

# Turning back the clock: Beliefs about gender roles during lockdown\*

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## ABSTRACT

We study the impact of lockdown measures on beliefs about gender roles. We collect data from a representative sample of 1,000 individuals in France during the first COVID-19 lockdown in 2020. To measure beliefs about gender roles, we use questions from the 2018 wave of the European Values Study, and match respondents from the two surveys to compare beliefs before and during lockdown. We find evidence that the lockdown period was associated with a shift towards more traditional beliefs about gender roles. Men, and especially men with young children living in the household, show changes in beliefs. Our evidence suggests a seven to 10 percentage point increase in the share of men who agree with unequal gender roles, during lockdown. We also find evidence that is consistent with a “conservative shift” hypothesis: beliefs in traditional gender roles increase more for individuals from economically vulnerable groups. Men seem less likely to believe in equal gender roles when the household is more financially constrained or is unable to outsource childcare.

**Keywords:** gender norms, household constraints, childcare, COVID-19.

**JEL Classification Numbers:** D13, J16, J22.

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# 1 Introduction

Families' ability to outsource household production has been one of the driving factors behind women's increased participation in the labor market (Goldin, 2006). And as more women participate in the labor market, more people believe in equal gender roles (Fortin, 2005; Alesina et al., 2013).<sup>1</sup> By beliefs in equal gender roles, we mean beliefs that it is men and women's shared responsibility to contribute both to household production and to the financial support of the household.<sup>2</sup> Throughout Europe, the share of individuals who agree with statements such as "When a mother works for pay, the children suffer" and "A job is alright but what most women really want is a home and children" has decreased since the European Values Study (EVS) first measured beliefs about gender roles in 1990 (Figure 1). In countries where enrolment rates in early childhood education and care services are higher (Figure 2) and the employment rates of mothers are higher (Figure 3), more individuals tend to believe in equal gender roles.

During the COVID-19 crisis, many governments implemented lockdown measures that hindered families' ability to outsource household production. Lockdown measures, especially the ones implemented in early 2020, generally involved the closing of childcare facilities and schools. They also reduced women's labor force participation: many businesses with high female employment rates (high contact service sectors such as tourism, restaurants, and non-food retail) greatly reduced or stopped their activities (Alon et al., 2020a,b, 2021). As a result, lockdown measures led to a return of household production constraints and a drop in female labor force participation (Albanesi and Kim, 2021; Alon et al., 2021). Research conducted in France (Champeaux and Marchetta, 2021; Ducoudré and Périer, 2020), Italy (Biroli et al., 2021; Del Boca et al., 2020; Mangiavacchi et al., 2021), Spain (Farré et al., 2020), the United Kingdom (Sevilla and Smith, 2020; Hupkau and Petrongolo, 2020; Golin, 2021), and the United States (Biroli et al., 2021; Carlson et al., 2020) finds that lockdown measures significantly increased the time-constraints on households with younger children, and that women took responsibility for the largest share of childcare, often by taking time off work (Alon et al., 2020a,b, 2021).

Did the reversal in families' ability to outsource household production lead to a reversal in beliefs

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<sup>1</sup>Other factors that have led to an increase in women's labor force participation include an increase in the supply of jobs available to women and new technologies that reduce time spent on housework (Goldin, 2006).

<sup>2</sup>These gender-role attitudes, combined with female participation in the labor-market and in politics, define gender norms within a society (Alesina et al., 2013).

about gender roles? To answer this research question, we conducted a survey on a representative sample of 1,000 individuals from the French working population, during the first lockdown period of the COVID-19 crisis, in May 2020. We measure beliefs about gender roles by asking respondents about their opinion on six statements from the EVS.<sup>3</sup> We then estimate the impact of the lockdown period on beliefs about gender roles by combining responses to our survey with the responses of individuals from the latest wave of the EVS for France. The latest wave of responses for France was in 2018, less than two years before the beginning of the COVID-19 crisis.<sup>4</sup> We perform a Nearest-Neighbor Match on respondents' observable characteristics from both surveys to estimate how the respondents to our survey would have likely responded before lockdown to the EVS questions about gender roles. The observable characteristics we use for the matching exercise include information on the respondent (gender, age, education, marital status, number and age of children, life satisfaction before lockdown) and the respondent's partner when they have one (employment status before lockdown). We then use the predicted values to estimate changes in beliefs during lockdown.

