

Historical episodes and their legacies across space: A famous case revisited

Wyrwich, Michael

Veröffentlichungsversion / Published Version

Zeitschriftenartikel / journal article

Empfohlene Zitierung / Suggested Citation:

Wyrwich, M. (2022). Historical episodes and their legacies across space: A famous case revisited. *Journal of Regional Science*, 62(4), 1048-1091. <https://doi.org/10.1111/jors.12589>

Nutzungsbedingungen:

Dieser Text wird unter einer CC BY-NC-ND Lizenz (Namensnennung-Nicht-kommerziell-Keine Bearbeitung) zur Verfügung gestellt. Nähere Auskünfte zu den CC-Lizenzen finden Sie hier:

<https://creativecommons.org/licenses/by-nc-nd/4.0/deed.de>

Terms of use:

This document is made available under a CC BY-NC-ND Licence (Attribution-Non Commercial-NoDerivatives). For more information see:

<https://creativecommons.org/licenses/by-nc-nd/4.0>

Historical episodes and their legacies across space: A famous case revisited

Michael Wyrwich 

Faculty of Economics and Business,
Nettelbosje 2, University of Groningen,
Groningen, The Netherlands

Correspondence

Michael Wyrwich, Faculty of Economics and
Business, Nettelbosje 2, University of
Groningen, 9747AE Groningen, The
Netherlands.
Email: m.wyrwich@rug.nl

Abstract

There is a growing amount of literature in economic geography showing that historical episodes can leave long-lasting cultural and institutional legacies across space. For credibly identifying such persistent effects the analyses should not pick up trends preceding the respective episodes. Against this background, the paper re-examines the famous case of the German division and reunification. The empirical focus is on the persistent mark-up of women in work in East relative to West German regions that are often associated with legacy effects of the socialist regime that was in place in East Germany during the country's four decades of division. In contrast to the conventional wisdom in academia, policy, and the public, the current paper shows that the higher share of working women in East German regions is not due to a legacy of socialism. Female labor force participation was already remarkably higher in the East before the introduction of socialism. The general lesson is that any attempt to explain spatial variation in individual decision-making by persisting institutional and cultural legacies of certain historical episodes needs to assess regional conditions predating these episodes.

KEYWORDS

cultural and institutional legacies, female labor force participation, quasinalatural experiment, regional labor markets

This is an open access article under the terms of the Creative Commons Attribution-NonCommercial-NoDerivs License, which permits use and distribution in any medium, provided the original work is properly cited, the use is non-commercial and no modifications or adaptations are made.

© 2022 The Authors. *Journal of Regional Science* published by Wiley Periodicals LLC.

1 | INTRODUCTION

There is a growing interest in economic geography to consider the role of historical processes for explaining structural differences across space (e.g., De Blasio & Nuzzo, 2010; Fritsch & Wyrwich, 2021; Mewes, 2019; Schoenberger, 2020). One strand of this literature vividly demonstrates that persisting institutional and cultural legacies of past historical events and episodes leave a spatially different imprint on attitudes, behaviors, and economic structures (for an overview, see Nunn, 2020). For credible empirical identification, it is important to rule out that the estimation of long-term effects capture regional development trends preceding these historical episodes.

Against this background, the current paper re-examines the famous case of German division and reunification. Several papers demonstrate long-lasting effects of the socialist regime in East Germany on attitudes and behavior.¹ Recently Becker et al. (2020) documented numerous regional differences between East and West Germany preceding German division. Hence, some of the previous empirical studies may pick up long-term persistence beyond the actual separation period. For example, female labor force participation (FLFP) was already substantially higher in East Germany before German separation. This is particularly interesting since there is a strand of the literature arguing that there is a positive long-run effect of the socialist regime on attitudes towards working women (Bauernschuster & Rainer, 2012; Beblo & Goerges, 2018; Campa & Serafinelli, 2019).

Previous research on working women in East and West Germany draws on the fact that labor force participation of women is much higher in the eastern part of the country. In the public debate, this pattern is often attributed to a legacy of socialist labor market policies in the German Democratic Republic (GDR), which heavily promoted labor supply of women (e.g., Bertelsmann, 2015; Holst & Wieber, 2014; Rosenfeld et al., 2004). However, it is not clear how much of the East–West difference is really due to socialist legacy when differences in FLFP were already in place before German division and the introduction of socialist labor market policies. This implies that some of the previous findings on the role of socialist legacy for sex role attitudes pick up persistence related to regional conditions predating German division.

The current paper picks up on the descriptive finding reported by Wyrwich (2019) and Becker et al. (2020) that women's labor force participation was already higher in East Germany before 1945. The paper shows that there is no lasting socialist legacy effect for female labor participation measures beyond the first 25 years after reunification for which previous papers found legacy effects on attitudes (Bauernschuster & Rainer, 2012; Beblo & Goerges, 2018; Campa & Serafinelli, 2019). The higher incidence of working women in East Germany is not explained by socialist legacy in more recent years. It is remarkable that four decades of socialist labor market policies promoting women in the workplace did not leave an imprint on actual labor force participation for more than 25 years.

Analyses of survey data reveal that presocialist shares of women in the labor market are positively related to statements regarding the social acceptance of married women (with kids) in work. This pattern suggests that positive attitudes towards working women have historical roots predating socialism. This corresponds to descriptive findings presented in this paper showing that the share of married women in work across East German regions was already higher before they were exposed to socialism. Overall, the results suggest that the border between East and West Germany just happened to correspond to prewar differences in female labor supply and social acceptance of working women. There are no long-run socialist legacy effects across East German regions, at least not when it comes to actual labor force participation.

The findings of this study have several implications. First, the results suggest that socialism has been falling on fruitful ground with respect to labor market opportunities for women. Furthermore, the results reveal a high persistence of spatial differences in labor market participation of women that are outlasting radical institutional shocks. This persistence is remarkable against the background of the general increase in female participation rates since the early 20th century.

¹For example, Alesina and Fuchs-Schündeln (2007), Rainer and Siedler (2009), and Brosig-Koch et al. (2011).

Second, the results also have general implications for the large and flourishing literature that exploits German division and reunification as a quasinnatural experiment for causal inference. Studies in this area need to carefully assess East–West differences predating German division. This call corresponds with a recent critical survey on the suitability of exploiting German division and reunification as a natural experiment for analyzing the effect of political regimes on economic behavior (see Becker et al., 2020).

Third, the general lesson of this empirical exercise is that any attempt to explain spatial variation in economic behavior by persisting institutional and cultural legacies of certain historical episodes needs to carefully consider regional conditions predating these episodes. Hence, with this implication the paper also contributes to the recent debate on improving the design of persistence studies (e.g., Kelly, 2020). Finally, the results also contribute to the literature of the dynamics and determinants of female labor supply across space (e.g., Farre & Vella, 2013; Fernandez, 2007; Fogli & Veldkamp, 2011; Olivetti & Petrongolo, 2014).

The remainder of the paper is as follows: Section 2 provides some historical background regarding women in the labor market in East and West Germany. Section 3 deals with data and empirical methods. Results are presented in Section 4 while Section 5 offers conclusions and avenues for further research.

2 | HISTORICAL BACKGROUND: WOMEN AND THE LABOR MARKET IN EAST AND WEST GERMANY

The eastern part of Germany came under socialist rule after 1945, whereas West Germany developed towards an established market economy. After German reunification, the institutional framework of West Germany was introduced in the new eastern part of the country. Despite this radical shift in the formal institutional framework, there are persistent differences in attitudes and economic behavior among East Germans that are often attributed to socialist legacy (for a critical review, see Becker et al., 2020).

One of the most visible differences in the German labor market is the significantly higher labor force participation of women in the postsocialist eastern part of the country (Holst & Wieber, 2014). This gap is attributed to the legacy of socialist labor market policies in the former GDR (e.g., Bauernschuster & Rainer, 2012; Maier, 1993; Rosenfeld et al., 2004). High shares of working women have been common in socialist economies (e.g., Berliner, 1989; Brainerd, 2000; Jurajda, 2003). In the GDR, for example, the relative share of women among the labor force in 1989, just before the fall of the Berlin Wall, was 48% as compared with 38% in the western Federal Republic of Germany (FRG). The motives of the socialist government to promote the employment of women were twofold. On the one hand, labor market participation was a constitutional right, and several policies were designed to facilitate the participation of women in the labor market (e.g., Cooke, 2006; Duggan, 1995). On the other hand, the GDR suffered from capital shortages that were compensated by labor-intensive production techniques. Furthermore, due to low wages, double incomes were often an economic necessity (Braun et al., 1994).

At the end of the GDR period, the East–West gap in FLFP was around 30 percentage points in 1989 (Figure 1).² The East–West gap in participation rates was declining in the 1990s. The first years after the transition were marked by economic dislocation (e.g., Burda & Hunt, 2001) which could explain the decrease in labor supply of East German women. Apart from that, the adopted labor market institutions of West Germany discouraged labor force participation of women and maternal employment in particular (e.g., Maier, 1993; Rosenfeld et al., 2004). Nevertheless, there is a persisting East–West gap in FLFP until today.

The persisting East–West gap could be due to socialist legacy for two reasons. First, as an indirect legacy effect of socialist labor market policies the availability of childcare facilities is much better in East Germany (Goldstein &

²The average share of women in the labor force was around 48.8%. This share was between 48% and 52% across GDR counties in 1989 (Rudolph, 1990).

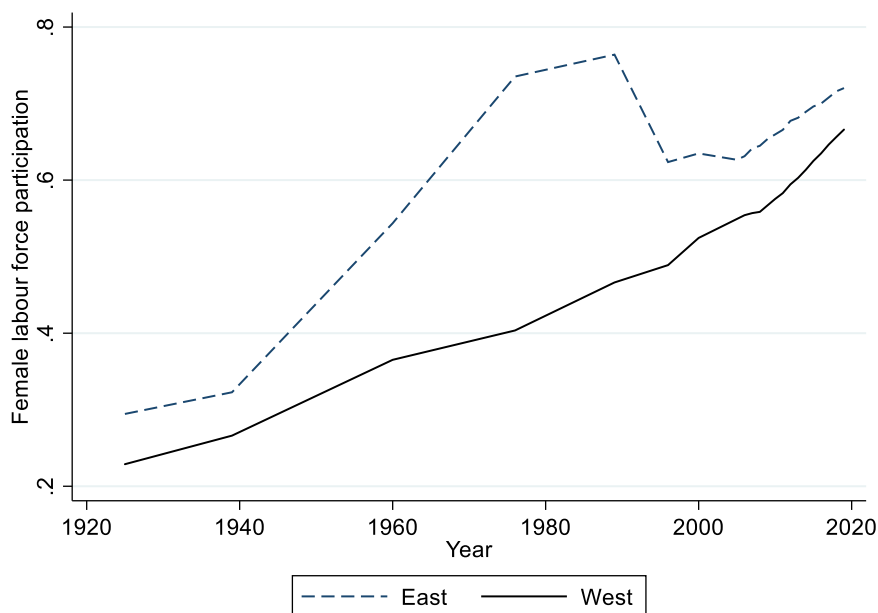


FIGURE 1 Female labor force participation in East and West Germany (1925, 1939, 1960, 1976, 1989, 1996, 2000, 2005–2019) based on different data sources. The graph also contains information from the period of German separation, namely, 1960, 1976, and 1989. The data on employment for West Germany for 1976 and 1989 come from the Establishment History Panel (EHP) and refers to employees who pay Social Insurance contributions. West German separation data on this group of employees as of 1960 are obtained from the Statistical Yearbooks of the FRG. Statistical Yearbooks of the GDR were used to obtain separation time employment data for East Germany. The Yearbooks for FRG and GDR were also the source for the respective population figures and were accessed via the digital journal archive <https://www.digizeitschriften.de/>

Kreyenfeld, 2011; Rosenfeld et al., 2004).³ Second, socialist labor market policies may have promoted an attitude in favor of working women (e.g., Bauernschuster & Rainer, 2012; Beblo & Goerges, 2018; Campa & Serafinelli, 2019). Alternatively, the East–West gap could be presocialist in origin as Figure 1 shows. The size of the gap in 1939, a few years before German separation was similar to the gap today. This pattern raises the question to which degree the measurement of socialist legacy effects at the individual level is partly capturing the on-average higher tradition of working women in the East of Germany. This scenario is not unlikely since working women represent role models for future generations of women who update their prior beliefs about work based on observing other working women and the awareness of working women in past generations (see Farre & Vella, 2013; Fernandez, 2007; Fogli & Veldkamp, 2011).

The patterns shown in Figure 1 call for a re-examination of the effect of socialist legacy on FLFP. The remaining part of the paper is devoted to such an empirical assessment.

3 | EMPIRICAL ANALYSIS

3.1 | Data

The regional data on female labor supply rely on full-population censuses predating German division and on information from postunification statistics. The preseparation census data are from June 1925 and May 1939. The

³It should be noted that the capacity of childcare facilities in West Germany was significantly expanded in the 1990s and 2000s as well.

1939 census is the closest possible peacetime year for analyzing labor market structures before German division. Both censuses contain county-level information (*kleinere Verwaltungsbezirke*) on the number of dependent employees by gender, industries, and social status (Statistik des Deutschen Reichs, 1927, 1943).

In the preseparation census, it is not possible to extract the number of unemployed women. Registered unemployment and state-provided unemployment aid did not yet exist in 1925.⁴ If people did not withdraw from the labor market entirely but were without a job on census day in 1925, the census takers assigned them to the industry where they worked before losing their job. In 1939, a distinction between employed and unemployed people would have been possible but was not published because the overall level of unemployment was very low in this year (Fritz, 2001).⁵ The lack of a distinction between employees and the unemployed is no issue since including unemployed women is required to capture “revealed preferences” for taking up employment. This also rules out that any potential spatial differences in labor market prospects in 1925 and 1939 bias the measure on the local share of women that are willing to participate in the labor market.

Due to data constraints, the postunification years utilized in this study are the years 1996, 2000, and 2005–2019. There is no reliable information on employment and unemployment across East German regions for the first postunification years from 1990 to 1995. Furthermore, female labor supply in the early 1990s might have been affected by “transition noise.” It is also not helpful to compare female labor supply in East and West Germany in 1989 just before the Berlin Wall fell since (labor) supply and demand in the GDR was heavily controlled and “enforced” by the socialist central planners. Furthermore, GDR authorities may have had an incentive to report high participation rates of women because this was in line with the government's goal. Apart from that, this paper is interested in the legacy effects of socialist labor market policies on female labor supply. In this regard, the year 1996 reveals potential short-run effects of socialism while later years are more informative about long-run effects.

The employment data for the postunification years are taken from the labor market statistics of the Federal Employment Agency. The statistics include information on every dependent employee that is obliged to pay social insurances on the level of counties (*Kreise*). This data was combined with regional unemployment data as provided by the same institution. Furthermore, information on employed public servants who are not due to pay social insurances where added from data coming from the Federal Statistical Office.

3.2 | Measurement

The main outcome variable of interest in the empirical analysis is FLFP. It is the number of economically active women in nondomestic employment or unemployment over the female population in working age (15 and 64 years). For postunification years, women without German citizenship are not included in the FLFP measure in the baseline analysis. Unfortunately, there is no data on employment by ethnicity for 1925 and 1939 at the county level. The empirical section will show that the results are robust when including the non-German population in the FLFP measure for postunification years.

