

# Politico-economic Regimes and Attitudes: Working Women under State-socialism\*

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## Abstract

Several authors have recently shown that gender-role attitudes can partially explain female labor market outcomes. However, evidence on the causes of the evolution of such attitudes is limited. We investigate the extent to which individual attitudes about gender roles are endogenous to politico-economic regimes, by exploiting the imposition of state socialism in Central and Eastern Europe in the 1940s. State-socialist governments throughout the region strongly encouraged women's paid employment outside the home. We cope with the lack of a long-time series of measures of attitudes, by employing the attitudes of US immigrants and their offsprings, as a time-varying measure of attitudes in their source country, in the spirit of Algan and Cahuc (2010). This approach, combined with a Diff-in-Diff design, enables us to identify the relationship between the change in the politico-economic regime and the evolution of gender-role attitudes. Attitudes toward the appropriateness of segregation of male and female roles formed in Central and Eastern European countries during the state socialist period are shown to be significantly less traditional than those formed in other European countries. Estimates using information on German residents from the German Socio Economic Panel, and exploiting the German separation after 1945, are consistent with this conclusion. (J13, J16).

Keywords: gender-role attitudes, state-socialism, Central and Eastern Europe.

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# 1 Introduction

Several authors have recently presented evidence that gender-role attitudes have quantitatively significant effects on female labor market outcomes. For instance, Fortin (2009) shows a substantial effect of culture on a female individual's decision to join the labor market in the United States. In a similar vein, Fernandez and Fogli (2009) show that cultural differences in gender-role attitudes can partially explain women's work behavior across ethnic groups in the United States.

However, little is known about the development and evolution of such attitudes. Giavazzi, Schiantarelli, and Serafinelli (2013) observe variation in attitudes towards the role of women in the labor market over the period 1980-2000 for European regions and OECD countries. Nevertheless there is little systematic evidence regarding the identity and relative importance of alternative mechanisms that can account for this variation in gender attitudes.<sup>1</sup> Specifically, it is unclear to what extent political regimes and social policies affect such attitudes. Answering this question is complicated due to the fact that politico-economic regimes are not randomly assigned.

In this paper, we exploit the imposition of state socialism in Central and Eastern Europe in the 1940s. Our analysis has two main parts. First, we employ a Difference-in-Differences strategy that compares gender-role attitudes formed in Central and Eastern European countries (CEECs) and in the rest of Europe, before and after the advent of state socialism in CEECs.<sup>2</sup> Second, we exploit the German separation and contrast the attitudes towards work of German women who, before re-unification, used to live in the East vs the West.

For what concerns the Difference-in-Differences analysis, we investigate attitudes concerning the appropriateness of segregation of male and female roles. We maintain that the state-socialist experience in CEECs constitutes a quasi-experimental setting, which can be exploited to study whether attitudes are endogenous to policy regimes. At the end of World War II, the CEECs under analysis were occupied by the Red Army. The Soviets retained a direct involvement in the internal affairs of these countries after the end of the war. State-socialist systems were established in each country through a series of left-wing coalition governments, and then a forced liquidation of coalition members who were unliked by the Soviets. Prior to the imposition of the new political and economic regime, as we shall show, gender-role attitudes in state-socialist countries and the rest of Europe had similar trends. Soon after their establishment in the late 1940s, state-socialist governments throughout the region encouraged women's paid employment outside the home. (de Haan, 2012) In particular, constitutional changes, new family laws and propaganda were used to encourage female labor force participation. In addition to policies targeting women, wage setting policies also provided strong incentives for women to find job. Specifically, the state-socialist governments kept the wages low, making two-income earners necessary for a reasonable

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<sup>1</sup>The change in attitudes may reflect, among other factors, different ways in which innovations in reproductive or home production technology propagate, changes in the general level of education, evolving local labor market conditions and broader cultural or political changes (the feminist movement, swings towards political liberalism/conservatism, changes in attitudes towards religion, etc.).

<sup>2</sup>We use the rest of Europe as the control in order to account for a general trend in gender attitudes that might have been in place, for instance following WWII (Fernández, Fogli, and Olivetti, 2004).

family income.(Fodor, 2002) In the years after the establishment of the state-socialist regimes, female employment increased all over Central and Eastern Europe. Within this historical context, we empirically investigate the role played by political regimes and social policies in influencing gender-role attitudes.

To this goal, we need to obtain a time varying measure of gender-role attitudes, which is problematic because the 1980s is the earliest period in which a measure of gender-role attitudes in cross-country surveys is available.

We cope with this challenge by combining the gender-role attitudes of US immigrants and their offsprings to construct a time-varying measures of attitudes in their source country. This choice is motivated by a recent body of work that has noted and exploited the relation between the behavior of immigrants and that of residents in the country of origin (Giuliano, 2007; Fernandez and Fogli, 2009; Antecol, 2000). The use of inherited gender-role attitudes of descendants of US immigrants is also motivated by the evidence that the parents' attitudes are a good predictor of the attitudes of the children. For instance, Farré and Vella (2013) find that a mother's gender-role attitudes have a significant effect on those of her children.<sup>3</sup>

In practical terms, in order to obtain a time-varying measure of attitudes from the attitudes of U.S. immigrants and their descendants, we follow an approach in the spirit of Algan and Cahuc (2010)'s work on trust and economic growth.<sup>4</sup> Specifically, we use the attitudes of US immigrants who immigrated from different European countries at different points in time (and the attitudes inherited by their offsprings) in order to identify the over time variation in gender-role attitudes formed in the source countries. For instance, by contrasting US residents with Spanish and Hungarian origin who migrated between 1945 and 1990 (and their offsprings) we can identify differences in gender-role attitudes formed in these two countries of origin between 1945 and 1990. We can obtain a measure of gender-role attitudes in these two countries with intertemporal variation by implementing the same procedure for US residents (and their offsprings) who immigrated at other dates, for instance between 1910 and 1945.

The construction of this measure is based on the General Social Survey, which provides data regarding the contemporaneous gender-role attitudes of US residents and information that allows us to infer their approximate period of immigration, or that of their ancestors. This approach enables us to track back the variation of gender-role attitudes formed over the periods before and after the advent of state socialism in 19 European countries, 5 in the "treatment" group (Czechoslovakia, Hungary, Lithuania, Poland and Romania) and 13 in the "control" group.

Once we have procured a measure of gender-role attitudes with intertemporal variation, we can estimate the relationship between the change in the politico-economic regime and the evolution of gender-role attitudes. More specifically, we use as our outcome measure the response to the following the statement: *It is much better for everyone involved if the man is the achiever outside*

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<sup>3</sup>For a discussion of the intergenerational transmission of other attitudes, such as trust, see Guiso et al. (2006).

<sup>4</sup>Algan and Cahuc (2010) use the attitudes towards trust of US descendants of immigrants to study the effect of trust on the growth rate of a country's per capita income in the long run. We depart from Algan and Cahuc (2010) by including first-generation immigrants together with generation dummies.

*the home and the woman takes care of home and family.* We show that gender-role attitudes formed in Central and Eastern European countries during the state socialist period seem significantly less traditional than those formed in other European countries. We perform several tests to address the possibility that at least some of the estimated effect reflects differential changes in the selection of immigrants in CEECs and other European countries after the advent of state-socialism. While we cannot completely exclude such possibility, our evidence is consistent with a casual interpretation of the observed association between state socialism and gender-role attitudes.

In the second part of the paper, we analyze the influence of state socialism on female attitudes towards work, by exploiting quasi-experimental variation in politico-economic regimes in postwar Germany; this is in the spirit of Fuchs-Schundeln and Alesina (2007)'s work on attitudes towards redistribution. Before 1945, the political and economic regime was the same in the eastern and western parts of Germany. After 1945 a split into two parts was imposed in the country, with women in the two Germanies experiencing very different institutions and policies. Specifically, the state socialist East Germany encouraged female participation in the formal labor market. In contrast, the capitalist West Germany, through the tax regime and other policies, encouraged a system in which women stayed home after they had children, or went back to part-time employment after an extended break. Such background suggests contrasting the attitudes towards work of German women who, before re-unification, used to live in the East vs the West, in order to infer the extent to which different politico-economic regimes influenced such individual attitudes. Using the German Socioeconomic Panel (GSOEP), a longitudinal survey of households residing in Germany, we present evidence of systematic differences in female attitudes towards work between the East and the West. East German women seem significantly more likely to answer that career success is important to their sense of well-being and personal satisfaction. We show that these findings are not likely to be explained by state-level unobservable determinants of gender-role attitudes<sup>5</sup>, nor by East-West migration during the divided years.

Overall, while none of our empirical strategies on GSS and SOEP data is completely conclusive in regard to identification, together they give evidence consistent with individuals' gender-role attitudes being shaped by the politico-economic system in which they live.

## 2 Relation to Previous Research

This paper adds to a growing literature on culture and female labor market outcomes. We mentioned above some of the most relevant work. Additional empirical contributions are Algan and Cahuc (2005), Fortin (2005), Alesina et al. (2013) and Campa, Casarico, and Profeta (2010). More specifically, the body of work on the evolution and transmission of attitudes toward gender roles is closely related to this paper. Fernández, Fogli, and Olivetti (2004) focus on the role of the family in the transmission of attitudes. Using GSS data, they show that in a couple the working

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<sup>5</sup>We recently requested detailed geocoding in the GSOEP in order to implement a regression discontinuity design using the East-West german border.

status of the husband’s mother affects the employment status of the wife. Additional (theoretical) contributions are Fernandez (2013) and Fogli and Veldkamp (2011). The closest study to ours is by Bauernschuster and Rainer (2011). They exploit the German separation and, using five waves of ALLBUS, the German equivalent to the GSS for the period 1991-2008, show that being from the East is associated with a reduction in the likelihood of believing that segregation of male and female roles is appropriate. Unlike Bauernschuster and Rainer (2011), who focus exclusively on Germany, we take a broader look at the issue and study the extent to which state-socialism affects gender-role attitudes throughout the Central and Eastern European region, an approach that arguably increases the external validity of the study. For what concerns the investigation on Germany, we build on Bauernschuster and Rainer (2011), and make progress towards the identification of the effect of state socialism on gender-role attitudes. In particular, we compare each state in East to each state in West Germany, thus addressing more closely the issue of state-level unobservable determinants of gender-role attitudes.<sup>6</sup> Further, the fact that in the GSOEP we observe individuals before the process of unification is completed allow us to disentangle the effect of having lived in a state-socialist country from the effect of living in a post-socialist country. Last but not least, as explained in details below, we address more directly the issue of selective East-West migration before and after unification.