Our main results show that beliefs in *unequal* gender roles increased during the first lockdown period of the COVID-19 health crisis. The increase in beliefs in unequal gender roles mainly occurred among men. Our benchmark evidence suggests a seven to 10 percentage point (p.p.) increase in the share of men who agree with statements that associate women with household production, and men with the role of breadwinner and with business and political leadership, during lockdown. The size of the effect is large: we estimate that only 5% to 13% of men agreed with these statements before lockdown.

We observe the largest effect among men from highly time-constrained households during lockdown: households with young children (less than 13 years old). For instance, we find a significant increase in the percentage of men with young children who agree with the following statements during lockdown: "A man's job is to earn money; a woman's job is to look after the home and family" (16 p.p. increase), "All in all, family life suffers when the woman has a fulltime job" (13.8 p.p. increase), and "A job is alright but what most women really want is a home and children" (19.4 p.p. increase).

Mothers took responsibility for the largest share of childcare during lockdown in 87% of house-

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<sup>3</sup>We detail the six statements in Section 3.1. Researchers often use measures from the EVS and the World Values Survey to measure beliefs about gender roles, for instance Alesina et al. (2013).

<sup>4</sup>The EVS collects data every nine years.

holds with children. In these households, we find that men were more likely to agree with all six statements during lockdown. However, we do not find a significant change in the beliefs of mothers in these households. In the other 13% of households with children—where the father spent more time on childcare than the mother during lockdown—beliefs of men and women did not change significantly. The only significant result we find is that women agreed more often with one statement that can be associated with a “mother’s guilt” effect (Fortin, 2005): “All in all, family life suffers when the woman has a fulltime job”. However, the sample size of these households (where fathers took the largest responsibility for childcare) is small and the standard errors are relatively large, suggesting that more research is necessary to precisely estimate this effect.<sup>5</sup>

Finally, we estimate whether the increased economic uncertainty (e.g. Altig et al., 2020) and anxiety associated with the COVID-19 crisis impacted beliefs about gender roles. Research shows that the COVID-19 crisis has been associated with a decrease in mental health and an increase in anxiety, including economic anxiety (Adams-Prassl et al., 2020a; Brodeur et al., 2021; Fetzer et al., 2020; Huang and Zhao, 2020). Research further shows that the disease especially affected people in areas with higher economic inequality (Ginsburgh et al., 2021). And survey data suggests that the individuals who were the most worried about their personal economic situation during the first lockdown were the ones whose working hours were reduced, who had children living in the household, and from lower income households (Barhoumi et al., 2020).

We use information on respondents’ household income to test whether economically vulnerable individuals were more likely to shift their beliefs towards more traditional beliefs about gender roles. Our results suggest that the pandemic-related economic uncertainty may have contributed to the increase in beliefs in unequal gender roles during lockdown. This result is consistent with the “conservative shift” hypothesis from the literature in social and political psychology: increased exposure to threatening circumstances, often associated with increases in levels of anxiety and economic uncertainty, leads to a conservative shift—an increase in support for political or social conservatism (Jost et al., 2003, 2017; Lee, 2020). Other research in the social psychology literature has found evidence of a conservative shift during the early weeks of the COVID-19 crisis in a panel data analysis of U.S. Mechanical Turk workers (Rosenfeld and Tomiyama, 2021).

We extend the conservative shift analysis by using cross-country data from the latest wave of

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<sup>5</sup>For more literature on the mother’s guilt effect, see Slaughter (2015) and Kuziemko et al. (2018).

the EVS<sup>6</sup> to examine the relationship between household income and beliefs about gender roles. Our results suggest that egalitarian beliefs are a normal good: throughout Europe, both men and women are more likely to believe in gender equal roles as they move up the income distribution. Lower income households' financial constraints could explain their higher probability to agree with gender unequal roles.