A potential concern is that East–West migration of women dilutes socialist legacy effects (e.g., Kroehnert & Vollmer, 2012). There is no county-level data distinguishing population by regional origin but it is very unlikely that inner-German migration has a meaningful impact on the findings. First, most of the migration took place in the 1990s. Thus, measuring legacy effects from 2000 onwards should not be affected. Second, although approximately 2.5 million East Germans migrated to West Germany in the first 20 years after reunification, the relative inflow

⁴For details regarding unemployment insurance in Weimar Germany, see Corbett (1991, chap. 3). The unemployment rate for Germany as a whole in 1925 was estimated to be around 2.8% which is very low compared with the one in the late 1920s and the early 1930s (Corbett, 1991; Dimsdale et al., 2006).

⁵According to Fritz (2001), the level of unemployment decreased from 4.8 million in 1933 to 119,000 in 1939.

when compared with the 60 million West Germans is rather small (4.1%; Institute of Population Research, 2013).⁶ Hence, it is very unlikely to have any meaningful effect on the results. Nevertheless, the models control for migration of women (for details, see Section 3.4).

For working with consistent spatial units over time, it was necessary to overlay a digitized map of the counties in 1925 and 1939 with one including the boundaries of the current counties using Geographical Information Systems software (ArcGIS). The historical counties are split into parts along the borders of the current counties. The raw data of 1925 and 1939 are multiplied with the share of these split areas in terms of the historical county size and assigned to the current regions.

A crucial assumption of the above approach is that there is a homogeneous distribution of economic activity within a county. The procedure is problematic if economic activity in counties is highly concentrated, for example, around so-called city-counties (*kreisfreie Staedte*). Therefore, I merge these cities with the surrounding counties to 275 contemporary counties (West, $N = 222$; East, $N = 53$).⁷ In the main analysis, there are dummy variables for the aggregated planning region the merged county is located in in all models. These regions are functional economic regions comparable to US labor market areas and comprise a cluster of counties. These dummies accounts for unobserved labor market effects.

3.3 | Method

The assessment of socialist legacy effects on the incidence of women in the labor market is based on a difference-in-difference (DiD) approach of the following equation:

$$FLFP_{rt} = \alpha + \beta * East_r + \gamma * Year_t + \delta_{1925}(East * Year)_{r1925} + \sum_{t=1996}^{2019} \delta_t (East * Year)_{rt} + X_{rt} + \theta_r + \epsilon_{rt}. \quad (1)$$

In Equation (1) $FLFP_{rt}$ reflects the female labor force participation in region r (county-level) in year t which refer either to the preseparation period (1925 and 1939) and the postunification period (1996–2019). $East$ is a dummy variable indicating whether a region is located in East Germany. $Year$ represents dummy variables. For the postunification years, $Year * East$ captures the treatment effects with δ_t as the DiD-estimators of interest. In robustness checks $FLFP_{rt}$ is log-transformed to evaluate the treatment effect on the relative change in female labor supply.⁸ The models also include time-invariant planning region fixed effects (θ_r). Planning regions are similar to labor market and metropolitan areas in the United States and capture labor market-specific effects on $FLFP_{rt}$. In this setup, the treatment is being an East German region after exposure to four decades of socialist labor market policies. Hence, there are two pretreatment periods (1925 and 1939) and 17 treatment variables ($East * Year$ -Interactions for 1996–2019).

One concern regarding this empirical design is that causal inference relies on the assumption that the number of treated and nontreated groups is large. Conley and Taber (2011) argue that the standard assumptions underlying

⁶Migration from West to East Germany was somewhat smaller in magnitude, and estimates from a representative sample of the German population suggest that 50% of these West–East migrants was return migrants (originally born in East Germany). Adjusting the raw numbers suggests that the true inflow from West to East Germany relative to the East German population is also rather small at 5% (Beck, 2004).

⁷It was not possible to utilize the data for the six counties of the state of Saarland since there is no information for the year 1925. The area was administered by the League of Nations around this time and was not part of the German Empire. Therefore, the population census was not conducted there. Since the data for the city of Berlin cannot reasonably be assigned to East or West, the analysis does not include Berlin. For assigning historical counties to current counties, shape files as provided by the Max-Planck-Institute for Demographic Research were used. The authors are highly indebted to Sebastian Rauch for preparing the data. The procedure for adjusting the census data to spatially consistent areas can be illustrated by an example. If 35% of the historical county H is today partially located in the current counties $C1$, whereas the remaining 65% are part of the current county $C2$, the raw census numbers of H are multiplied by the respective numbers and assigned to either $C1$ or $C2$. As mentioned in the text, for city counties established after 1925 and 1939, respectively, this assignment procedure does not work properly. In this case, city counties were merged with the originating counties.

⁸Log-transforming FLFP reveals by how much percent the treatment affects changes in FLFP. Non-log-transforming FLFP measures by how much the treatment affects a unit change (percentage points) in FLFP.

the estimates for confidence intervals are not appropriate if there are only one treatment and one control region. One way to address this issue is dividing East and West Germany into smaller treated and nontreated regions. This can be done at the level of the 91 German planning regions. One can think of 21 treated East German and 70 nontreated West German control planning regions comprising a varying number of counties. Causal inference can then be based on a DiD-approach that includes time-invariant planning region fixed effects (θ_r). When there are no control variables, the estimate for the DiD-coefficient is the same as without planning region fixed effects although the confidence intervals and standard errors differ.

In Equation (1) preseparation data in 1939 represent the measurement closest to German separation in 1945. The data of 1925 can be used to check whether treatment (East) and control (West) groups followed the same time trend before the treatment.⁹ A formal test of this common trend assumption requires an interaction of the East dummy with a year dummy for 1925. If such an interaction is not significant, this is evidence of a common pretreatment trend (e.g., Autor, 2003). The interaction Year * East with the estimator δ_{1925} represents this formal test. Finally, X_{it}' represents a vector of control variables (see Section 3.4 for details). The section on results reports regressions with standard errors clustered by planning region-by-time, which permits heteroskedasticity and allows the error terms ε_{ry} of districts within the same planning region and year to be arbitrarily correlated with each other.

Analyzing socialist legacy effects on various labor market segments, for example, for married women or mothers with young kids, would be interesting as well. Unfortunately, there is no respective county-level data neither for the preseparation nor for the postunification period. However, in the absence of fine-grained regional data, Section 4.4 alternatively presents an extension of the analysis that utilizes individual-survey data for discussing the influence of preseparation FLFP on social acceptance of employment of mothers and married women.

3.4 | Control variables

The vector of control variables comprises measures for general regional characteristics and labor market conditions that might explain spatial differences in the level of female labor supply (Tables A1a and A1b for summary statistics and data sources). For postunification years, the controls capture adjustments of economic and labor market structures in East Germany.

The control variables resemble those of the approach by Wyrwich (2019) who analyses determinants of FLFP in the regional context of Germany and further determinants of FLFP discussed in the literature. I control for population density to catch agglomeration effects (e.g., Bacolod, 2017; Weinstein, 2017) as well as net migration and the population share of annual migration inflow to control for migration patterns (e.g., Faggian et al., 2007). I also consider regional income levels, and the age structure of the local female population. The population share of the annual migration inflow also captures the impact of nonlocal (East German) role models affecting eventually decisions about labor force participation among local (West German) women. This share is never larger than 5% (see Table A1a in the appendix).

Next to this set of controls, I consider employment shares in manufacturing and mining. Historically the emergence of manufacturing industries was positively associated with job opportunities for women, at least in the 20th century (e.g., Costa, 2000; Goldin, 2006; Wyrwich, 2019). In contrast, mining was negatively related to female employment opportunities (e.g., Hall, 2013).

As mentioned in Section 3.3, I introduce planning region fixed effects. Planning regions are comparable to labor market and metropolitan areas in the United States. Hence, the model captures several labor market-specific effects for which there are often no historical data. For example, there is no historical information on gender-specific spatial differences in wages. Today, there are gender-specific wage differentials that often vary at the level of metropolitan areas

⁹The census as of 1925 has information on female labor supply before the introduction of policies of the Nazi government in the 1930s that were aimed at reducing the number of working women (Mason, 1976).

(Weinstein, 2017). Hence, by considering dummy variables at such aggregate labor market levels as I do, it can account for most of such gender-specific wage differentials. Such wage differentials were also detected in recent research on Germany, which also shows that regional variables play only a minor role in explaining wage differentials at the county level (Fuchs et al., 2021) at which I run the analysis. Planning regions are perfectly nested in Federal States. Hence, controlling for planning region fixed effects also capture the impact of Federal States through regulatory discretion and autonomy over fiscal policy that shapes the incentives for labor demand and supply.

I also control for average farm size in agriculture. Within Germany, there have been enormous regional differences regarding average farm sizes. This has to do with natural conditions (quality of soil) and differences in the development of regional power structures (e.g., H. Becker, 1998; Tipton, 1974). In areas with many small independent farms, married women worked (and were registered) as helping family members, whereas, in regions where large farms dominated, married women and their husbands were likely to work for large landowners (*Gutsherren*). These women were registered as workers accordingly. Finally, regional differences in the population share of Protestants are also considered in the analysis to capture any potential effects of Protestant norms and attitudes regarding work ethic on nondomestic employment of women (for a discussion, see Bauernschuster & Rainer, 2012).

4 | RESULTS

4.1 | Descriptive overview on current and historical differences in FLFP against the background of previous studies

Table 1 shows mean comparison tests for FLFP in East and West Germany. In general, female labor supply increased over time in both parts of the country. The table also reveals that FLFP in East Germany was already higher in preseparation times by 5.9 percentage points. FLFP across East German regions is also significantly higher in the postunification period. The East–West gap in postunification years becomes smaller over time. In 2019, the difference in terms of percentage points is only 5.7 percentage points and hence smaller than in 1939.

Previous papers on female labor supply in East and West Germany (Bauernschuster & Rainer, 2012; Beblo & Goerges, 2018; Campa & Serafinelli, 2019) focused on gender parity—the share of women among all employees—to assess preseparation East–West differences in female labor supply. When using gender parity for the census data as of 1939, we obtain a share of women among the labor force of 28.9% for West Germany and 31.6% for East Germany. Hence, the difference is much smaller as compared with the FLFP measure that relates the share of working women to women in working age.¹⁰ I think that FLFP is a superior measure since it measures the share of working women among all working-age women while gender parity does not.

4.2 | Baseline estimates

Table 2 shows the estimates for the interaction between the East German dummy and the posttreatment year dummies (DiD-estimators) for the baseline regressions. The DiD-estimators indicate the treatment effects in

¹⁰Bauernschuster and Rainer (2012) report 31% for East and 30.1% for West Germany. Please note that there are multiple further reasons why the numbers reported in the previous papers are slightly different. For example, Bauernschuster and Rainer (2012) used data from a statistical volume issued by the Statistisches Reichsamt, 1936 referring to the year 1935. I use census data from 1939 (100% sample) while the data from the Statistisches Reichsamt for 1935 is not based on census data. In general, different figures compared with previous papers may be explained by differences in the assignment of historical regions to either East or West Germany. For example, the data in regular statistical volumes is not published at the county level but for larger units (Provinces). Assigning regions to East Germany is more difficult with more aggregate regional units as good shares for some of these provinces became part of Poland after 1945. Another issue is the role of Berlin. It needs to be excluded from preseparation and postunification comparisons because there is no separate data for the eastern and western part of the city.

TABLE 1 FLFP in East and West German regions: Mean comparison tests

	West (N = 222)	East (N = 53)	Diff	Sig
<i>Panel A: Preseparation period</i>				
FLFP 1925	0.206	0.264	0.058	***
FLFP 1939	0.241	0.3	0.059	***
<i>Panel B: Postunification period</i>				
FLFP 1996	0.49	0.625	0.135	***
FLFP 2000	0.516	0.633	0.117	***
FLFP 2005	0.541	0.626	0.085	***
FLFP 2010	0.569	0.658	0.089	***
FLFP 2015	0.618	0.695	0.077	***
FLFP 2019	0.662	0.719	0.057	***

Abbreviation: FLFP, female labor force participation.

***Statistically significant at 1% level.

percentage points of FLFP in reference to the year 1939. The interaction between the East and year dummy for 1925 reveals whether there was a common trend in East and West Germany with respect to the development of FLFP. The models present different specifications with different sets of control variables. For the sake of brevity, the coefficient estimates for the control variables are presented only in the appendix (Table A2).¹¹

There are significant treatment effects until the year 2012/13 when not considering regional structural conditions (Table 2, models I and II). When considering controls for regional conditions there are only significant treatment effects for the years between 1996 and 2008. There are no significant treatment effects for recent years. Hence, the mark-up of FLFP across East German regions shown descriptively in Figure 1 and Table 1 is apparently not due to socialist legacy. In model I and V, it is possible to calculate the East effect for the year 1939, which is 5.9% (model I) and 4.3% (model V), respectively. Insignificant interaction effects imply that the postunification East–West gap is not significantly larger than the pre-separation East–West gap. For a better illustration, I also plotted the estimated DiD coefficients for model I without controls and model IV with all controls (Figures A1 and A2 in the appendix). To better illustrate the postunification East–West gap, I also run a model that only includes postunification years (Table A3 in the appendix). This model shows that the gap for 1996 varies between 13.5% and 20.5% depending on the specification. In 2019, the gap is between 3.5% and 5.8%, which is lower or similar to the pre-separation East–West gap.¹²

The interaction between the East and the year dummy for 1925 is insignificant. This means that East German regions did not have systematically different FLFP in 1925 as compared with 1939. The t values for the East- \times -Year₁₉₂₅ interaction are very low ($t < 0.2$) suggesting that sample size and influential observations are not

¹¹Among the controls, population density and the employment share in manufacturing are positively related to FLFP. Both factors played a much more important role historically (Table A2, models IV and V) compared with their average effect over all observation years (Table A2, model III). Income per capita and average farm size are positively and significantly related to FLFP while the employment share in mining is significant and negative. The historical and average effects for these controls are relatively similar. The population share of Protestants is negatively related to FLFP on average but was insignificant before German separation.

¹²The coefficient estimates are the same as in Table 2 by definition. For example, in Table 2 model I the East–West gap for 1939 is 5.9%. The treatment effect for 1996 is 7.6%. In sum, this yields an East–West gap of 13.5% in 1996, which is also the estimate for the East effect in 1996 in model I of Table A3.

