ECONSTOR

WWW.ECONSTOR.EU

Der Open-Access-Publikationsserver der ZBW – Leibniz-Informationszentrum Wirtschaft
The Open Access Publication Server of the ZBW – Leibniz Information Centre for Economics

Görges, Luise; Beblo, Miriam

Conference Paper

Breaking down the wall between nature and nurture: An exploration of gendered work preferences in East and West Germany

Beiträge zur Jahrestagung des Vereins für Socialpolitik 2015: Ökonomische Entwicklung - Theorie und Politik - Session: Empirical Labor Economics, No. D07-V1

Provided in Cooperation with:
Verein für Socialpolitik / German Economic Association

Suggested Citation: Görges, Luise; Beblo, Miriam (2015) : Breaking down the wall between nature and nurture: An exploration of gendered work preferences in East and West Germany, Beiträge zur Jahrestagung des Vereins für Socialpolitik 2015: Ökonomische Entwicklung - Theorie und Politik - Session: Empirical Labor Economics, No. D07-V1

This Version is available at:
http://hdl.handle.net/10419/112825

Nutzungsbedingungen:
Die ZBW räumt Ihnen als Nutzerin/Nutzer das unentgeltliche, räumlich unbeschränkte und zeitlich auf die Dauer des Schutzrechts beschränkte einfache Recht ein, das ausgewählte Werk im Rahmen der unter
→ http://www.econstor.eu/dspace/Nutzungsbedingungen
nachzulesenden vollständigen Nutzungsbedingungen zu vervielfältigen, mit denen die Nutzerin/der Nutzer sich durch die erste Nutzung einverstanden erklärt.

Terms of use:
The ZBW grants you, the user, the non-exclusive right to use the selected work free of charge, territorially unrestricted and within the time limit of the term of the property rights according to the terms specified at
→ http://www.econstor.eu/dspace/Nutzungsbedingungen
By the first use of the selected work the user agrees and declares to comply with these terms of use.

ZBW Leibniz-Informationszentrum Wirtschaft
Leibniz Information Centre for Economics

Mitglied der Leibniz-Gemeinschaft

Universität Hamburg
DER FORSCHUNG | DER LEHRE | DER BILDUNG

Fakultät Wirtschafts- und Sozialwissenschaften

Breaking down the wall between nature and nurture: An exploration of gendered work preferences in East and West Germany

Miriam Beblo
Luise Görges

WiSo-HH Working Paper Series
Working Paper No. 26
May 2015

WiSo-HH Working Paper Series
Working Paper No. 26
May 2015

Breaking down the wall between nature and nurture: An exploration of gendered work preferences in East and West Germany

Miriam Beblo, Universität Hamburg
Luise Görges, Universität Hamburg

ISSN 2196-8128

Font used: „TheSans UHH“ / LucasFonts

Die Working Paper Series bieten Forscherinnen und Forschern, die an Projekten in Federführung oder mit der Beteiligung der Fakultät Wirtschafts- und Sozialwissenschaften der Universität Hamburg tätig sind, die Möglichkeit zur digitalen Publikation ihrer Forschungsergebnisse. Die Reihe erscheint in unregelmäßiger Reihenfolge.

Jede Nummer erscheint in digitaler Version unter
https://www.wiso.uni-hamburg.de/de/forschung/working-paper-series/

Kontakt:
WiSo-Forschungslabor
Von-Melle-Park 5
20146 Hamburg
E-Mail: experiments@wiso.uni-hamburg.de
Web: http://www.wiso.uni-hamburg.de/forschung/forschungslabor/home/

Breaking down the wall between nature and nurture: An exploration of gendered work preferences in East and West Germany

Miriam Beblo & Luise Görges*

Universitaet Hamburg

May 22, 2015

Abstract

We study a possible nurture effect of political systems on the evolution of work and career preferences by women and men, exploiting the 41-year division of Germany and its reunification in 1990 as a natural experiment. We investigate whether disparate political and social systems produced different gender gaps in preferences with respect to work and career-related job attributes, and how they evolved over the reunification years. Based on the German General Social Survey (ALLBUS) in years 1991, 1998/2000 and 2010/2012, our analyses reveal substantial differences between East and West gender gaps in preferences for work directly after reunification and no convergence over the following 20 years. Regarding career attributes, such as high income and promotion opportunities, in 1991 gaps in preferences hardly differ between East and West regions. Until 2010, they have vanished in the East but widened in the West. These findings are robust to considering potential pre-separation differences between the two halves of Germany as well as selective migration flows and heterogeneity across states. Cohort analyses confirm that the effects are driven by respondents who spent their adolescence in separated Germany. Accordingly, our results provide strong evidence for the impact of nurture on preference formation, while age and length of exposure are important determinants of the extent of such impact.

JEL Codes: C21, J24, P51

Key words: German separation and reunification, work and career preferences, cohort analysis, natural experiment

* *Acknowledgements:* We thank Dennis Becker, Sarah Cyll, Birthe Langhinrichs and Eva Markowsky for excellent research assistance. Furthermore, we are grateful for valuable comments from two anonymous referees as well as our colleagues Annemarie Paul, Melanie Schröder and the participants of EEA 2014, EALE 2014 and research seminars at the IAB, IZA, University of Paris (Pantheon-Sorbonne) and Humboldt University. All remaining errors are our own.

1 Introduction

Despite the enormous progress toward gender equality in most Western societies over the past several decades, many of the gender gaps in labour market outcomes persist. Across OECD countries women, on average, earn less than men, are less likely to be active in the labour market and, if they are, supply fewer hours of work. They are more likely to interrupt their employment for child-rearing or to provide other family-related services. A major reason for these differences stems from men's and women's individual choices (regarding education, occupation, industry, employer, etc.), and may therefore be viewed as the expression of their individual preferences. Since we observe a systematic gender difference in these choices, this view suggests that male and female preferences regarding their labour market activity differ quite substantially on average.[1]

Although gender differences in preferences received increasing attention from economists in the past decade, this research has mainly been carried out in the lab (examining, e.g., gender differences in preferences for risk and competition – for a comprehensive overview, see Croson and Gneezy, 2009; Bertrand, 2011) and it is not clear at all how these results translate to real (labour) market decisions.[2] Moreover, a further deficiency of this literature, as Bertrand (2011) points out, is the lack of studies that explore the root cause of gender differences in preferences: On the one hand, they may be driven by cultural norms and institutional contexts; e.g., traditional labour division between spouses, direct or indirect discrimination, barriers to entry, lack of childcare facilities, etc. Such mechanisms are often subsumed under the *effect of nurture*. On the other hand, the main driver for gender differences in preferences might be prescribed through the biological sex, i.e., an *effect of nature*. Systematic evidence on which of the two effects dominates in economically relevant decisions to date is scarce, despite its practical relevance to equalising policy. A greater emphasis on either a nature or nurture explanation for gender differences in preferences would suggest different strategies to achieve greater equality in the labour markets.

That "nature" alone may not fully explain gender differences in preferences seems obvious if we consider, for instance, the degree to which gender differences in "revealed" preferences vary across countries. The role of culture as a driver for women's labour market outcomes has recently received increasing attention among economists (Alesina et al., 2013; Fernández, 2013;

[1] It also points to the difficulty of identifying causal mechanisms driving these often momentous decisions. For example, it could be the case that women prefer family-related work to labour market work and therefore more often than men choose jobs that allow them to work part-time. It may also be that women's preferences for labour market work might not differ so much from men's, but they tend to choose jobs that allow them to work part-time when facing certain constraints such as childcare availability and social norms concerning the "appropriate" labour division between partners.

[2] See also Nelson (2014) for a critical assessment of magnitude and economic relevance of gender differences in preferences for risk.

Fogli and Veldkamp, 2011; Fortin, 2005). An even stronger case for the nurture hypothesis might arguably be seen in the variation *within* countries. In the case of Germany, for example, we (still) observe much higher female participation rates in the East – both at the extensive and intensive margins – compared to the West (German Federal Labour Bureau, 2013), as well as more desired hours of work for East German women (Holst and Wieber, 2014). The German separation and reunification offers an ideal natural experiment to study the role of nature versus nurture in the formation of gender-specific preferences.

Experimentally, this has been attempted by Gneezy et al. (2009) who study the role of culture by comparing the gender differences in competitiveness across a patriarchal and a matrilineal tribe, and by Booth and Nolen (2012a,b) who study gender differences in competitiveness and risk behaviour across school types (mixed-sex versus single-sex schools). Bertrand (2011), while highlighting these studies' contributions as some of the few that provide insight into the interplay of nature and nurture, raises concerns about the evolutionary distance between the societies compared by Gneezy et al. (2009), and, in the case of the Booth and Nolen (2012a,b) experiments, about selection into the different school types. Both of these threats to the identification of a nurture mechanism are less of a concern in our study of Germany: We compare two societies of presumably minimal evolutionary distance since East and West Germans share a common past and cultural identity up to the artificially imposed separation. Moreover, a "selection" of individuals into the different Germanies did not occur, at least at the time of the separation.[3]

This particular feature of German history – its separation and reunification – has attracted the interest of a number of economic scholars who aimed to identify the causal impact of differential political regimes on various preference and attitude variables, such as tax morale (Torgler, 2003), preferences for redistribution (Alesina and Fuchs-Schündeln, 2007), trust in others and government institutions (Rainer and Siedler, 2009), gender role attitudes (Bauernschuster and Rainer, 2011), inequality perceptions and equity norms (Kuhn, 2013), and, most recently, conspicuous consumption (Friehe and Mechtel, 2014). While Bauernschuster and Rainer (2011) provide us with important insights regarding the cultural norms and attitudes toward working mothers and wives that prevail in the Eastern and Western parts of Germany, we cannot conclude anything about the gender gap in preferences for work and job attributes. This remains an open question since none of the previous studies has considered the differential evolution of *gender* differences across the two regions.

Our contribution lies in a synopsis of the experimental research on gender differences in preferences and the above-mentioned survey-based research on political nurture and preference

[3]We explore the validity of our assumption on minimal evolutionary distance in Section 3, and we show that cross-migration flows between the two Germanies do not pose a threat for our identification in Section 2.

formation, by identifying the causal impact of political regimes on the magnitude of *gender differences in preferences*. More specifically, we examine gender differences in preferences for work and for the career-oriented job attributes "high income" and "promotion opportunities". Using the German separation and reunification as a natural experiment allows us to test the hypotheses that two distinct political systems – differing markedly with respect to their institutional environments and the role they promote for women in society – produced heterogeneous gender gaps in work and career preferences and that, following political integration, these differences in gender gaps converged over time.

We use "stated preference" measures that have been shown to account for (gender) differences in labour market outcomes (Fortin, 2008; Pollmann-Schult, 2009; Humlum et al., 2012; Busch, 2013; Zhan, 2015). The studies argue that, e.g., gender differences in preferences for job characteristics play a part in explaining the segregating occupational choices of (young) people and demonstrate that the likelihood of choosing a typically "male" occupation increases as the individual valuation of extrinsic job attributes increases (or, vice versa, the likelihood of choosing a characteristically "female" occupation increases with one's valuation of social job characteristics). These measures allow us to circumvent both *external* and *internal validity* issues. The former may arise in (field or lab) experimental studies when using rather abstract preference measures, such as the willingness to maximise individual income or to compete, in order to extrapolate to real world labour market preferences. We argue that our career preference measures (for high income and promotion) can be interpreted as the "real world equivalent" for those commonly used in lab experiments to document gender differences. Internal validity issues, especially within our particular setting, may arise when examining "revealed preference" measures, such as labour force participation, as they not only reflect the true preferences, but may also be influenced by disparate region-specific constraints, e.g., the different institutions during separation and the heterogeneous economic development across the East and West. Our "stated preference" measures seem to provide a useful alternative.

To test our hypotheses, we combine data from the German General Social Survey (ALLBUS) with official German register data. The ALLBUS included a sample of East German respondents almost immediately after reunification, in 1991. It thus allows us to examine regional differences in gendered work preferences at a very early point in time that seems to be almost as robust as if we had survey data for the East *during* separation. We use five cross-sections, from 1991 to 2012. Three outcome variables measure the importance an individual assigns to 1) work; and to the career job attributes 2) high income, and 3) promotion opportunities. We are thus able to examine whether the German separation had an impact on gender differences in their importance rankings and whether this potential impact levels out over the

reunification years.