However, the conservative shift hypothesis does not explain why men—but not women—were more likely to believe in unequal gender roles during lockdown. What are possible explanations for the gender differences in shifts in beliefs? During the lockdown period, some men may have changed their beliefs to reduce cognitive dissonance. Indeed, before lockdown, men may have agreed more often with egalitarian beliefs because outsourcing was available and they did not have to increase the time they spent on household production. But when confronted with a situation where outsourcing of household production was not possible, some men may have started believing in more traditional gender roles to avoid taking more responsibility for household production. Furthermore, research shows that women have stronger preferences for equally sharing household production responsibilities when the couple has a young child (Auspurg et al., 2017). This can explain why women's beliefs did not shift like men's beliefs did: believing in more traditional gender roles is not costly for men, but is costly for women. Indeed, unequal gender roles means that women must increase the time they spend on household production when outsourcing is not an option. Our results are in line with Pedulla and Thébaud (2015), who find that work-family constraints shape men's and women's preferences for sharing household production and income-earning responsibilities. The authors find that both men and women express preferences for more egalitarian relationships when work-family policy interventions remove constraints on household production. They also find that women's preferences for egalitarian relationships are more elastic than men's when constraints are removed.

All our results taken together suggest that there is no ratchet effect regarding beliefs about gender roles for men, but there is one for women. Men tend to revert to more traditional beliefs when constraints increase, whereas women do not. The effects that we measure may be only short run effects: when lockdown measures disappear, household production constraints also disappear, and men may revert to beliefs in more equal gender roles. However, the length of the COVID-19

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<sup>6</sup>Depending on the country, the EVS collected data in 2017 or 2018.

crisis could lead to long run impacts on individuals' beliefs, as well as women's participation in the labor market. Research on attitudes towards maternal employment conducted in West Germany in 2021, that is, one year after the start of the pandemic, finds similar results as ours: men's beliefs shifted towards more traditional beliefs, but women's beliefs did not (Danzer et al., 2021), suggesting a long run impact of the effects we measure.

The literature has highlighted that long-lasting shocks in gender roles can shape gender identity norms, which can explain cross-country differences in labor force participation of women in the long run (Alesina et al., 2013). For example, during World War II, women entered the labor market due to men's military involvement in the war; this change in gender roles persisted across generations and led to an increase in female labor force participation in the long run (Fernández et al., 2004). We observe an opposite effect on women's labor force participation caused by lockdown measures: women left the labor market to take care of household production, especially childcare. The effects that we find regarding beliefs about gender roles may have long run repercussions, even when lockdown measures are relaxed and households can outsource household production again. Our results suggest that economic vulnerability to the crisis may be an important determinant of beliefs in gender equality.

Our findings suggest that the increase in beliefs in equal gender roles that has occurred in many European countries, since at least the early 1990s, relies partly on families' ability to outsource household production and to sustain financial stability. When governments implement strong lockdown measures, they may reinforce beliefs that keep women out of the labor force. Our results further suggest that stronger public policies to reduce economic uncertainty and inequalities would likely *increase* beliefs in equal gender roles. Our finding of stronger effects in economically vulnerable groups might also imply that the COVID-19 crisis may have widened differences in beliefs about gender roles across socioeconomic statuses. This widening gap in beliefs (between low income and high income households) may be further exacerbated if high income households become more likely to believe in equal gender roles in the long run, as suggested in research by Alon et al. (2020b,a); or if beliefs about gender roles spread through peer effects (Cavapozzi et al., 2021). Indeed, higher income individuals may be more likely to benefit from flexible work arrangements and having both partners working from home, which could lead to an increase in beliefs in equal gender roles in these households.

As the COVID-19 crisis is ongoing, governments can try to avoid implementing pandemic-related measures that are more likely to hurt women than men on the labor market. In particular, keeping childcare facilities and schools open as much as possible is important to avoid a reversal in the trend regarding support for equal gender roles. Finally, supporting lower income households may lead more men to believe in equal gender roles.