Our paper also contributes to a more general research program on culture and economics. In this literature, Tabellini (2010) and Alesina et al. (2010) show that attitudes can partially explain economic development and regulation of labor, respectively. Additional recent contributions investigate the evolution of attitudes. In particular, Di Tella et al. (2007) show that obtaining land rights affects the beliefs that people hold; Giuliano and Spilimbergo (2009) show that historical macroeconomic environment affects preferences for redistribution; Durante (2009) investigates the historical link between risk, cooperation and the development of social trust.<sup>7</sup>

Finally, our work is related to a literature analyzing the effect of state-socialism in shaping individual attitudes and behaviors. In particular, Zhang (2014) contrasts behavior in an economic game across three Chinese ethnic groups and shows large gender gaps in competitive disposition for two of the ethnic groups but no gender gap for the Han Chinese, plausibly because of targeted state socialist gender egalitarian reforms. Looking at opinion polls, Blanchflower and Freeman (1997) show that citizens in CEECs are more egalitarian and more satisfied with their jobs, compared to their western counterparts. In a similar vein, Fuchs-Schundeln and Alesina (2007) analyze attitudes towards redistribution in Germany in 1997 and 2002, and find that East Germans are much more pro-state than West Germans.

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<sup>6</sup>Bauernschuster and Rainer (2011) compare every single federal state of today’s Eastern Germany with West Germany as whole.

<sup>7</sup>For a review of the earlier empirical literature and the various strategies implemented in order to evaluate the effect of attitudes on economic outcomes, see Fernandez (2008). For a theoretical analysis see Bisin and Verdier (2001) and Tabellini (2008).

## 3 Institutional Background

### 3.1 Female work in CEECs after 1945

This Section briefly discusses some background to state-socialism and female labor force participation in Central and Eastern Europe. For a longer overview, see de Haan (2012) and Wolchik (1981). For a discussion focused on state socialism in East Germany see Section 7.1.

State-socialist governments encouraged women's participation in the formal labor market for two main reasons. First, women's economic independence was seen as a necessary precondition for women's equality, a principle which state-socialist governments were committed to.<sup>8</sup> Second, the rapid industrialization and the general plan for economic growth (which was based on an intensive use of labor) were dependent on women's paid employment outside the home (de Haan, 2012, p.89).<sup>9</sup>

The state-socialist governments throughout the region used centralized propaganda and political pressure to encourage female labor force participation. Pictures of female workers appeared in newspapers and newscasts, and political posters and other central propaganda materials (Fodor, 2002). Moreover, all CEECs adopted the principle of equality between men and women in their new constitutions (Wolchik, 1981, p.446). For instance, the Hungarian Constitution of 1949 stated that women had the right to equal work under equal working conditions as men, and "the new family laws in 1952 – preceding the revision of the Austrian family law by almost two-and-a-half decades – supported the independence of women" (Fodor, 2002, p.117). In addition to policies targeting women, wage setting policies also provided strong incentives for women to find job. Specifically, "elite efforts to encourage women to enter the labor force to help their homelands were accompanied by wage scales that virtually required two incomes per family to maintain a decent standard of living" (Wolchik, 1992, p.122)<sup>10</sup>

In the years after the establishment of the state-socialist regimes, female participation in economic activity outside the home increased all over Central and Eastern Europe.<sup>11</sup> Table and 1 and 2 compare state socialist countries and other European countries. Economic development affects women's labor market outcomes in both sets of countries. Within the state-socialist group, both female employment rates and the number of women as a percentage of the labor force are generally higher in the more industrialized nations (such as Czechoslovakia and East Germany) than in Romania. The values of both indicators are also generally higher in the more developed Western countries than in Italy and Spain. Nevertheless, the contrast between countries at different level of economic development is overshadowed by the contrast between state-socialist and other European

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<sup>8</sup>Lenin, in his speech at the Non-Party conference of Women Workers in 1919, states: "As long as women are engaged in housework their position is a restricted one. In order to achieve the complete emancipation of women and to make them really equal with men we must have social economy, and the participation of women in general productive labor. Then women will occupy the same position as men." (Ilic, Ilic, p.28)

<sup>9</sup>Buckley (1981) argues that the need for female labor power was by far more relevant.

<sup>10</sup>See Róna-Tas (1997) for a detailed discussion of wage setting.

<sup>11</sup>A similar picture emerges regarding female education. Women's role in the exercise of political power changed instead far less. Therefore, there is less difference in the degree to which females have attained equal representation in political elites in state-socialist and other European countries during this period. (Wolchik, 1981).

countries. Therefore in Romania, the number of women as a percentage of the labor force in the mid-1970s is similar to that in such more developed countries as Belgium, West Germany and Norway.<sup>12</sup>

It should be noted that in state-socialist countries most women were workers as well as mothers, but without sufficient social services or an equal sharing of domestic work and care for children with men (Alpern Engel and Posadskaya-Vanderbeck, 1998).<sup>13</sup> However, despite being structurally overburdened, women did not seem to want to work solely at home (De Haan, p.91). For instance, only 13 percent of 4,828 Hungarian female workers randomly interviewed in 1960 by the Hungarian Central Statistical Office stated they would have preferred to surrender their paid work (Völgyes and Völgyes, 1977). Indeed many women acknowledged and made use of the opportunities that state-socialism had made available to them. The significance of the workplace collectives for working-class women's sense of self can be seen in contemporary sources and later interviews in Romania, Hungary and the German Democratic Republic. (Massino, 2009; Toth, 2009; Watson-Franke, 1981)<sup>14</sup>.

## 4 Measurement and Data

In this Section, we first explain how we combine the gender-role attitudes of US immigrants and their offsprings to construct a time-varying measure of attitudes in their source country, in the spirit of Algan and Cahuc (2010). We then describe the data used in the Difference-in-Differences empirical analysis for the broad sample of European regions. The description of variables and data for the analysis which focuses on Germany is provided in Section 7.2.

### 4.1 Measure of Attitudes and Data Description

In order to implement our Diff-in-Diff analysis, we need to observe individuals in both state socialist countries and non-state socialist countries before and after the advent of state socialism. This is problematic because the 1980s is the earliest period in which a measure of gender-role attitudes in cross-country surveys is available which is long after the advent of state socialism. In order to cope

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<sup>12</sup>See Wolchik (1981, p.465-466) for a detailed discussion.

<sup>13</sup>Several studies also emphasize that women were not fully equal to men in the labor markets of CEECs. A gender wage gap of more than 30 percent existed throughout the region, due to several reasons, which included in particular women's tendency to take jobs for which they were overqualified in order to be closer to their homes (Wolchik, 1992; ?)The unequal sharing of care for children between men and women is also evident in Bela Tarr's quasi-doc movie *Prefab People* (1982).

<sup>14</sup>From the mid- 1960s, the birthrates dropped significantly across Eastern Europe, and, as a reaction, political leaders took initiatives to facilitate the reconciliation of employment outside the home and childcare. Paid maternity leave and mothers' allowances did ease women's burden. However, they also strengthened the identification of women as a group with domestic work and care for children. For instance in Poland in the 1970s, the language centered on "equal rights" which was prominent in the early 1950s gave way to a vocabulary focused on the "appreciation" of women's multiple roles and sacrifices, which seemed to be inevitable and independent of the political context (Fidelis, 2010). Overall, in the 1970s and 1980s, female employment rates remained high throughout the region, or grew even larger. However, amidst economic crises, the goal of gender equality continued to be marginal on the political agenda (LaFont, 2001).

with this challenge we proxy for the gender-role attitudes of individuals living in country  $c$  by the gender-role attitudes of US immigrants from country  $c$  and their offsprings.

Our source of information on gender-role attitudes is the General Social Survey database (GSS), which collects answers by US residents between 1972 and 2012, and contains individual data on the respondent's country of birth and that of her ancestors since 1977. The GSS question on the country of origin reads: "From what countries or part of the world did your ancestors come?". The individual can list up to three countries by order of preference.<sup>15</sup> We select the country of origin which the individual feels the closest to. The state-socialist countries in our sample include: Czechoslovakia, Hungary, Lithuania, Poland and Romania.<sup>16</sup> The countries in the non-state socialist group include: Austria, Belgium, Denmark, Finland, France, Greece, Ireland, Italy, Norway, Portugal, Spain, Sweden, and the UK. Table 3 reports the count of immigrants from each country). We measure the path of development of gender-role attitudes by employing the waves of immigration. Individuals are asked if they were born in the United States and how many of their parents and grandparents were born in the country. The responses allow us to separate four potential waves of immigrations: fourth-generation Americans and above (more than two grandparents born in the U.S. and both parents born in the country),<sup>17</sup> third-generation Americans (at least two grandparents born outside U.S. and both parents born in the country), second-generation Americans (at least one parent immigrated to the U.S.) and first-generation Americans. Gender-role attitudes are measured by the following question: "*Please tell me whether you strongly agree, agree, disagree, or strongly disagree with the following statement. It is much better for everyone involved if the man is the achiever outside the home and the woman takes care of home and family.*". We recode the answers to this question, "*Strongly Agree*", "*Agree*", "*Disagree*", and "*Strongly Disagree*" as, respectively, 1, 2, 3, and 4. We call the resulting variable "*Better for Men to Work, Woman Tend Home*": the higher its value, the less traditional are an individual's attitudes toward working women. Gender-role attitudes in the home country in 1990 are also used to provide a benchmark comparison with attitudes of U.S. immigrants in 1990 in the GSS. Attitudes in the source country are measured by employing the 1990 wave of the European Value Survey (EVS) database. The gender-role attitude question in the EVS reads as follows "*Do you agree or disagree: husband and wife should both contribute to income*". We recode the answers

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<sup>15</sup> Around two respondents out of three list only one country.