Our analyses provide strong evidence for the "nurture hypothesis": In 1991, we find a significant gender gap in preferences for work in both parts of the country (with women finding work less important than men). However, this gap is significantly smaller in the former GDR. By 2012, the gender gap narrowed in the West but remained significant, whereas the gap between Eastern men and women has vanished. Thus, the "gap in the gap" (we will refer to this as the "GiG") across the two parts of the country remains economically and statistically significant even after 20 years of unification. Furthermore, we find significant gender gaps regarding preferences for high income and promotion opportunities in East Germany directly after reunification. Again, these East gender gaps have vanished by 2010, whereas they evolved to statistically recognizable levels among West Germans. As a result, the GiGs in career preferences only emerge significantly until 2010 – indicating that gender-specific preferences in the East and West have rather diverged than converged over time. These findings are robust to the inclusion of a broad set of individual and macro-level control variables and to a series of further robustness checks, e.g., an analysis based on the region of Germany in which respondents lived during their adolescence rather than their residence at the time of the interview.

To summarize, our contribution spans four dimensions. Most importantly, we offer evidence regarding the relative roles of nature and nurture in shaping gender differences in work preferences. While building on the existing literature on the causal impact of political regimes for preference formation, our paper is the first to analyse their impact – and thereby the potential effect of nurture – on gender differences in preferences. Second, our analysis of historical Prussian data delivers more robust support for the identification strategy using the German separation and reunification not only in our context, but also for other studies relying on the assumption that no systematic differences existed between East and West Germany before separation. Moreover, we extend the experimental literature on gender differences in preferences by using a *natural* experiment that thus allows us to evaluate preference measures that are more directly relevant to labour market outcomes, i.e., preferences for work as such and for jobs that provide high income and promotion opportunities. Fourth, we are able to trace out the nurture mechanism in preference formation more precisely by carefully examining the effects for different cohorts, hence different treatment intensity by exposure to the GDR. We try to disentangle distinct mechanisms (e.g., is GDR socialisation or GDR work experience more important?) that may promote cohort-specific patterns (convergence, persistence, divergence) after reunification. Except for Kuhn (2013) – who analyses East-West differences in subjective inequality perceptions, equity norms, and preferences for redistribution by birth cohort – the interesting question of how the socialist GDR-nurtured preferences develop in a market

economy has so far been largely overlooked.

The paper is organized as follows: Section 2 briefly reviews the division of Germany into two countries after WWII and the respective political contexts of female employment in order to derive our hypotheses concerning work preferences. Section 3 investigates historical data to verify our assumption that potential differences did not already exist prior to the division. Section 4 introduces the survey data and preference measures we use, and Section 5 supplies the regression results for the aggregate sample and separate analyses by cohorts. Section 6 explores causality concerns. We examine the robustness of the effects by exploring potential heterogeneity across Eastern federal states as well as the preferences of East-West migrants. Finally, Section 7 offers an interpretation of the results and concludes the paper.

2 The German separation and reunification: What do we expect?

After World War II Germany was divided into two distinct countries along the Soviet occupation zone borders. Having shared a common cultural past as one country until then, the German Democratic Republic (GDR) was constituted on the grounds of the Soviet occupation zone, which covered the five Eastern Laender. The remaining 11 Laender, occupied by the Americans, British, and French, formed the Federal Republic of Germany (FRG). In 1989, a peaceful revolution led to the fall of the Berlin Wall and a swift political reunification of the two German parts soon followed in 1990 (with a rapid imposition of monetary union and FRG institutions in East Germany; see Krueger and Pischke, 1995). During the political division, people living in the two German states received differential treatment through labour market and educational institutions, as well as gender role norms, particularly with respect to female employment.[4]

If nurture is an important determinant of gender differences in preferences we should find a visible treatment effect on the gender gap regarding work preferences during the separation or directly afterwards. In the presence of such an effect, the unification period may serve to clarify some important unanswered questions. Depending on the relative roles of nature and nurture for the formation of gender differences in preferences, three different developments could be anticipated: If the impact of nurture is only of minor importance for the formation of gender differences in preferences, we should see a rather quick convergence of Eastern gender gaps

[4]Migration from the West to the East was possible, but practically negligible. Migration in the reverse direction was in principle possible until 1961(Fassmann and Munz, 1994), but exiting the GDR without a departure permit and handing in one's ID card was criminalised after 1954. During the existence of the wall from 1961-1989, only about 800,000 GDR citizens managed to legally depart to the FRG(Fassmann and Munz, 1994).

to Western levels. On the contrary, a slow convergence (or lack thereof), possibly heterogeneous across cohorts, would make a rather strong case for the influence of nurture. Finally, a divergence between Eastern and Western gender gaps might indicate that the specific form of nurture in a socialist economy transforms the gender gap in work and career preferences even further when exposed to the different conditions in a market economy. We will provide details on the relevant differences in the institutional background of FRG and GDR and the specific implications for gender differences in preferences for work, as well as career-oriented job attributes.

Female preferences for work

From earlier studies, we know that labour market participation was much higher among women in the GDR than the FRG – at both the intensive and extensive margin (Holst and Schupp, 2001; Rosenfeld et al., 2004). In the FRG in the 1950s and 1960s, many social and tax provisions were introduced that favoured the breadwinner (with nonworking spouse) household, such as joint taxation of married couples (Gerhard, 1992). Up until the 1990s, child care for preschoolers was scarce and elementary schools had varying daily schedules or would even close over the lunch hour (Ostner, 1993).

The GDR, on the contrary, enforced women's obligation to work and supported maternal employment (Rosenfeld et al., 2004). In 1950, the Mother and Child Care and Women's Rights Acts (Gesetz Ãijber den Mutter- und Kindesschutz und die Recht der Frau) established "a network of public child care centers, kindergartens, and facilities for free school meals, maternity leave, and days off to care for sick children" (Cooke, 2006: 5). In addition, the Family Law Code (Familiengesetzbuch) in 1965 emphasised the equality of spouses. Due to the state provision of universal child care and the East German citizen rights based on the status of labour force workers, most women, including mothers, were employed full-time (Duggan, 1995). Given these contrasting roles that the two states promoted for women in society, we expect women in the East to differ from men much less with respect to the importance they assign to paid work than in the West. Thus, we expect to find a regional gap in the gender gap in preferences for work (GiG) directly after reunification.

Over the course of time, however, different dynamics in the GiG would be plausible. On the one hand, Bauernschuster and Rainer (2011), with respect to preferences for gender roles, an issue closely connected to individual work preferences, uncover a *divergence* between East and West Germans over time. This is an intriguing finding that the authors hypothesise might be accounted for by an intensified identification of the former GDR population with what has generally been seen as a positive peculiarity of their socialist state: the politically

promoted labour force participation of women, which was supported by widespread, publicly provided child care facilities. On the other hand, we might anticipate that the gender gap in the East converges toward the West German level for several reasons, the most obvious being that the whole country is now governed by West German institutions. Despite the GDR state's progressivism in terms of the gender roles it promoted, the legislation posited the domestic sphere within women's responsibility, as exclusively married women had a monthly day off to perform housework, and mothers had fewer weekly working hours and were eligible for parental leave (Duggan, 1995). In the absence of these supporting policies, East German women's preferences may converge to those of the FRG women, who always had to balance work and family responsibilities on their own account, while men, in their role as breadwinners, were responsible for providing income.

Moreover, if gender differences in preferences are driven by nature, and the GDR regime had enforced "unnaturally" high female labour force participation counter to the true preferences, we would also observe Eastern women to adapt the preferences of West German women. Hunt (2002) observes that the East German female employment rate dropped by 23 percentage points over the four years following reunification, compared to a smaller drop of 17 percentage points for men. This would be consistent, she notes, with a convergence in female preferences for home production or, alternatively, a convergence in employers' taste for discrimination. If the former was the case, we should find a growing gender gap in preferences for work in the East, and thus a convergence toward Western levels, which would indicate a relatively greater role for nature than for nurture.

Female preferences for career

Regarding the gender differences in preferences for career attributes such as high income and promotion opportunities, however, the predictions are less clear-cut, even in 1991. According to Becker (1985), gender differences in labour market outcomes might stem from the higher non-market responsibilities of women. Under the assumption that each individual can divide a fixed supply of total effort to market and household production, the effort that women (or, likewise, men) invest in household activities, such as childrearing, reduces the effort they can exert on market activities. Less "effort", according to Becker, translates into less effective time at a job, but can also induce the choice of a work place that requires less effort. Against the background of the (potentially conflicting) responsibilities the GDR state prescribed for women – to be an active member of the labour force and, at the same time, the main provider of household services – it may seem plausible that women resolved this by opting for career paths that (appear to) require less effort.

As a matter of fact, even though the share of women who attended professional colleges and universities was much higher in the East than the West, East German women only entered into 16 traditionally female vocational tracks out of many hundreds available to them (Nickel, 1992, cited by Cooke, 2006). Since gender-specific segregation was even more pronounced in the GDR (Rosenfeld and Trappe, 2002), and this gap, to a lesser extent, persists today (Beblo et al., 2008), we might expect that the separation did not have an impact on gender differences in preferences for career job attributes, and that these differences would remain stable over time after reunification. On the other hand, the very different development of the gender wage gaps in the two German societies after reunification may have been accompanied by a similar development of the gender preference gaps for high income.[5] One could also imagine that East German women, given their more extensive experience as full-time integrated actors in the labour market, and assuming a lasting impact of nurture regarding their preferences for work, modify their preferences for career toward men's levels more than West German women. If this was the case, we may actually expect a *growing* difference in the gender gap in preferences for career attributes.

3 Pre-separation Germany: Minimal evolutionary distance assumption

Our hypotheses rely crucially on the assumption of "minimal evolutionary distance" between the East and West German societies. Hence, before using individual preference data to draw conclusions on the separation and reunification affecting gender gaps in work preferences differentially, we should consider a competing, intuitive explanation for potential East-West differences: Maybe East and West Germans differed already prior to separation? In order to be able to treat separation and reunification itself as exogenous shocks that neither population was able to anticipate, we must verify that the historical conditions in Eastern and Western regions in Germany did not differ systematically before the separation in 1949.

To mitigate any concerns about historical differences between the two German regions, we draw on an ancient Prussian data set that contains detailed information on agricultural, industrial and occupational structure, educational systems, and demographic structure at the district level in the second half of the 19th century (for a comprehensive description of the data set, see Becker et al., 2012). These historical data are available at the district level (335 in total) for several years during the 19th century. We augment the relevant indicators with

[5]From comparable levels of about 25% at the time of reunification (Krueger and Pischke, 1995), the East German wage gap dropped to 8% in 2013 (German Statistical Office, 2014), while it remained nearly unchanged in the West.

statistics from the yearbook of the Statistisches Reichsamt (1936), which includes 1930s data on industry sectors, labour force participation, marriage, and fertility behaviour.

Using both data sources, we identify districts that later, in succession of WWII, became part of the GDR and those that became part of the FRG (until the fall of the wall in 1989), in order to determine whether systematic structural differences already existed between the two regions in the late 19th and early 20th century. It must be noted that the GDR can be mapped almost entirely with Prussian districts, whereas only about a third of West Germany falls within Prussia, leaving mostly the North and South outside the borders. A map illustrating the match is provided in Appendix A (see Figure A).[6] With respect to the Statistisches Reichsamt districts, not all districts could be unambiguously sorted into GDR or FRG territory due to overlaps or regions that, after 1945, were no longer part of Germany. Nonetheless, the coverage is still well above 80 percent.

Table 1: Socio-economic indicators in Eastern and Western German regions, pre-separation

	1849*		**1882/86***		**1933/34****	
	East	**West**	**East**	**West**	**East**	**West**
Employment by sector						
Agriculture %	72.76	74.46	56.32	49.91	18.40	20.24
Handcraft %	12.83	12.83	—	—	—	—
Industry %	6.78	6.88	26.54	31.61	—	—
Industry and Handcraft %	—	—	—	—	42.53	37.93
Services %	7.63	5.83	12.37	12.83	9.06	9.03
Retail %	—	—	4.78	5.66	—	—
Retail and Transport %	—	—	—	—	15.93	16.08
Free occ./Self-employed %	—	—	—	—	14.08	12.16
Total workforce (m)	2.48	2.15	2.13	1.77	14.15	34.31
Female share of employees %	—	—	—	—	34.32	31.28
Girls' share elementary school %	49.37	48.68	50.11	49.51		
Marriages per 1000 inhabitants	—	—	—	—	9.85	8.97
Births per 1000 inhabitants	—	—	—	—	14.40	14.58
Child-woman ratio %***	64.43	64.18	—	—	—	—

Sources: Own calculations based on Prussian data sets of 1849, 1882 and 1886 (Becker et al., 2012) and on Statistisches Reichsamt (1936:27, 37, 306) for 1933/34.
*) Only Prussian districts within the later GDR and FRG boundaries (1948 to 1989). 1882: Total workforce without handcraft.
**) All regions of the later GDR boundaries, including Berlin, and FRG boundaries, excluding Berlin (1948 to 1989).
***) The child-woman ratio is calculated as the number of children under the age of 5 per women aged 15-45.