**TABLE 2** FLFP across East and West German regions: Baseline regressions

	I	II	III	IV	V
East (dummy, Yes = 1: East × Year ₁₉₃₉)	0.0592***	Y ^a	Y ^a	Y ^a	0.0429***
<i>Reference category</i>	(0.0132)				(0.0111)
East × Year ₁₉₂₅	-0.0017	-0.0017	-0.0008	-0.0027	-0.0023
<i>Parallel trend test</i>	(0.0181)	(0.0157)	(0.0127)	(0.0138)	(0.0155)
East × Year ₁₉₉₆	0.0758***	0.0758***	0.1064***	0.0630***	0.1226***
	(0.0141)	(0.0123)	(0.0142)	(0.0185)	(0.0228)
East × Year ₂₀₀₀	0.0581***	0.0581***	0.0899***	0.0887***	0.1388***
	(0.0138)	(0.0116)	(0.0134)	(0.0145)	(0.0164)
East × Year ₂₀₀₅	0.0256*	0.0256**	0.0548***	0.0411***	0.0777***
	(0.0138)	(0.0117)	(0.0132)	(0.0144)	(0.0156)
East × Year ₂₀₀₆	0.0267*	0.0267**	0.0535***	0.0420***	0.0795***
	(0.0137)	(0.0117)	(0.0131)	(0.0137)	(0.0148)
East × Year ₂₀₀₇	0.0334**	0.0334***	0.0534***	0.0357***	0.0699***
	(0.0137)	(0.0117)	(0.0130)	(0.0136)	(0.0153)
East × Year ₂₀₀₈	0.0353**	0.0353***	0.0465***	0.0302**	0.0593***
	(0.0138)	(0.0117)	(0.0130)	(0.0140)	(0.0160)
East × Year ₂₀₀₉	0.0349**	0.0349***	0.0376***	0.0179	0.0409**
	(0.0138)	(0.0116)	(0.0131)	(0.0151)	(0.0177)
East × Year ₂₀₁₀	0.0302**	0.0302***	0.0205	0.0116	0.0284
	(0.0138)	(0.0116)	(0.0138)	(0.0156)	(0.0187)
East × Year ₂₀₁₁	0.0280**	0.0280**	0.0146	-0.0006	0.0127
	(0.0139)	(0.0117)	(0.0140)	(0.0169)	(0.0199)
East × Year ₂₀₁₂	0.0302**	0.0302***	0.0159	0.0016	0.0146
	(0.0138)	(0.0116)	(0.0139)	(0.0160)	(0.0186)
East × Year ₂₀₁₃	0.0257*	0.0257**	0.0122	-0.0025	0.0092
	(0.0138)	(0.0115)	(0.0138)	(0.0160)	(0.0189)
East × Year ₂₀₁₄	0.0222	0.0222*	0.0092	-0.0101	0.0019
	(0.0138)	(0.0115)	(0.0138)	(0.0155)	(0.0178)
East × Year ₂₀₁₅	0.0173	0.0173	0.0055	-0.0152	-0.0044
	(0.0137)	(0.0115)	(0.0137)	(0.0155)	(0.0161)
East × Year ₂₀₁₆	0.0107	0.0107	-0.0001	-0.0187	-0.0065
	(0.0137)	(0.0115)	(0.0136)	(0.0157)	(0.0164)
East × Year ₂₀₁₇	0.0061	0.0061	-0.0046	-0.0184	-0.0020
	(0.0137)	(0.0115)	(0.0136)	(0.0162)	(0.0171)

(Continues)

TABLE 2 (Continued)

	I	II	III	IV	V
East × Year ₂₀₁₈	0.0038 (0.0137)	0.0038 (0.0115)	-0.0066 (0.0137)	-0.0221 (0.0162)	-0.0044 (0.0179)
East × Year ₂₀₁₉	-0.0015 (0.0137)	-0.0015 (0.0115)	-0.0118 (0.0137)	-0.0249 (0.0165)	-0.0076 (0.0176)
Year _t (dummies, Yes = 1)	Y	Y	Y	Y	Y
Controls _t	N	N	Y	Y	Y
Controls _t × Year _t	N	N	N	Y	Y
Planning region FE	N	Y	Y	Y	N
R ²	0.9282	0.9613	0.9697	0.9765	0.9625

Note: $N = 5225$; Berlin is excluded since the data sets at hand do not allow for disentangling information for the Eastern and the Western part of the city. The State of Saarland is excluded because there are no data for 1925. Robust standard errors are shown in parentheses. The clustering is on the Planning region × Year-level (number of planning regions: $N = 91$). The constants are not shown for brevity. The year 1939 is the reference category for the evaluation of the treatment effects and the test on the parallel trend assumption (interaction: East × Year₁₉₂₅).

Abbreviations: FE, fixed effect; FLFP, female labor force participation.

^aThe East dummy is perfectly collinear with the planning region fixed effects and cannot be interpreted. Treatment effects can be still evaluated like in the other models (for details, see Conley & Taber, 2011).

***Statistically significant at 1% level.

**Statistically significant at 5% level.

*Statistically significant at 10% level.

corrupting the standard parallel trend test.¹³ To dispel concerns that the introduction of a parallel trend test induces an upward bias of the treatment effects (Roth, 2021), I recalculate the baseline models without testing for a parallel trend (Table A4 in the appendix). The coefficient estimates are virtually the same as with pretrend-testing. One can conclude from this result that both parts of the country apparently followed the same path of development to which East Germany returned about two decades after German reunification.

4.3 | Robustness checks

The results hold in a series of robustness checks. So, the results hold when including also non-German employees and unemployed in the FLFP measures (Table A5 in the appendix). The baseline regressions show treatment effects on FLFP in percentage points (unit change). Log-transforming FLFP and running the baseline regressions again reveals how FLFP changes in percent due to the treatment effects. This assessment shows even negative treatment effects for recent years (Table A6 in the appendix). In a further check, I include region-specific time trends (for a similar approach, see Besley & Burgess, 2004). Region-specific time trends capture heterogeneity in the development of regions over time. For example, the high level of migration of East German women to West Germany may work differently across regions and over time (Kroehner & Vollmer, 2012). Region-specific time trends capture such heterogeneity to some degree. The results are fairly robust when considering these additional controls

¹³See Bilinski and Hatfield (2018), Rambachan and Roth (2019), and Roth (2021) for a discussion.

(Table A7 in the appendix). For one of the specifications, there is a significant treatment effect until the year 2015 while in the other specifications there is no treatment effect after 2009.

Table 3 shows results for the baseline models with employment participation instead of FLFP (incl. unemployed women) as a dependent variable. As previously mentioned, there is no unemployment data at the county level for pre-separation census years. In 1939, the reason for the decisions for not publishing such data was that unemployment rates were close to zero (Fritz, 2001) while there was no unemployment statistics at all in 1925. Therefore, the models do not include the data as of 1925. The results of the analyses show remarkable patterns. For the early 2000s, there is even a negative treatment effect when not considering regional structural conditions. There is no year for which there is a positive treatment effect in all models.¹⁴ Hence, there is no mark-up of actually working women in East Germany in some specification since the early 2000s.

In another robustness check, I replace the outcome variable by gender parity, which is the share of women in the total labor force in non-domestic employment or unemployment (Table 4). This is the variable that, for example, Bauernschuster and Rainer (2012) use in their assessment of pre-separation East–West differences in female labor supply. In line with their observation, there is no significant East–West difference before German separation. There are no significant treatment effects beyond the year 2007. In two specifications, there are no positive treatment effects on gender parity apart from the years 1996 and 2000. In one model, there are even negative treatment effects on gender parity from 2012 onwards.

In a further robustness check, I focus on regions adjacent to the inner-German border. The reason for such an analysis is that these regions could have been very similar in terms of economic structures before German division because of spatial proximity. The focus on areas close to the border has some pitfalls. An RDD design is problematic because the border between East and West Germany was not randomly drawn. It followed the historical borderlines of German states (Moseley, 1950). The respective states saw century-long specific institutional and cultural developments before the first German unification in the late 19th century. Thus, it is very unlikely that there is cultural and institutional pre-division homogeneity across regions adjacent to the prior inner-German border (see also Becker et al., 2020, for further arguments).

An argument to focus on areas around the inner-German border is that observable regional determinants of FLFP could have been relatively similar. Heterogeneity with respect to unobserved determinants could be lower than for the whole sample of East and West German regions as well. Table A8 in the appendix shows that regions adjacent to the border differ quite substantially in terms of observable determinants of FLFP. Applying a propensity score matching based on the control variables used in the baseline regressions, yields five pairs of matched regions, which means that only 20% of the border regions have been matched. Running the DiD-analysis for these regions does not yield significant results (Table 5).¹⁵

I also run the analysis at the level of planning regions instead of merged counties (Table 6). Planning regions are functional economic regions comparable to US labor market areas and comprise a cluster of (merged) counties. At this level, the issue of estimation errors because of economic space not coinciding with geographical space (Kelly, 2020) can be assuaged. While there are small treatment effects until the year 2017 in the models without controlling for regional determinants of FLFP, there are no treatment effects after the year 2009 once including control variables. Hence, the results resemble the baseline analysis.

In a final robustness check, I adjust the DiD-estimation approach. In DiD applications, identification of the key parameter often arises from treatments of a small number of groups while inference assumes that the treatment group is large. Therefore, Conley and Taber (2011) developed an alternative method to draw inference from DiD-analysis. To apply the method in the present empirical context, 21 out of all 91 planning regions have to

¹⁴Unemployment rates have been particularly high in this period with many women being unemployed.

¹⁵The algorithm is based on a standard nearest neighbor matching. The results are robust when playing around with different sets of baseline variables for the matching variables albeit the number of matched pairs varies accordingly. The values of the control variables for the year 1939 are used for the matching procedure

TABLE 3 Employment participation of women across East and West German regions

	I	II	III	IV	V
East (dummy, Yes = 1: East × Year ₁₉₃₉)	0.0592***	γ ^a	γ ^a	γ ^a	0.0429***
Reference category	(0.0132)				(0.0111)
East × Year ₁₉₉₆	0.0060 (0.0139)	0.0060 (0.0121)	0.0847*** (0.0151)	0.0367** (0.0172)	0.1021*** (0.0184)
East × Year ₂₀₀₀	-0.0325** (0.0145)	-0.0325*** (0.0118)	0.0492*** (0.0147)	0.0485*** (0.0165)	0.1002*** (0.0173)
East × Year ₂₀₀₅	-0.0522*** (0.0145)	-0.0522*** (0.0118)	0.0294*** (0.0146)	0.0193 (0.0160)	0.0537*** (0.0158)
East × Year ₂₀₀₆	-0.0472*** (0.0144)	-0.0472*** (0.0118)	0.0314** (0.0144)	0.0177 (0.0154)	0.0530*** (0.0153)
East × Year ₂₀₀₇	-0.0390*** (0.0145)	-0.0390*** (0.0117)	0.0307** (0.0143)	0.0154 (0.0153)	0.0463*** (0.0155)
East × Year ₂₀₀₈	-0.0299** (0.0145)	-0.0299** (0.0117)	0.0288** (0.0144)	0.0138 (0.0155)	0.0393** (0.0163)
East × Year ₂₀₀₉	-0.0223 (0.0143)	-0.0223* (0.0118)	0.0242* (0.0146)	-0.0006 (0.0163)	0.0179 (0.0178)
East × Year ₂₀₁₀	-0.0176 (0.0144)	-0.0176 (0.0117)	0.0185 (0.0153)	0.0032 (0.0174)	0.0146 (0.0193)
East × Year ₂₀₁₁	-0.0187 (0.0145)	-0.0187 (0.0117)	0.0117 (0.0156)	0.0021 (0.0185)	0.0112 (0.0205)
East × Year ₂₀₁₂	-0.0139 (0.0145)	-0.0139 (0.0117)	0.0165 (0.0155)	0.0093 (0.0167)	0.0179 (0.0191)
East × Year ₂₀₁₃	-0.0144 (0.0144)	-0.0144 (0.0116)	0.0166 (0.0154)	0.0057 (0.0166)	0.0126 (0.0193)
East × Year ₂₀₁₄	-0.0156 (0.0144)	-0.0156 (0.0116)	0.0159 (0.0153)	0.0021 (0.0163)	0.0072 (0.0182)
East × Year ₂₀₁₅	-0.0174 (0.0143)	-0.0174 (0.0116)	0.0146 (0.0152)	-0.0028 (0.0165)	-0.0014 (0.0167)
East × Year ₂₀₁₆	-0.0187 (0.0142)	-0.0187 (0.0116)	0.0123 (0.0151)	-0.0061 (0.0168)	-0.0029 (0.0171)
East × Year ₂₀₁₇	-0.0181 (0.0142)	-0.0181 (0.0117)	0.0117 (0.0151)	-0.0045 (0.0173)	0.0043 (0.0180)
East × Year ₂₀₁₈	-0.0182 (0.0142)	-0.0182 (0.0117)	0.0103 (0.0152)	-0.0087 (0.0176)	0.0015 (0.0187)

TABLE 3 (Continued)

	I	II	III	IV	V
East \times Year ₂₀₁₉	-0.0201 (0.0140)	-0.0201* (0.0118)	0.0069 (0.0152)	-0.0121 (0.0176)	-0.0005 (0.0182)
Year _t (dummy, Yes = 1)	Y	Y	Y	Y	Y
Controls _t	N	N	Y	Y	Y
Controls _t \times Year _t	N	N	N	Y	Y
Planning region FE	N	Y	Y	Y	N
R ²	0.8568	0.9409	0.9537	0.9625	0.9333

Note: $N = 4950$. The models do not include information from the year 1925 due to data constraints. Berlin is excluded since the data sets at hand do not allow for disentangling information for the Eastern and the Western part of the city. The State of Saarland is excluded as well to compare the results with the other analyses. Robust standard errors are shown in parentheses. The clustering is on the Planning region \times Year-level (number of planning regions: $N = 91$). The constants are not shown for brevity. The year 1939 is the reference point for the evaluation of the treatment effects. The coefficient estimate for East (dummy, Yes = 1: East \times Year₁₉₃₉) is the same as in Table 2 (models I and V) because the data for 1939 cannot be distinguished by employed and unemployed. The number of unemployed women is likely close to zero (Fritz, 2001).

Abbreviation: FE, fixed effect.

^aSee note (a) of Table 2.

***Statistically significant at 1% level.

**Statistically significant at 5% level.

*Statistically significant at 10% level.

be randomly drawn and assigned as treatment regions. Causal inference is based on comparing the estimated DiD-coefficients of repeated regressions with randomly simulated treatments with the coefficient of the regression including the actual treatment.¹⁶ This approach does not change coefficient estimates but confidence intervals.

Table 7 shows confidence intervals in accordance with the Conley–Taber method (2011) for the long-run treatment effect (2019) and the pre-separation trend (1925) for the models of Table 2. The interaction effect for 1925 is insignificant regardless of model and method. Apparently, in those models that include regional control variables, the estimated Conley–Taber-confidence intervals reveal a negative significant DiD-estimate for the year 2019 while they were insignificant when conventionally estimating confidence intervals. Hence, the alternative method suggests that there are even negative treatment effects on the female labor supply in East Germany.

The Conley–Taber approach (2011) is also useful to assuage concerns that the parallel trend assumption does not hold due to influential observations corrupting the standard parallel trend test. If there was a parallel trend in East and West German regions then the random assignment of regions to the treatment and control group—that is done in the Conley–Taber approach—should not systematically lead to constellations where the pretreatment- \times -East interaction is significant. As I can show in Table 7, the pretreatment- \times -East interaction is insignificant when applying the Conley–Taber approach. Hence, it is unlikely that the main results yielding an insignificant

¹⁶In the main models, the DiD-coefficients of $N = 500$ simulations is subtracted from the actual treatment coefficient. The empirical distribution yielded by this exercise is used for forming the lower and upper bounds of the confidence interval. If the bounds include the value of zero due to large DiD-coefficients in the simulations, the null hypothesis that the actual treatment parameter is zero cannot be rejected. For further details see Conley and Taber, 2011. The STATA code as provided by http://economics.uwo.ca/people/conley_docs/code_to_download.html was applied. Since the number of counties within the clustering variable (planning region \times year) varies, the analysis follows the population-weighted approach.