The paper is structured as follows. Section 2 describes the data, including information on how we match respondents of the IPSOS and the EVS datasets. Section 3 provides descriptive evidence on beliefs about gender roles and household production constraints. Section 4 presents the results of our estimates of changes in beliefs about gender roles during lockdown, which can be related to household production constraints. Section 5 studies the relationship between beliefs about gender roles and income. Section 6 presents results of robustness checks. Section 7 concludes.

## 2 Data

In Section 2.1, we describe the variables we use from two datasets. The first dataset is the survey that we designed and that IPSOS conducted on a representative sample of 1,000 working individuals in France during lockdown. The second dataset is the fifth wave of the EVS for France, from 2018. In Section 2.2, we describe how we match respondents of both surveys to build the dataset for our examination of changes in beliefs about gender roles during lockdown.

### 2.1 The IPSOS and EVS datasets

When the first lockdown in France occurred on March 17th, 2020, all our survey respondents were at least 18 years old and were either employed or independent workers. IPSOS carried-out the survey between May 4th and May 8th, the week before the end of the first lockdown on May 11th. The survey agency applied a quota sampling method to ensure that the respondents were representative of the French population, based on gender, age, professional activity, as well as the region and the type of environment (rural or urban) where the respondent lived at the time of the survey. Since time-constraints were an issue during lockdown, we opted for a short, ten-minute, online survey.

Table 1 provides descriptive statistics of the respondents' characteristics. The mean age is 41.7

years old, and 49% of respondents are women. About one in four respondent (26%) is single, 39% of respondents are married, 9% are in a civil partnership, 19% cohabit with their partner, 5% are divorced, 2% are separated, and 1% are widowed.<sup>7</sup> Among respondents, 41% have children living in the household (the average number of children is 1.7 among respondents with children), and 31% of respondents have at least one child who is 12 years old or younger living in the household.

We also collected information on respondents' level of education: 17% earned a vocational degree or did not graduate from high school, 23% graduated from high school, 23% earned a two-year postgraduate degree, and 37% had a higher level of education, which we define as having earned at least the equivalent of a Bachelor's degree (three years after high school). The dataset includes information on household income: 23% of respondents had earnings below 21,000 euros per year, 40% between 21,001 and 36,000 euros, 19% between 36,001 and 48,000 euros, and 19% above 48,000 euros. Some observations for income are missing: 9.1% of respondents did not provide this information.

In the IPSOS survey, we included questions from the EVS (2020) to measure respondents' beliefs about gender roles. The EVS dataset for France includes information collected between March 3rd and August 16th, 2018, two years before the first COVID-19 lockdown. We kept the same format as the EVS questions. We asked respondents whether they strongly agree, agree, disagree, or strongly disagree with six statements about gender roles, which we describe in Section 3.1. For each statement measuring beliefs about gender roles, we construct a binary variable equal to one if the respondent answered either agree or strongly agree, and zero if the respondent answered either disagree or strongly disagree. After collecting the responses for each statement during lockdown, we match respondents from our survey with respondents from the EVS to estimate our 1,000 respondents' likely beliefs before lockdown. To have a matching set of respondents, we selected the 871 individuals in France from the EVS who were at least 18 years old and employed when they answered the survey in 2018.

The characteristics of respondents in the EVS sample are similar to the ones of the IPSOS sample. In the EVS sample that we use (Table 1), the mean age is 42.2 and 52% of respondents are women. About one in four respondent (24%) is single, 34% of respondents are married, 9%

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<sup>7</sup> Respondents in a same-sex relationship are 6.5% of the sample (two thirds male couples, one third female couples). We do not have corresponding same-sex couples in the EVS dataset.

are in a civil partnership, 14% cohabit with their partner, 10% are divorced, 7% are separated, and 2% are widowed. The EVS sample includes 48% of respondents who have children living in the household (the average number of children is 1.8 among respondents with children), and 33% of respondents have at least one child who is 12 years old or younger and living in the household.