Table 1 summarises the indicators related to our research question which we could compile from these sources. It begins by listing the shares of employees in economic sectors in East and West districts for the years 1849, 1882, and 1933. The general trend is that agriculture has declined in relative workforce (from three-fourths to around one-fifth), while the industry sector has gained (from below 7% to around 40%, including handcraft). Services have increased only slightly in importance; retail is first mentioned in 1882, while transport appears as a sector in

[6] From the 335 Prussian districts, we were able to assign 198 to either FRG or GDR territory.

1933. Differences between East and West regions seem to evolve in the second half of the 19th century due to a faster industrialization process in the West, which then reverses and partly converges until 1933, as documented by the respective shares of the agricultural and industry sectors in 1882 and 1933. We have little reason to believe that systematic structural differences existed between the East and the West in types of economic activity prior to the political separation that would expand our hypothesized findings. If any, East German women would have started with *lower* labour force participation into separation, as female involvement in the industry sector has traditionally been lower than in agriculture (Goldin, 1995). This might bias our expected results toward zero..

Regarding the link between Protestantism, girls' education, female literacy, and economic outcomes throughout Prussia established by Becker and Woessmann (2008), we also examined gender-specific school enrolment and literacy. Table 1 shows that in the years 1849 and 1886, about 50% of elementary school pupils were girls, both in the East and the West German county average. We do not see any systematic differences here, neither for male nor female literacy rates (only available for 1871, hence not displayed).

The percentage of women among all employees averaged to about one third in pre-WW II Germany, varying between 26% and 38% across regions (Landesarbeitsamtsbezirke). Saxony (East) and Bavaria (West) showed over-proportional and Westphalia (West) and Thuringia (East) under-proportional female labour force participation which resulted in only a marginal difference between the historical halves of Germany (on average 34% of women in Eastern regions were employed as compared to 31% in the West).

With regard to the demographic past, the Prussian data provide numbers on population-age groups from which we derived the child-woman ratio for East and West districts. The child-woman ratio gives the number of children up to age 5 divided by the number of women of child-bearing age (15-45). We calculated 64% for both East and West (matching exactly the average level documented by Becker et al. (2013)). The statistics by the Statistisches Reichsamt (1936) further document similar marriage and fertility behaviour between later GDR and FRG districts. In 1933, marriage distributions look very much alike between provinces later forming the GDR and those forming the FRG. The number of marriages per 1,000 inhabitants averaged 9.85 (East) versus 8.97 (West). The number of births differs even less between the East and West, counting 14.40 births per 1,000 inhabitants in the Eastern provinces compared to 14.58 in the West. To summarize, our data seem to underpin a similar marriage and absolute fertility behaviour across Germany.

Non-marital fertility, however, is not documented in these data sources. We know that in the late 19th century, non-marital fertility was about twice the level in areas that would later

become the German Democratic Republic than in those that would become West Germany, and is still higher today (Klüsener and Goldstein, 2014). To the extent that non-marital family formation is linked to work preferences, this may arguably weaken the notion of minimal pre-separation differences. We would then be unable to attribute the gap in the gap, or GiG, in preferences we observe right after the separation years to the differential nurture provided by the two states. Since, according to Klüsener and Goldstein (2014), Bavaria had similarly large non-marital fertility rates as the Eastern German regions in the 19th century, we are able to perform a sensitivity analysis to investigate the potentially long-lasting impact of differential non-marital fertility on work preferences. We apply the same difference-in-difference analysis as the one we will present in Section 5 with Bavarians in the place of the entire West German population. This sensitivity check reveals that the East German gender gap still differs significantly. We thus feel fairly confident concluding that this potential threat does not invalidate our identification strategy so that we can proceed with our primary analysis.

4 Methodology

4.1 Data & sample

To study whether the separation treatment had an effect on gender differences in work preferences and how the reunification affected its survival, we combine data from the German General Social Survey (ALLBUS) with official German register data. The ALLBUS regularly surveys a random sample of the German population on a wide variety of social and political topics as well as demographic background characteristics. The survey began with West German inhabitants in 1980 and has included East German respondents since 1991 (Terwey, 2000). For our research design, we use five cross-sections: 1991, 1998, 2000, 2010, and 2012. We chose these years because they are the only cross-sections that include our dependent variables[7] and they allow us to cover a meaningful time horizon from just after reunification up to two decades later. Additionally, two of these waves provide information on the federal state in which respondents lived throughout their youth (as opposed to where they were born and where they lived at the time of the survey). By distinguishing between the region in which a respondent spent her adolescence and the region of her present residence, we are able to study the importance of socialization in preference formation and the influence of political environments more precisely than the aforementioned studies, which were limited to birth or residence information only.

Since we are interested in the influence of the two different political regimes formerly in-

[7]The importance of life aspects, including work, has been surveyed in 1991, 1998, and 2012, and the importance of job attributes was surveyed in 1991, 2000, and 2010. For each of our outcome variables, we can thus use three cross-sections.

stalled in East and West Germany on gender differences in preferences, we reduce the noise potentially introduced by individuals with more heterogeneous cultural backgrounds and restrict our sample to respondents of German citizenship. Furthermore, we exclude individuals above the age of 50 to avoid issues related to early retirement policies, a strategy the German government adopted extensively in order to mitigate unemployment during the restructuring of the East German economy after the formation of the monetary union (Krueger and Pischke, 1995).[8] From a theoretical perspective, at this late point in life, an individual's decisions that determine her labour market outcomes – such as human capital investment, occupational choice, whether and for how long to interrupt employment in order to raise children, etc. – are virtually irreversible. Thus, if we consider gender differences in preferences to affect gender gaps in labour market outcomes, it is sensible to examine preferences up to a point where they can actually exert an influence through individual decisions. Finally, by excluding people born before 1940 and using the information on residence during *adolescence* for the remaining respondents, we can essentially rule out any selection concern relating to the arguably greater migration opportunities for East Germans before departure regulations were tightened in the 1950s.

We complement the survey information provided by ALLBUS with official register data compiled from different sources in order to construct a comprehensive set of federal-state-specific macro-controls. We will provide further details on the controls in section 4.3.

4.2 Variables

Main independent variable

The key estimator in our set-up is a dummy variable indicating whether a respondent i lives in one of the former GDR federal states. Thus, the dummy $East_i$ takes on the value 1 if the respondent is a resident of the Eastern part of Germany (the set E) at the time of the interview. The dummy is 0 if, on the contrary, the respondent resides in the Western part of Germany.

$$East_i = \begin{cases} 1 & \forall i \in E = \{\text{Berlin (East), Brandenburg, Mecklenburg Pomerania, Saxony, Saxony-Anhalt, Thuringia}\} \\ 0 & \forall i \notin E \end{cases}$$

As a sensitivity analysis, we repeated all analyses excluding Berlin residents (East *and* West) and the results are very similar. For the robustness checks in Section 6, we use a

[8] Moreover, there is evidence from the sociology and psychology literature that individuals' self-concept, i.e., their assessment of aspects they consider important in life, changes substantially in the middle-age life phase (Helson and Soto, 2005). One's assessment of the importance of work and job aspects also seems to change drastically in this phase of life, as retirement grows closer (Kalleberg and Loscocco, 1983; Ekerdt and DeViney, 1993; Ekerdt et al., 2000).

refinement of this variable. In some of our cross-sections (1991 and 2010/2012), respondents provide information on the German federal states they predominantly resided in throughout their adolescence. This variable thus takes on the value 1 for all individuals who reported spending their youth in one of the Eastern states and zero for individuals who lived in one of the Western states. Thus, in this specification, all respondents who have not spent their youth in the FRG or the GDR are excluded from the analysis.

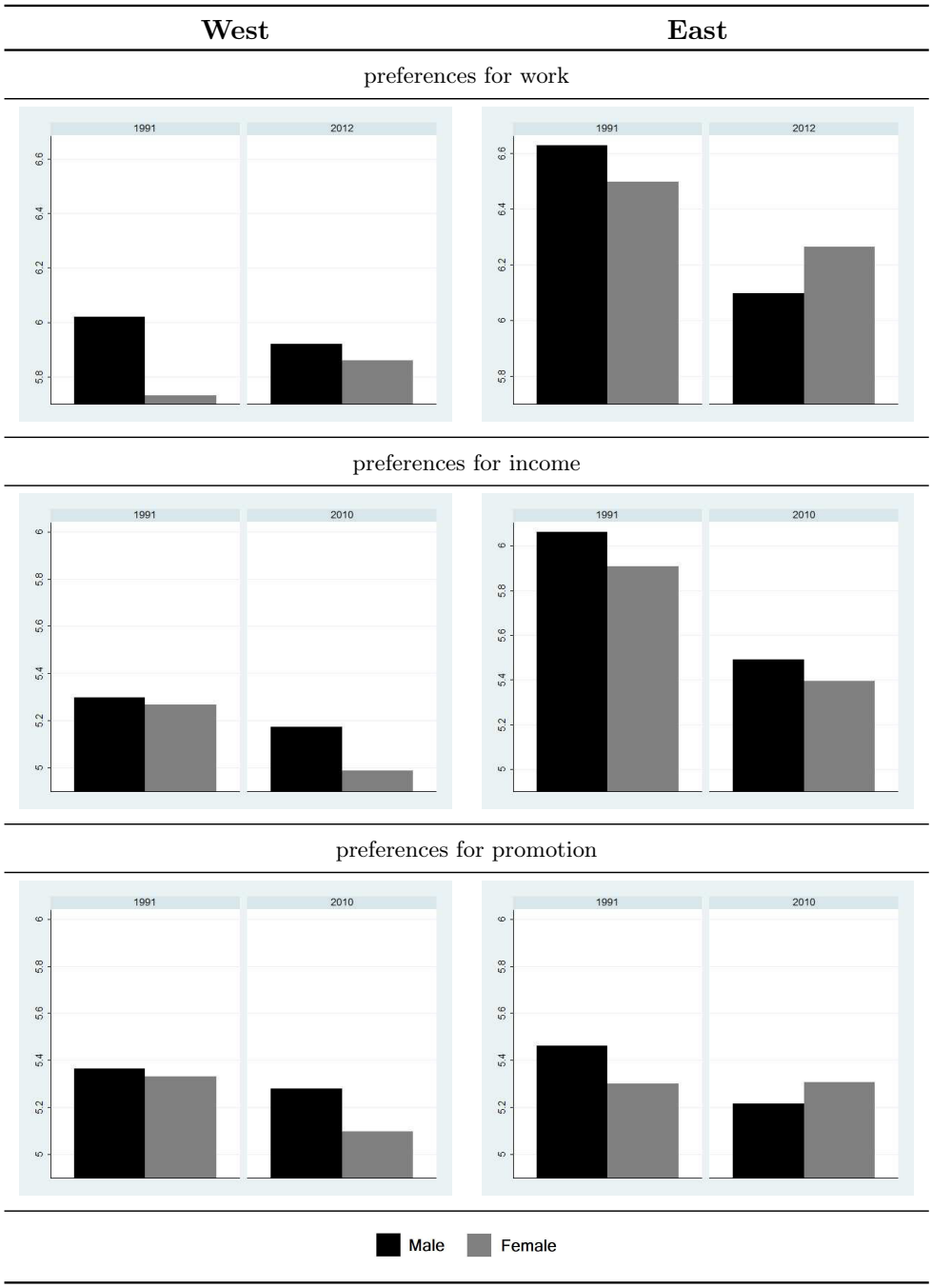
Dependent variables: work and career preferences

To estimate the gender gaps in work preferences, we use three measures as outcome variables: the importance of (1) job and work; (2) high income; and (3) good promotion opportunity. The ALLBUS asks respondents to evaluate these and other life aspects and job attributes on a 7-point Likert-type scale, where a higher value corresponds with higher importance. All items are presented to the respondents in a random order and are evaluated independently from each other.