TABLE 4 Gender parity across East and West German regions

	I	II	III	IV	V
East (dummy, Yes = 1: East × Year ₁₉₃₉)	0.0145	Y ^a	Y ^a	Y ^a	0.0158*
Reference category	(0.0101)				(0.0093)
East × Year ₁₉₂₅	-0.0066 (0.0144)	-0.0066 (0.0128)	-0.0040 (0.0097)	0.0022 (0.0116)	0.0024 (0.0136)
East × Year ₁₉₉₆	0.0417*** (0.0107)	0.0417*** (0.0097)	0.0198* (0.0118)	0.0210 (0.0129)	0.0613*** (0.0157)
East × Year ₂₀₀₀	0.0330*** (0.0104)	0.0330*** (0.0092)	0.0098 (0.0110)	0.0385*** (0.0097)	0.0756*** (0.0118)
East × Year ₂₀₀₅	0.0195* (0.0104)	0.0195** (0.0092)	-0.0058 (0.0107)	0.0125 (0.0092)	0.0354*** (0.0108)
East × Year ₂₀₀₆	0.0189* (0.0104)	0.0189** (0.0092)	-0.0060 (0.0105)	0.0098 (0.0091)	0.0301*** (0.0107)
East × Year ₂₀₀₇	0.0188* (0.0105)	0.0188** (0.0092)	-0.0053 (0.0102)	0.0021 (0.0090)	0.0186* (0.0108)
East × Year ₂₀₀₈	0.0170 (0.0105)	0.0170* (0.0092)	-0.0066 (0.0100)	-0.0032 (0.0092)	0.0087 (0.0113)
East × Year ₂₀₀₉	0.0133 (0.0105)	0.0133 (0.0092)	-0.0098 (0.0099)	-0.0100 (0.0094)	-0.0023 (0.0119)
East × Year ₂₀₁₀	0.0102 (0.0105)	0.0102 (0.0092)	-0.0177* (0.0102)	-0.0136 (0.0098)	-0.0073 (0.0124)
East × Year ₂₀₁₁	0.0081 (0.0105)	0.0081 (0.0092)	-0.0193* (0.0102)	-0.0141 (0.0101)	-0.0085 (0.0130)
East × Year ₂₀₁₂	0.0063 (0.0105)	0.0063 (0.0092)	-0.0201** (0.0102)	-0.0149 (0.0099)	-0.0018 (0.0125)
East × Year ₂₀₁₃	0.0054 (0.0105)	0.0054 (0.0092)	-0.0207** (0.0102)	-0.0129 (0.0098)	0.0039 (0.0125)
East × Year ₂₀₁₄	0.0040 (0.0105)	0.0040 (0.0092)	-0.0222** (0.0103)	-0.0100 (0.0097)	0.0113 (0.0127)
East × Year ₂₀₁₅	0.0033 (0.0104)	0.0033 (0.0092)	-0.0222** (0.0103)	-0.0098 (0.0096)	0.0106 (0.0120)
East × Year ₂₀₁₆	0.0013 (0.0104)	0.0013 (0.0092)	-0.0225** (0.0103)	-0.0086 (0.0097)	0.0142 (0.0118)
East × Year ₂₀₁₇	0.0002 (0.0104)	0.0002 (0.0092)	-0.0234** (0.0104)	-0.0106 (0.0099)	0.0149 (0.0119)

TABLE 4 (Continued)

	I	II	III	IV	V
East × Year ₂₀₁₈	-0.0010 (0.0104)	-0.0010 (0.0092)	-0.0243** (0.0104)	-0.0126 (0.0100)	0.0167 (0.0113)
East × Year ₂₀₁₉	-0.0022 (0.0103)	-0.0022 (0.0092)	-0.0252** (0.0105)	-0.0154 (0.0102)	0.0139 (0.0113)
Year _t (dummy, Yes = 1)	Y	Y	Y	Y	Y
Controls _t	N	N	Y	Y	Y
Controls _t × Year _t	N	N	N	Y	Y
Planning region FE	N	Y	Y	Y	N
R ²	0.8318	0.8923	0.9290	0.9485	0.9189

Note: N = 5225. See notes of Table 2.

Abbreviation: FE, fixed effect.

^aSee note (a) of Table 2.

pretreatment-x-East interaction because of influential observations that often affect statistical testing in smaller samples. One can conclude from this result that both parts of the country followed the same path of development.

4.4 | Social acceptance of women in work today

The previous analyses do not directly inform about social acceptance of working women. It is likely that there is a strong correlation between attitude and actual behavior. There is no direct data on social acceptance of working women before German division. The German General Social Survey (ALLBUS) includes data on regional differences in social acceptance of married women across German regions today. The ALLBUS is a representative survey of the German population conducted through personal interviews (for details, see Terwey & Baltzer, 2011). The survey is conducted biannually since 1980. Regional codes, indicating the place of residence of the respondents on the county level, are available for waves after 1994. In the waves of 1996, 2000, 2004, 2008, and 2012, respondents were asked to state their agreement with different patterns regarding the role of women in families and the workplace:

- (1) It is better for all if the husband works and the wife stays at home taking care of the household and the children.
- (2) It is more important for a woman to support her husband's career instead of making her career.
- (3) A married woman should turn a job down if only a limited number of jobs are available and her husband can make a living for the family.

The three questions deal with different aspects. While question (1) focuses more on general gender roles (childcare and housework), (2) and (3) explicitly aim at attitudes regarding labor market behavior of married women. In addition, question (3) captures attitudes regarding maternal employment.¹⁷

Historical regional FLFP represents the incidence of role models for future generations of women who update their prior beliefs about work based on observing other working women and the awareness of working women in past generations (see Farre & Vella, 2013; Fernandez, 2007; Fogli & Veldkamp, 2011). Since this process is working

¹⁷The conventional interpretation of "make a living for the family" involves the presence of kids. It has to be acknowledged that it cannot be ruled out that some respondents mentally referred to a married couple without kids.

TABLE 5 FLFP across regions along the former inner-German border

	I	II	III	IV	V
East (dummy, Yes = 1: East × Year ₁₉₃₉)	0.0990***	Y ^a	Y ^a	0.0874***	0.0830**
Reference category	(0.0347)			(0.0308)	(0.0350)
East × Year ₁₉₂₅	-0.0267	-0.0267	-0.0261	-0.0279	-0.0225
	(0.0468)	(0.0430)	(0.0336)	(0.0403)	(0.0422)
East × Year ₁₉₉₆	0.0208	0.0208	0.0787*	0.0299	0.0466
	(0.0399)	(0.0353)	(0.0467)	(0.0451)	(0.0520)
East × Year ₂₀₀₀	0.0032	0.0032	0.0354	-0.0011	0.0316
	(0.0362)	(0.0314)	(0.0406)	(0.0422)	(0.0469)
East × Year ₂₀₀₅	-0.0231	-0.0231	0.0034	-0.0326	0.0058
	(0.0378)	(0.0321)	(0.0406)	(0.0424)	(0.0486)
East × Year ₂₀₀₆	-0.0245	-0.0245	0.0052	-0.0357	0.0056
	(0.0368)	(0.0317)	(0.0403)	(0.0418)	(0.0477)
East × Year ₂₀₀₇	-0.0198	-0.0198	0.0134	-0.0300	0.0093
	(0.0372)	(0.0320)	(0.0409)	(0.0445)	(0.0501)
East × Year ₂₀₀₈	-0.0125	-0.0125	0.0289	-0.0241	0.0191
	(0.0370)	(0.0321)	(0.0424)	(0.0471)	(0.0518)
East × Year ₂₀₀₉	-0.0112	-0.0112	0.0397	-0.0212	0.0202
	(0.0366)	(0.0319)	(0.0449)	(0.0520)	(0.0552)
East × Year ₂₀₁₀	-0.0177	-0.0177	0.0594	-0.0410	0.0143
	(0.0360)	(0.0314)	(0.0524)	(0.0600)	(0.0579)
East × Year ₂₀₁₁	-0.0251	-0.0251	0.0623	-0.0451	0.0095
	(0.0361)	(0.0317)	(0.0542)	(0.0632)	(0.0597)
East × Year ₂₀₁₂	-0.0129	-0.0129	0.0784	-0.0343	0.0158
	(0.0357)	(0.0318)	(0.0534)	(0.0596)	(0.0557)
East × Year ₂₀₁₃	-0.0111	-0.0111	0.0852	-0.0349	0.0132
	(0.0355)	(0.0315)	(0.0535)	(0.0573)	(0.0527)
East × Year ₂₀₁₄	-0.0171	-0.0171	0.0836	-0.0435	0.0031
	(0.0358)	(0.0316)	(0.0545)	(0.0544)	(0.0489)
East × Year ₂₀₁₅	-0.0209	-0.0209	0.0825	-0.0484	-0.0031
	(0.0358)	(0.0315)	(0.0553)	(0.0521)	(0.0464)
East × Year ₂₀₁₆	-0.0264	-0.0264	0.0752	-0.0501	-0.0123
	(0.0356)	(0.0315)	(0.0546)	(0.0507)	(0.0445)
East × Year ₂₀₁₇	-0.0310	-0.0310	0.0707	-0.0573	-0.0211
	(0.0355)	(0.0317)	(0.0548)	(0.0475)	(0.0449)

TABLE 5 (Continued)

	I	II	III	IV	V
East × Year ₂₀₁₈	-0.0350 (0.0353)	-0.0350 (0.0316)	0.0664 (0.0561)	-0.0625 (0.0468)	-0.0269 (0.0427)
East × Year ₂₀₁₉	-0.0362 (0.0354)	-0.0362 (0.0325)	0.0629 (0.0563)	-0.0632 (0.0470)	-0.0308 (0.0428)
Year _t (dummy, Yes = 1)	Y	Y	Y	Y	Y
Controls _t	N	N	Y	Y	Y
Matched pair FE	Y	Y	Y	Y	N
Planning region FE	N	Y	Y	N	N
R ²	0.9795	0.9868	0.9906	0.9878	0.9827

Note: N = 190; see notes of Table 2. Interactions between year and control variables imply perfect collinearity for DiD-estimators and cannot be estimated.

Abbreviations: FE, fixed effect; FLFP, female labor force participation.

^aSee note (a) of Table 2.

via social interaction, it is local in nature (Fogli & Veldkamp, 2011). Hence, local variation in FLFP and the relative share of working women historically should explain regional differences in the social acceptance of working women today.¹⁸

Ordered logit regressions reveal indeed that there is a positive relationship between the historical incidence of working women with disagreement with the statements (1)–(3) (Table 8). Next to historical FLFP measures, the regression models include survey year markers and exogenous individual controls, namely, age, gender, and parental characteristics.¹⁹ The models include also planning region dummy variables that perfectly capture location in East and West Germany. Hence, the historical legacy effect is not driven by characteristics of the labor market area the regions are located in. Furthermore, the planning region dummies perfectly capture any socialist legacy effects.²⁰

Altogether, one can conclude from the models that regional differences in female labor supply predating socialism are positively related to statements regarding the social acceptance of married women (with kids) in work. These patterns suggest that positive attitudes towards working women have historical roots predating socialism. Against this background, it should be also noted that earlier research using the ALLBUS by Braun et al. (1994) reveals that higher social acceptance of working women in East Germany was rather determined by economic hardships over the course of transition than by changing gender roles (see also, Maier, 1993).

Another remarkable pattern shown in Wyrwich (2019) using the same data is that postunification differences in FLFP are not explaining differences in attitudes while preseparation differences explain regional differences in attitudes. Hence, not the FLFP that emerged after the socialist period but presocialist tradition in FLFP explains the differences in attitudes today. I think that these analyses are a good approach to roughly grasp the general idea of a DiD in a survey data setting without pretreatment information on survey participants.

¹⁸The measures are of 1925 and not 1939 due to constraints of data access. This has the advantage that the measures reflect female labor supply before policies of the Nazi government in the 1930s that were aimed at working women (Mason, 1976).

¹⁹The controls for parental characteristics include schooling of fathers and mothers as well as the occupational status of fathers.

²⁰One caveat of the survey is that it does not have information on where respondents lived in 1989.

TABLE 6 FLFP across East and West German planning regions

	I	II	III	IV	V
East (dummy, Yes = 1: East × Year ₁₉₃₉)	0.0414***	Y ^a	Y ^a	Y ^a	0.0258*
Reference category	(0.0124)				(0.0147)
East × Year ₁₉₂₅	0.0095 (0.0073)	0.0095 (0.0073)	0.0092 (0.0070)	0.0061 (0.0085)	0.0060 (0.0084)
East × Year ₁₉₉₆	0.0939*** (0.0122)	0.0939*** (0.0122)	0.1236*** (0.0160)	0.1102*** (0.0237)	0.1483*** (0.0254)
East × Year ₂₀₀₀	0.0748*** (0.0121)	0.0748*** (0.0121)	0.1106*** (0.0161)	0.1210*** (0.0190)	0.1484*** (0.0184)
East × Year ₂₀₀₅	0.0419*** (0.0121)	0.0419*** (0.0122)	0.0781*** (0.0164)	0.0705*** (0.0192)	0.0865*** (0.0201)
East × Year ₂₀₀₆	0.0427*** (0.0124)	0.0427*** (0.0125)	0.0780*** (0.0167)	0.0776*** (0.0199)	0.0935*** (0.0199)
East × Year ₂₀₀₇	0.0504*** (0.0126)	0.0504*** (0.0127)	0.0819*** (0.0170)	0.0809*** (0.0206)	0.0964*** (0.0201)
East × Year ₂₀₀₈	0.0520*** (0.0127)	0.0520*** (0.0128)	0.0751*** (0.0182)	0.0724*** (0.0231)	0.0834*** (0.0215)
East × Year ₂₀₀₉	0.0520*** (0.0127)	0.0520*** (0.0127)	0.0681*** (0.0195)	0.0691** (0.0264)	0.0726*** (0.0250)
East × Year ₂₀₁₀	0.0480*** (0.0124)	0.0480*** (0.0125)	0.0497** (0.0217)	0.0530* (0.0293)	0.0557** (0.0259)
East × Year ₂₀₁₁	0.0462*** (0.0127)	0.0462*** (0.0127)	0.0451* (0.0229)	0.0387 (0.0319)	0.0389 (0.0282)
East × Year ₂₀₁₂	0.0477*** (0.0123)	0.0477*** (0.0123)	0.0448** (0.0222)	0.0295 (0.0293)	0.0335 (0.0255)
East × Year ₂₀₁₃	0.0435*** (0.0121)	0.0435*** (0.0121)	0.0395* (0.0213)	0.0275 (0.0279)	0.0311 (0.0241)
East × Year ₂₀₁₄	0.0403*** (0.0119)	0.0403*** (0.0119)	0.0349* (0.0202)	0.0140 (0.0268)	0.0201 (0.0236)
East × Year ₂₀₁₅	0.0349*** (0.0117)	0.0349*** (0.0118)	0.0283 (0.0192)	0.0034 (0.0256)	0.0104 (0.0232)
East × Year ₂₀₁₆	0.0283** (0.0114)	0.0283** (0.0114)	0.0209 (0.0183)	0.0067 (0.0253)	0.0193 (0.0236)
East × Year ₂₀₁₇	0.0234** (0.0112)	0.0234** (0.0112)	0.0145 (0.0179)	0.0086 (0.0261)	0.0271 (0.0253)



TABLE 6 (Continued)

	I	II	III	IV	V
East × Year ₂₀₁₈	0.0207* (0.0111)	0.0207* (0.0111)	0.0100 (0.0175)	0.0033 (0.0270)	0.0221 (0.0259)
East × Year ₂₀₁₉	0.0155 (0.0113)	0.0155 (0.0114)	0.0039 (0.0174)	-0.0025 (0.0269)	0.0171 (0.0264)
Year _t (dummy, Yes = 1)	Y	Y	Y	Y	Y
Controls _t	N	N	Y	Y	Y
Controls _t × Year _t	N	N	N	Y	Y
State FE	N	Y	Y	Y	N
R ²	0.9496	0.9594	0.9773	0.9834	0.9798

Note: N = 1729; Berlin is excluded since the data sets at hand do not allow for disentangling information for the Eastern and the Western part of the city. The State of Saarland is excluded because there are no data for 1925. Robust standard errors are shown in parentheses. The clustering is on the State * Year-level (number of states: N = 14). The constants are not shown for brevity. The year 1939 is the reference category for the evaluation of the treatment effects and the test on the parallel trend assumption (interaction: East × Year₁₉₂₅).