There are some differences in educational levels: a higher share of EVS respondents (34%) earned a vocational degree or did not graduate from high school, 20% graduated from high school, 19% earned a two-year postgraduate degree, and 27% earned a higher level of education (at least the equivalent of a Bachelor's degree). The income categories are such that 27% of respondents have earnings below 21,000 euros per year, 32% between 21,001 and 36,000 euros, 24% between 36,001 and 48,000 euros, and 17% above 48,000 euros.<sup>8</sup> In the EVS sample, 7.8% of respondents did not declare information on household income.

Our IPSOS survey included a question from the EVS to measure respondents' life satisfaction. The original question from the EVS is "All things considered, how satisfied are you with your life as a whole these days?". In the IPSOS survey, we asked "All things considered, how satisfied were you with your life as a whole before the beginning of lockdown?". The mean level of satisfaction in the IPSOS sample is 7.24, similar to the 7.55 mean in the EVS sample, on a scale from 1 (dissatisfied) to 10 (satisfied).

Both surveys include information on the household's geographic location in France. Information on the geographic location (region) of respondents from each survey is in the Appendix (Table A1). We include this information as research suggests that beliefs about gender roles may vary by geographic location (Alesina et al., 2013; Le Barbanchon and Sauvagnat, 2019).

Finally, both surveys include an important variable that may reflect prior beliefs about gender roles: the employment status of the respondent's partner. For instance, the wife of a male respondent who does not believe in equal gender roles is more likely to be a housewife. In the IPSOS survey, before lockdown, 47% of respondents had a partner working full time, 5% had a partner working part time, 4% had a partner working as an independent, and 12% of respondents had a partner who was retired, a housewife or househusband, a student or unemployed (the other

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<sup>8</sup>The IPSOS and EVS income categories do not match perfectly. We classify EVS household income as belonging to the 0 to 21,000 euros category if respondents declare being in the 0 to 20,979 category, the 21,000 to 36,000 category if they declare 20,980 to 34,919, the 36,000 to 48,000 category if they declare 34,920 to 49,049, and the above 48,000 category if they declare 49,050 euros or more.

respondents did not have a partner). The employment status of partners is roughly the same in the EVS sample as in the IPSOS sample: 45% have a partner working full time, 4% have a partner working part time, 1% have a partner working as an independent, and 8% of respondents have a partner who is retired, a housewife or househusband, a student or unemployed.

## 2.2 Nearest-Neighbor Match

We predict the IPSOS respondents' beliefs before lockdown by conducting a Nearest-Neighbor Match with Mahalanobis distances on the following characteristics described in Section 2.1 and Table 1: age, education category, marital status, the region the respondent lives in, the number of children living in the household, the measure of life satisfaction of the respondent, and the employment status of the partner before lockdown. We conduct an exact match on whether the respondent is female and whether the respondent has a child who is 12 years old or younger living in the household.<sup>9</sup>

We use the predicted values from the matching exercise to construct the outcome variable on beliefs before lockdown for the IPSOS respondents.<sup>10</sup> We describe the results of our predictions in Section 3. The precision of the predictions relies crucially on the quality of the match. In Section 6, we present the results of alternative matches; they suggest that our predicted values are within bounds. In particular, we calculate average treatment effects (ATE) using different matching characteristics, and also using Euclidean distances. We find that the ATE remain fairly stable in terms of both significance and magnitude across different matching alternatives.

## 3 Descriptive evidence

We describe the main outcome variables of our analysis in Section 3.1. In Section 3.2, we describe the variables we use to measure the impact of lockdown on household production constraints.

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<sup>9</sup>We do not to conduct the match on income, because of the higher incidence of missing observations for this variable.

<sup>10</sup>The predicted values from the matching model exhibit a bimodal distribution, around the values zero (disagree or strongly disagree) and one (agree or strongly agree). We set the outcome variable for IPSOS respondents to be equal to one if the predicted value is larger than or equal to 0.5; we set the predicted outcome variable to be equal to zero if the predicted value is below 0.5.

### 3.1 Measures of beliefs about gender roles

We interpret agreement with any of the six statements as representing beliefs in more traditional gender roles. However, each statement measures a different aspect of beliefs about gender roles.