Thus, our dependent variables are ordinal and range from $p_k = \{1, 7\}$.[9] In the sample, the 95% confidence interval for the 'preference for work' measure ranges from 6.03 to 6.10 across all individuals, while the reported importance of the job attributes 'high income' and 'promotion opportunities', respectively, has an even lower spread (5.32–5.38, and 5.25–5.33, respectively). Figure 1 plots the average priority rankings for our three dependent variables in 1991 and 2010/12 by region (left panels showing numbers in the West, right panels showing East numbers) and by sex (left columns representing men, right columns women, in each panel). The overall mean for the importance of work is 5.84 in the West sample (5.94 for men and 5.74 for women) and 6.39 in the East sample (6.41 for men and 6.38 for women). Shortly after reunification, the unconditional gender gap is larger in the West, while East Germans overall assign a relatively higher importance to work, such that we have a scale shift for both women and men. Men's and women's preferences for extrinsic job attributes do not look that different between regions at first glance. A positive gender gap in 1991, if any, seems to widen in the West and to reduce or reverse in the East until the 2010s. However, from these figures, we cannot yet draw conclusions on different gender gaps between regions since potentially competing preferences and confounding factors in the macroeconomic environment have not yet been taken into account.

[9] Further descriptive statistics for all preference measures are provided in Tables A.1 and A.2 in Appendix A.

Figure 1: Means for work-related preferences in East and West Germany by gender and year



Note: Black bars refer to male and grey bars to female respondents. Note that the y-axis is zoomed in because more than 95% of our sample assign at least a value of 5 to the importance of work and and 4 to the importance of income, and promotion.

4.3 Estimated model

To investigate the conditional influences of socialist versus market-economy "nurture" on the gender gap in work preferences, we estimate the following OLS model using the pooled cross-sections from 1991, 1998/2000, and 2010/2012[10]:

$$Y_i = \sum_{t=1991}^{2012} year_t\mathbf{\Theta} + \sum_{t=1991}^{2012}(year_t \times East_i)\mathbf{\Gamma} + \sum_{t=1991}^{2012}(year_t \times Female_i)\mathbf{\Phi} + \sum_{t=1991}^{2012}(year_t \times East_i \times Female_i)\mathbf{\Pi} + \boldsymbol{X_i}\mathbf{\Lambda} + \epsilon_i$$

Y_i denotes one of the three outcome variables and $East_i$ is our dummy variable indicating whether a respondent i was living within the borders of the former GDR at the time of the interview. $Female_i$ indicates a female respondent. The vector $\mathbf{\Theta}$ contains the survey-year fixed effects including the constant and thus captures time shifts in Y_i for the reference group, West German men, i.e., those interviewed just after reunification in 1991, around 2000 (i.e., in the year 1998 for work as such and in 2000 for job attributes), or around 2010 (i.e., 2012 for work and 2010 for job attributes). The vectors $\mathbf{\Gamma}$ and $\mathbf{\Phi}$, respectively, hold the coefficients that capture the divergence in the time trend for East German men and West German women with respect to the reference group, i.e. the 'regional gap' between men and the 'gender gap' in the West. Our main interest rests with the coefficients contained in the vector $\mathbf{\Pi}$, which we obtain from interacting the East dummy with the dummy for female respondents and the survey year, thus revealing variation in the gender gap between the two regions directly after reunification and over time (as previously explained, we will refer to this as the gap in the gap or GiG). $\boldsymbol{X_i}$ is a vector of individual preference-related, socio-demographic and macro-level control variables, all of which allow us to flexibly control for federal state and time heterogeneity. ϵ_i denotes the individual error term.

Please note that taking the double difference (by gender *and* region) rules out the potential problem of different response behaviour due to interpretative differences between East and West respondents. Therefore, we are not so much concerned that the effect might be driven by interpretative differences (i.e., that we encounter a measurement error in the dependent variable), because this would be a problem only if we compared East/West differences for all respondents. For our difference-in-difference analysis of the GiG, however, we only need to rely on the sensible assumption that men and women within the Eastern and Western regions interpret the question in the same way.

[10] We have re-estimated all analyses to be presented using a probit model, and the results are qualitatively identical.

Controls

Our set of controls can broadly be divided into three categories: preference, socio-demographic and macro-level controls. By including the *preference control variables* we evaluate the priority respondents assign to work and job attributes of high income and promotion opportunities conditional on competing means of time use or other job attributes, respectively. The reason that we are interested to learn about the conditional importance of work and extrinsic attributes (among alternative options) is that we assume an individual to maximise her utility under constraints, i.e., to prioritise according to her preferences when choosing her hours of labour supply or her profession. To achieve this, we make use of the wide variety of items the ALLBUS provides, which, just as for our dependent variables, request respondents to evaluate other life aspects and job characteristics on the same Likert-type scale. In the regressions that focus on preferences for work we include the evaluation of the importance of: own family and children, leisure and relaxation, friends and acquaintances, and relatives – as they represent competing means of time-use. A probit regression using these life aspects as independent variables confirms that a higher *ceteris paribus* evaluation of the importance of work in our sample corresponds with a higher probability of being employed.

In the regressions that focus on preferences for high income and promotion (the career, or "extrinsic" job characteristics), we include the evaluation of the importance of: interesting tasks, self-directed working (intrinsic) and the opportunity to be useful to society, as well as the opportunity to help others (altruistic values).[11] Extrinsic attributes have been shown to exert the most powerful influence on job choices and occupational sex segregation (Busch, 2013; Pollmann-Schult, 2009) and are thus highly relevant for career choices. According to Pollmann-Schult (2009), individuals' probability to work in a male occupation is about 14% higher when they rate high income as an important job aspect. Busch (2013) shows that the gender gap in the job choices of 17-year-olds can partly be explained by girls' higher evaluation of social job characteristics, which implies that the relative importance they assign to extrinsic characteristics must be lower than that of boys.

Controlling for altruistic preferences seems particularly important since we argue that our preferences for career job characteristics can be interpreted as the "real world equivalent" of the preference measures commonly used to document gender differences in lab experiments: men's and women's willingness to maximise their individual income or compete with others are often interpreted as indicators of preferences for promotion or income. A number of experimental studies also demonstrates gender differences in altruism and other-regarding preferences, or shows that the social context in turn affects willingness to compete or to maximise individual

[11] This categorisation is commonly used in the sociology literature, see Adler and Brayfield (1997).

income (see the overview in Croson and Gneezy, 2009).

The second set of *socio-demographic* controls poses a few challenges. Even though work preferences have been shown to causally affect labour market outcomes (Fortin, 2008; Humlum et al., 2012; Zhan, 2015), one might be concerned about the potential endogeneity of, e.g., individual human capital investment and labour market participation decisions. Thus we try to reduce the problem of reversed causality', which may arise even in a natural experiment setting, by including only variables in $\boldsymbol{X_i}$ that cannot be influenced by the individual herself. Among the individual-level controls, this leaves us with the respondent's age and the parents' level of schooling, as well as the father's occupational status.[12] We exclude individuals' employment status, income, marital status, and number of children from the analysis for intuitive reasons, since they are all likely to be outcomes of an individual's work preferences. Note, however, that the results we provide in the subsequent sections are relatively insensitive to the inclusion of these variables (except for employment status, naturally).

Our third set, the *macro-level* control variables, capture a wide range of economic and demographic federal state characteristics in order to mitigate the concern that any regional differences we find in the gender gaps regarding work preferences are merely driven by differences in respondents' economic conditions by virtue of living in a certain federal state. Still today, more than 20 years after reunification, the economic development and labour market conditions in the Eastern states lag behind the West. Goldin (1995) shows a strong relationship between economic development and female labour force participation, and thus one of our main concerns is to account for heterogeneity in economic development. Consequently, we include federal-state level per-capita GDP, deflated at the state-level consumer price index, and the share of GDP in agriculture and industry. Since we are interested in East-West differences in the gender gaps with regard to preferences, we also include gender-specific unemployment rates[13], a measure of public childcare availability[14], the share of church members, and, among them, the share of Protestants.[15] We obtain all macro-level variables from official register data.

[12]Mothers' occupational status was not recorded in the ALLBUS before 2002. In a robustness check, we include this variable using only the 2010/2012 cross-section to verify that this does not alter our 'gap in the gap' effect.

[13]Ideally, we would also want to include gender pay gaps at the federal-state level. Unfortunately, for the years prior to 2006, this information is not available in the register data that we use for all our macro controls. We checked the robustness of our findings for the 2010/2012 cross-sections, for which we have the administrative information. The results were unaffected.

[14]We constructed this measure from official register data as the ratio of the number of public childcare spaces for children below the age of 7 that have been allocated in a federal state in a given year to the number of children below the age of 7 who then lived in the same state.

[15]Becker and Woessmann (2008) show that, historically, female literacy in Germany first spread in regions with a higher share of Protestant church members. We thus include the share of Protestants as a proxy for different rates of female empowerment, which were predetermined prior to the German separation, in order to avoid over-estimating the effect of the separation on the 'gap in the gap' in work preferences.

5 Results

5.1 The evolution of the gaps

Table 2 shows the OLS-estimated coefficients of the importance of work in four different specifications, where we subsequently add another set of control variables. Model I displays the results for the fully interacted model without further controls. Models II, III and IV successively add the preference, socio-demographic, and macro-level controls. Shortly after reunification, in 1991, we see that East German residents assign significantly more importance to work than West Germans. A point estimate of 0.61 for the East dummy variable tells us that an average East German man's evaluation of work is more than half a point higher than that of a West German man in the reference year 1991.

Across all specifications, we see the East-West difference shrinking in 1998 and vanishing to almost zero until 2012. This pattern (initially) applies almost equally to men and women, although women rate work lower than men and the gender gap becomes smaller over time, as explicated in Table 3, which displays the conditional means of the work preferences for the two genders in both regions as well as their changes over time. This table shows that, mainly due to women's increasing valuation of work, the reunification-West German gender gap of -0.39 falls to a still significant -0.19 within 20 years (as illustrated by the bold 2012 number, this reduction is significant at the 5% level). Only starting from just above this level in reunification-East Germany (-0.24), the gender gap there disappears until 2012, due to a downward convergence of women's and men's preferences for work. Figure 2 further illustrates that, given these parallel trends in a shrinking gender gap, the GiG remains more or less stable at around 0.15 to 0.22 scale points over time, indicating that gender-specific preferences in the East and West follow a similar converging process after reunification, but still at very distinct levels.

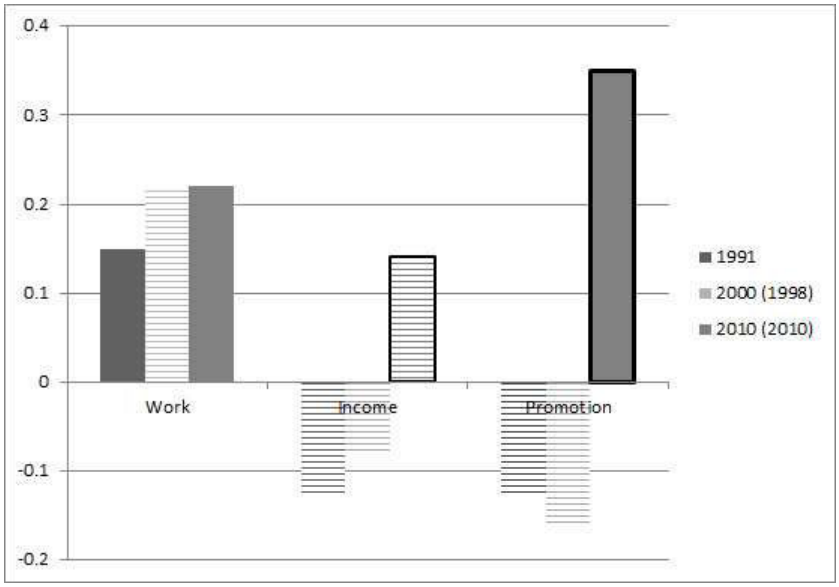
We focus on the full model only when we turn to the estimation of job attributes (the estimated coefficients are documented in Appendix-Table A.3). Overall, we find significant gender gaps in the preference for high income and promotion opportunities directly after reunification. According to Table 3, women in both parts of the country rate these job characteristics lower than men, on average. In the West, the gender gap in preferences appears to grow larger over time, as both high income and promotion opportunities become increasingly less important to women while remaining at more similar importance levels for men. The gender gaps in the East, however, are of lower magnitude and not statistically significant in 2010. East German women's more pronounced average preferences for both career attributes in 2010 counteract the lower average aspirations of West German women. As a result, we find a GiG emerging for both