Abbreviations: FE, fixed effect; FLFP, female labor force participation.

^aThe East dummy is perfectly collinear with the state fixed effects and cannot be interpreted. Treatment effects can be still evaluated like in the other models (for details, see Conley & Taber, 2011).

***Statistically significant at 1% level.

**Statistically significant at 5% level.

*Statistically significant at 10% level.

TABLE 7 Conley–Taber inference (Table 2)

Column	I	II	III	IV	V
<i>Panel A: Conley–Taber inference: East × Year 2019</i>					
Table 2	n.s.	n.s.	***	***	***
<i>Panel B: Conley–Taber inference: East × Year 1925</i>					
Table 2	n.s.	n.s.	n.s.	n.s.	n.s.

Note: “Conley–Taber inference” reports whether the confidence intervals at the 10% (*), 5% (**), and 1% (***) levels obtained by the method introduced by Conley and Taber (2011) do not include the value of zero (“n.s.” means “not significant” and refers to intervals where the value of zero is included at the 90% level). The results are based on 500 replications.

One limitation of the analysis is that it is not possible to consider historical FLFP measures for married women or mothers at the county level. There is such data at the level of historical states and provinces. Table 9 shows the share of married women (1) among all married people in work and (2) among all working women across prewar Germany in accordance with the census as of 1939.²¹ For nearly all regions that became part of the GDR (East Germany), these shares have been higher than the West German average in 1939. The share of married women in the labor market in East Germany was nearly twice as large. The share of married women among all women participating in the labor market was about 14 percentage points higher in East Germany. Further columns of

²¹There are no regional data on the total number of married women and married women in work for today at the aggregate level. Surveys like the German socioeconomic panel (SOEP) include such information but it is not representative at the regional level (very small case numbers).

TABLE 8 Social acceptance of working women: survey evidence

	I	II	III
<i>Dep. Var. No. of question</i>	(1)	(2)	(3)
Panel A			
Preseparation FLP	1.331*** (0.426)	1.344*** (0.438)	1.453*** (0.434)
Controls	Y	Y	Y
Survey year dummies	Y	Y	Y
Planning region FE	Y	Y	Y
<i>N</i>	10,738	10,590	10,640
Panel B			
Preseparation SWLF	1.987*** (0.712)	2.319*** (0.733)	2.510*** (0.717)
Controls	Y	Y	Y
Survey year dummies	Y	Y	Y
Planning region FE	Y	Y	Y
<i>N</i>	10,738	10,590	10,640

Note: The table shows ordered log-odds (logit) regression coefficients. Robust standard errors in parentheses, $**p < 0.05$, $*p < 0.1$. Survey year dummies and planning region FE are not reported for brevity. SWLF is the share of women in the labor force (sum of men and women). The sample is restricted to respondents aged between 18 and 65 years. It was not checked for German nationality due to data constraints. This should play a minor role since the overall share of respondents without German citizenship is only about 3.5% in the ALLBUS sample. The values for the pseudo- R^2 vary between 5% and 10% in the models. The FLP and SWLF measures refer to the year 1925 due to constraints of data access. They follow the definition as applied in the analyses in Sections 4.2–4.4.

Abbreviations: FE, fixed effect; FLP, female labor force participation.

*** $p < 0.01$.

Table 9 show that the share of East German women in the labor force is higher in different age groups. The difference is more pronounced in age groups above the age of 25 years most likely including a high share of married women. Thus, the descriptive findings indicate that the share of married women in East Germany was already higher before 1945 in areas that were exposed to socialism later on.²²

5 | CONCLUSIONS

This paper challenges the conventional wisdom that the higher incidence of women in the labor market in the eastern part of Germany as compared with West Germany is due to a persistent legacy of socialist labor market policies. The analysis shows that postsocialist East Germany already had a higher share of (married) women in work

²²It is unlikely that East Germany had a higher incidence of married women. This pattern would be hardly in line with the findings on higher out-of-wedlock births in areas of prewar East Germany (Kluesner & Goldstein, 2016). Unfortunately, there is no data on the incidence of mothers in the labor market in 1939 and some of the East–West gaps might be driven by differences in fertility implying a lower share of married women with kids in East Germany. However, the number of children per women aged between 20 and 40 years is 1.37 in West Germany and 1.30 in East Germany. For women aged between 20 and 45 years, it is 1.11 for West Germany and 1.04 for East Germany.

TABLE 9 The employment of married women across space in 1939 (preseparation)

	Married female employees over all married employees	Married female employees over all female employees	Share of females among employees aged between 15 and 65 years	Share of females among employees aged between 15 and 25 years	Share of females among employees aged between 25 and 45 years	Share of females among employees aged between 45 and 65 years
<i>East German areas</i>						
Anhalt	0.145	0.293	0.272	0.460	0.194	0.191
Prussia (Mark Brandenburg)	0.201	0.344	0.319	0.481	0.261	0.237
Mecklenburg	0.095	0.167	0.276	0.473	0.182	0.174
Prussia (Prov. Saxony)	0.163	0.296	0.303	0.486	0.232	0.203
Saxony	0.243	0.339	0.390	0.546	0.344	0.300
Thuringen	0.200	0.329	0.312	0.485	0.276	0.240
<i>West German areas</i>						
Baden	0.172	0.226	0.355	0.505	0.304	0.245
Bayern links d.Rh.	0.118	0.222	0.279	0.461	0.209	0.151
Bayern rechts d.Rh.	0.175	0.210	0.362	0.497	0.308	0.278
Braunschweig	0.173	0.307	0.295	0.456	0.225	0.238
Bremen	0.118	0.199	0.285	0.463	0.230	0.173
Hannover	0.112	0.184	0.287	0.472	0.205	0.171
Hansestadt Hamburg	0.135	0.211	0.325	0.518	0.291	0.215
Hessen	0.091	0.168	0.281	0.487	0.200	0.141
Hessen-Nassau	0.084	0.142	0.290	0.478	0.220	0.168
Oldenburg	0.056	0.094	0.261	0.448	0.162	0.142

(Continues)



TABLE 9 (Continued)

	Married female employees over all married employees	Married female employees over all female employees	Share of females among employees aged between 15 and 65 years	Share of females among employees aged between 15 and 25 years	Share of females among employees aged between 25 and 45 years	Share of females among employees aged between 45 and 65 years
Rheinprovinz	0.083	0.145	0.286	0.500	0.212	0.145
Schleswig-Holstein	0.115	0.188	0.294	0.491	0.209	0.177
Westfalen incl. Lippe	0.069	0.128	0.262	0.472	0.175	0.118
Württemberg	0.192	0.239	0.361	0.503	0.310	0.251
East German areas	0.202	0.321	0.338	0.506	0.282	0.252
West German areas	0.118	0.183	0.307	0.489	0.239	0.187

Note: The table shows only information for historical areas that map into current West and East German states.

before German separation. The assessment further reveals that there are no long-run socialist legacy effects on FLFP. The paper also shows that presocialist differences in the prevalence of women in the labor market play an important role for the social acceptance of women in work. Overall, the empirical regularities highlighted in the present paper suggest that socialism felt on fruitful ground rather than *initially* created an environment of high labor force participation of women.

The analysis in this paper does not rule out that there are socialist legacy effects on labor force participation of specific groups of women (e.g., mothers). Such effects are difficult to prove with the DiDs-approach used in this study due to a lack of regional (preseparation) data on labor force participation of specific groups like mothers while identifying working mothers is difficult with current regional data as well. Nevertheless, given that the share of married women in the labor market was already higher before German separation it is very likely that current differences in participation rates of particular groups pick up the persistence of FLFP that is presocialist in origin.

In line with Becker et al. (2020), this paper shows that research that exploits German division and reunification for analyzing the effect of political regimes on attitudes and economic behavior should carefully assess regional differences predating German division. There is also a general lesson for the growing amount of literature on the role of history on regional economic development (Nunn, 2020). Briefly, the results of the present paper call for a careful assessment of structural conditions predating certain historical events and episodes for correctly identifying their spatially different and persisting imprint.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are openly available in GENESIS Regional Database at <https://www.regionalstatistik.de/genesis/online/data;jsessionid=?language=en>.

ORCID

Michael Wyrwich  <https://orcid.org/0000-0001-7746-694X>

REFERENCES

- Alesina, A., & Fuchs-Schündeln, N. (2007). Good-bye Lenin (or not?): The effect of communism on people's preferences. *American Economic Review*, 97, 1507–1521.
- Autor, D. H. (2003). Outsourcing at will: The contribution of unjust dismissal doctrine to the growth of employment outsourcing. *Journal of Labor Economics*, 21, 1–42.
- Bacolod, M. (2017). Skills, the gender wage gap, and cities. *Journal of Regional Science*, 57, 290–318.
- Bauernschuster, S., & Rainer, H. (2012). Political regimes and the family: How sex-role attitudes continue to differ in reunified Germany. *Journal of Population Economics*, 25, 5–27.
- Beblo, M., & Goerges, L. (2018). On the nature of nurture: Gender differences in work preferences. *Journal of Economic Behavior & Organization*, 151, 19–41.
- Beck, G. (2004). Wandern gegen den Strom: West-Ost-Migration in Deutschland. In F. Swiaczny, & S. Haug (Eds.), *Bevoelkerungsgeographische Forschung zur Migration und Integration*. Materialien zur Bevoelkerungswissenschaft (Vol. 112). Bundesinstitut fuer Bevoelkerungsforschung.
- Becker, H. (1998). *Allgemeine Historische Agrargeographie*. Teubner.
- Becker, S. O., Mergele, L., & Woessmann, L. (2020). The separation and reunification of Germany: Rethinking a natural experiment interpretation of the enduring effects of communism. *Journal of Economic Perspectives*, 34, 143–171.
- Berliner, J. S. (1989). Soviet female labor force participation: A regional cross-section analysis. *Journal of Comparative Economics*, 13, 446–472.
- Bertelsmann. (2015). Frauenbeschäftigungsquote im Osten wächst schneller als im Westen. Accessed January 14, 2015. <https://www.bertelsmann-stiftung.de/de/themen/aktuelle-meldungen/2015/januar/frauenbeschaeftigtenquote-im-osten-waechst-schneller-als-im-westen/>
- Besley, T., & Burgess, R. (2004). Can labor regulation hinder economic performance? Evidence from India. *Quarterly Journal of Economics*, 119, 91–134.
- Bilinski, A., & Hatfield, L. A. (2018). *Nothing to see here? Non-inferiority approaches to parallel trends and other model assumptions*. Mimeo.

- Brainerd, E. (2000). Women in transition: Changes in gender wage differentials in Eastern Europe and the former Soviet Union. *Industrial and Labor Relations Review*, 54, 138–162.
- Braun, M., Scott, J., & Alwin, D. F. (1994). Economic necessity or self-actualization? Attitudes toward women's labour-force participation in East and West Germany. *European Sociological Review*, 10, 29–47.
- Brosig-Koch, J., Helbach, C., Ockenfels, A., & Weimann, J. (2011). Still different after all these years: Solidarity behavior in East and West Germany. *Journal of Public Economics*, 95, 1373–1376.
- Burda, M., & Hunt, J. (2001). From reunification to economic integration: Productivity and labor markets in Germany. *Brookings Papers on Economic Activity*, 2, 1–71.
- Campa, P., & Serafinelli, M. (2019). Politico-economic regimes and attitudes: Female workers under state-socialism. *Review of Economics and Statistics*, 101, 233–248.
- Conley, T. G., & Taber, C. (2011). Inference with "Differences in Differences" with a small number of policy changes. *Review of Economics and Statistics*, 93, 113–125.
- 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, 117–143.
- Corbett, D. (1991). *Unemployment in Interwar Germany, 1924–1938* [Doctoral dissertation, Harvard University].
- Costa, D. L. (2000). From mill town to board room: The rise of women's paid labor. *Journal of Economic Perspectives*, 14, 101–122.
- De Blasio, G., & Nuzzo, G. (2010). Historical traditions of civiness and local economic development. *Journal of Regional Science*, 50, 833–857.
- Dimsdale, N. H., Horsewood, N., & van Riel, A. (2006). Unemployment in Interwar Germany: An analysis of the labor market, 1927–1936. *Journal of Economic History*, 66, 778–808.
- Duggan, L. (1995). Restacking the deck: Family policy and women's fall-back position in Germany before and after unification. *Feminist Economics*, 1, 175–194.
- Faggian, A., McCann, P., & Sheppard, S. (2007). Some evidence that women are more mobile than men: Gender differences in UK graduate migration behaviour. *Journal of Regional Science*, 47, 517–539.
- Farre, L., & Vella, F. (2013). The intergenerational transmission of gender role attitudes and its implications for female labour force participation. *Economica*, 80, 219–247.
- Fernandez, R. (2007). Women, work and culture. *Journal of the European Economic Association*, 4, 305–332.
- Fogli, A., & Veldkamp, L. (2011). Nature or nurture? Learning and the geography of female labor force participation. *Econometrica*, 79, 1103–1138.
- Fritsch, M., & Wyrwich, M. (2021). Does successful innovation require large urban areas? Germany as a counterexample. *Economic Geography*, 97, 284–308.
- Fritz, W. (2001). Historie der amtlichen Statistiken der Erwerbstätigkeit in Deutschland: ein fragmentarischer Abriss: Darstellung, Quellen, Daten, Definitionen, Chronik. *Historical Social Research, Supplement*, 13, 1–304.
- Fuchs, M., Rossen, A., Weyh, A., & Wydra-Somaggio, G. (2021). Where do women earn more than men? Explaining regional differences in the gender pay gap. *Journal of Regional Science*, 61, 1065–1086.
- Goldin, C. (2006). The quiet revolution that transformed women's employment, education, and family. *American Economic Review: P&P*, 96, 1–27.
- Goldstein, J. R., & Kreyenfeld, M. (2011). Has East Germany overtaken West Germany? Recent trends in order-specific fertility. *Population and Development Review*, 37, 453–472.
- Hall, V. G. (2013). *Women at work 1860–1939: How different industries shaped women's experiences*. Boydell Press.
- Holst, E., & Wieber, A. (2014). Bei der Erwerbstätigkeit der Frauen liegt Ostdeutschland vorn. *DIW Wochenbericht*, 40, 967–975.
- Institute of Population Research. (2013) *Binnenwanderungen in Deutschland*. Retrieved from <http://www.bib-demografie.de/DE/Zahle.nundFakten/Wanderungen/Abbildungen/binnenwanderung.html>
- Jurajda, S. (2003). Gender wage gap and segregation in enterprises and the public sector in late transition countries. *Journal of Comparative Economics*, 31, 199–222.
- Kelly, M. (2020). *Understanding persistence* [CEPR Discussion Paper, No. DP15246].
- Kluesener, S., & Goldstein, J. R. (2016) A long-standing demographic East–West divide in Germany. *Population Space and Place*, 22, 5–22.
- Kroehnert, S., & Vollmer, S. (2012). Gender-specific migration from eastern to western Germany: Where have all the young women gone? *International Migration*, 50, 95–112.
- Maier, F. (1993). The labour market for women and employment perspectives in the aftermath of German unification. *Cambridge Journal of Economics*, 17, 267–280.
- Mason, T. (1976). Women in Germany, 1925–1940: Family, welfare and work. *History Workshop*, 1, 74–113.
- Mewes, L. (2019). Scaling of atypical knowledge combinations in American metropolitan areas from 1836 to 2010. *Economic Geography*, 95, 341–361.

