labour market entry cohort (ref. 1969-1979)							
1980-1990		0.35***	0.49**	-0.06	0.18	-0.15	0.19
1991-1998		0.37***	0.58**	-0.23	0.03	-0.43**	-0.01
1999-2004		0.38**	0.82***	-0.70***	-0.02	-0.74***	-0.02
Female×1980-1990			-0.17		-0.31		-0.47
Female×1991-1998			-0.29		-0.35		-0.59*
Female×1999-2004			-0.71**		-1.05***		-1.14***
Educational level (ref. Secondary professional)							
Incomplete secondary				-2.76***	-2.74***	-2.64***	-2.62***
Lower vocational				-1.96***	-1.94***	-1.76***	-1.73***
Secondary completed				-1.70***	-1.67***	-1.74***	-1.72***
Higher				1.93***	1.96***	1.94***	1.97***
Branch of economy (ref. Manufacturing)							
Agriculture						0.17	0.20
Mining						-0.29	-0.33
Power industry						0.19	0.19
Construction						0.51*	0.52*
Trade and consumer services						0.06	0.06
Transport and communication						0.09	0.11
Finance services						1.05**	1.08**
State services						0.40	0.39
Health						0.34	0.34
Education						2.40***	2.41***
Personal, social and communal services						1.02***	1.00***
Other or missing						0.34	0.32
Constant	-1.97***	-2.23***	-2.41***	-1.17***	-1.44***	-1.45***	-1.81***
Model fit							
Log likelihood	-2,361	-2,350	-2,347	-1,702	-1,696	-1,518	-1,512
Degrees of freedom	1	4	7	8	11	20	23
Adjusted McFadden's R^2	0.01	0.01	0.01	0.28	0.28	0.35	0.35

Notes: Own calculations based on the Education and Employment Survey, 2005. Significance level: ***$p < 0.001$. **$p < 0.01$. *$p < 0.05$.

Table A5: Logistic regression predicting entry into authoritative position among Estonian labour market entrants (N=4,472)

	1	2	3	4	5	6	7
Woman (ref. Man)	0.09***	0.09***	0.16***	0.03	0.11**	0.05*	0.14***
Labour market entry cohort (ref. 1969-1979)							
1980-1990		0.03	0.06	-0.02	0.02	-0.02	0.01
1991-1998		-0.05	0.05	-0.07*	0.04	-0.07*	0.05
1999-2004		-0.06	0.01	-0.06	0.00	-0.05	0.04
Female×1980-1990			-0.07		-0.06		-0.06
Female×1991-1998			-0.19*		-0.23***		-0.25***
Female×1999-2004			-0.15		-0.11		-0.17*
Educational level (ref. Lower tertiary)							
Basic				-0.62***	-0.63***	-0.61***	-0.62***
Secondary general				-0.40***	-0.40***	-0.38***	-0.38***
Vocational				-0.49***	-0.49***	-0.49***	-0.49***
Higher				0.53***	0.53***	0.54***	0.55***
Branch of economy (ref. Manufacturing)							
Agriculture						0.26***	0.27***
Mining						0.30*	0.32*
Power industry						0.29**	0.29**
Construction						0.18***	0.18***
Trade and consumer services						0.23***	0.24***
Transport and communication						0.11*	0.12*
Finance services						0.22***	0.22***
State services						0.21**	0.20**
Health						0.06	0.06
Education						0.02	0.02
Other or missing						0.24***	0.25***
Constant	-1.40***	-1.39***	-1.43***	-1.10***	-1.14***	-1.26***	-1.31***
Model fit							
Log likelihood	-5,520	-5,517	-5,513	-5,073	-5,067	-5,026	-5,017
Degrees of freedom	1	4	7	8	11	20	22
Adjusted McFadden's R^2	0.00	0.00	0.01	0.18	0.19	0.20	0.20

Notes: Own calculations based on the Estonian Social Survey, 2004. Significance level: ***$p < 0.001$. **$p < 0.01$. *$p < 0.05$.

Table A6: Logistic regression predicting entry into authoritative position among German labour market entrants (N=8,425)

	1	2	3	4	5	6	7	8
Woman (ref. Man)	-0.21***	-0.24***	-0.23***	-0.30**	-0.24***	-0.27*	-0.25***	-0.26*
East Germany (ref. West Germany)								
East Germany	-0.20**	-0.30**	-0.25**	-0.22	-0.30**	-0.27	-0.32***	-0.26
Female × East Germany		0.19	0.18	0.41	0.15	0.36	0.17	0.37
Labour market entry cohort (ref. 1969-1979)								
1980-1990			0.42***	0.36***	0.41***	0.38***	0.41***	0.41***
1991-1998			0.41***	0.49***	0.40***	0.48***	0.36***	0.44***
1999-2010			0.36***	0.45***	0.42***	0.55***	0.37***	0.54***
Female × 1980-1990				0.23		0.19		0.14
Female × 1991-1998				-0.13		-0.14		-0.13
Female × 1999-2010				-0.11		-0.20		-0.27
East Germany × 1980-1990				-0.11		-0.12		-0.20
East Germany × 1991-1998				0.13		0.17		0.16
East Germany × 1999-2010				-0.14		-0.08		-0.11
Female × East Germany × 1980-1990				-0.38		-0.38		-0.32
Female × East Germany × 1991-1998				-0.34		-0.29		-0.32
Female × East Germany × 1999-2010				-0.08		-0.08		-0.12
Educational level (ref. Lower tertiary)								
Basic					-0.85***	-0.86***	-0.92***	-0.93***
Secondary general					-1.05***	-1.06***	-1.05***	-1.06***
Vocational					-0.37***	-0.38***	-0.44***	-0.45***
Higher					-0.18	-0.18	-0.02	-0.02
Branch of economy (ref. Manufacturing)								
Agriculture							0.77***	0.81***
Mining							0.05	0.09
Power industry							0.14	0.13
Construction							0.41***	0.41***
Trade and consumer services							0.54***	0.55***
Transport and communication							0.04	0.04
Finance services							0.23**	0.22*
State services							-0.08	-0.08
Health							0.51***	0.50***
Education							-0.69***	-0.68***
Personal, social and communal services							-0.07	-0.08
Other or missing							-0.02	-0.02
Constant	-0.90***	-0.88***	-1.19***	-1.19***	-0.76***	-0.77***	-0.90***	-0.93***
Model fit								
Log likelihood	-4821	-4820	-4794	-4786	-4735	-4728	-4658	-4651
Degrees of freedom	2	3	6	15	10	19	22	31
Adjusted McFadden's R^2	0.00	0.00	0.01	0.01	0.02	0.02	0.03	0.03

Notes: Own calculations based on the National Education Panel Study, Starting Cohort 6 (release 3.0.1). Significance level: ***$p < 0.001$. **$p < 0.01$. *$p < 0.05$.