Table 2: Preferences for work

VARIABLES	I	II	III	IV
East	0.610***	0.568***	0.554***	0.582***
	(0.057)	(0.056)	(0.058)	(0.127)
Female	-0.288***	-0.396***	-0.393***	-0.394***
	(0.057)	(0.060)	(0.060)	(0.065)
East x Female	0.156*	0.148**	0.149**	0.150**
	(0.075)	(0.068)	(0.066)	(0.067)
20001998	-0.121	0.072	0.053	0.077
	(0.083)	(0.088)	(0.090)	(0.104)
East x 1998	-0.154	-0.170	-0.159	-0.217
	(0.135)	(0.136)	(0.126)	(0.129)
Female x 1998	0.019	-0.032	-0.019	-0.018
	(0.155)	(0.156)	(0.156)	(0.158)
East x Female x 1998	0.046	0.089	0.070	0.068
	(0.180)	(0.173)	(0.170)	(0.172)
2012	-0.098	-0.075	-0.078	0.010
	(0.067)	(0.058)	(0.063)	(0.077)
East x 2012	-0.434***	-0.417***	-0.407***	-0.520***
	(0.085)	(0.074)	(0.073)	(0.088)
Female x 2012	0.226**	0.204**	0.198**	0.200**
	(0.083)	(0.084)	(0.080)	(0.084)
East x Female x 2012	0.074	0.067	0.070	0.070
	(0.119)	(0.119)	(0.108)	(0.119)
Constant	6.020***	2.860***	3.405***	3.773***
	(0.047)	(0.272)	(0.324)	(0.394)
Preference controls	NO	YES	YES	YES
Socio-dem. controls	NO	NO	YES	YES
Macro controls	NO	NO	NO	YES
Observations	5,165	5,141	5,141	5,141
R-squared	0.064	0.213	0.222	0.223

Note: Robust standard errors in parentheses (clustered at the federal state level). *** p<0.01, ** p<0.05, * p<0.1

Figure 2: Evolution of the GiG in preferences for work and career attributes



Note: Calculations of the GiG in preferences for work, income, and promotion are based on the coefficients from the full estimation model (Table 2 and A.3 in Appendix A). Striped bars indicate no joint F-test significance at conventional levels. Black edging indicates a significant change in the level of the GiG with respect to 1991.

high income and promotion. While the promotion GiG of 0.35 in 2010 is highly statistically significant in itself, the much smaller income GiG only shows a significant rise with respect to its 1991 level. In both cases, East German women, as opposed to those in West Germany, do not rate high income and promotion opportunities as less important than their male counterparts. This is especially remarkable since hardly any GiG existed around reunification (nor in the year 2000). As illustrated in Figure 2, it was in fact reversed (though not to statistically significant means), and turned out only afterward.

The development illustrated here exhibits a striking pattern: before the gender gaps in preferences for high income and promotion vanish in the East in 2010, they rise between 1991 and 2000. This is consistent with the observation that occupational sex segregation in East Germany increased further in the 1990s (and remained stable in the West) (Rosenfeld et al., 2004). Moreover, against the background of Hunt's (2002) finding that women had a disproportionately higher risk of losing their job in the years following reunification, it seems plausible that Eastern women at that time placed more value on having a job at all and found it less important whether it provided high income or good promotion opportunity.

In summary, these findings strongly point toward a lasting nurture effect, and do not seem to support the notion that the GDR policy forced East German women to participate in the labour force at a level that was somehow diametric to their "natural" preferences. Such a conclusion would require that the gender gaps in the East over the course of time move toward Western levels, which we do not observe. Instead, we see Western levels either slowly catching

up with the East, in the case of preferences for work, or, in the case of preferences for the career attributes income and promotion, even widening.

The surprising finding of a GiG in career preferences in 2010, where none existed in 1991, warrants further reflection. If it were a result of nurture, i.e., laid out by the political system of the GDR, why should we not expect to see it directly after reunification, why would it take 20 years to emerge? One interpretation might be that women, who were "nurtured" with a relatively high preference for work, could achieve a good level of integration into the GDR labour market without the actual need to compete for a job. The extensive legislation that intended to facilitate the reconciliation of work and family, granted them the opportunity to participate in the labour force at a rate almost equal to that of men. The same legislation, however, delegated a large share of family-related obligations exclusively into women's realm of responsibility. In the absence of this prescription under the "new" FRG law, yet nurtured with a high preference for work, women might prefer to invest more effort (in the sense of Becker, 1985) into pursuing a career. Moreover, under the conditions of the Western market economy, a "decent" form of labour force participation is no longer automatically granted to women, and is harder to maintain, particularly after entering parenthood. An increase in women's competitiveness might be a plausible reaction to defend their position in the working society when it is no longer guaranteed by the state.

A complementary explanation could follow from an application of the "learning models" proposed by Fogli and Veldkamp (2011) and Fernández (2013). The idea is that women make labour market decisions in a setting of incomplete information, which can thus be characterized by a learning process. In these models, if more women can be observed participating in the labour force, the information signal about the consequences of participating becomes less noisy to the individual female decision-maker. Taken one step further, this would imply that women in environments with higher female labour force participation do not only receive signals about whether to participate is desirable per se, but also learn which characteristics of a job are desirable. This notion can also plausibly explain why East German women, with a longer and more comprehensive collective experience of labour market integration compared to West German women, may have extended their "head start" in work preferences to career preferences.

5.2 How much nurture does it take? A cohort analysis

Having identified an overall nurture effect of the political system of the GDR on gender differences regarding work preferences, we are now interested in disentangling the sources more precisely: Does the GiG result from pure exposure to different regimes, and can we determine a critical length of exposure for a nurture effect to unfold? And how do work preferences that

Table 3: The gender gap in preferences for work and career attributes by region and year

	Work			Income			Promotion		
	1991	1998	2012	1991	2000	2010	1991	2000	2010
West									
m	6.09	6.00	6.03	5.34	**5.13**	5.17	5.45	5.42	5.33
f	5.69	5.59	**5.83**	5.27	**4.89**	**4.96**	5.38	5.28	**5.09**
f–m	-0.39***	-0.41***	**-0.19*** **	-0.06	**-0.24*** **	-0.21***	-0.07	-0.13	**-0.24*** **
East									
m	6.67	6.37	**6.09**	6.06	**5.68**	**5.51**	5.42	5.30	5.16
f	6.43	6.17	**6.11**	5.87	**5.36**	**5.44**	5.22	5.01	5.28
f–m	-0.24***	-0.19**	0.03	-0.20*	-0.32**	-0.07	-0.20***	-0.30*	**0.12**
GiG	0.15**	0.22	0.22**	-0.13	-0.07	**0.14**	-0.13*	-0.16	**0.35*** **

Note: Calculations of conditional means are based on coefficients from the full estimation model; see Table 2 and A.3 in Appendix A.
Rows labelled "m" and "f" show, respectively, male and female conditional mean preference levels. Rows labelled "f–m" show the gender gaps in preferences, and the last row, labelled "GiG", contains the regional gap in the gender gap.
Stars indicate joint F-test significance at the *** 1%, ** 5%, and * 10% level. Bold figures indicate joint F-test significance (below 10%) for within-group changes over time with respect to the 1991 value.

have been shaped in the East German socialist system with differing intensity, behave when confronted with the conditions of the West German market economy?

We exploit our sample population's exogenous variation in age to approach these questions since it allows us to compare different subgroups that naturally vary in treatment intensity. East German cohorts differ by length of exposure to the GDR system, but also with respect to the point in time of their life when they were hit by the 'shock of reunification' and had to adapt to the dramatic changes that East German institutions and markets were undergoing in the subsequent years. While the youngest respondents (from age 18 in 1991) in our sample had only experienced their childhood and adolescence in the GDR and were about to commence their work lives in reunified Germany, the oldest (above age 43 in 1991) had already been employed for a substantial number of years in the socialist system.

We run separate regressions for three different birth cohorts, defined in a manner to achieve a reasonable degree of variation in their experiences with the GDR regime. For our first group, we choose those who were born and raised in the GDR and were impacted by reunification in the middle of their working lives (the eldest cohort, born 1948-61). This cohort has consciously experienced both regimes and arguably might have faced the greatest challenges in adapting to the new labour markets and institutions. For the second group, we examine those who experienced the GDR mainly during childhood and adolescence but spent most of their work life in reunified Germany with Western labour market institutions (intermediate cohort, born 1962-73). Hence for this group, the transition took place quite early in life and adaptation to

the Western system may have been less challenging. Finally, we look at the youngest cohort (born 1974-80), i.e., those without any direct employment experience within the GDR or its labour market (being 16 years of age or younger at the time of reunification), thus having only experienced the new West German institutions in their working life. Over the full observation period from 1991 to 2012, we are able to observe the intermediate cohort (1962-73) at three points in time – 1991, 1998/2000, and 2010/2012. The oldest and youngest cohorts are only observed twice, as they either already hit the age limit of 50 years in 2012 (oldest cohort) or were still too young to be surveyed (and for the labour market) in 1991 (youngest cohort).

Table 4 reveals very different gender dynamics in preferences for work in East and West Germany across age groups, which result in very different GiGs over time. We observe a persistent GiG for the oldest cohort throughout the 1990s, which is due to significantly more pronounced differences between male and female preferences in the West. Since these diverge while the preferences of East German men and women further converge until 1998, the regional GiG even widens a little over time for this cohort. The second cohort of 1962-1973-borns (who experienced reunification in their 20s) heads into unified Germany (and into their working life) without displaying any gap in the gap in 1991, due to similar gender gaps in the East and West, but then develops a statistically significant one over the course of time. Although all groups share a common trend of work losing importance, by the year 2012, the GiG has grown to a similar size (.49) as that of the older cohort 14 years earlier (and hence same-aged), for precisely the same reason: gender preferences converge in the East – predominantly due to the men lowering their valuation – while they diverge even further in the West, predominantly due to the women.

In contrast, the youngest cohort shows a very peculiar pattern. In 1998, when they are in their early twenties and first observed, West German respondents hardly exhibit any gendered preferences, while the East German women appear to care much less for work than men. Thus, we find a reverse GiG that is remarkable in size (though not in statistical significance). This finding could result from the transition shock. It is important to note that this youngest group is the most likely to be highly selected: Hunt (2006) shows that in 1990-2000, East German women aged 18-25 were 89% more likely than young men to emigrate to the West. We might thus expect that the gender difference in work preferences in the West might be biased toward zero, while it could be upward biased in the East.[16] In another article, Hunt (2002) also shows that in the years following reunification, women in East Germany were disproportionately affected by unemployment, and Witte and Wagner (1995) demonstrate that these women, as opposed to the general trend of sharply declining fertility in the East, showed a *higher* likelihood

[16]Unfortunately, in 1998, the ALLBUS did not include the region where respondents lived throughout their adolescence; thus, we rely on residence information at the time of the interview for this cross-section.

Table 4: Cohort analysis: The gender gap in preferences for work and job attributes

		Work				Income			Promotion		
		1991	**1998**	**2012**		**1991**	**2000**	**2010**	**1991**	**2000**	**2010**
1948-61 (N=1655)		**30-43y.**	**37-50y.**	**51-64y.**	(N=1861)	**30-43y.**	**39-52y.**	**49-62y.**	**30-43y.**	**39-52y.**	**49-62y.**
West	m	6.10	6.00	—		5.36	5.17	—	5.34	5.23	—
	f	5.60	5.44	—		5.24	**4.87**	—	5.27	**5.24**	—
	f–m	-0.51***	-0.55***	—		-0.12	-0.29***	—	-0.06	0.01	—
East	m	6.64	6.27	—		6.05	5.78	—	5.38	5.22	—
	f	6.51	6.20	—		5.86	**5.47**	—	5.22	5.20	—
	f–m	-0.14	-0.07	—		-0.20***	-0.31**	—	-0.17***	**-0.01**	—
GiG (E–W)		0.37***	0.48**	—		-0.08	-0.02	—	-0.10	-0.02	—
1962-73 (N=2027)		**18-29y.**	**25-36y.**	**39-50y.**	(N=1985)	**18-29y.**	**27-38y.**	**37-48y.**	**18-29y.**	**27-38y.**	**37-48y.**
West	m	6.15	5.98	6.11		5.21	**5.15**	5.16	5.59	5.56	**5.16**
	f	5.83	5.53	5.62		5.21	4.93	**4.97**	5.50	5.35	**4.93**
	f–m	-0.31***	-0.46***	-0.49***		-0.00	**-0.22*** **	**-0.19*** **	-0.09	-0.22**	-0.23***
East	m	6.59	6.39	**6.02**		5.99	5.73	5.55	5.50	5.37	**4.86**
	f	6.29	6.19	6.02		5.90	5.55	5.58	5.35	**4.97**	**5.00**
	f–m	-0.30***	-0.21**	**0.00**		-0.09	-0.18	0.03	-0.15	-0.40	0.14
GiG (E–W)		0.02	0.25	**0.49*** **		-0.09	0.05	**0.22**	-0.06	-0.18**	**0.36*** **
1974-80 (N=492)		**11-17y.**	**18-24y.**	**32-38y.**	(N=649)	**11-17y.**	**20-26y.**	**30-36y.**	**11-17y.**	**20-26y.**	**30-36y.**
West	m	—	5.80	5.62		—	5.74	**5.50**	—	5.43	5.08
	f	—	5.92	5.67		—	5.56	**5.41**	—	5.17	5.06
	f–m	—	0.12	0.06		—	-0.18**	-0.1	—	-0.26	-0.02
East	m	—	6.19	5.82		—	6.20	**5.64**	—	5.23	5.00
	f	—	5.66	5.80		—	5.50	6.06	—	4.64	5.12
	f–m	—	-0.53*	-0.02		—	-0.70***	**0.42** **	—	-0.59	0.12***
GiG (E–W)		—	-0.65*	-0.07		—	-0.52**	**0.52** **	—	-0.33	0.14

Note: Calculations based on coefficients from the full estimation model; see Tables A.4 and A.5 in Appendix A. The explanations from Table 3 apply.

of having children.