<sup>16</sup> According to the Russian government, Lithuania has been a Soviet Republic, whereas the official position of Lithuania, the US and the European Union, among others, is that Lithuania was an independent state, subjected to the Russian occupation. This distinction is virtually irrelevant for the purpose of this study, since, regardless of its formal status, Lithuanian experienced a state-socialist regime; further, its policies were mainly dictated by Moscow. Yugoslavia was a Soviet satellite between 1943 and 1948. After this period, this country remained a state-socialist state. However, we omit Yugoslavia from our sample, for two reasons: (a) Yugoslavia was liberated from the Nazi occupation with minimal Soviet intervention; (b) the policies implemented in Yugoslavia were not dictated by the Soviet influence from 1948. Finally, in our analysis with GSS data we also drop Germany, because immigrants who report Germany as their country of origin may come from East or West Germany, and therefore they may or may not be "treated". For what concerns Albania, Bulgaria, Estonia and Latvia, there is no separate category for these countries in the GSS question "From what countries or part of the world did your ancestors come?". Descendants of immigrants from these countries are likely to end up in the residual GSS category "other European", making it unfeasible for us to use their attitudes.

<sup>17</sup> For simplicity, in most of the text we will refer to this group as "fourth-generation Americans"



to this question “*Strongly Agree*”, “*Agree*”, “*Disagree*”, and “*Strongly Disagree*” respectively, as 4, 3, 2, and 1: once again, the higher the value, the less traditional are an individual’s attitudes toward working women. We call the resulting variable “*Husband and Wife Should both Contribute to Income*”

#### 4.1.1 Attitudes of US immigrants and Attitudes in the Home Country

**Attitudes of US immigrants** This section shows in detail how we track the change over time in immigrants’ gender-roles attitudes formed in the source country using the GSS. We assume that parents on average give birth when they are 20 years old. We measure the attitudes formed before the advent of state-socialism in CEECs (before 1945) with the attitudes of first generation Americans who migrated before 1945;<sup>18</sup> second generation Americans born before 1945 (whose parents left Europe for the U.S. before 1945), third generation Americans born before 1965 (whose grandparents left Europe before 1945), and fourth-generation Americans and above born before 1985 (whose ancestors left Europe before 1945).<sup>19</sup> We call this group of individuals the *1945 cohort*.

We measure the attitudes formed between the advent of state-socialism and its collapse (1945-1990) with the attitudes of first generation Americans who migrated between 1945 and 1990<sup>20</sup>, second-generation Americans born before 1990 and after 1945, third-generation Americans born after 1965, and fourth-generation Americans born after 1985. We call this group of individuals the *1990 cohort*.<sup>21</sup> Table 4 reports the number of observations for these groups.<sup>22</sup>

#### Correlation Between Attitudes of US immigrants and Attitudes in the Home Country

In this Section, we describe the link between attitudes of U.S. immigrants and attitudes in their source country. Our hypothesis is that immigrants’s attitudes mirror those in their country of origin, and that there is a cultural transmission of gender-role attitudes within families. If our hypothesis is

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<sup>18</sup>These are the first generation Americans born before 1929, who report to have been living in the U.S. when 16 years old. We use answers to the question “*In what state or foreign country were you living when you were 16 years old?*”).

<sup>19</sup>For what concerns third and fourth-generation Americans, we use responses of Americans born after 1945. However they have inherited the attitudes formed in the country of origin of their ancestors before 1945. We use responses of multiple generations of immigrants to obtain the maximum number of observations on sex-role attitudes.

<sup>20</sup>These are first-generation Americans who: either are born after 1929, report to have been living in a foreign country when 16 years old, and are interviewed before 1990; or are born after 1945 and are interviewed before 1990.

<sup>21</sup>Our decomposition eliminates overlap in the sex-role attitudes of the two groups, i.e. we make sure that the same individual does not belong to two cohorts. It is important to notice that the *1990 cohort* contains individuals who inherited attitudes formed in the country of origin at any time before 1990. This means that some of these individuals inherited attitudes formed before 1945, and therefore we underestimate the evolution of attitudes during the period 1945-1990, when looking at differences between the *1945 cohort* and the *1990 cohort*.

<sup>22</sup>It is important to note that we have much fewer observation for the 1945-1990 than for the period before 1945. This is due to the fact that the most recent year in GSS is 2012. Therefore the survey does not capture many of the third generation Americans born after 1965, and most of the fourth-generation Americans born after 1985. This issue of the lower number of observation in the period 1945-1990 is particularly relevant for the group of state-socialist countries, since they are only 5 out of the 19 countries in the sample. We discuss how we are planning to increase sample size in Section 8. That said, the number of observations currently available seems large enough to enable us to obtain precise estimates of the coefficient of interest (see Table 7).

correct, then, one should observe a statistically significant correlation between gender-role attitudes of US immigrants and gender-role attitudes in their source country. Moreover, if there has been variation in gender-role attitudes in the European source countries (either state-socialist or not), the correlation between gender-role attitudes before 1945 and gender-role attitudes in that source country in 1990 should be weaker. We evaluate the link between gender-role attitudes of U.S. immigrants and gender-role attitudes in the source country, following the approach in Algan and Cahuc (2010). More precisely, we run individual-level regressions where the dependent variable is the gender-role attitude question of the GSS, and the variable of interest is the average gender-role attitudes in the country of origin, obtained from the 1990 wave of the EVS. We only keep countries with at least 15 U.S. immigrants for the period 1945-1990.<sup>23</sup> The regression equation is:

$$Y_{igr c} = \gamma_0 + \gamma_1 Y_c^{EVS,1990} + \gamma_2 X_{icr} + \eta_r + \rho_g + \epsilon_{igr c} \quad (1)$$

where  $Y_{igr c}$  is the answer to the question *Better for Men to Work, Woman Tend Home* of individual  $i$ , belonging to generation  $g$ , residing in US region  $r$  who migrated (or whose ancestors migrated) from country  $c$ ,  $X_i$  are individual-level characteristics, and  $\rho_g$  and  $\eta_r$  are generational and regional dummies, respectively.  $Y_c^{EVS}$  is the average response in the country of origin of individual  $i$ , obtained using the answers of country  $c$  residents to the question *Husband and Wife Should both Contribute to Income*. We report the results in Table 5. For what concerns clustering, in the baseline we cluster by country of origin (7 clusters). We also bootstrap the standard errors following the procedure developed by Cameron et al. (2008) to improve the inference with clustered standard errors. We report the p-values using this alternative approach at the bottom of Table 5. Col. 1 reports the results with the attitudes formed in the period 1945-1990 as dependent variable, and with controls for age and gender. Column 2 includes additional controls.<sup>24</sup> The correlation between attitudes in the United States and attitudes in the home country in 1990 is statistically significant at the 10 percent level. Column 3 shows the estimates when we regress the attitudes formed in the period *before 1945* on  $Y_c^{EVS,1990}$ . While positive, the coefficient is more than 10 times smaller than in the previous 2 columns, and it is far from significant. This result suggests that gender-role attitudes acquired before 1945 by the first generation immigrants in the source country (CEEC or other countries), and transmitted to their offsprings, were different than the gender-role attitudes acquired (and transmitted) in the period 1945-1990. It is important to note that a competing explanation for the weak correlation in Column 3 could be a convergence in attitudes of immigrants as the years spent in the U.S. increase. To further explore this issue, in Column 4 we focus on the subsample of third and fourth-generation Americans and above, whose families have spent a long time in the host country. The dependent variable represents therefore the

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<sup>23</sup>These countries are France, Ireland, Italy, Netherlands, Poland, Spain, Sweden, UK. The first period in which attitudes in the European countries were measured is 1980. The reason we do not use the 1980 wave of EVS is that the only CEEC participating to that wave is Hungary, for which we do not have 15 U.S. immigrants for the period 1945-1990.

<sup>24</sup>Given the small sample, we include only those controls that are available for the same number of observations as the basic controls of Column 1.

attitudes that third and fourth-generation Americans and above have inherited from their ancestors who migrated during the period 1945-1990. The point estimate for  $\gamma_1$  is closer to those shown in Columns 1 and 2 than the one in Column 3.<sup>25</sup>

## 5 Econometric Model and Identification

We compare changes in gender attitudes before and after the advent of state-socialism in CEECs. As argued above, the advent of state-socialism in CEECs arguably constitutes a quasi-experimental setting. Therefore, in principle, the before-after difference in attitudes (where “after” means “following the advent of state-socialism”) could be interpreted as the effect of state-socialism itself. A concern arises, however, that a general trend in gender attitudes might have been in place, due for instance to WWII.<sup>26</sup> In order to account for such a trend, we estimate a Differences-in-Differences equation, where we compare the evolution of attitudes for immigrants from countries that experienced state-socialism versus the evolution for immigrants from other countries in Europe. In the sensitivity analysis, we restrict the control group to immigrants from Mediterranean, Continental and Nordic European countries.