- Moseley, P. E. (1950). The occupation of Germany: New light on how the zones were drawn. *Foreign Affairs*, 28, 580–604.
- Nunn, N. (2020). The historical roots of economic development. *Science*, 367(6485): eaaz9986.
- Olivetti, C., & Petrongolo, B. (2014). Gender gaps across countries and skills: Demand, supply and the industry structure. *Review of Economic Dynamics*, 17, 842–859.
- Rainer, H., & Siedler, T. (2009). Does democracy foster trust? *Journal of Comparative Economics*, 37, 251–269.
- Rambachan, A., & Roth, J. (2019). *An honest approach to parallel trends*. Unpublished manuscript, Harvard University.
- Rosenfeld, R. A., Trappe, H., & Gornick, J. C. (2004). Gender and work in Germany: Before and after reunification. *Annual Review of Sociology*, 30, 103–124.
- Roth, J. (2021). *Pre-test with caution: Event-study estimates after testing for parallel trends*. Mimeo.
- Rudolph, H. (1990). Beschäftigungsstrukturen in der DDR vor der Wende, Mitteilungen aus der Arbeitsmarkt- und Berufsforschung (4/90), IAB.
- Schmucker, A., Seth, S., Ludsteck, J., Eberle, J., & Ganzer, A. (2016). *Establishment history panel 1975–2014*. FDZ-Datenreport (03/2016). Institute for Employment Research.
- Schoenberger, E. (2020). Roepke lecture in economic geography—War, Capitalism, and the making and unmaking of economic geographies. *Economic Geography*, 96, 1–22.
- Statistik des Deutschen Reichs. (1909). Berufs- und Betriebszählung vom 12. Juni 1907/Landwirtschaftliche Betriebsstatistik (Vol. 209/212). Statistisches Reichsamt.
- Statistik des Deutschen Reichs. (1927). Volkszählung vom 16. Juni 1925/Berufszaehlung vom 16. Juni 1925 (Vol. 401/403–405). Statistisches Reichsamt.
- Statistik des Deutschen Reichs. (1929). *Einkommen- Und Koerperschaftssteuerveranlagung fuer 1925* (Vol. 348). Reimar Hobbing.
- Statistik des Deutschen Reichs. (1941). Volks-, Berufs- und Betriebszählung vom 17. Mai 1939 (Vol. 552). Statistisches Reichsamt.
- Statistik des Deutschen Reichs. (1943). Volks-, Berufs- und Betriebszählung vom 17. Mai 1939 (Vol. 557). Statistisches Reichsamt.
- Statistisches Reichsamt. (1936). *Statistisches Jahrbuch für das Deutsche Reich*. Retrieved from http://www.digizeitschriften.de/main=/dms/img/?PPN=PPN514401303_1935
- Terwey, M., & Baltzer, S. (2011). *ALLBUS 2004—Variable report*. GESIS.
- Tipton, F. (1974). Farm labor and power politics: Germany, 1850–1914. *Journal of Economic History*, 34, 951–979.
- Weinstein, A. L. (2017). Working women in the city and urban wage growth in the United States. *Journal of Regional Science*, 57, 591–610.
- Wyrwich, M. (2019). Historical and current spatial differences in female labour force participation: Evidence from Germany. *Papers in Regional Science*, 98, 211–239.

How to cite this article: Wyrwich, M. (2022). Historical episodes and their legacies across space: A famous case revisited. *Journal of Regional Science*, 62, 1048–1091. <https://doi.org/10.1111/jors.12589>

APPENDIX A

TABLE A1a Summary statistics of main variables

	Mean	S.D.	Min	Max
<i>FLFP</i>				
FLFP 1939	0.252	0.07	0.111	0.495
FLFP 1996–2019	0.598	0.063	0.368	0.765
<i>Preseparation regional conditions</i>				
Population density 1939	4.789	0.695	3.502	7.259
Employment share in manufacturing 1939	0.517	0.123	0.234	0.817
Employment share in mining 1939	0.014	0.032	0	0.317
Income per capita 1925 (ln)	5.05	0.325	3.805	5.849
Average farm size 1939	5.746	3.758	0.711	37.579
Population share of Protestants 1939	0.552	0.368	0.006	0.989
Population share 1939: 15–19/15–64	0.153	0.016	0.108	0.193
Population share 1939: 20–29/15–64	0.202	0.014	0.174	0.252
Population share 1939: 30–39/15–64	0.236	0.01	0.213	0.263
Population share 1939: 40–49/15–64	0.193	0.009	0.164	0.222
Population share 1939: 50–64/15–64	0.216	0.015	0.17	0.257
Net migration 1925	−0.001	0.003	−0.022	0.01
Population share of annual migration inflow ^a	–	–	–	–
<i>Postunification regional condition: 1996–2019</i>				
Population density	5.225	0.757	3.584	8.316
Employment share in manufacturing	0.23	0.09	0.064	0.66
Employment share in mining	0.014	0.01	0	0.176
Income per capita (ln)	9.851	0.164	9.338	10.569
Average farm size	72.576	76.243	8.428	352.324
Population share of Protestants	0.297	0.172	0.04	0.697
Population share: 15–19/15–64	0.083	0.013	0.043	0.123
Population share: 20–29/15–64	0.166	0.022	0.091	0.246
Population share: 30–39/15–64	0.185	0.029	0.134	0.291
Population share: 40–49/15–64	0.234	0.028	0.165	0.294
Population share: 50–64/15–64	0.332	0.049	0.227	0.494
Net migration	0.002	0.005	−0.013	0.024
Population share of annual migration inflow	0.027	0.007	0.012	0.054

Abbreviation: FLFP, female labor force participation.

^aThere are no preseparation data on the number of people moving to the region in a particular year. There is only information on net migration. The value of zero is assumed for preseparation data. This is justified because this variable is supposed to control for postunification inflow of migrants affecting attitudes towards FLFP and actual FLFP.

TABLE A1b Definition of main variables and data sources

Variable	Definition	Source
FLFP	Number of women working as dependent employees or being unemployed over the female population aged between 15 and 64 years ^a	<i>Preseparation data:</i> Occupation and Population Census Vol. 401, 403–405, 552, 557 (Statistik des Deutschen Reichs, 1927, 1941, 1943)/ <i>Postunification data:</i> Federal Employment Agency; GENESIS database of Federal German Statistical Office
Population density	Number of people per km ²	<i>Preseparation data:</i> Population Census Vol. 401, 552 (Statistik des Deutschen Reichs, 1927, 1941)/ <i>Postunification data:</i> GENESIS database of Federal German Statistical Office
Employment share in manufacturing (mining)	Number of employees in manufacturing (mining) over all employees	<i>Preseparation data:</i> Occupation and Population Census Vol. 403–405, 557 (Statistik des Deutschen Reichs, 1927, 1943)/ <i>Postunification data:</i> Federal Employment Agency (Establishment History Panel, Schmucker et al., 2016) and GENESIS database of the Federal German Statistical Office
Average farm size	Number of farms over total size of farmland (in hectare)	<i>Preseparation data:</i> Census of agricultural holdings as of 1907 (Statistik des Deutschen Reichs, 1909/12, Vol. 209/12)/ <i>Postunification data:</i> Census of agricultural land holdings as of 2000, 2005, and 2010 from GENESIS database of Federal German Statistical Office. For the year 1996, the values from 2000 are inserted. For 2015, the values from 2010 are inserted because there are no statistics for these years
Population share of Protestants	Number of Protestant adherents over total population	<i>Preseparation data:</i> Population Census Vol. 401 (Statistik des Deutschen Reichs, 1927)/ <i>Postunification data:</i> census (2011) from GENESIS database of Federal German Statistical Office. The census data are employed for all postunification years
Income per capita	Income over total regional population (in Reichsmark/Euro) ^b	<i>Preseparation data:</i> Income statistics for the year 1925, Vol. 348 (Statistik des Deutschen Reichs, 1929)/ <i>Postunification data:</i> GENESIS database of Federal German Statistical Office
Net migration	The difference between annual female population inflow and outflow weighted by the size of the local female population ^c	<i>Preseparation data:</i> Population Census Vol. 401, 552 (Statistik des Deutschen Reichs, 1927, 1941)/ <i>Postunification data:</i> GENESIS database of Federal German Statistical Office

(Continues)

TABLE A1b (Continued)

Variable	Definition	Source
Population share of annual migration inflow	Annual female population inflow over female population	There is no preseparation data on the annual female population inflow ^d /Postunification data: GENESIS database of Federal German Statistical Office
Age structure	Female population between the age of 15 and 19 years (20–29 years), (30–39 years), (40–49 years) over female population between the age of 15–64 years	Preseparation data: Population Census Vol. 401, 552 (Statistik des Deutschen Reichs, 1927, 1941)/Postunification data: GENESIS database of Federal German Statistical Office

Abbreviation: FLFP, female labor force participation.

^aIn postunification Germany, adolescents can enter the labor market at the age of 15 years. For 1925, there is only information on the population of women above the age of 64 years. The regional population share for 25–64 y.o. as of 1939 is multiplied with the total population in 1925 to obtain a number for the population share aged 25–64 y.o. in 1925. For 1996, there is total but no reliable gender-specific employment data at the residence level. There is only gender-specific employment data at the workplace level from the Establishment History Panel (EHP; Schmucker et al., 2016). For obtaining gender-specific employment data at the residence level, the EHP data are multiplied by a ratio relating total employment at the residence level to total employment at the workplace level. Comparing the obtained numbers for 1996 to those of the year 2000, for which employment data at the residence level is available for the first time, shows that the adjustment of the 1996 data leads to reasonable numbers. An issue with the data for 1996 is that it does not include marginally employed individuals (*geringfügig Beschäftigte*). This problem is not present for later employment data because marginally employed people entered the German Social Insurance Statistics in 1999. A comparison of the workforce figures of 1996 and 2000 suggests that the missing information in the former year is not problematic.

^bThere are only preseparation data on income for the year 1925 (in Reichsmark). The respective values are also used for the year 1939. Postunification data are in Euro.

^cThe preseparation information on migration is only available for positive/negative net migration. Therefore, it is not possible to calculate a standard migration ratio with population inflow over outflow. The preseparation data are only available for 1925. The respective values are also used for the year 1939.

^dThe preseparation information on migration is only available for positive/negative net migration. The value of zero is assumed for preseparation data. This is justified because this variable is supposed to control for postunification inflow of migrants affecting attitudes towards FLFP and actual FLFP.



TABLE A2 Coefficient estimates for control variables for baseline regressions (Table 2)

	I	II	III	IV	V
East (dummy, Yes = 1: East × Year ₁₉₃₉)	0.0592***	Y ^a	Y ^a	Y ^a	0.0429***
Reference category	(0.0132)				(0.0111)
East × Year ₁₉₂₅	-0.0017 (0.0181)	-0.0017 (0.0157)	-0.0008 (0.0127)	-0.0027 (0.0138)	-0.0023 (0.0155)
East × Year ₁₉₉₆	0.0758*** (0.0141)	0.0758*** (0.0123)	0.1064*** (0.0142)	0.0630*** (0.0185)	0.1226*** (0.0228)
East × Year ₂₀₀₀	0.0581*** (0.0138)	0.0581*** (0.0116)	0.0899*** (0.0134)	0.0887*** (0.0145)	0.1388*** (0.0164)
East × Year ₂₀₀₅	0.0256* (0.0138)	0.0256** (0.0117)	0.0548*** (0.0132)	0.0411*** (0.0144)	0.0777*** (0.0156)
East × Year ₂₀₀₆	0.0267* (0.0137)	0.0267** (0.0117)	0.0535*** (0.0131)	0.0420*** (0.0137)	0.0795*** (0.0148)
East × Year ₂₀₀₇	0.0334** (0.0137)	0.0334*** (0.0117)	0.0534*** (0.0130)	0.0357*** (0.0136)	0.0699*** (0.0153)
East × Year ₂₀₀₈	0.0353** (0.0138)	0.0353*** (0.0117)	0.0465*** (0.0130)	0.0302** (0.0140)	0.0593*** (0.0160)
East × Year ₂₀₀₉	0.0349** (0.0138)	0.0349*** (0.0116)	0.0376*** (0.0131)	0.0179 (0.0151)	0.0409** (0.0177)
East × Year ₂₀₁₀	0.0302** (0.0138)	0.0302*** (0.0116)	0.0205 (0.0138)	0.0116 (0.0156)	0.0284 (0.0187)
East × Year ₂₀₁₁	0.0280** (0.0139)	0.0280** (0.0117)	0.0146 (0.0140)	-0.0006 (0.0169)	0.0127 (0.0199)
East × Year ₂₀₁₂	0.0302** (0.0138)	0.0302*** (0.0116)	0.0159 (0.0139)	0.0016 (0.0160)	0.0146 (0.0186)
East × Year ₂₀₁₃	0.0257* (0.0138)	0.0257** (0.0115)	0.0122 (0.0138)	-0.0025 (0.0160)	0.0092 (0.0189)
East × Year ₂₀₁₄	0.0222 (0.0138)	0.0222* (0.0115)	0.0092 (0.0138)	-0.0101 (0.0155)	0.0019 (0.0178)
East × Year ₂₀₁₅	0.0173 (0.0137)	0.0173 (0.0115)	0.0055 (0.0137)	-0.0152 (0.0155)	-0.0044 (0.0161)
East × Year ₂₀₁₆	0.0107 (0.0137)	0.0107 (0.0115)	-0.0001 (0.0136)	-0.0187 (0.0157)	-0.0065 (0.0164)