Age at first birth also differed considerably between East and West German women at the end of the 1990s. As a result, the number of children is higher for the early twenties in the East than in the West; female employment rates also differ atypically at that age. A sensitivity analysis including these variables in the regression consequently yields a smaller GiG. Additional support for this family-timing explanation is provided by the subsequent responses of this cohort. When we observe them in their thirties in 2012, 14 years later, the East gender gap has reduced to essentially zero, as has the West gender gap. As a result, the GiG has vanished as well.

In an attempt to identify the "critical age" or the decisive length of exposure to the GDR for nurture to come into effect, we also analyse the GiG in preferences for work in the 2012 cross-section separately for smaller age groups (not displayed). Since the effect is detectable only for those who are 38 years old and older in 2012 (that is, at least 16 at the time of reunification or 15 in 1989 when the Berlin Wall fell), we conclude that individuals must have spent at least 15 years of their life in the GDR in order to be influenced by a long-lasting nurture effect. The pronounced GiG for the older cohort and non-detectable GiG for the younger cohort, which has not received the critical level of GDR nurture, makes a causal link even more plausible. Although the differences in pre-separation non-marital fertility levels between East and West Germany documented by Klüsener and Goldstein (2014)originally posed a threat to our identification strategy, they strengthen our findings in light of the cohort analysis presented here: While the differences in non-marital fertility levels still persist among younger cohorts today (and are expected to take a long period of time to level out), our analysis demonstrates that the younger cohorts are no longer affected by a GiG. We can thus conclude that the two phenomena are likely independent.

The cohort analyses of the preferences for career job attributes reveal a greater variation. The oldest cohort of 1948-1961-borns (who had spent a sizeable portion of their working lives in the GDR and FRG, respectively) heads into unified Germany without a GiG, for neither high income, nor promotion. By 2000, the gender gaps in income preferences have widened in both halves of Germany, so that the GiG remains zero. The second cohort starts off withno gap in the gap in 1991, but then develops a statistically significant one for promotion opportunities – and shows a significant change in the GiG for income over the course of time. Again, the East gender gap, if any, closes while the West gap grows with age. In view of the virtually non-existent gender gaps for both attributes in the East, this emergence is solely due to a divergence in the preferences of men and women in West Germany, with women rating high income and promotion opportunities less important than men as soon as they enter family

formation age. As for the preferences for work, these results suggest a life cycle- or age-related pattern of gendered preferences grounded in West German society – in spite of formally identical institutions in the post-reunification period, such as taxes, labour, and family policy, West German women tend to detach from the labour market after entering marriage and parenthood, a pattern that does not appear within the borders of the former GDR.

For the youngest cohort, we observe a similar peculiarity as before (with the importance of work): a statistically significant negative GiG among the 20- to 26-year-olds in 2000 reverses into a positive one of equal size 10 years later. Here the reason lies in a complete convergence of female and male preferences in the West but a preference reversal in the East: In their thirties, East German men find high income much less important than they did in 2000 when they were in their twenties, and much less than their female counterparts now do in 2010.

The decisive number of years of exposure to the GDR with regard to developing a GiG for career attributes can only be deducted for promotion opportunities. Here, the effect is only noticeable for those who are 16 and older at the time of reunification. Just as with the importance of work, individuals must have spent at least 15 years of their life in the GDR in order to be affected by this long-lasting nurture effect. The preference for high income follows a different dynamic, though. For this career attribute, young West German men's and women's preferences are much more alike, whereas East German women seem to overtake the men.

6 Causality explorations

So far, our analyses provide evidence that nurture, deployed by political regimes, can substantially influence gender differences in preferences. However, they do not necessarily exclude alternative channels through which the effect might be driven. In this section, we explore competing explanations for regional differences in the gender gaps in work preferences, including selective migration and the possibility that a specific Eastern federal state might be driving the results.

6.1 Youth vs. residence and mover analysis

Our first objective in this section is to rule out the possibility that selection issues resulting from East-West migration drive our results. Right after the fall of the wall (and via Czechoslovakia and Hungary even before that), a substantial labour migration from East to West began. The migrants were highly selective in terms of education level, gender, and, presumably, labour market attachment. If highly educated East German women with an over-proportional labour market attachment (for the GDR) comprise a substantial portion of our West German residence

sample, our results for the East-West gaps are likely to be underestimated. To examine this, we take advantage of the fact that, for some of our cross-sections (1991 and 2010/2012), ALLBUS respondents provide information on the federal state in which they lived when they were 15 years old. We perform analyses, first based on youth in the East, rather than current residence for the full sample of East and West Germans, and second, for the restricted sample of those presently living in a West German Bundesland, i.e., respondents who are under the influence of West German macro-conditions at the time of the interview but were socialised in East Germany.

Columns 1 and 2 of Table 5 serve as the reference for our main analyses presented in Section 4; here we use, as before, the current residence to sort respondents into the East and West categories.[17] In columns 3 and 4, we sort them according to the region they lived in during their adolescence. Finally, for the mover, or migrant, analysis in columns 5 and 6, we restrict our sample to those respondents who live in the West at the time of the interview, i.e., by construction must have migrated to the West if they report having spent their youth in an Eastern federal state – and thus examine the gender gaps in preferences between "lifelong" West Germans and East-West migrants. Since they have been exposed to the socialist system and its institutions during a rather formative period of their lives, we expect to observe greater preference gaps between this group of migrants and the lifelong West sample.

The composite effects in Table 5 show the gender gaps in preferences for work and career job attributes, respectively, by region and year, and reveal the resulting GiGs over time. The results support our previous findings. The selection bias within the East German population seems partly negligible, as the gender gaps as well as the gaps in the gaps with respect to East residence and East adolescence are very similar. The finding of an emerging GiG in income and promotion aspirations is robust to the definition of the East dummy, however, the persistence of the GiG in preferences for work appears somewhat weaker among the respondents sorted by region of youth. Compared to the original residency sample, the gap in the gap in 2012 is no longer statistically significant and is smaller in magnitude (though still of similar size as the original one in 1991). This is likely a result of elevated migration flows within the country in more recent years, allowing the respective population samples to intermix and individuals to self-select, possibly also with regard to their work and family model preferences, so that the West gender gap is smaller and the positive Eastern gap is larger.

Within the West German population, a selection bias due to the inflow of employment-oriented and likewise income- and career-oriented female migrants from East Germany can be traced in the year 1991. As a result, we see reverse gaps between female and male East

[17] Note that the estimated coefficients differ slightly from those presented in Table 2 since, for the sake of comparability, we re-estimated the model excluding the 1998 cross section.

migrants (comparing the positive GG East in the column E-W Migrants), with the moving women being much more work-oriented than the men. The resulting 1991-GiG in preferences for work amounts to a full Likert-scale grade (1.016). The fact that it is much larger than the one between our East and West residence samples (0.154) suggests the latter to be a lower bound estimate of the true effect. With a changing composition of migrants, the starting GiG in preferences for work disappears statistically between 1991 and 2012 (when the point estimate even shows a reversal to -0.317). The East-West migrants' GiGs with respect to income and promotion are similarly affected by migration selection, though to a lower extent.

Table 5: Youth vs. residency: The gender gap in preferences for work by region and year

	East Residency		**East Adolescence**		**E-W Migrants**	
Work	N=3344		N=3509		N=1947	
	1991	**2012**	**1991**	**2012**	**1991**	**2012**
GG West	-0.361***	-0.151***	-0.376***	-0.116*	-0.396***	-0.122**
GG East	-0.207***	0.09	-0.199***	0.045	0.62**	-0.439
GiG (E–W)	0.154*	0.241***	0.177**	0.161	1.016***	-0.317
Income	N=3244		N=3098		N=1773	
	1991	**2010**	**1991**	**2010**	**1991**	**2010**
GG West	-0.065	-0.215***	-0.120	-0.212***	-0.105	-0.218***
GG East	-0.187*	-0.081	-0.163*	-0.059	0.384	0.070
GiG (E–W)	-0.122	0.134	-0.043	0.153	0.489	0.288
Promotion	N=3244		N=3098		N=1776	
	1991	**2010**	**1991**	**2010**	**1991**	**2010**
GG West	-0.087	-0.231***	-0.116*	-0.258***	-0.121*	-0.251***
GG East	-0.237***	0.122	-0.229***	0.108	0.283	-0.022
GiG (E–W)	-0.150*	0.353***	-0.113	0.366***	0.404	0.229

Note: Calculations based on coefficients from the full model (see Table A.6 and A.7, Appendix A), using the 1991 and 2012 cross-sections.
In columns 1 and 2, we use 'current residency' to sort respondents into the East and West categories, and for columns 3 and 4, we replicate this procedure but sort respondents according to whether they spent their youth in an Eastern or Western federal state (this information is not available in the ALLBUS 1998 cross-section). For columns 5 and 6, we restrict our sample to those respondents who live in the West at the time of the interview, i.e., those who migrated to the West if they spent their youth in an Eastern federal state.
Stars indicate joint F-test significance at the *** 1%, ** 5%, and *10% level. Bold figures indicate joint F-test significance (below 10%) for within-group changes over time with respect to the 1991 value.

6.2 Heterogeneity across Eastern states

Another concern we want to address is whether our estimated "East effect" on gender differences in preferences, rather than representing a general East German particularity, may in fact be due to only one specific Eastern federal state. Despite controlling for the heterogeneous environments with our set of macro control variables, the effect we observe may be driven by some environmental differences the respondents are exposed to in a particular GDR state

rather than by general exposure to a different political regime. Naturally, the GDR states were not homogeneous in terms of industry structure, economic power, etc. – but neither were the West German states. The GDR regions also varied in distance to the West German border and by reception of respective radio and TV channels. Variable exposure to West German programmes also implies a natural variation in exposure to respective norms that may contribute to preference formation. A study by Hyll and Schneider (2013), for instance, indicates that TV consumption in the former GDR was positively correlated with material aspirations. We approach this issue by applying the same regression analysis as before but differentiating the GiG for the five former GDR states. If the effect is distributed homogeneously across federal states, we should not observe significant coefficients for the individual Eastern federal states' interaction dummies.

Table 6 shows our standard regression with this particular modification. Including separate dummies for all Eastern federal states, except Brandenburg, leaves the effect for the latter one to be picked up by the East dummy. The West German states constitute the reference group as before. As we can see, the other Eastern federal states do not deviate from the "Brandenburgian" East effect with respect to gender differences in preferences for work in 1991. In terms of the preferences for career job attributes, however, we see that the GiG in Saxony differs significantly from the ones (not) detected in other Eastern states, with Saxonian women expressing a much lower taste for high income and promotion compared to men than in the other states. What might seem puzzling at first glance could be explained with a peculiarity of the Western media broadcasting: In some regions of Saxony, West German radio and TV channels could not be received; the areas were consequently known as the "valley of the innocent" (*Tal der Ahnungslosen*). If exposure to Western media indeed contributed to encouraging materialistic aspirations, then a lack thereof could also be responsible for a larger gender gap in preferences for high income and promotion. In 2010/2012 our results are very similar to what we found in 1991 and largely in line with the effects we found for the aggregated East population, with the exception of East Berlin, where, not surprisingly, the gender gaps in preferences differ quite markedly.