The regression equation that forms the basis of our empirical analysis is:

$$Y_{igrp} = \beta_0 + \beta_1 StSo_c + \beta_2 Post1945_p + \beta_{DiD} StSo \cdot Post1945_{c,p} + \beta_4 X_{icrp} + \rho_g + \eta_r + \epsilon_{igrp} \quad (2)$$

where  $Y_{igrp}$  is the answer to question *Better for Men to Work, Woman Tend Home* of individual  $i$ , belonging to generation  $g$ , residing in US region  $r$ , who migrated (or whose ancestors migrated) from country  $c$  in period  $p$  (either before 1945 or between 1945 and 1990);  $StSo_c$  is a dummy taking the value of one if country  $c$  was ever state-socialist,  $post-1945_p$  is a dummy taking the value of one if the individual attitudes were formed in the country of origin between 1945 and 1990 (or inherited by someone whose attitudes were formed between 1945 and 1990),  $\rho_g$  and  $\eta_r$  are generational and regional dummies, respectively, and  $X_i$  are individual-level characteristics. Given that the politico-economic regime may have affected many demographics, for the baseline specification we only include in  $X_i$  age, age squared and gender. However, due to concerns of biases arising from immigrants selection (see Section 5.1.2) we also present estimates which include in  $X_i$  a very rich set of individual characteristics. We shall also present within-country estimates from the following regression equation:

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<sup>25</sup>A further competing explanation for the difference in the correlations in Columns 1-2 and that in Column 3 is that the selection of immigrants from the source countries changed before and after 1945. This fact may cause a decline in the correlation between attitudes in the source country in 1990 and attitudes of US immigrants before 1945. Variation over time in gender-role attitudes could therefore be linked to variation in the sample selection of immigrants. We return to this issue in Section 5.1.2

<sup>26</sup>Using US census data for various years from the 1940s to the 1980s, Fernández, Fogli, and Olivetti (2004) show that the male mobilization rate in WWII has a positive effect on women’s employment status in later years.

$$Y_{igrp} = \beta_0 + \beta_2 Post1945_p + \beta_{DiD} StSo \cdot Post1945_{c,p} + \beta_4 X_{icrp} + \rho_g + \eta_r + \gamma_c + \epsilon_{igrp} \quad (3)$$

where  $\gamma_c$  are country of origin fixed-effects.

## 5.1 Identifying Assumptions

### 5.1.1 Standard Diff-in-Diff assumption

The first identifying assumption in our context is that, absent the state-socialist regime, the evolution of gender attitudes in CEECs would have followed a path that cannot, on average, be distinguished from that in other European countries, as was the case in the decades preceding 1945. In Figure 1, we document parallel trends in the average attitudes of CEECs and other European countries, at two points in time before the advent of state socialism. In section 6.2.1 we further explore this issue, estimating a placebo diff-in-diff regression, which shows that there is no statistical evidence of systematic differential trends.

### 5.1.2 Selection of Immigrants

Since we use the attitudes of immigrants, there is an additional identifying assumption, namely that the selection of immigrants on unobservables does not change differentially, in CEECs and other European countries, after the advent of state-socialism, in a way that may affect gender-roles attitudes. It is important to note that our data allow us to include a rich set of individual-level characteristics when estimating Equation 2. These control for changes in the demographic composition of the population in the source country, but also for changes in the sample of immigrants and their offsprings, if the latter is not representative of the former. However, the individual incentives for migrating from CEECs into the U.S. were likely to be different before and after 1945 (Fassmann and Munz, 1994), and therefore, the selection of immigrants was also likely to be different. As a consequence, a concern arises that a possible change in attitudes after the advent of state-socialism is due to a change in the selection of immigrants. To further explore this possibility, and try to understand the direction of the potential bias, we investigate the extent of differential selection on a rich set of observable variables. This should help infer something regarding the degree of differential selection on unobservable. More precisely, we estimate:

$$x_{igrp} = \beta_0 + \beta_1 Post1945_p + \beta_{DiD} StSo \cdot Post1945_{c,p} + \rho_g + \gamma_c + \eta_r + \epsilon_{igrp}$$

where  $x_i$  represent each one of the many individual characteristics we observe. This allows us to check whether the characteristics of immigrants change differentially in state-socialist and non-state socialist countries, between 1945 and 1990. The results of this analysis are shown in Table 6. The characteristics of immigrants from CEECs seem to change only along three dimensions. Immigrants from CEEC countries in the period after 1945 are more likely to be male, more likely

to be married, and less satisfied with the financial situation of the household. The selection does not seem to change in terms of age, education, income, employment status, number of kids, mother's and father's education, religion, political views. Notice that being male and married tends to be associated with more traditional gender-role attitudes, while being less satisfied with the financial situation tends to be associated with less traditional gender-role attitudes (see Table 7). Therefore no clear pattern of differential selection emerges. Overall, the richness of individual characteristics we can control for (and that we add to our main regression equation as controls), the lack of a clear pattern of differential selection, and the fact that immigrants do not appear to be selected on most individual characteristics, is quite reassuring regarding the validity of our empirical strategy.

## 6 Diff-in-Diff Estimates

We study the effect of state-socialism on gender-role attitudes, by estimating Equation (2), where the dependent variable is the individual's answers to the questions: *Better for Men to Work, Woman Tend Home*. Summary statistics for the baseline estimation sample are provided in Table A.1. The results are shown in Table 7. In column 1 only age and gender are included as controls. Column 2, our baseline regression, reports within country estimates, adding education and marital status to the controls of Column 1.<sup>27</sup> Attitudes formed in Central and Eastern European countries during the state-socialist regime seem less traditional regarding gender roles in the labor market, even when the general trend in gender attitudes during this period is accounted for. We comment on the magnitude of the *StSoc.post1945* coefficient below.

For what concerns clustering, in the baseline we cluster by country of origin (19 clusters). We also cluster the standard errors by country-period, assuming that the cross-sectional correlation among the errors is more serious than the serial correlation (38 clusters). Further, we bootstrap the standard errors following the procedure developed by Cameron et al. (2008). We report the p-values based on these alternative approaches at the bottom of Table 7.

In Column 3 we include many individual controls: education, marital status, income, satisfaction with the financial situation of the household, employment status, number of kids, mother's and father's education, religion and political views. The coefficient is of a similar magnitude across specifications. This result parallels the one from Section 5.1.2 that immigrants do not appear to be selected on most individual characteristics. The coefficient on *StSoc.post1945* means that having experienced state-socialism decreases the degree of approval with the statement *Better for Men to Work, Woman Tend Home* by approximately 8%.

In comparison, being married and male is associated with 3%, and 8% more traditional attitudes, respectively. An extra year of own education (from 14 to 15 years) is associated with 2% less traditional attitudes. In column 4-6 we restrict the control group to immigrants from Mediterranean

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<sup>27</sup>See Equation 3. We choose this as the baseline because it allows us to control for country level heterogeneity in attitudes, and at the same time to include, in addition to gender and age, two important individual characteristics (education and marital status) that, while the outcome of a woman's individual choice, are not directly affected by her attitudes toward employment. Below we present estimates including variables that may be directly affected by the woman's decision to work (and therefore may be "bad" controls for approximately half of our sample)

countries (Greece, Italy, Portugal, Spain), Continental countries (Austria, Belgium, France, Netherlands) and Nordic countries (Denmark, Finland, Norway, Sweden), respectively. The estimates are consistent with the main finding from Column 2.

## 6.1 Discussion

Overall, the evidence shown in Section 6 suggests that the political and economic regime in state-socialist countries exerted a noticeable influence on people's attitudes about gender-roles. In interpreting our estimates, two points need to be highlighted. First, it is incorrect to interpret the estimated change in gender-role attitudes in CEECs as the partial equilibrium effect of the politico-economic regime, holding constant everything else in the CEECs' economies. Instead, the estimate reflects the effect of the politico-economic regime change and all other associated changes. For example, as a consequence of the propaganda, there was an increase in female employment (Table 1) and this may have affected attitudes. Therefore, as described in Figure 2, the estimates of change in gender-role attitudes should be interpreted as a general equilibrium reduced-form effect that combines both the direct effect of the politico-economic regime change (propaganda, the new constitutions, the new family laws, the wage setting) and the effect of increased female employment.

Second, while Section 3 documents the focus of state-socialist governments on female employment, a similar focus, although within liberal-democratic systems, might have emerged in some countries in the control group (but not in others). In other words, in our current framework, we are estimating the effect of state-socialism on gender-role attitudes relative to the effect of any other policy regime in place in Europe, which arguably put less emphasis on female employment.

## 6.2 Validity and Robustness

### 6.2.1 Diff-in-Diff Placebo Regressions

In Table A.2 we run placebo regressions where we estimate Equation (2) using 1900 as the advent of state socialism rather than the true date of 1945. There is no evidence of systematic differential trends between the group of immigrants from countries that experienced state-socialism and the group of immigrants from other countries in Europe. This conclusion parallels the one from Figure 1 where we document parallel trends in the average attitudes of these two groups at two points in time before the advent of state socialism in CEECs.

### 6.2.2 Sensitivity Analysis

We have run regressions focusing exclusively on immigrants that left before 1961. The motivation for such robustness check is twofold: first, we want to address the issue of potential differential selection before and after the building of the Berlin Wall. Second, we want to consider a shorter interval for the "post" period (1945-1961 rather than 1945-1990) since during a shorter interval the

likelihood of shocks that may drive our results is smaller. Further, we have performed additional sensitivity analysis by (a) dropping the first generation immigrants, (b) using 1940 rather than 1945 as the dividing year between pre and post treatment periods<sup>28</sup>, (c) assuming that parents on average give birth when they are 25 years old. Finally, we run 4 separate regressions of the preferred specification (column 2 of Table A.1) that sequentially drop individuals from one of the state-socialist countries. This is done in order to check that no particular country is driving the result. These robustness checks (available upon request) delivered estimates consistent with the evidence above of individuals' gender-role attitudes being shaped by the politico-economic system in which they live.

## 7 The case of Germany

### 7.1 Institutional Background

In 1945 the Allied Forces partitioned Germany into two countries for motives unrelated to heterogeneity in attitudes between East Germans and West Germans. The borders between East and West Germany were determined by the location of the occupying armies and the negotiation between the Allied Forces at the end of World War II. In 1949, the German Democratic Republic (GDR) in the Soviet bloc and the Federal Republic of Germany (FRG) in the U.S. bloc were officially established. As a consequence of this separation, women in the two Germanies experienced very different institutions and policies (Bauernschuster and Rainer, 2011). The GDR adopted the principle of equal work under equal conditions between women and men in its 1949 constitution. During the 1960s, a focus was established on policies that favored female qualified employment. By the 1970s, fertility had drop significantly. The GDR government interpreted the drop in fertility as women's reaction to their "double burden", and thus took initiatives to facilitate the combination of employment outside the home and family. These initiatives included the provision of extensive childcare, paid maternity leaves with a job-return assurance, and decreased working time in the first few years of the children' life.