(Continues)

TABLE A2 (Continued)

	I	II	III	IV	V
East × Year ₂₀₁₇	0.0061 (0.0137)	0.0061 (0.0115)	-0.0046 (0.0136)	-0.0184 (0.0162)	-0.0020 (0.0171)
East × Year ₂₀₁₈	0.0038 (0.0137)	0.0038 (0.0115)	-0.0066 (0.0137)	-0.0221 (0.0162)	-0.0044 (0.0179)
East × Year ₂₀₁₉	-0.0015 (0.0137)	-0.0015 (0.0115)	-0.0118 (0.0137)	-0.0249 (0.0165)	-0.0076 (0.0176)
Year _t (dummies, Yes = 1)	Y	Y	Y	Y	Y
Average farm size _t	N	N	0.0001*** (0.0000)	0.0020* (0.0011)	0.0030* (0.0016)
Population share of Protestants _t	N	N	-0.0157** (0.0066)	-0.0086 (0.0096)	-0.0169 (0.0106)
Population density _t	N	N	0.0095*** (0.0015)	0.0363*** (0.0078)	0.0204** (0.0088)
Employment share manufacturing _t	N	N	0.0315*** (0.0112)	0.1863*** (0.0393)	0.2833*** (0.0444)
Employment share mining _t	N	N	-0.1160*** (0.0388)	-0.1984** (0.1010)	-0.1803* (0.1050)
Income per capita _t	N	N	0.0621*** (0.0076)	0.0741*** (0.0121)	0.0904*** (0.0118)
Population share _t : 15–19/15–64	N	N	-0.6241*** (0.1196)	0.3125 (0.3414)	-0.4294 (0.3756)
Population share: 20–29/15–64	N	N	-0.0160 (0.0455)	1.4722*** (0.4118)	1.3824*** (0.4204)
Population share: 30–39/15–64	N	N	0.3223*** (0.0599)	-0.2831 (0.6020)	-1.0051 (0.6306)
Population share: 40–49/15–64	N	N	0.1203* (0.0690)	0.4235 (0.7393)	0.3130 (0.8072)
Population share: 50–64/15–64	N	N	Ref	Ref	Ref
Migration ratio _t	N	N	-0.1368 (0.1671)	0.7622 (1.1105)	1.0873 (1.0197)
Population share of annual migration inflow _t	N	N	-0.2639* (0.1328)	-0.4191 (0.3145)	-0.1847 (0.3412)



TABLE A2 (Continued)

	I	II	III	IV	V
Controls _t × Year _t	N	N	N	Y	Y
Planning region FE	N	Y	Y	Y	N
R ²	0.9282	0.9613	0.9696	0.9764	0.9623

Note: $N = 5225$; Berlin is excluded since the data sets at hand do not allow for disentangling information for the Eastern and the Western part of the city. The State of Saarland is excluded because there are no data for 1925. Robust standard errors are shown in parentheses. The clustering is on the Planning region × Year-level (number of planning regions: $N = 91$). The constants are not shown for brevity. The year 1939 is the reference category for the evaluation of the treatment effects and the test on the parallel trend assumption (interaction: East × Year₁₉₂₅).

Abbreviation: FE, fixed effect.

^aThe East dummy is perfectly collinear with the planning region fixed effects and cannot be interpreted. Treatment effects can be still evaluated like in the other models (for details, see Conley & Taber, 2011).

***Statistically significant at 1% level.

**Statistically significant at 5% level.

*Statistically significant at 10% level.

TABLE A3 Coefficient estimates for postunification effects for baseline regression (excl. pre-separation years)

	I	II	III
East (dummy, Yes = 1: East × Year ₁₉₉₆)	0.1350***	0.2047***	0.1655***
Reference category	(0.0051)	(0.0072)	(0.0199)
East × Year ₂₀₀₀	-0.0177***	-0.0190***	0.0162
	(0.0065)	(0.0072)	(0.0233)
East × Year ₁₉₉₆ – East × Year ₂₀₀₀	0.1173	0.1857	0.1655
East × Year ₂₀₀₅	-0.0501***	-0.0581***	-0.0449**
	(0.0064)	(0.0075)	(0.0227)
East × Year ₁₉₉₆ – East × Year ₂₀₀₅	0.0849	0.1466	0.1206
East × Year ₂₀₀₆	-0.0491***	-0.0627***	-0.0431*
	(0.0064)	(0.0075)	(0.0222)
East × Year ₁₉₉₆ – East × Year ₂₀₀₆	0.0859	0.142	0.1224
East × Year ₂₀₀₇	-0.0424***	-0.0710***	-0.0527**
	(0.0064)	(0.0077)	(0.0225)
East × Year ₁₉₉₆ – East × Year ₂₀₀₇	0.0926	0.1337	0.1128
East × Year ₂₀₀₈	-0.0405***	-0.0896***	-0.0633***
	(0.0065)	(0.0077)	(0.0230)
East × Year ₁₉₉₆ – East × Year ₂₀₀₈	0.0945	0.1151	0.1022
East × Year ₂₀₀₉	-0.0409***	-0.1092***	-0.0817***
	(0.0065)	(0.0080)	(0.0242)
East × Year ₁₉₉₆ – East × Year ₂₀₀₉	0.0941	0.0955	0.0838
East × Year ₂₀₁₀	-0.0455***	-0.1336***	-0.0942***
	(0.0065)	(0.0082)	(0.0249)
East × Year ₁₉₉₆ – East × Year ₂₀₁₀	0.0895	0.0711	0.0713
East × Year ₂₀₁₁	-0.0477***	-0.1448***	-0.1099***
	(0.0066)	(0.0086)	(0.0259)
East × Year ₁₉₉₆ – East × Year ₂₀₁₁	0.0873	0.0599	0.0556
East × Year ₂₀₁₂	-0.0455***	-0.1434***	-0.1081***
	(0.0066)	(0.0083)	(0.0249)
East × Year ₁₉₉₆ – East × Year ₂₀₁₂	0.0895	0.0613	0.0574
East × Year ₂₀₁₃	-0.0500***	-0.1459***	-0.1134***
	(0.0065)	(0.0081)	(0.0251)
East × Year ₁₉₉₆ – East × Year ₂₀₁₃	0.085	0.0588	0.0521
East × Year ₂₀₁₄	-0.0536***	-0.1466***	-0.1207***
	(0.0065)	(0.0078)	(0.0243)



TABLE A3 (Continued)

	I	II	III
East × Year ₁₉₉₆ – East × Year ₂₀₁₄	0.0814	0.0581	0.0448
East × Year ₂₀₁₅	-0.0585*** (0.0063)	-0.1485*** (0.0075)	-0.1270*** (0.0231)
East × Year ₁₉₉₆ – East × Year ₂₀₁₅	0.0765	0.0562	0.0385
East × Year ₂₀₁₆	-0.0651*** (0.0063)	-0.1537*** (0.0074)	-0.1291*** (0.0233)
East × Year ₁₉₉₆ – East × Year ₂₀₁₆	0.0699	0.051	0.0364
East × Year ₂₀₁₇	-0.0697*** (0.0063)	-0.1577*** (0.0073)	-0.1246*** (0.0238)
East × Year ₁₉₉₆ – East × Year ₂₀₁₇	0.0653	0.047	0.0409
East × Year ₂₀₁₈	-0.0719*** (0.0063)	-0.1599*** (0.0073)	-0.1270*** (0.0243)
East × Year ₁₉₉₆ – East × Year ₂₀₁₈	0.0631	0.0448	0.0385
East × Year ₂₀₁₉	-0.0772*** (0.0062)	-0.1651*** (0.0072)	-0.1302*** (0.0241)
East × Year ₁₉₉₆ – East × Year ₂₀₁₉	0.0578	0.0396	0.0353
Year _t (dummies, Yes = 1)	Y	Y	Y
Controls _t	N	Y	Y
Controls _t × Year _t	N	N	Y
Planning region FE	N	N	N
R ²	0.7834	0.8627	0.8723

Note: $N = 4675$; Berlin is excluded since the data sets at hand do not allow for disentangling information for the Eastern and the Western part of the city. The State of Saarland is excluded as well to compare the results with the other analyses. Robust standard errors are shown in parentheses. The clustering is on the Planning region × Year-level (number of planning regions: $N = 91$). The constants are not shown for brevity. The year 1996 is the reference point for the evaluation of the interaction between the dummies for East Germany and the years. In models with planning region fixed effects the East dummy representing the effect for the year 1996 would be perfectly collinear and could not be interpreted. Therefore, models with planning region fixed effects are not presented in this table.

Abbreviation: FE, fixed effect.

***Statistically significant at 1% level.

**Statistically significant at 5% level.

*Statistically significant at 10% level.

TABLE A4 FLP across East and West German regions: Baseline regressions (Table 2) without controlling for parallel pretreatment trend

	I	II	III	IV	V
East (dummy, Yes = 1: East × Year _{1925, 1939})	0.0584***	Y ^a	Y ^a	Y ^a	0.0418***
<i>Reference category</i>	(0.0091)				(0.0078)
East × Year ₁₉₉₆	0.0766***	0.0766***	0.1068***	0.0643***	0.1238***
	(0.0104)	(0.0092)	(0.0119)	(0.0176)	(0.0214)
East × Year ₂₀₀₀	0.0589***	0.0589***	0.0903***	0.0901***	0.1400***
	(0.0099)	(0.0082)	(0.0109)	(0.0133)	(0.0143)
East × Year ₂₀₀₅	0.0265***	0.0265***	0.0551***	0.0424***	0.0788***
	(0.0099)	(0.0082)	(0.0107)	(0.0131)	(0.0134)
East × Year ₂₀₀₆	0.0275***	0.0275***	0.0539***	0.0433***	0.0806***
	(0.0099)	(0.0082)	(0.0106)	(0.0123)	(0.0125)
East × Year ₂₀₀₇	0.0342***	0.0342***	0.0537***	0.0371***	0.0711***
	(0.0099)	(0.0082)	(0.0104)	(0.0122)	(0.0131)
East × Year ₂₀₀₈	0.0362***	0.0362***	0.0469***	0.0315**	0.0605***
	(0.0099)	(0.0082)	(0.0104)	(0.0126)	(0.0139)
East × Year ₂₀₀₉	0.0358***	0.0358***	0.0380***	0.0192	0.0421***
	(0.0099)	(0.0082)	(0.0105)	(0.0138)	(0.0157)
East × Year ₂₀₁₀	0.0311***	0.0311***	0.0209*	0.0130	0.0296*
	(0.0100)	(0.0081)	(0.0113)	(0.0144)	(0.0169)
East × Year ₂₀₁₁	0.0289***	0.0289***	0.0150	0.0007	0.0138
	(0.0100)	(0.0082)	(0.0116)	(0.0158)	(0.0182)
East × Year ₂₀₁₂	0.0311***	0.0311***	0.0163	0.0029	0.0157
	(0.0100)	(0.0081)	(0.0115)	(0.0148)	(0.0168)
East × Year ₂₀₁₃	0.0266***	0.0266***	0.0126	-0.0012	0.0104
	(0.0099)	(0.0081)	(0.0114)	(0.0148)	(0.0172)
East × Year ₂₀₁₄	0.0230**	0.0230***	0.0096	-0.0088	0.0030
	(0.0099)	(0.0080)	(0.0113)	(0.0143)	(0.0159)
East × Year ₂₀₁₅	0.0182*	0.0182**	0.0059	-0.0139	-0.0033
	(0.0098)	(0.0080)	(0.0112)	(0.0143)	(0.0140)
East × Year ₂₀₁₆	0.0115	0.0115	0.0002	-0.0174	-0.0053
	(0.0098)	(0.0080)	(0.0111)	(0.0146)	(0.0143)
East × Year ₂₀₁₇	0.0069	0.0069	-0.0042	-0.0170	-0.0009
	(0.0098)	(0.0080)	(0.0112)	(0.0151)	(0.0151)
East × Year ₂₀₁₈	0.0047	0.0047	-0.0063	-0.0208	-0.0032
	(0.0098)	(0.0080)	(0.0112)	(0.0151)	(0.0160)

TABLE A4 (Continued)

	I	II	III	IV	V
East \times Year ₂₀₁₉	-0.0006 (0.0098)	-0.0006 (0.0080)	-0.0114 (0.0113)	-0.0236 (0.0155)	-0.0064 (0.0157)
Year _t (dummies, Yes = 1)	Y	Y	Y	Y	Y
Controls _t	N	N	Y	Y	Y
Controls _t \times Year _t	N	N	N	Y	Y
Planning region FE	N	Y	Y	Y	N
R ²	0.9282	0.9613	0.9697	0.9765	0.9625

Note: $N = 5225$. Berlin is excluded since the data sets at hand do not allow for disentangling information for the Eastern and the Western part of the city. The State of Saarland is excluded because there are no data for 1925. Robust standard errors are shown in parentheses. The clustering is on the Planning region \times Year-level (number of planning regions: $N = 91$). The constants are not shown for brevity. When not controlling for the parallel trend assumption (interaction: East \times Year₁₉₂₅) like in the models of this table, both pretreatment years represent the reference category. An alternative approach would be to remove data from the year 1925. The coefficient estimates are very similar to this alternative approach.

Abbreviations: FE, fixed effect; FLFP, female labor force participation.

^aThe East dummy is perfectly collinear with the planning region fixed effects and cannot be interpreted. Treatment effects can be still evaluated like in the other models (for details, see Conley & Taber, 2011).

***Statistically significant at 1% level.

**Statistically significant at 5% level.

*Statistically significant at 10% level.