Statements (1) and (2) suggest that a woman’s decision to work can have a negative impact on children and family life: “When a mother works for pay, the children suffer” and “All in all, family life suffers when the woman has a fulltime job”. Both statements can be associated with a belief in traditional gender roles for women. When working mothers agree with these statements, these statements can be interpreted as measuring a mother’s guilt effect (Fortin, 2005).<sup>11</sup> About one out of four men and women agree with these statements during lockdown (Table 2, Panel A). Compared to our estimates of beliefs before lockdown (from the Nearest-Neighbor Match described in Section 2.2), we observe an increase in the percentage of both men and women who agree with the first statement (6 to 11 p.p. increase). We also observe a small increase for the second statement: 3 p.p. for men, and 4 p.p. for women.<sup>12</sup>

Statement (3) measures respondents’ beliefs regarding gender *norms*: “A job is alright but what most women really want is a home and children”. This statement measures whether the respondent believes that women in general have a preference for traditional gender roles, and is therefore a measure of second-order beliefs: it measures what the respondent believes that other people believe, that is, gender norms. Research suggests that beliefs in gender norms have an impact on individuals’ behaviors regarding gender equality in the household (Bursztyn et al., 2020). Our descriptive statistics suggest that the lockdown period is not significantly associated with a change in individuals’ second-order beliefs: 28% of women agree with the statement before lockdown compared to 25% during lockdown, whereas 29% of men agree with the statement before lockdown compared to 28% during lockdown.

Statement (4) measures the extent to which individuals associate *both* men and women with traditional gender roles: “A man’s job is to earn money; a woman’s job is to look after the home and family”. This statement measures individuals’ first-order beliefs about gender roles. We observe an

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<sup>11</sup>The EVS does not ask the equivalent questions for fathers.

<sup>12</sup>The data collection process by EVS is different from our survey. Interviews were conducted in person for the fifth wave of the EVS for France, whereas our survey was administered online. We check that differences in beliefs between our “before lockdown” period (based on EVS responses) and our “during lockdown” period (based on responses to our survey) are not driven by type-of-interview bias in Section 6.2.

increase in the percentage of men who agree with this statement: from 5% before lockdown to 16% during lockdown. We also observe an increase for women, from 5% to 11%. The difference between men and women during lockdown is statistically significant. The percentage of respondents who agree with statement (4) is lower than the percentage who agree with statement (3), suggesting that some people may be overestimating the extent to which other people agree with traditional gender roles. During lockdown, however, the gap between first-order and second-order beliefs closes.

Finally, statements (5) and (6) suggest that men have a comparative advantage for activities related to economic and political leadership: “On the whole, men make better political leaders than women do” and “On the whole, men make better business executives than women do”. Our descriptive statistics suggest a strong increase in the percentage of men (but not women) who agree with these two statements. Before lockdown, our estimates suggest that 5% of male respondents agree with the former statement, and 7% with the latter statement. During lockdown, 17% of men agree with both statements.

Overall, we do not observe a polarization of beliefs. Instead, we observe a shift in the distribution of answers, with fewer individuals strongly disagreeing and more individuals agreeing with the statements during lockdown (see Figure A1 in the Appendix).

Among the six statements, two have been asked by the EVS over several waves: “When a mother works for pay, the children suffer” (statement (1)) and “A job is alright, but what women really want is a home and children” (statement (3)). Descriptive evidence, which we present in Figure 4, shows that the share of individuals in France who agree or strongly agree with these two statements decreased steadily between 1990 and 2018. In 2020, we observe a clear trend reversal for both statements.

### **3.2 Measures of household production constraints**

The main variable that we use to proxy household production constraints is a binary variable equal to one if there is at least one young child (12 years old or younger) living in the household. Indeed, household-related time constraints increased substantially during lockdown in households with young children.