In the FGR, conciliation of employment outside the home and maternity was problematic for females because of the lack of public child care. Further, the income splitting tax policy created the greatest tax benefits for married couples where one member earned significantly less than the other (Guenther, 2010). Overall, the FGR encouraged a system in which women stayed home after they had children, or went back to part-time employment after an extended break.

Given such backgrounds, by contrasting the attitudes towards work of German women who have lived under different regimes (state-socialism in the GDR vs capitalism in FRG), we can evaluate the extent to which politico-economic regimes influence such attitudes.<sup>29</sup>

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<sup>28</sup>1940 is the year in which one of the countries in our treatment group (Lithuania) first became part of the Soviet bloc.

<sup>29</sup>Anecdotal evidence suggests that attitudes might have evolved differently in West and East Germany after separation. For instance, West Germans would refer to East German mothers, who went to work leaving their children in day-care facilities, as *Rabenmütter*, or raven mothers, after the black bird that, according to old myths,

## 7.2 Data and Variables

We use the German Socioeconomic Panel (GSOEP), a longitudinal survey of private households, launched in West Germany in 1984 and conducted annually. Since 1990, households residing in the former GDR have also been interviewed. In 1990, 6,650 German native individuals in West Germany (around March) and 4,299 in East Germany (around June) were asked about the importance of career success for their sense of well-being and personal satisfaction.<sup>30</sup> For the West German sample, the question reads: "*How important are the following things to you today? Succeed in one's occupation.*" For the East German subsample the question reads: "*Which of the following things are very important, important, not so important, or unimportant to your sense of well-being and personal satisfaction? Your career success.*" Responses are provided on a scale from 1 to 4, which correspond to "unimportant," "not very important," "important," "very important". We call the resulting variable "*Job Success is important*": the higher its value, the more important is career success for the individual's personal satisfaction.

Individuals are also asked the question "*Where did you live in 1989: East or West?*". We create a dummy *East1989* that takes on the value of one if the respondent lived in East Germany in 1989, regardless of the current place of residence. This dummy captures individuals who before 1990 experienced state-socialism.

## 7.3 Empirical Strategy and Estimation Results

The regression equation that forms the basis of our empirical analysis is:

$$Y_i = \alpha_0 + \alpha_1 East1989_i + \alpha_2 Female_i + \alpha_3 East1989_i * Female_i + \alpha_3 X_i + \varepsilon_i \quad (4)$$

where the dependent variable is individual *i*'s answer to the question: *Job Success is important*. The variable *East1989<sub>i</sub>* is a dummy as defined above, *Female<sub>i</sub>* is a dummy taking the value of one if the individual is female, *X<sub>i</sub>* are individual-level characteristics. Given that the politico-economic regime may have affected many demographics, for the baseline specification we only include in *X<sub>i</sub>* age, age squared and gender. However, we also present estimates when we include in *X<sub>i</sub>* further individual characteristics. Our main explanatory variable of interest is the interaction *East1989<sub>i</sub>\*Female<sub>i</sub>*.

Summary statistics for the baseline estimation sample are provided in Table A.3.

The estimates of Equation (4) in Table 8 show systematic differences in attitudes towards work among females between the East and the West, with East German women 8% more likely than West German women to answer that career success is important to their sense of well-being and

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pushes its chicks out of the nest (Guenther, 2010). Such difference is also suggested in Christian Petzold's movie *Barbara* (2012).

<sup>30</sup>As a reference, the Fall of the Berlin Wall happened on Nov 9, 1989, and the monetary union was established on Jun 30, 1990. The full unification was declared on Oct 3, 1990. In that moment, East Germany came to be part of the FRG, and the politico-economic regime of the West was transferred to the East.



personal satisfaction (Column 1-4).<sup>31</sup> More precisely, East German individuals in general are 3% more likely to report that career success is important than West German individuals. And East German women are 5% more likely than East German men to report such importance of work. In comparison, an extra year of education (from 11 to 12 years) is associated with an increase in the likelihood to report that work is important by 0.5%.<sup>32</sup>

### 7.3.1 East-West migration during the divided years

Around 3 million people migrated from the East to the West before the erection of the Berlin Wall in 1961. This number represents a large share of the peak population (of around 19 million) living in 1947 in the Soviet-controlled territory that officially became the GDR in 1949. From 1961 to the end of 1988, around 600,000 people emigrated from the GDR to the FRG.<sup>33</sup> In contrast only around 30,000 individuals per year emigrated from the FRG to the GDR in the 1950s, and almost none after the Wall was built. Migration creates an identification challenge in our context: if the distributions of gender-role attitudes were similar in the East and the West before 1945, but women with the more traditional attitudes migrated from the GDR to the FRG, then this could be driving our findings of less traditional attitudes in the East in 1990.

To explore this issue, in Column 5 of Table 8 we restrict the sample to women, and add two dummy variables, “Moved E to W 49-55” and “Moved E to W 56-89”.<sup>34</sup> These dummies take on a value of one if a woman migrated from the East to the West during 1949-1955 or during 1956-1989, respectively. We use females that did not migrate from East Germany as the reference group. The coefficients on the two dummies capture the attitudes of women who migrated East-West relatively early or relatively late, respectively. As the regression estimates show, women who migrated East-West relatively early have indeed significantly more traditional attitudes.<sup>35</sup> Motivated by the result in Column 5, in Column 6 of Table 8 we code the individuals (both females and males) who moved from East to West as if they lived in East Germany in 1989. This is in the spirit of “restoring” the distribution of preference in GDR as if migration had not occurred. The estimates in such sample are very similar to the baseline results, suggesting that our main findings are not likely to be explained by East-West migration during the divided years.

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<sup>31</sup>We cluster standard errors at household level. Results are very similar if we cluster at state level (whether or not we follow the bootstrap procedure developed by Cameron et al. (2008))

<sup>32</sup>Recall that the dependent variable is bounded (i.e. it takes values between 1 and 4) and therefore its potential changes in response to changes in the independent variables are limited.

<sup>33</sup>Family reunions and general economic reasons were the two chief motives for migration during the divided years. See Fuchs-Schundeln and Alesina (2007, p.1510) for a discussion and references.

<sup>34</sup>1956 is the median year of East-West migration for women.

<sup>35</sup>East-West migrants might appear more traditional than stayers for two reasons: they might self-select into migration based on their attitudes; alternatively, they might start being indistinguishable from the average East-German, to become more traditional after the exposure to a more conservative regime, as the one that they come to experience in West-Germany.

### 7.3.2 The Role of Local Unobservables

In Column 1 of Table 9 we estimate our baseline specification, adding separate dummies for all five eastern states (plus East Berlin), and interactions between these dummies and  $Female_i$ , in place of one single East dummy and one single interaction ( $East1989_i * Female_i$ ). The coefficients on the interactions are positive and significant in four states (plus East Berlin), and are of comparable magnitude. This lends support to the hypothesis that the observed difference in attitudes between East and West-Germany is due to the exposure to different regimes. If the difference was specific to only a few states, that could be suggestive that pre-1949 heterogeneity was driving our main result.<sup>36</sup>

In the remaining Columns of Table 9, and in Table 10, we proceed with state by state comparisons. More precisely, as in Column 1 of Table 9, we add distinct dummies for all five eastern states plus East Berlin, and interactions between these dummies and  $Female_i$ . However, we now use each West German state (plus West Berlin) as the baseline group in separate regressions. For the most part these estimates are consistent with East German women being significantly more likely to answer that career success is important to their sense of well-being. The comparisons of bordering states (in red in Columns 2-6 of Table 9 and Column 1-5 of Table 10) are consistent with such conclusion.

## 8 Conclusion and Future Work

Are gender-role attitudes endogenous to politico-economic systems? In order to answer this question, an exogenous shock to the politico-economic system is needed. We therefore exploit the imposition of state socialism in Central and Eastern Europe. State-socialist governments throughout the region strongly encouraged women’s paid employment outside the home. Using a Diff-in-Diff design, we show that attitudes toward the appropriateness of segregation of male and female roles formed in Central and Eastern European countries during the state socialist period are significantly less traditional than those formed in other European countries. Estimates exploiting the German separation after 1945 are consistent with this conclusion.

Our investigation is subject to identification concerns. The main empirical task is to show that the observed associations between politico-economic regimes and gender-role attitudes are at least in part causal. We implement several strategies to support a causal explanation. While none of these strategies is completely conclusive in regard to identification, together they are suggestive that the difference in attitudes between the two group of individuals is at least in part due to the effect of state-socialism. There are several directions that this work could take. First, we recently requested detailed geocoding in the GSOEP in order to implement a regression discontinuity design using the East-West German border. Further, we could compare characteristics of immigrants from CEECs in the GSS with characteristics of the population from national Censuses, in order to better

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<sup>36</sup>The only potential outlier is the state of Mecklenburg-Vorpommern, for which the coefficient on the interaction is positive but non significant at conventional levels.

understand the dimensions along which the immigrants in our sample are selected. Finally, we could use mother-child pairs from the National Longitudinal Survey of Youth 1979, in the spirit of Farré and Vella (2013), to compare directly the intergenerational transmission of gender role attitudes from CEECs versus other European countries. These areas are being actively pursued.