TABLE A5 Coefficient estimates for treatment effects for baseline regressions (Table 2) with all employees and unemployed (incl. non-Germans)

	I	II	III	IV	V
East (dummy, Yes = 1: East × Year ₁₉₃₉)	0.0592***	Y ^a	Y ^a	Y ^a	0.0429***
<i>Reference category</i>	(0.0132)				(0.0111)
East × Year ₁₉₂₅	-0.0017 (0.0181)	-0.0017 (0.0160)	-0.0009 (0.0125)	-0.0027 (0.0136)	-0.0023 (0.0155)
East × Year ₁₉₉₆	0.0884*** (0.0139)	0.0884*** (0.0123)	0.1173*** (0.0138)	0.0797*** (0.0157)	0.1415*** (0.0186)
East × Year ₂₀₀₀	0.0700*** (0.0137)	0.0700*** (0.0118)	0.1000*** (0.0132)	0.0920*** (0.0138)	0.1440*** (0.0161)
East × Year ₂₀₀₅	0.0388*** (0.0137)	0.0388*** (0.0119)	0.0680*** (0.0131)	0.0500*** (0.0146)	0.0852*** (0.0163)
East × Year ₂₀₀₆	0.0407*** (0.0137)	0.0407*** (0.0118)	0.0683*** (0.0130)	0.0560*** (0.0138)	0.0915*** (0.0153)
East × Year ₂₀₀₇	0.0480*** (0.0137)	0.0480*** (0.0118)	0.0696*** (0.0129)	0.0547*** (0.0140)	0.0853*** (0.0159)
East × Year ₂₀₀₈	0.0504*** (0.0137)	0.0504*** (0.0118)	0.0639*** (0.0129)	0.0520*** (0.0144)	0.0759*** (0.0163)
East × Year ₂₀₀₉	0.0498*** (0.0137)	0.0498*** (0.0118)	0.0555*** (0.0130)	0.0451*** (0.0149)	0.0622*** (0.0174)
East × Year ₂₀₁₀	0.0452*** (0.0137)	0.0452*** (0.0117)	0.0395*** (0.0136)	0.0386** (0.0154)	0.0492*** (0.0184)
East × Year ₂₀₁₁	0.0425*** (0.0137)	0.0425*** (0.0118)	0.0334** (0.0139)	0.0297* (0.0163)	0.0378* (0.0194)
East × Year ₂₀₁₂	0.0414*** (0.0138)	0.0414*** (0.0118)	0.0315** (0.0138)	0.0196 (0.0157)	0.0292 (0.0184)
East × Year ₂₀₁₃	0.0368*** (0.0137)	0.0368*** (0.0117)	0.0275** (0.0136)	0.0183 (0.0155)	0.0280 (0.0185)
East × Year ₂₀₁₄	0.0334** (0.0137)	0.0334*** (0.0117)	0.0243* (0.0135)	0.0137 (0.0150)	0.0264 (0.0172)
East × Year ₂₀₁₅	0.0286** (0.0136)	0.0286** (0.0117)	0.0203 (0.0134)	0.0118 (0.0147)	0.0257 (0.0158)
East × Year ₂₀₁₆	0.0218 (0.0136)	0.0218* (0.0117)	0.0146 (0.0133)	0.0081 (0.0147)	0.0259 (0.0158)
East × Year ₂₀₁₇	0.0169 (0.0137)	0.0169 (0.0117)	0.0097 (0.0133)	0.0089 (0.0154)	0.0302* (0.0167)



TABLE A5 (Continued)

	I	II	III	IV	V
East × Year ₂₀₁₈	0.0149 (0.0137)	0.0149 (0.0117)	0.0075 (0.0134)	0.0070 (0.0157)	0.0301* (0.0177)
East × Year ₂₀₁₉	0.0093 (0.0137)	0.0093 (0.0117)	0.0018 (0.0134)	0.0033 (0.0162)	0.0262 (0.0177)
Year _t (dummy, Yes = 1)	Y	Y	Y	Y	Y
Controls _t	N	N	Y	Y	Y
Controls _t × Year _t	N	N	N	Y	Y
Planning region FE	N	Y	Y	Y	N
R ²	0.9284	0.9601	0.9676	0.9753	0.9601

Note: N = 5225, see notes of Table 2. The coefficient estimate for East (dummy, Yes = 1: East × Year₁₉₃₉) is the same as in Table 2 (models I and V) because data on non-German workforce are not available for 1939.

Abbreviation: FE, fixed effect.

^aSee note (a) of Table 2.

TABLE A6 Coefficient estimates for treatment effects for baseline regressions (Table 2): log-transformed FLFP

	I	II	III	IV	V
East (dummy, Yes = 1: East × Year ₁₉₃₉)	0.2402***	Y ^a	Y ^a	Y ^a	0.1789***
Reference category	(0.0467)				(0.0436)
East × Year ₁₉₂₅	0.0300 (0.0691)	0.0300 (0.0606)	0.0336 (0.0454)	0.0069 (0.0566)	0.0076 (0.0648)
East × Year ₁₉₉₆	0.0054 (0.0477)	0.0054 (0.0416)	0.1584*** (0.0468)	0.0109 (0.0513)	0.1345** (0.0597)
East × Year ₂₀₀₀	-0.0331 (0.0474)	-0.0331 (0.0410)	0.0845* (0.0453)	0.0512 (0.0455)	0.1560*** (0.0499)
East × Year ₂₀₀₅	-0.0928** (0.0473)	-0.0928** (0.0411)	-0.0060 (0.0448)	-0.0430 (0.0451)	0.0327 (0.0482)
East × Year ₂₀₀₆	-0.0925* (0.0472)	-0.0925** (0.0411)	-0.0162 (0.0445)	-0.0411 (0.0440)	0.0335 (0.0473)
East × Year ₂₀₀₇	-0.0828* (0.0473)	-0.0828** (0.0411)	-0.0341 (0.0442)	-0.0511 (0.0441)	0.0134 (0.0478)
East × Year ₂₀₀₈	-0.0802* (0.0473)	-0.0802* (0.0411)	-0.0619 (0.0443)	-0.0564 (0.0445)	-0.0084 (0.0487)
East × Year ₂₀₀₉	-0.0831* (0.0472)	-0.0831** (0.0411)	-0.0946** (0.0449)	-0.0754 (0.0460)	-0.0435 (0.0503)
East × Year ₂₀₁₀	-0.0927* (0.0473)	-0.0927** (0.0410)	-0.1532*** (0.0466)	-0.0836* (0.0472)	-0.0682 (0.0515)
East × Year ₂₀₁₁	-0.0979** (0.0473)	-0.0979** (0.0411)	-0.1681*** (0.0476)	-0.1037** (0.0491)	-0.0957* (0.0524)
East × Year ₂₀₁₂	-0.0969** (0.0472)	-0.0969** (0.0410)	-0.1630*** (0.0472)	-0.1102** (0.0492)	-0.0942* (0.0507)
East × Year ₂₀₁₃	-0.1055** (0.0472)	-0.1055** (0.0409)	-0.1601*** (0.0468)	-0.1195** (0.0489)	-0.1030** (0.0508)
East × Year ₂₀₁₄	-0.1130** (0.0472)	-0.1130*** (0.0409)	-0.1585*** (0.0462)	-0.1384*** (0.0481)	-0.1152** (0.0494)
East × Year ₂₀₁₅	-0.1225*** (0.0471)	-0.1225*** (0.0409)	-0.1553*** (0.0458)	-0.1488*** (0.0480)	-0.1249*** (0.0476)
East × Year ₂₀₁₆	-0.1338*** (0.0471)	-0.1338*** (0.0409)	-0.1556*** (0.0453)	-0.1576*** (0.0481)	-0.1271*** (0.0476)
East × Year ₂₀₁₇	-0.1423*** (0.0471)	-0.1423*** (0.0409)	-0.1574*** (0.0451)	-0.1600*** (0.0485)	-0.1203** (0.0481)



TABLE A6 (Continued)

	I	II	III	IV	V
East × Year ₂₀₁₈	-0.1470*** (0.0471)	-0.1470*** (0.0409)	-0.1556*** (0.0451)	-0.1705*** (0.0480)	-0.1248** (0.0486)
East × Year ₂₀₁₉	-0.1558*** (0.0470)	-0.1558*** (0.0410)	-0.1601*** (0.0451)	-0.1745*** (0.0477)	-0.1300*** (0.0483)
Year _t (dummy, Yes = 1)	Y	Y	Y	Y	Y
Controls _t	N	N	Y	Y	Y
Controls _t × Year _t	N	N	N	Y	Y
Planning Region FE	N	Y	Y	Y	N
R ²	0.9023	0.9263	0.9491	0.9663	0.9573

Note: N = 5225. See notes of Table 2.

Abbreviations: FE, fixed effect; FLFP, female labor force participation.

^aSee note (a) of Table 2.

TABLE A7 Coefficient estimates for treatment effects for baseline regressions (Table 2) including region-specific time trends

	I	II	III
East (dummy, Yes = 1: East × Year _{1925, 1939})	Y ^a	Y ^a	Y ^a
<i>Reference categories</i>			
East × Year ₁₉₉₆	0.0759*** (0.0117)	0.1045*** (0.0137)	0.0684*** (0.0214)
East × Year ₂₀₀₀	0.0583*** (0.0105)	0.0897*** (0.0127)	0.0944*** (0.0174)
East × Year ₂₀₀₅	0.0259*** (0.0100)	0.0536*** (0.0121)	0.0489*** (0.0157)
East × Year ₂₀₀₆	0.0270*** (0.0096)	0.0520*** (0.0116)	0.0487*** (0.0141)
East × Year ₂₀₀₇	0.0339*** (0.0092)	0.0514*** (0.0112)	0.0416*** (0.0132)
East × Year ₂₀₀₈	0.0359*** (0.0088)	0.0441*** (0.0110)	0.0347*** (0.0130)
East × Year ₂₀₀₉	0.0356*** (0.0085)	0.0346*** (0.0109)	0.0213 (0.0139)
East × Year ₂₀₁₀	0.0310*** (0.0082)	0.0165 (0.0117)	0.0134 (0.0144)
East × Year ₂₀₁₁	0.0289*** (0.0082)	0.0102 (0.0119)	-0.0010 (0.0159)
East × Year ₂₀₁₂	0.0312*** (0.0080)	0.0109 (0.0117)	-0.0020 (0.0152)
East × Year ₂₀₁₃	0.0268*** (0.0080)	0.0069 (0.0116)	-0.0090 (0.0157)
East × Year ₂₀₁₄	0.0233*** (0.0081)	0.0036 (0.0115)	-0.0192 (0.0158)
East × Year ₂₀₁₅	0.0186** (0.0083)	-0.0004 (0.0115)	-0.0273* (0.0165)
East × Year ₂₀₁₆	0.0120 (0.0086)	-0.0060 (0.0114)	-0.0336* (0.0177)
East × Year ₂₀₁₇	0.0075 (0.0090)	-0.0103 (0.0116)	-0.0346* (0.0193)
East × Year ₂₀₁₈	0.0054 (0.0095)	-0.0120 (0.0118)	-0.0399* (0.0206)



TABLE A7 (Continued)

	I	II	III
East \times Year ₂₀₁₉	0.0001 (0.0100)	-0.0166 (0.0120)	-0.0429* (0.0221)
Year _t (dummies, Yes = 1)	Y	Y	Y
Controls _t	N	Y	Y
Controls _t \times Year _t	N	N	Y
Planning region FE	Y	Y	Y
Planning region FE \times Time trend	Y	Y	Y
R ²	0.9627	0.9710	0.9775

Note: $N = 5225$; Berlin is excluded since the data sets at hand do not allow for disentangling information for the Eastern and the Western part of the city. The State of Saarland is excluded because there are no data for 1925. Robust standard errors are shown in parentheses. The clustering is on the Planning region \times Year-level (number of planning regions: $N = 91$). The constants are not shown for brevity.

^aThe East dummy is perfectly collinear with the planning region fixed effects and cannot be interpreted. Treatment effects can be still evaluated like in the other models (for details, see Conley & Taber, 2011). Adding a time trend control automatically implies that a random year dummy is dropped. To keep the reference to the pretreatment, the dummy variables for year 1939 and the dummy for the year 1925 (and consequently the interaction of Year₁₉₂₅ \times East) are selected for exclusion from the model.

***Statistically significant at 1% level.

**Statistically significant at 5% level.

*Statistically significant at 10% level.

TABLE A8 Summary statistics for main preseparation structural conditions across East and West German border regions

	West (N = 29)	East (N = 23)	Sig
FLFP 1939	0.244	0.313	***
<i>Preseparation regional conditions</i>			
Population density 1939	4.523	4.841	**
Employment share in manufacturing 1939	0.541	0.561	n.s.
Employment share in mining 1939	0.011	0.011	n.s.
Income per capita 1925 (ln)	4.978	5.176	**
Average farm size 1939	5.171	7.903	*
Population share of Protestants 1939	0.175	0.895	**
Population share 1939: 15–19/15–64	0.156	0.149	**
Population share 1939: 20–29/15–64	0.196	1.191	**
Population share 1939: 30–39/15–64	0.234	0.235	n.s.
Population share 1939: 40–49/15–64	0.195	0.201	***
Population share 1939: 50–64/15–64	0.219	0.225	*
Net migration 1925	-0.002	-0.001	n.s.

Note: There are no preseparation data on the number of people moving to the region in a particular year. There is only information on net migration. The value of zero is assumed for preseparation data. This is justified because this variable is supposed to control for postunification inflow of migrants affecting attitudes towards FLFP and actual FLFP.

Abbreviation: FLFP, female labor force participation.

***Statistically significant at 1% level.

**Statistically significant at 5% level.

*Statistically significant at 1% level; n.s. not significant.

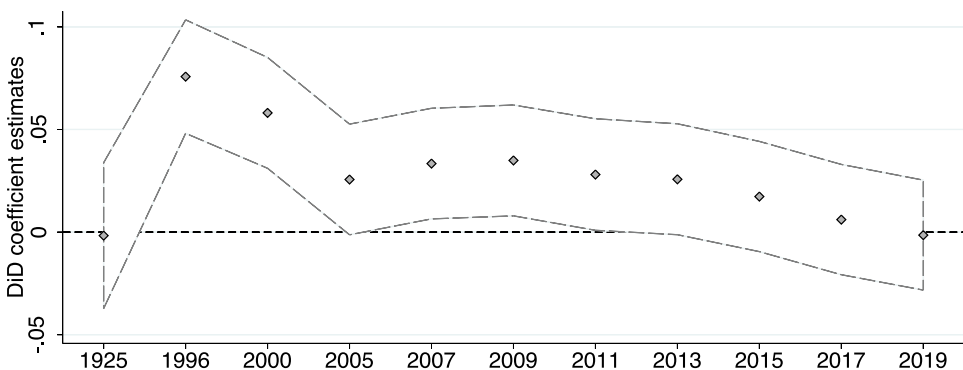


FIGURE A1 Difference-in-difference (DiD) coefficients. Note: The figure shows coefficients for the baseline model (model I of Table 2). The year 1939 is the reference year. Gray dashed lines represent the 95% confidence interval

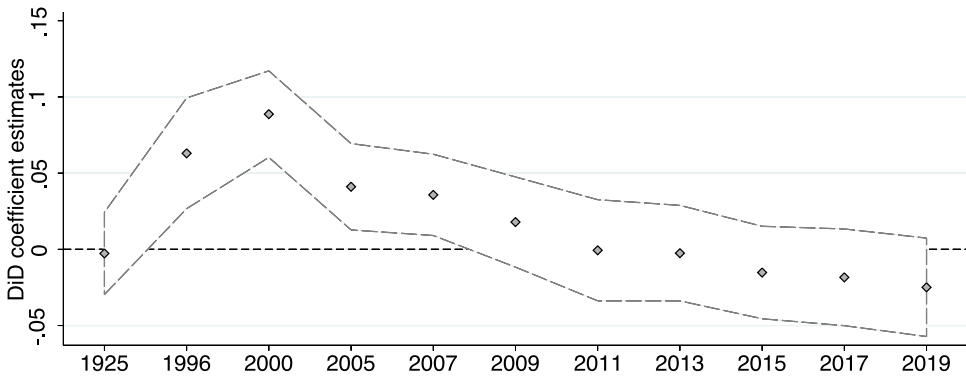


FIGURE A2 Difference-in-difference (DiD) coefficients. Note: The figure shows coefficients for the baseline model including all controls with year interactions (model IV of Table 2). The year 1939 is the reference year. Gray dashed lines represent the 95% confidence interval