In the IPSOS survey, we also asked respondents to report how much time per day that they and their partner spent on childcare and housework, before and during lockdown. We use a binary

variable equal to one if the male partner spent more time than the female partner on childcare, and another binary variable equal to one if the male partner spent more time than the female partner on housework (Panel B of Table 2). Although men and women differ in their perceptions of time spent on childcare and housework, we assume that partners are likely to report relatively accurately whether they spent more or less time than their partner on a given task. Before lockdown, 19% of men declared they spent more time than their partner on childcare, compared to only 9% of women who declared that their partner did more (the difference is statistically significant). The gap closed during lockdown, with 15% of men declaring they did more, and 11% of women declaring their partner did more (the difference is not statistically significant).<sup>13</sup> Regarding housework, 14% of men declared contributing more time than their female partner on housework before lockdown compared to 20% during lockdown. Only 10% of female respondents declared that their partner spent more time on housework before lockdown, compared to 18% during lockdown. The smaller gaps during lockdown could be due to partners being more able to observe each other’s actions.

We also asked respondents about their and their partner’s employment status and work arrangement before and during lockdown. Panel C of Table 2 shows how lockdown measures changed individuals’ ability to perform their job. In our sample, all 1,000 survey respondents were professionally active right before lockdown; but during lockdown, some stopped working (31.8%), making them less time-constrained than those who continued to work, either from home (38.2%) or outside of the home (30%). Our sample is representative of the French labor market conditions during the end of the lockdown period. The French National Institute of Statistics and Economic Studies (INSEE) estimated that 37% of employed individuals were unable to work during the first lockdown period, and that 38% of individuals worked from home at least half of the week (Jauneau and Vidalenc, 2020). Data from the French Ministry of Labor (DARES) show that more individuals were unable to work in the first weeks of the lockdown period compared to the end of the lockdown

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<sup>13</sup>Using the hourly data, we find that mothers took responsibility for most of the additional childcare during lockdown, in proportions that are consistent with findings in other countries (e.g Adams-Prassl et al., 2020b; Biroli et al., 2021; Carlson et al., 2020; Champeaux and Marchetta, 2021; Farré et al., 2020; Sevilla and Smith, 2020; Golin, 2021). However, there are clear measurement errors in the time use variables: many respondents do not estimate precisely how much time they spent per day on different tasks. For instance, several respondents completed daily time use that exceeds 24 hours. Furthermore, there are large differences in men’s and women’s perceptions of time spent by each partner on childcare and housework. For instance, men tend to say that their share on childcare is just below 50%, whereas women tend to say that their male partner’s share on childcare is less than 40%, on average. Due to these measurement errors and declaration biases, we do not directly use the reported daily hours to measure household production constraints before and during lockdown.

period, and that those who started working again did so more often out of the home, for instance in the construction sector (DARES, 2020).<sup>14</sup>

More women than men stopped working during lockdown: in our sample, 35.6% of women and 28.2% of men stopped working. Both men and women worked fewer hours during lockdown: on average, female respondents worked 19 hours and 18 minutes per week, and male respondents worked 22 hours and 54 minutes per week (compared to 34 hours and 24 minutes, and 37 hours, respectively, before lockdown). While some women were not working because they could not perform their jobs during lockdown, other women took a leave of absence to take care of their children during this period, mainly for homeschooling purposes.<sup>15</sup> Women were also more often working from home during lockdown (42% compared to 35% of men).<sup>16</sup> Finally, 36% of male respondents and 23% of female respondents were still working outside the home during lockdown. Panel C also shows the share of partners who were not working, working from home or working outside the home before and during lockdown.<sup>17</sup>

## 4 Changes in beliefs and household production constraints

In this section, we examine whether individuals believed in more traditional gender roles during lockdown, when they could not outsource household production. We start by studying the impact of lockdown measures on all individuals (Section 4.1). Then, we study the beliefs of individuals who were the most time constrained during lockdown: parents with young children (Section 4.2). Finally, we compare situations where men or women took more responsibility for childcare and housework during lockdown, leading to a potential mother’s guilt effect (Section 4.3).

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<sup>14</sup>In France, most individuals who were unable to work during the lockdown period did not lose their job. The French government largely froze layoffs, by enabling firms to use partial or temporary unemployment measures, and by enabling parents to take a leave of absence for childcare. France’s unemployment rate remained relatively stable during the lockdown period (INSEE, 2020).

<sup>15</sup>We cannot distinguish between these two situations. While official statistics on the share of women and men who took a parental leave during the first lockdown are not available, research suggests that women were more likely to take one than men (Ducoudré and Périvier, 2020).