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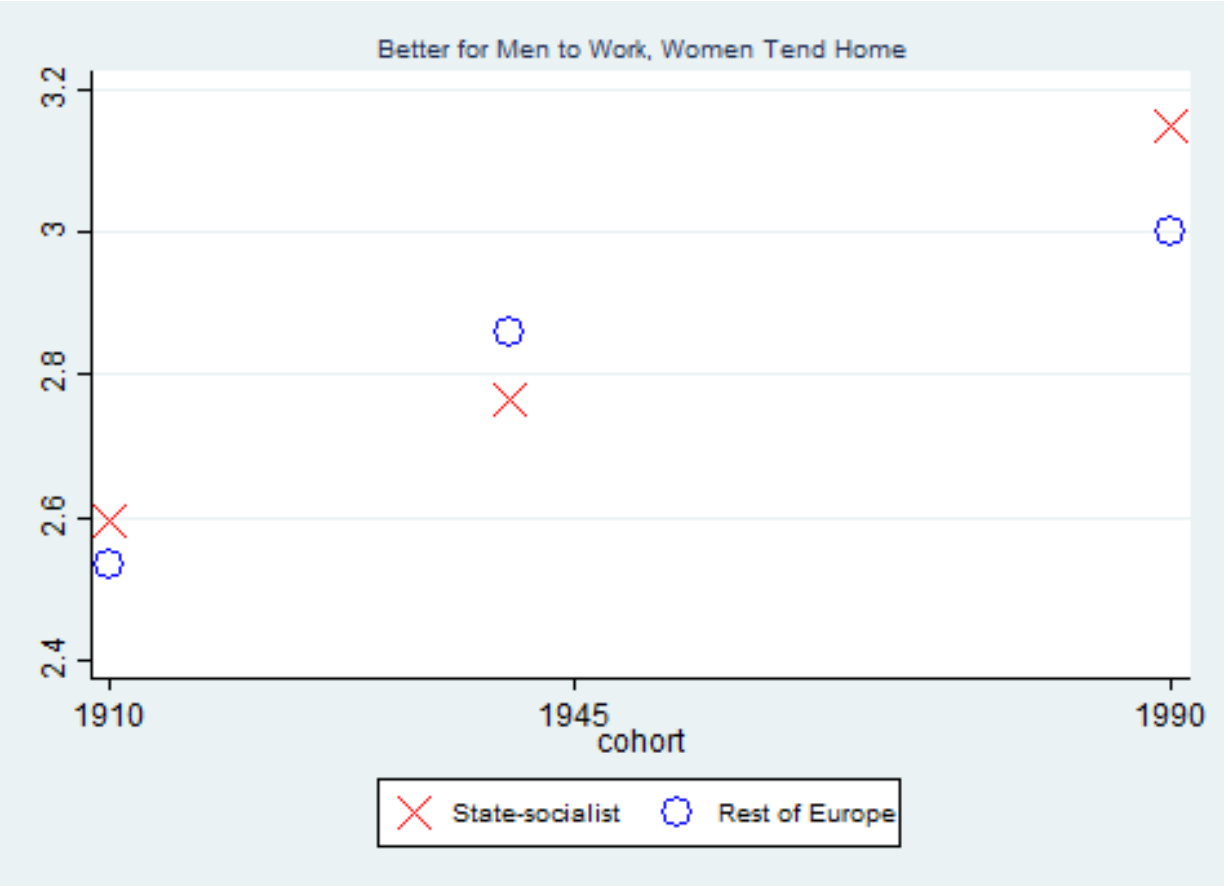
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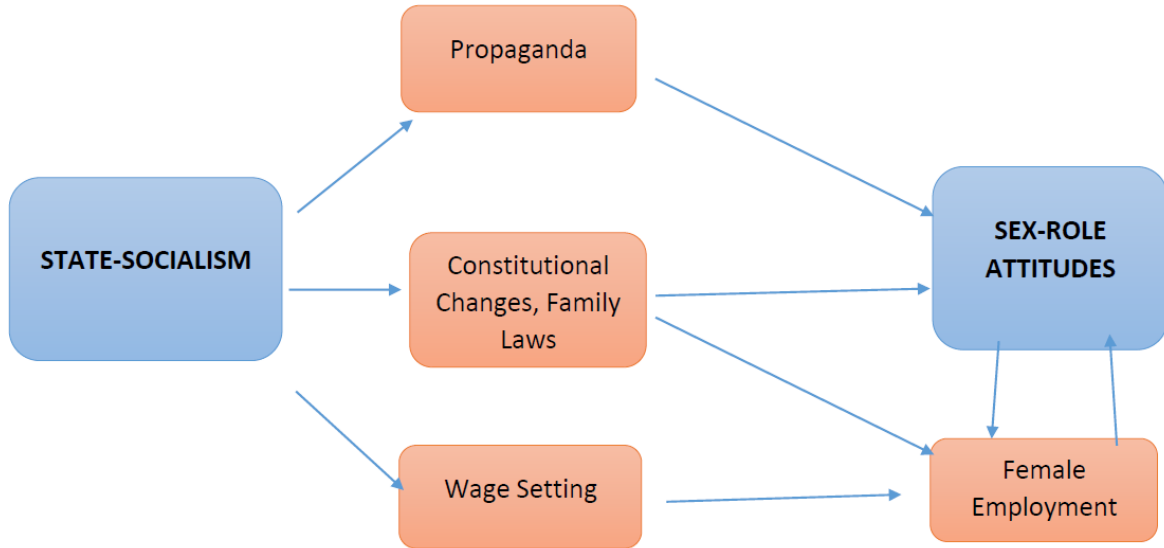
# Figures and Tables

Figure 1: Evolution of Attitudes Toward Working Women in State-socialist Countries and Rest of Europe: Parallel Trends



Note: This figure documents parallel trends in the average attitudes of CEECs and other European countries before the advent of state socialism.

Figure 2: State Socialism and Gender-Roles Attitudes



Note: This diagram illustrates that the estimates of change in gender-role attitudes should be interpreted as a general equilibrium reduced-form effect that combines both the direct effect of the politico-economic regime change (propaganda, the new constitutions, the new family laws, the wage setting) and the effect of subsequent increased female employment.

Table 1: Employed Women as a Proportion of All Women, 15-54 Years of Age

		Central and Eastern Europe									
Year	Czech.	GDR	Hungary	Poland	Romania						
1961	62.1	68.0 <sup>b</sup>	48.6 <sup>a</sup>	63.1							
1970	72.7	76.1 <sup>c</sup>	63.7	77.7	73.1 <sup>d</sup>						
		Western Europe									
Year	Aust	Belg	Den	Finl	W.Ger	Italy	Norway	Spain	Sweden	UK	
1961	56.6	32.5		55.2 <sup>a</sup>	49.5		27.3	19.3			
1970	53.3 <sup>c</sup>	37.4	54.8	59.1	49.6	31.8	34.4 <sup>c</sup>	21.1	47.5	54.5 <sup>c</sup>	

This table shows the number of employed women as a proportion of all women, 15-54 years of age in the state-socialist countries in our sample and other European countries, for the period 1961-1970. Data for Lithuania are not available. a. 1960; b. 25-29 years of age; c. 1971; d. 1966. Source: Wolchik (1981)



Table 2: Women as a Percentage of the Labor Force

<b>Central and Eastern Europe</b>										
Year	Chzecosl.	GDR	Hungary	Poland	Romania					
1950	38.4	38.4		33 <sup>c</sup>						
1960	42.8	44.3	32.5	32.8	27.1					
1970	46.7	47.7	40.6	40	30.1					
1980	45.4	51.0	45.7 <sup>h</sup>	44.5						
<b>Western Europe</b>										
Year	Aust	Belg	Den	Finl	W.Ger	Italy	Norway	Spain	Sweden	UK
1950	31.7	22.5 <sup>a</sup>	27.4 <sup>c</sup>	32.5	28.6	23.1	24.1	14.2	26.7	30.8 <sup>b</sup>
1960	34.9 <sup>d</sup>	25.3	29.3	34.1	31.6 <sup>d</sup>	23.4	21.1	16.7	29.5	35.4
1970	35.8 <sup>e</sup>	28.4	33.8	39.7	32.3	26.1	26.2	18.8	36.7	37.0
1980	38.7 <sup>g</sup>	34.7 <sup>g</sup>	40.5 <sup>g</sup>	42.8 <sup>f</sup>	35.7 <sup>g</sup>	30.3 <sup>g</sup>	38.9 <sup>g</sup>	26.0 <sup>g</sup>	44.0 <sup>g</sup>	

This table shows the number of women as a percentage of the labor force in the state-socialist countries in our sample and other European countries, for the period 1950-1988. Data for Lithuania are not available. a.1947 b.1951 c.1955 d.1961 e.1971 f.1976 g.1978 h.1985 Source: Wolchik (1981); de Haan (2012). See Wolchik (1981, p. 452) for a detailed discussion of the problems involved in cross-country comparisons of women's labor force participation. In particular, there are differences in the treatment of auxiliary family workers. Since the labor force statistics presented in this Table for CEECs include only the socialized sectors of the economy, they exclude unpaid family workers, most of whom tend to be concentrated in private agriculture. To allow for a more precise comparison, Western European figures in this Table exclude auxiliary family workers.

Table 3: GSS Sample: Source Countries of U.S. Immigrants

country of family		
origin	Freq.	Percent
Austria	156	0.950
Belgium	59	0.360
Czechoslovakia	398	2.420
Denmark	236	1.430
Finland	145	0.880
France	662	4.020
Greece	123	0.750
Hungary	162	0.980
Ireland	4,124	25.07
Italy	1,788	10.87
Lithuania	91	0.550
Netherlands	510	3.100
Norway	595	3.620
Poland	896	5.450
Portugal	94	0.570
Romania	37	0.220
Spain	263	1.600
Sweden	560	3.400
UK	5,550	33.74
Total	16,449	100

This table reports the count of immigrants from each country. The GSS question on the country of origin reads: "From what countries or part of the world did your ancestors come?". The individual can list up to three countries by order of preference. We select the country of origin which the individual feels the closest to. The state-socialist countries in our sample are in red.

Table 4: Summary Statistics

Variable	Mean	Std. Dev.	Min.	Max.	Observations			
					<i>St-Soc, Bef</i>	<i>St-Soc, Aft</i>	<i>Non St-Soc, Bef</i>	<i>Non St-Soc, Aft</i>
Count of Individuals	-	-	-	-	1445	139	22302	1116
Better for Men to Work Woman Tend Home	2.68	0.84	1	4	753	76	11801	666

The attitudinal variable is coded in such a way that increasing values denote less traditional attitudes about the appropriateness of segregation of male and female roles, i.e. disagreement with the statement in the question.