7 Discussion & conclusion

In summary, we find that women, on average, differ systematically from men in their preferences for work, and for the career attributes high income and promotion opportunity. However, the gender difference in preferences for work over the whole observation period is much smaller in the East than in the West. That is, a regional gap in the gender gap (GiG) existed around

Table 6: OLS estimates for the gap in the gender gap, by federal state in which respondents resided during adolescence

Female dummy interacted with:		**Work**	**Income**	**Promotion**
1991	East	0.154**	0.020	0.016
		(0.067)	(0.084)	(0.113)
	Berlin (East)	-0.081	0.075	-0.110
		(0.145)	(0.104)	(0.074)
	Mecklenburg Pomerania	-0.009	0.088	-0.046
		(0.086)	(0.173)	(0.199)
	Saxony-Anhalt	0.105	0.084	0.064
		(0.084)	(0.127)	(0.160)
	Saxony	-0.037	-0.387***	-0.324***
		(0.045)	(0.112)	(0.110)
	Thuringia	0.107	-0.132	-0.302
		(0.110)	(0.203)	(0.184)
2012/10	East	0.168	0.295	0.314*
		(0.170)	(0.214)	(0.174)
	Berlin (East)	-0.443*	0.421**	1.074***
		(0.234)	(0.152)	(0.105)
	Saxony-Anhalt	-0.233	0.031	0.075
		(0.168)	(0.232)	(0.157)
	Saxony	-0.144	-0.023	0.154
		(0.128)	(0.230)	(0.225)
	Mecklenburg Pomerania	-0.224	-0.341	0.295
		(0.192)	(0.230)	(0.185)
	Thuringia	-0.230	0.021	0.211
		(0.201)	(0.210)	(0.226)
	Constant	YES	YES	YES
	Preference Controls	YES	YES	YES
	Socio-dem. Controls	YES	YES	YES
	Macro controls	YES	YES	YES
	Observations	3,344	3,098	3,098
	R-squared	0.173	0.168	0.130

Note: Estimates from the full model including the 1991 and 2010/12 cross section, which, in addition to the single 'East dummy' and its interaction with female, includes separate dummies for all Eastern federal states (except for Brandenburg, which is left as the reference) and their interaction with "female".
Robust standard errors in parentheses, clustered at the federal state level. Significance levels are indicated by *** $p<0.01$, ** $p<0.05$, and * $p<0.1$.

the time of reunification and still persists in the year 2012. In contrast, a GiG in preferences for career attributes cannot be observed at the time of reunification but emerges later on, indicating that gender-specific preferences in East and West Germany, if any, diverge after reunification.

Although these findings support the notion that political regimes can influence gender differences in preferences substantially, they do not necessarily exclude alternative explanations. For example, differences in the importance of work and the ranking of job attributes could be driven by structural differences in the East and West German labour markets or institutions closely linked to them. We therefore included an exhaustive set of covariates that allow us to flexibly control for these differences at the federal state level. We show that our findings remain robust to the inclusion of these observables.

An investigation of regional differences before separation lends support to the notion that the differences in the gender gaps are most likely causal to the natural experiment of exposure to differing political and social systems. Even if historically different non-marital fertility may hint at potential differences in preferences for work and family pre-dating the 1945 division, this concern can be mitigated by our cohort analysis. It reveals that age at exposure and length of exposure are important determinants of the size of the effect: at the time of reunification a GiG in preferences for work existed among the 1948 – 1961 labour market cohort, but for the younger cohorts, it did not evolve until later. The GiG in preferences for promotion opportunities grew for all those who experienced their full adolescence and first venture into the labour market in the GDR. It seems to widen with age, since East German women and men now (2012) and at any age exhibit similar preferences for work and promotion opportunities, whereas the gender gap in West Germany appears to either remain stable or increase in family formation age. In particular, work and promotion preferences of those who were younger than 15 years at the time the wall fell do not seem to be influenced by a nurture effect of the GDR regime in 2012.

Comparing the preferences in East and West from older to younger cohorts suggests that, after reunification, both halves of the country exhibited essentially the same overall pattern of gender convergence. The socialist system with its "Leitbild", and hence longer and more comprehensive collective experience of a working woman, just seems to have had an accelerating impact on this trend. With respect to gender equality in work preferences, East Germans indeed appear to have had a head start into modernism, prompted by the political agenda, and had much earlier commenced a development that would begin later in West Germany. East German women have expanded this head-start, it seems, from work preferences to career preferences after reunification.

Our findings contribute to a better understanding of how gender differences in preferences

evolve and align with real (labour) market outcomes observed in East and West Germany. In dealing with both external and internal validity issues, our analysis of stated preference dynamics with regional variation not only complements the experimental literature on gender differences in preferences. It goes beyond the existing experimental evidence in providing the real-world equivalents of competition or altruistic and other-regarding preferences and demonstrating the power of the manipulation of preferences in a natural experiment setting, thereby making an even stronger case for the nurture hypothesis than previous studies. First, we studied two societies that share a common past and cultural identity up to an exogenously imposed separation and are thus characterised by a much shorter evolutionary distance than, e.g., the societies studied in Gneezy et al. (2009). Second, our cohort analysis enabled us to exploit a variation in treatment intensity (namely, length of exposure to the GDR) that can hardly be precipitated in a lab or field experiment.

Evidence on the mechanisms that determine gender differences in preferences, and thereby in economic decision-making, is particularly relevant for the design of equalizing policies. Understanding whether the *nature* or the *nurture* component has a stronger influence on shaping gendered preferences may lead to different strategies to effectively address gender-specific inequalities in labour market outcomes, e.g., reducing occupational segregation vs. reducing unequal pay resulting from it. Our finding that preferences for work and career-oriented job attributes vary systematically with the political and institutional setting during one's youth, at the height of preference formation, underlines the particular impact of nurture in this context.

References

Adler, M. A. and A. Brayfield (1997). Women's Work Values in Unified Germany Regional Differences as Remnants of the Past. *Work and Occupations 24*(2), 245–266.

Alesina, A. and N. Fuchs-Schündeln (2007). Good-bye Lenin (or not?): The Effect of Communism on People's Preferences. *American Economic Review 97*(4), 1507–1521.

Alesina, A., P. Giuliano, and N. Nunn (2013). On the origins of gender roles: Women and the plough. *The Quarterly Journal of Economics 128*(2), 469–530.

Bauernschuster, S. and H. Rainer (2011). Political regimes and the family: how sex-role attitudes continue to differ in reunified Germany. *Journal of Population Economics 25*(1), 5–27.

Beblo, M., A. Heinze, and E. Wolf (2008). Entwicklung der beruflichen Segregation von Männern und Frauen zwischen 1996 und 2005. Eine Bestandsaufnahme auf betrieblicher Ebene (Occupational segregation of men and women between 1996 and 2005 – an analysis at the establishment level). *Zeitschrift für ArbeitsmarktForschung 41*(2), 3.

Becker, G. S. (1985). Human capital, effort, and the sexual division of labor. *Journal of Labor Economics*, S33–S58.

Becker, S. O., F. Cinnirella, E. Hornung, and L. Woessmann (2012). iPEHD: The ifo Prussian Economic History Database. Technical report, CESifo Working Paper: Economics of Education.

Becker, S. O., F. Cinnirella, and L. Woessmann (2013). Does women's education affect fertility? Evidence from pre-demographic transition Prussia. *European Review of Economic History 17*(1), 24–44.

Becker, S. O. and L. Woessmann (2008). Luther and the Girls: Religious Denomination and the Female Education Gap in Nineteenth-century Prussia. *The Scandinavian Journal of Economics 110*(4), 777–805.

Bertrand, M. (2011). New perspectives on gender. *Handbook of labor economics 4*, 1543–1590.

Booth, A. and P. Nolen (2012a). Choosing to compete: How different are girls and boys? *Journal of Economic Behavior & Organization 81*(2), 542–555.

Booth, A. L. and P. Nolen (2012b). Gender differences in risk behaviour: does nurture matter? *The Economic Journal 122*(558), F56–F78.

Busch, A. (2013). Die Geschlechtersegregation beim Berufseinstieg – Berufswerte und ihr Erklärungsbeitrag für die geschlechtstypische Berufswahl (Occupational sex segregation at career entry: Work values and their explanatory power for gender typical occupational choices). *Berliner Journal für Soziologie 23*(2), 145–179.

Cooke, L. P. (2006). Policy, preferences, and patriarchy: the division of domestic labor in East Germany, West Germany, and the United States. *Social Politics: International Studies in Gender, State & Society 13*(1), 117–143.

Croson, R. and U. Gneezy (2009). Gender differences in preferences. *Journal of Economic Literature*, 448–474.

Duggan, L. (1995). Restacking the deck: Family policy and women's fall-back position in Germany before and after unification. *Feminist Economics 1*(1), 175–194.

Ekerdt, D. J. and S. DeViney (1993). Evidence for a preretirement process among older male workers. *Journal of Gerontology 48*(2), S35–S43.

Ekerdt, D. J., K. Kosloski, and S. DeViney (2000). The normative anticipation of retirement by older workers. *Research on Aging 22*(1), 3–22.

Fassmann, H. and R. Munz (1994). European east-west migration, 1945-1992. *International Migration Review*, 520–538.

Fernández, R. (2013). Cultural change as learning: The evolution of female labor force participation over a century. *The American Economic Review 103*(1), 472–500.

Fogli, A. and L. Veldkamp (2011). Nature or nurture? Learning and the geography of female labor force participation. *Econometrica 79*(4), 1103–1138.

Fortin, N. M. (2005). Gender role attitudes and the labour-market outcomes of women across OECD countries. *Oxford Review of Economic Policy 21*(3), 416–438.

Fortin, N. M. (2008). The gender wage gap among young adults in the united states the importance of money versus people. *Journal of Human Resources 43*(4), 884–918.

Friehe, T. and M. Mechtel (2014). Conspicuous consumption and political regimes: Evidence from east and west germany. *European Economic Review*.

Gerhard, U. (1992). German women and the social costs of unification. *German Politics and Society 24*(25), 1991–92.

German Federal Labour Bureau (2013). Arbeitsmarktberichterstattung: Der Arbeitsmarkt in Deutschland, Frauen und Männer am Arbeitsmarkt im Jahr 2013 (Labour market report: The labour market in Germany, women and men in the labour market in the year 2013). Nürnberg. https://statistik.arbeitsagentur.de/Statischer-Content/Arbeitsmarktberichte/Personengruppen/generische-Publikationen/Frauen-Maenner-Arbeitsmarkt-2014-07.pdf.

German Statistical Office (2014). Gender pay gap. Technical report. https://www.destatis.de/EN/FactsFigures/Indicators/QualityEmployment/Dimension1.html.

Gneezy, U., K. L. Leonard, and J. A. List (2009). Gender Differences in Competition: Evidence from a Matrilineal and a Patriarchal Society. *Econometrica 77*(5), 1637–1664.

Goldin, C. (1995). The U-Shaped Female Labor Force Function in Economic Development and Economic History. In T. Schultz (Ed.), *Investment in Women's Human Capital and Economic Development*, pp. 61–90. University of Chicago Press.

Helson, R. and C. J. Soto (2005). Up and down in middle age: monotonic and nonmonotonic changes in roles, status, and personality. *Journal of Personality and Social Psychology 89*(2), 194.

Holst, E. and J. Schupp (2001). Erwerbsverhalten von Frauen: trotz Annäherung immer noch deutliche Unterschiede zwischen Ost und West. *DIW Wochenbericht 68*(42), 648–658.

Holst, E. and A. Wieber (2014). Bei der Erwerbstätigkeit der Frauen liegt Ostdeutschland vorn. *DIW Wochenbericht 81*(40), 967–975.

Humlum, M. K., K. J. Kleinjans, and H. S. Nielsen (2012). An economic analysis of identity and career choice. *Economic Inquiry 50*(1), 39–61.

Hunt, J. (2002). The Transition in East Germany: When Is a Ten-Point Fall in the Gender Wage Gap Bad News? *Journal of Labor Economics 20*(1), pp. 148–169.

Hunt, J. (2006). Staunching emigration from East Germany: Age and the determinants of migration. *Journal of the European Economic Association 4*(5), 1014–1037.

Hyll, W. and L. Schneider (2013). The causal effect of watching TV on material aspirations: Evidence from the "valley of the innocent". *Journal of Economic Behavior & Organization 86*, 37–51.

Kalleberg, A. L. and K. A. Loscocco (1983). Aging, values, and rewards: Explaining age differences in job satisfaction. *American Sociological Review*, 78–90.