Table 5: Correlation Between gender-roles Attitudes of US Immigrants and Attitudes in Their Source Country

VARIABLES	(1) Immigrants' gender-roles attitudes, 1990	(2) Immigrants' gender-roles attitudes, 1945	(3) Immigrants' gender-roles attitudes, 1990 3rd-4th generation
Average attitudes home country	0.274* (0.136)	0.012 (0.052)	0.423 (0.304)
Male	-0.122 (0.102)	-0.194*** (0.014)	-0.217 (0.122)
Observations	479	8,072	219
R-squared	0.088	0.196	0.148
Regional Dummies	YES	YES	YES
Age Age_sq Gender	YES	YES	YES
Generation Dummies	YES	YES	YES
P-value CGM	0.08	0.646	0.344
adj R2	0.0583	0.194	0.0718
Mean y	2.956	2.684	3.073
SD y	0.802	0.840	0.757
Mean Average attitudes home country	2.967	2.949	2.965
SD Average attitudes home country	0.224	0.203	0.230

In this Table, we document the extent to which attitudes toward gender equality among immigrants up to the fourth generation mirror those in their country of origin. The dependent variables are (1) the level of sex-role attitudes inherited by US immigrants in the period 1990; (2) the level of sex-role attitudes inherited by US immigrants in the period 1945; (3) the level of sex-role attitudes inherited by third and fourth-generation Americans in the period 1990. The dependent variables are constructed using the answers to question "Better for Men to Work, Woman Tend Home". The variable "Sex Role Attitudes in home country" is the average level of sex role attitudes in the source country of the US immigrants in the period 1990 and are obtained using the answers to the EVS question "Do you agree or disagree: husband and wife should both contribute to income". We only keep countries with at least 15 U.S. immigrants in the GSS. OLS with SE clustered by country of origin in parentheses; number of clusters by country is 8. "P-value CGM" is the p-value corresponding to "Average attitudes home country" obtained using the bootstrap procedure developed by Cameron et al (2008). Reference group: non-employed and non-married. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1 Source : General Social Survey 1977-2004; European Values Survey wave 1990.

Table 6: Selection of immigrants on observables: difference in changes between state-socialist and non state-socialist group

DEP. VARIABLES	Male	Age	Education (Cat.)	Married	Household Income (Cat.)	Satisfied with financial situation	Employed	Children
State-socialist country x post-1945	0.049*** (0.016)	1.963 (1.981)	0.099 (0.080)	0.099* (0.057)	-0.257 (0.247)	-0.119** (0.047)	0.056 (0.035)	0.023 (0.144)
Observations	16,449	16,449	16,436	16,447	15,016	15,524	16,448	16,420
adj R2	0.00308	0.201	0.0407	0.00972	0.0164	0.0101	0.0366	0.0497
Mean y	0.448	47.32	3.677	0.555	10.58	2.089	0.615	1.821

DEP. VARIABLES	Mother's Education	Father's Education	Catholic	Protestant	Jew	Orthodox	Other Religion	Politically Conservative
State-socialist country x post-1945	0.598 (0.393)	-0.165 (0.461)	-0.042 (0.029)	0.032 (0.039)	0.044 (0.058)	-0.007 (0.006)	-0.023 (0.017)	-0.113 (0.102)
Observations	14,671	13,048	16,409	16,409	16,409	16,409	16,411	15,174
adj R2	0.146	0.0992	0.286	0.269	0.0946	0.0887	0.0311	0.0195
Mean y	11.43	11.35	0.290	0.558	0.0124	0.00165	0.0298	4.173

Coefficients and Standard Errors from regression of *Dep. var* on post-1945, state-socialism x post-1945, regional dummies, generation dummies, and country of origin FEs. Standard Errors clustered by country (19). In this table we investigate the extent of differential selection on a rich set of observable variables. This should help infer something regarding the degree of differential selection on unobservable. Specifically, this allows us to check whether the characteristics of immigrants change differentially in state-socialist and non-state socialist countries, between 1945 and 1990. Overall, although we are not able to completely rule out that our results are partly determined by selection on unobservables, the richness of individual characteristics we can access (and that we add to our main regression equation as controls), the lack of a clear pattern of differential selection, and the fact that immigrants do not appear to be selected on most individual characteristics, is quite reassuring regarding the validity of our empirical strategy.

Table 7: State-socialism and Attitudes Toward Sex-Role, Diff-in-Diff Estimation: Disagreement with "Better for Men to Work, Woman Tend Home"

	(1)	(2)	(3)	(4)	(5)	(6)
				Mediterranean	Continental	Nordic
State-socialist country	0.030 (0.025)					
Post-1940	0.124*** (0.036)	0.082** (0.030)	-0.006 (0.047)	0.141** (0.058)	0.148* (0.070)	0.190** (0.056)
State-socialist country x post-1940	0.258*** (0.058)	0.204*** (0.049)	0.279*** (0.065)	0.201** (0.073)	0.161** (0.059)	0.148* (0.063)
Male	-0.180*** (0.015)	-0.186*** (0.015)	-0.215*** (0.018)	-0.225*** (0.042)	-0.180* (0.076)	-0.254*** (0.042)
Education (yrs)		0.072*** (0.002)	0.053*** (0.003)	0.070*** (0.005)	0.076*** (0.006)	0.081*** (0.004)
Married		-0.127*** (0.024)	-0.082*** (0.017)	-0.026 (0.044)	-0.113** (0.036)	-0.136** (0.046)
Household Income (Cat.)			0.030*** (0.004)			
Satisfied with financial situation			-0.022** (0.011)			
Employed			0.126*** (0.031)			
Children			-0.024** (0.010)			
Mother's Education			0.003 (0.007)			
Father's Education			0.010*** (0.003)			
Catholic			-0.174*** (0.030)			
Protestant			-0.224*** (0.031)			
Jew			0.053 (0.088)			
Orthodox			-0.113 (0.244)			
Other Religion			-0.114 (0.076)			
Politically Conservative			-0.110*** (0.007)			
Observations	8,769	8,759	6,018	2,041	1,553	1,613
Regional Dummies	YES	YES	YES	YES	YES	YES
Age Age_sq	YES	YES	YES	YES	YES	YES
Generation Dummies	YES	YES	YES	YES	YES	YES
Country of Origin FEs	NO	YES	YES	YES	YES	YES
P-value cluster country-period	0.001	0.000	0.000	0.005	0.025	0.030
P-value CGM	0.000	.	.	.	.	.
adj R2	0.132	0.192	0.231	0.214	0.205	0.222
Mean y	2.703	2.703	2.764	2.740	2.716	2.741
SD y	0.840	0.840	0.828	0.847	0.849	0.844

SE clustered by country of origin in parentheses; number of clusters by country is 19. "P-value cluster country-period" is the p-value corresponding to "State-socialist country x post-1945" obtained when clustering at country-period level. "P-value CGM" is the p-value corresponding to "State-socialist country x post-1945" obtained using the bootstrap procedure developed by Cameron et al.(2008). In column 4-6 we restrict the control group to immigrants from Mediterranean countries (Greece, Italy, Portugal, Spain), Continental countries (Austria, Belgium, France, Netherlands) and Nordic countries (Denmark, Finland, Norway, Sweden), respectively.

Table 8: How important it is to be successful at work

	(1)	(2)	(3)	(4)	(5) E German female migrants vs stayers	(6) Movers to W coded as E Germans
East1989	0.078*** (0.023)	0.073*** (0.023)	0.211*** (0.028)	0.131*** (0.028)		0.058*** (0.022)
Female	-0.347*** (0.018)	-0.341*** (0.018)	-0.331*** (0.019)	-0.245*** (0.019)		-0.356*** (0.018)
East1989*Female	0.146*** (0.027)	0.145*** (0.028)	0.147*** (0.028)	0.097*** (0.028)		0.168*** (0.027)
Education (yrs)		0.015*** (0.004)	0.009** (0.004)	0.003 (0.004)		
log hh Yr Income			0.181*** (0.022)	0.142*** (0.022)		
Satisfied with hh income			0.001 (0.004)	-0.003 (0.004)		
Married		-0.014 (0.022)	-0.045* (0.023)	-0.039* (0.023)		
Employed				0.449*** (0.024)		
Moved E to W 49-55					-0.368** (0.146)	
Moved E to W 56-89					-0.169 (0.120)	
Observations	10,063	9,980	9,553	9,553	2,188	10,048
adj R2	0.267	0.269	0.277	0.311	0.359	0.267
Age Age_sq	YES	YES	YES	YES	YES	YES
Mean y	2.914	2.913	2.909	2.909	2.901	2.914
SD y	0.920	0.920	0.921	0.921	0.976	0.920
N movers 49-55					89	
N movers 56-89					98	

Standard errors clustered at household level. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ . This table shows systematic differences in female attitudes towards work between the East and the West, with East German women more likely than West German women to answer that career success is important to their sense of well-being and personal satisfaction (Column 1-4). Migration creates an identification challenge in our context: if the distributions of gender-role attitudes were similar in the East and the West before 1945, but women with the more traditional attitudes migrated from the GDR to the FRG, then this could drive our findings of less traditional attitudes in the East in 1990. In order to explore this issue, in Column 5 we restrict the sample to women, and add two dummy variables, "Moved E to W 49-55" and "Moved E to W 56-89" (1956 is the median year of East-West migration for women). These dummies take on the value of one if a woman migrated from the East to the West during 1949-1955 or during 1956-1989, respectively. We use female stayers in East Germany as the reference group. The coefficients on the two dummies capture the attitudes of women who migrated East-West relatively early or relatively late, respectively. As the regression estimates show, women who migrated East-West relatively early have indeed significantly more traditional attitudes. Motivated by the result in Column 5, in Column 6 we code the individuals (both females and males) who moved from East to West as if they lived in East Germany in 1989. This is in the spirit of "restoring" the distribution of preference in GDR as if migration had not occurred. The estimates in such sample are very similar to the baseline results, suggesting that our main findings are not likely to be explained by East-West migration during the divided years.

Table 9: How important it is to be successful at work, state level comparisons, Part A

Comparison	(1) West as whole	(2) Schleswig- Holstein	(3) Hamburg	(4) Lower Saxony	(5) Bremen	(6) N Rhine- Westphalia
Female	-0.347*** (0.018)	-0.184* (0.104)	-0.016 (0.147)	-0.293*** (0.054)	-0.012 (0.163)	-0.365*** (0.034)
East Berlin	0.055 (0.071)	0.148 (0.104)	0.060 (0.145)	0.061 (0.082)	0.235 (0.175)	0.021 (0.074)
East Berlin*Female	0.210** (0.085)	0.063 (0.132)	-0.106 (0.168)	0.169* (0.098)	-0.109 (0.182)	0.235*** (0.089)
Brandenburg	0.099** (0.044)	0.202** (0.088)	0.114 (0.134)	0.114* (0.060)	0.290* (0.165)	0.070 (0.049)
Brandenburg*Female	0.142*** (0.054)	-0.004 (0.116)	-0.172 (0.155)	0.102 (0.074)	-0.175 (0.171)	0.168*** (0.061)
Mecklenburg-W Pomerania	0.174*** (0.050)	0.277*** (0.090)	0.188 (0.135)	0.188*** (0.063)	0.365** (0.167)	0.144*** (0.054)
Mecklenburg-W Pomerania*Female	0.083 (0.064)	-0.064 (0.121)	-0.232 (0.159)	0.042 (0.082)	-0.235 (0.174)	0.109 (0.070)
Saxony	0.056 (0.035)	0.160* (0.083)	0.071 (0.131)	0.072 (0.053)	0.248 (0.163)	0.027 (0.041)
Saxony*Female	0.135*** (0.041)	0.000 (0.111)	-0.169 (0.152)	0.104 (0.065)	-0.170 (0.167)	0.166*** (0.050)
Saxony-Anhalt	0.053 (0.047)	0.165* (0.089)	0.077 (0.135)	0.075 (0.062)	0.254 (0.166)	0.028 (0.052)
Saxony-Anhalt*Female	0.115** (0.052)	-0.025 (0.115)	-0.195 (0.155)	0.080 (0.073)	-0.196 (0.170)	0.143** (0.060)
Thuringa	0.073 (0.045)	0.182** (0.088)	0.094 (0.134)	0.092 (0.061)	0.271 (0.166)	0.047 (0.050)
Thuringa*Female	0.224*** (0.055)	0.076 (0.117)	-0.093 (0.156)	0.183** (0.075)	-0.096 (0.171)	0.249*** (0.062)
Observations	10,048	4,246	4,140	4,762	4,104	5,648
Age Age_sq	YES	YES	YES	YES	YES	YES
adj R2	0.267	0.286	0.280	0.293	0.293	0.267
Mean y	2.914	3.037	3.043	3.007	3.039	2.997
SD y	0.920	0.910	0.909	0.924	0.915	0.902

Standard errors clustered at household level. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. In Column 1 we estimate our baseline specification, adding distinct fixed-effects for all five eastern states (plus East Berlin), and interactions between these fixed-effects and Female (in blue), in place of one single East dummy and one single interaction East1989\*Female. In the remaining Columns we proceed with state by state comparisons. More precisely as in Column 1 we add distinct dummies for all five eastern states plus East Berlin, and interactions between these dummies and Female. However we now use a single West German state (plus West Berlin) as the baseline group each time. The comparisons of bordering states are in red.

Table 10: How important it is to be successful at work, state level comparisons, Part B

Comparison	(1) Hesse	(2) Rhineland-Palatinate	(3) Baden-Wuerttemberg	(4) Bavaria	(5) West Berlin
Female	-0.354*** (0.060)	-0.386*** (0.064)	-0.382*** (0.047)	-0.350*** (0.042)	-0.116 (0.107)
East Berlin	0.089 (0.083)	0.036 (0.087)	-0.077 (0.078)	0.009 (0.077)	0.142 (0.112)
East Berlin*Female	0.230** (0.101)	0.264** (0.104)	0.254*** (0.094)	0.224** (0.092)	-0.008 (0.134)
Brandenburg	0.142** (0.062)	0.090 (0.067)	-0.027 (0.055)	0.061 (0.053)	0.195** (0.097)
Brandenburg*Female	0.164** (0.078)	0.197** (0.082)	0.189*** (0.069)	0.158** (0.065)	-0.074 (0.118)
Mecklenburg-West Pomerania	0.217*** (0.066)	0.164** (0.070)	0.048 (0.059)	0.135** (0.057)	0.270*** (0.100)
Mecklenburg-West Pomerania*Female	0.103 (0.085)	0.136 (0.089)	0.131* (0.077)	0.098 (0.074)	-0.134 (0.123)
Saxony	0.100* (0.056)	0.048 (0.061)	-0.071 (0.048)	0.019 (0.045)	0.153 (0.094)
Saxony*Female	0.166** (0.070)	0.201*** (0.074)	0.189*** (0.060)	0.159*** (0.055)	-0.071 (0.112)
Saxony-Anhalt	0.104 (0.064)	0.052 (0.069)	-0.066 (0.058)	0.021 (0.056)	0.157 (0.099)
Saxony-Anhalt*Female	0.141* (0.077)	0.176** (0.081)	0.163** (0.068)	0.135** (0.065)	-0.096 (0.117)
Thuringia	0.122* (0.063)	0.069 (0.067)	-0.049 (0.056)	0.039 (0.054)	0.175* (0.098)
Thuringia*Female	0.243*** (0.079)	0.277*** (0.083)	0.268*** (0.070)	0.238*** (0.067)	0.006 (0.119)
Observations	4,573	4,512	4,970	5,107	4,220
adj R2	0.290	0.301	0.268	0.291	0.287
Age Age_sq	YES	YES	YES	YES	YES
Mean y	3.012	3.014	3.023	3.006	3.034
SD y	0.916	0.924	0.908	0.910	0.912

Standard errors clustered at household level. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. In this Table we proceed with state by state comparisons. We add distinct dummies for all five eastern states plus East Berlin, and interactions between these dummies and Female (in blue). We use a single West German state (plus West Berlin) as the baseline group each time. The comparisons of bordering states are in red.



## Appendix

Table A.1: GSS, Main Estimation Sample

Variable	Mean	(Std. Dev.)	Min.	Max.	N
Better for Men to Work, Woman Tend Home	2.703	(0.84)	1	4	8760
First Generation Immigrant	0.01	(0.1)	0	1	8759
Second Generation Immigrant	0.085	(0.279)	0	1	8759
Third Generation Immigrant	0.235	(0.424)	0	1	8759
Fourth Generation Immigrant	0.67	(0.47)	0	1	8759
Age	47.613	(17.475)	18	89	8759
Male	0.447	(0.497)	0	1	8759
Education (yrs)	13.614	(2.822)	0	20	8759
Married	0.54	(0.498)	0	1	8759
Household Income (Cat.)	10.731	(2.262)	1	12	7946
Satisfied with financial situation	2.093	(0.744)	1	3	8747
Employed	0.616	(0.486)	0	1	8759
Children	1.829	(1.668)	0	8	8742
Mother's Education	11.561	(3.273)	0	20	7834
Father's Education	11.528	(4.038)	0	20	6963
Catholic	0.286	(0.452)	0	1	8737
Protestant	0.553	(0.497)	0	1	8737
Jew	0.013	(0.113)	0	1	8737
Orthodox	0.002	(0.043)	0	1	8737
Other Religion	0.031	(0.173)	0	1	8738
Politically Conservative	4.172	(1.363)	1	7	8738

Table A.2: State-socialism and gender attitudes, Diff-in-Diff Placebo Regressions: Disagreement with "Better for Men to Work, Woman Tend Home"

	(1)	(2)	(3)	(4)	(5)	(6)
				Mediterranean	Continental	Nordic
State-socialist country	-0.113 (0.140)					
Post-1900	0.342*** (0.048)	0.255*** (0.040)	0.162*** (0.054)	0.144** (0.053)	0.221* (0.115)	0.240*** (0.046)
State-socialist country x post-1900	0.150 (0.152)	0.036 (0.137)	-0.034 (0.128)	0.094 (0.149)	0.118 (0.144)	0.058 (0.143)
Male	-0.184*** (0.015)	-0.190*** (0.014)	-0.221*** (0.018)	-0.226*** (0.043)	-0.176* (0.077)	-0.246*** (0.048)
Education (yrs)		0.069*** (0.002)	0.052*** (0.004)	0.072*** (0.003)	0.070*** (0.005)	0.078*** (0.004)
Married		-0.120*** (0.024)	-0.089*** (0.016)	-0.009 (0.047)	-0.101** (0.036)	-0.118** (0.044)
Household Income (Cat.)			0.033*** (0.005)			
Satisfied with financial situation			-0.014 (0.011)			
Employed			0.114*** (0.030)			
Children			-0.021** (0.010)			
Mother's Education			0.001 (0.006)			
Father's Education			0.010** (0.003)			
Catholic			-0.158*** (0.035)			
Protestant			-0.209*** (0.034)			
Jew			0.105 (0.105)			
Orthodox			-0.315 (0.251)			
Other Religion			-0.090 (0.084)			
Politically Conservative			-0.112*** (0.006)			
Observations	8,190	8,181	5,634	1,765	1,418	1,499
Regional Dummies	YES	YES	YES	YES	YES	YES
Age Age_sq	YES	YES	YES	YES	YES	YES
Generation Dummies	YES	YES	YES	YES	YES	YES
Country of Origin FEs	NO	YES	YES	YES	YES	YES
adj R2	0.145	0.199	0.238	0.219	0.204	0.220
Mean y	2.684	2.684	2.750	2.704	2.684	2.712
SD y	0.839	0.839	0.828	0.845	0.846	0.842

SE clustered by country of origin in parenthesis; number of clusters by country is 19. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

Table A.3: GSOEP, Main Estimation Sample

<b>Variable</b>	<b>Mean</b>	<b>(Std. Dev.)</b>	<b>Min.</b>	<b>Max.</b>	<b>N</b>
How important it is to be successful at work	2.913	(0.92)	1	4	9980
Female	0.515	(0.5)	0	1	9980
Age	42.906	(16.958)	14	96	9980
Education (yrs)	11.463	(2.315)	7	18	9980
HH Yr Income	36323.094	(28786.994)	0	900000	9638
Satisfied with hh income	6.271	(2.339)	0	10	9872
Married	0.644	(0.479)	0	1	9980
Employed	0.64	(0.48)	0	1	9980