Klüsener, S. and J. R. Goldstein (2014). A long-standing demographic East–West divide in Germany. *Population, Space and Place*. DOI: 10.1002/psp.1870.

Krueger, A. B. and J.-S. Pischke (1995). A Comparative Ananlysis of East and West German Labor Markets: Before and After Unification. In R. B. Freeman and L. F. Katz (Eds.), *Differences and Changes in Wage Structures*, pp. 405–446.

Kuhn, A. (2013). Inequality perceptions, distributional norms, and redistributive preferences in East and West Germany. *German Economic Review 14*(4), 483–499.

Nelson, J. A. (2014). Are women really more risk-averse than men? A re-analysis of the literature using expanded methods. *Journal of Economic Surveys*.

Ostner, I. (1993). Slow motion: women, work and the family in Germany. In J. Lewis (Ed.), *Women and social policies in Europe: Work, family and the state*, pp. 110–12. Edward Elgar Publishing Ltd.

Pollmann-Schult, M. (2009). Geschlechterunterschiede in den Arbeitswerten: eine Analyse für die alten Bundesländer 1980–2000 (Gender differences in job values: an analysis for western Germany 1980-2000). *Zeitschrift für Arbeitsmarktforschung 42*(2), 140–154.

Rainer, H. and T. Siedler (2009). Does democracy foster trust? *Journal of Comparative Economics 37*(2), 251–269.

Rosenfeld, R. A. and H. Trappe (2002). Occupational sex segregation in state socialist and market economies: levels, patterns, and change in East and West Germany, 1980s and 1998. *Research in Social Stratification and Mobility 19*, 231–267.

Rosenfeld, R. A., H. Trappe, and J. C. Gornick (2004). Gender and Work in Germany: Before and after Reunification. *Annual Review of Sociology 30*, pp. 103–124.

Terwey, M. (2000). ALLBUS: a German general social survey. *Schmollers Jahrbuch 120*(151), 158.

Torgler, B. (2003). Does culture matter? Tax morale in an East-West-German comparison. *FinanzArchiv: Public Finance Analysis 59*(4), 504–528.

Witte, J. and G. Wagner (1995). Effects of employment on east german fertility after unification. In F. t. E. Birg H (Ed.), *Abhandlungen des Demographischen Symposiums des Instituts für Bevölkerungsforschung und Sozialpolitik (IBS-Materialien) Band*, Volume 40, pp. 233–252.

Zhan, C. (2015). Money vs. prestige: Cultural attitudes and occupational choices. *Labour Economics 32*, 44–56.

A Appendix

Figure A.1: Geographical overlap of Prussian counties within the contemporary German borders

Table A.1: Descriptive statistics for preference measures for work and other aspects of life

Variable[a]	**n**	μ	σ
Job and work	5165	6.06	1.22
Own family and children	5166	6.28	1.4
Leisure time and relaxation	5167	5.78	1.22
Friends and acquaintances	5165	5.72	1.18
Relatives	5165	5.1	1.52
Relative importance of work	5165	0.274	0.98

Note: We use the first five items that capture respondents' absolute valuation of different aspects of life to construct the preference measure for work as described in section 4.2.

[a]Question: The cards here list various spheres of life. We would like to know how important each of these spheres of life is for you.

Table A.2: Descriptive statistics for preference measures for job characteristics

Variable[a]	**n**	μ	σ
Income	5279	5.35	1.27
Promotion	5276	5.29	1.31
Interesting work	5278	6.18	1.03
Work independently	5280	5.98	1.15
Help others	5277	5.22	1.47
Useful to society	5270	5.06	1.51
Relative importance of income	5279	-0.196	1.28
Relative importance of promotion	5276	-0.268	1.21

Note: We use the first six items that capture respondents' absolute valuation of different job characteristics to construct the last two preference measures for income and promotion as described in section 4.2.

[a]Question: On these cards there are various aspects of the world of work and careers. How important to you personally are these job characteristics?

Table A.3: Preferences for career job attributes – Full model

VARIABLES	income	promotion
East	0.727***	-0.033
	(0.142)	(0.123)
Female	-0.064	-0.066
	(0.067)	(0.058)
East x Female	-0.132	-0.129*
	(0.106)	(0.071)
2000	-0.183***	0.003
	(0.050)	(0.072)
East x 2000	-0.178	-0.080
	(0.167)	(0.176)
Female x 2000	-0.177*	-0.068
	(0.084)	(0.094)
East x Female X 2000	0.057	-0.033
	(0.151)	(0.172)
2010	-0.031	-0.017
	(0.077)	(0.087)
East x 2010	-0.390***	-0.130
	(0.118)	(0.115)
Female x 2010	-0.146	-0.170**
	(0.098)	(0.076)
East x Female x 2010	0.276**	0.481***
	(0.128)	(0.140)
Constant	3.871***	3.294***
	(0.399)	(0.319)
Preference Controls	YES	YES
Socio-dem. Controls	YES	YES
Macro controls	YES	YES
Observations	5,259	5,256
R-squared	0.156	0.144

Note: Robust standard errors in parentheses (clustered at the federal state level). *** p<0.01, ** p<0.05, * p<0.1.

Table A.4: Cohort Analysis: Gender gap in preferences for work by region and year

VARIABLES	1948–1961	1962–1973	1974–1980
East	0.225	0.131	0.277
	(0.161)	(0.100)	(0.371)
Female	-0.589***	-0.274***	0.042
	(0.082)	(0.063)	(0.170)
East x Female	0.376***	0.040	-0.553*
	(0.105)	(0.089)	(0.277)
1998	0.026	0.163	
	(0.129)	(0.132)	
East x 1998	-0.102	0.051	
	(0.183)	(0.118)	
Female x 1998	0.023	-0.230*	
	(0.185)	(0.121)	
East x Female x 1998	0.065	0.219	
	(0.233)	(0.152)	
2012		-0.148	0.012
		(0.140)	(0.436)
East x 2012		-0.308**	-0.213
		(0.108)	(0.349)
Female x 2012		-0.215**	-0.152
		(0.077)	(0.287)
East x Female x 2012		0.336**	0.647
		(0.137)	(0.545)
Constant	0.580	1.069*	-2.287*
	(1.077)	(0.512)	(1.274)
Indiv. controls	YES	YES	YES
Macro controls	YES	YES	YES
Observations	1,670	2,035	492
R-squared	0.110	0.076	0.060
	0.077	0.060	

Note: Estimates from the full model, estimated separately for each of the three cohorts.
Robust standard errors in parentheses, clustered at the federal state level. Significance levels are indicated by *** p<0.01, ** p<0.05, * p<0.1.

Table A.5: Cohort Analysis: The gender gap in preferences for career job attributes by region and year

	Income			Promotion		
VARIABLES	1948–1961	1962–1973	1974–1980	1948–1961	1962–1973	1974–1980
East	0.562***	0.689***	0.344	-0.238	-0.330*	-0.465
	(0.148)	(0.192)	(0.457)	(0.168)	(0.157)	(0.314)
Female	-0.161	-0.087*	-0.287**	-0.079	-0.190**	-0.379***
	(0.102)	(0.041)	(0.103)	(0.104)	(0.087)	(0.119)
East x Female	-0.099	0.017	-0.467*	-0.149	-0.002	-0.152
	(0.154)	(0.223)	(0.256)	(0.111)	(0.161)	(0.251)
2000	-0.199	0.040		0.030	-0.069	
	(0.158)	(0.077)		(0.166)	(0.114)	
East x 2000	-0.021	-0.060		0.082	0.036	
	(0.154)	(0.221)		(0.189)	(0.288)	
Female x 2000	-0.207*	-0.248**		0.086	-0.117	
	(0.110)	(0.088)		(0.123)	(0.142)	
East x 2000 x Female	-0.023	0.040		0.040	-0.226	
	(0.123)	(0.263)		(0.210)	(0.274)	
2010		0.273*	-0.793***		-0.496**	-0.397
		(0.147)	(0.210)		(0.184)	(0.294)
East x 2010		-0.287	-0.060		-0.029	0.381
		(0.199)	(0.354)		(0.170)	(0.328)
Female x 2010		-0.184***	0.111		-0.096	0.246
		(0.056)	(0.201)		(0.100)	(0.174)
East x Female x 2010		0.205	0.837**		0.337*	0.096
		(0.147)	(0.287)		(0.188)	(0.477)
Constant	1.312	0.499	-2.122**	0.289	0.545	-1.379
	(1.415)	(0.509)	(0.845)	(0.876)	(0.504)	(1.130)
Indiv. controls	YES	YES	YES	YES	YES	YES
Macro controls	YES	YES	YES	YES	YES	YES
Observations	1,750	1,993	651	1,749	1,990	651
R-squared	0.104	0.103	0.069	0.036	0.037	0.054

Note: Estimates from the full model, estimated separately for each of the three cohorts.
Robust standard errors in parentheses, clustered at the federal state level. Significance levels are indicated by *** p<0.01, ** p<0.05, * p<0.1.

Table A.6: Preferences for work: Youth in the GDR

VARIABLES	East Residency	East Adolescence	E-W Migrants
East	0.239*	0.247**	-0.277
	(0.113)	(0.097)	(0.240)
Female	-0.405***	-0.422***	-0.461***
	(0.055)	(0.054)	(0.066)
East x Female	0.146**	0.171**	0.874**
	(0.065)	(0.065)	(0.345)
2012	-0.160**	-0.174**	-0.252**
	(0.070)	(0.080)	(0.099)
East x 2012	-0.231**	-0.167	0.558*
	(0.097)	(0.118)	(0.259)
Female x 2012	0.144*	0.165**	0.211**
	(0.076)	(0.069)	(0.079)
East x Female x 2012	0.032	-0.006	-1.004***
	(0.109)	(0.104)	(0.249)
Constant	0.924***	0.987***	-0.121
	(0.283)	(0.232)	(0.655)
Indiv. controls	YES	YES	YES
Macro controls	YES	YES	YES
Observations	3,526	3,359	1,935
R-squared	0.086	0.089	0.060

Note: Estimates from the full model, using "youth" instead of "residency," ran for the full sample and the restricted sample of Western residents (1991 and 2012 cross sections).
Robust standard errors in parentheses, clustered at the federal state level. Significance levels are indicated by *** p<0.01, ** p<0.05, * p<0.1.

Table A.7: Preferences for career job attributes: Youth in the GDR

VARIABLES	East Residency	East Adolescence	E-W Migrants	East Residency	East Adolescence	E-W Migrants
	Income			Promotion		
	(1)	(2)	(3)	(1)	(2)	(3)
East	0.709***	0.278**	-0.108	-0.133	-0.201	-0.177
	(0.215)	(0.131)	(0.312)	(0.148)	(0.146)	(0.466)
Female	-0.157***	-0.215***	-0.199**	-0.160**	-0.180***	-0.190**
	(0.052)	(0.064)	(0.069)	(0.055)	(0.054)	(0.079)
East x Female	-0.052	0.055	0.577	-0.092	-0.048	0.454
	(0.109)	(0.102)	(0.784)	(0.084)	(0.095)	(0.478)
2010	-0.038	-0.206**	-0.126	-0.028	-0.032	-0.182
	(0.092)	(0.093)	(0.100)	(0.083)	(0.095)	(0.269)
East x 2010	-0.263	-0.147	-0.090	-0.085	-0.100	-0.233
	(0.186)	(0.169)	(0.271)	(0.146)	(0.170)	(0.591)
Female x 2010	-0.168**	-0.122	-0.158	-0.141**	-0.155*	-0.143
	(0.068)	(0.092)	(0.096)	(0.063)	(0.080)	(0.101)
East x Female x 2010	0.203	0.130	-0.064	0.470***	0.443**	-0.135
	(0.173)	(0.197)	(0.858)	(0.154)	(0.195)	(0.682)
Constant	-0.435	0.244	0.097	0.576	0.774**	0.102
	(0.369)	(0.381)	(0.476)	(0.378)	(0.318)	(1.022)
Indiv. Controls	YES	YES	YES	YES	YES	YES
Macro controls	YES	YES	YES	YES	YES	YES
Observations	3,248	3,101	1,776	3,248	3,101	1,779
R-squared	0.083	0.084	0.048	0.036	0.039	0.040

Note: Estimates from the full model, using "youth" instead of "residency," ran for the full sample and the restricted sample of Western residents (1991 and 2012 cross sections). Robust standard errors in parentheses, clustered at the federal state level. Significance levels are indicated by *** p<0.01, ** p<0.05, * p<0.1.