<sup>16</sup>We included respondents who declared working partly from home, partly outside from home, in the working from home category.

<sup>17</sup>Figure A2 in the Appendix shows the change in time spent on childcare and housework by different sex couples during lockdown compared to before lockdown, by the nine combinations of employment situations during lockdown (each partner is either not working, working from home or working outside the home, see Table A2). The figure provides suggestive evidence that men increased the time spent per day on childcare in the three situations where they were relatively more available than their female partner to take care of household production: when they were not working or working from home and their partner was working outside the home, and when they were not working and their partner was working from home.

## 4.1 Benchmark results

We analyze the changes in beliefs about gender roles during lockdown by estimating the following regression:

$$Y_{it} = \alpha + \beta_1 \text{Lockdown}_t + \beta_2 \text{Female}_i + \beta_3 \text{Female}_i \times \text{Lockdown}_t + \mathbf{X}_{it} + \epsilon_{it}, \quad (1)$$

where the outcome variable  $Y_{it}$  is a binary variable equal to one if respondent  $i$  answered agree or strongly agree to a statement presented in Section 3.1 at time  $t$ . The outcome before lockdown is defined as the estimate from the matching exercise for the beliefs of respondent  $i$ . The main variable of interest, *Lockdown*, is a binary variable equal to zero for the period before lockdown and one for during lockdown. In France, the share of individuals who agree with unequal gender roles has steadily decreased since 1990. If the lockdown period was not associated with a shift in beliefs, we would expect  $\beta_1$  to be negative, as the trend observed between 1990 and 2018 would continue in 2020. *Female* is a binary variable equal to one if the respondent is a woman. The coefficient on the interaction term ( $\beta_3$ ) enables us to measure whether the impact of the lockdown period is different between male and female respondents. The vector of characteristics  $\mathbf{X}$  includes both time variant and time invariant characteristics: age, number of children, marital status, household income categories, level of education, number of hours worked by the respondent, and fixed effects for the region where the respondent lives. Finally,  $\epsilon_{it}$  is the idiosyncratic error term. Our benchmark model estimates equation (1) using ordinary least squares (OLS).

Table 3 presents the benchmark results, including all respondents. We find an effect of lockdown on four out of six measures of beliefs about gender roles. The first lockdown period is associated with a statistically significant increase in the probability of agreeing with the following statements:

- “When a mother works for pay, the children suffer” (9.2 p.p. increase, Column (1)),
- “A man’s job is to earn money; a woman’s job is to look after the home and family” (7.3 p.p. increase, Column (4)),
- “On the whole, men make better political leaders than women do” (9.8 p.p. increase, Column (5)),
- and “On the whole, men make better business executives than women do” (8.1 p.p. increase, Column (6)).

The interaction term between *Lockdown* and *Female* is almost always negative: individuals who changed their beliefs during lockdown were mainly men, especially regarding statements (1), (2), and (5). Our results suggest that the lockdown period is associated with an increase in more traditional beliefs in gender roles, especially among men.

We do not find a significant change in beliefs of the overall population regarding statement (3) on gender norms (“A job is alright but what most women really want is a home and children”). While the lockdown period seems to have led to a shift in some respondents’ first-order beliefs about gender roles, it does not seem to have impacted individuals’ second-order beliefs.

## 4.2 The impact of childcare time-constraints on beliefs

Since having young children significantly increased time-constraints on parents during lockdown, we add in equation (1) a binary variable equal to one if there is at least one child who is twelve years old or under living in the household, and we allow lockdown to differentially impact men and women with and without young children living in the household. We use this variable as a proxy for increased household production constraints.

We find that men with young children increased their beliefs towards unequal gender roles during lockdown. In Figure 5 (see also Table A3 in the Appendix), we show the estimated change in beliefs during lockdown for four categories of respondents separately: men and women, and whether or not they were living with young children during lockdown. We find a significant increase in the percentage of men with young children who agree with all six statements during lockdown. The increases range from a 12.9 p.p. increase for “When a mother works for pay, the children suffer”, to a 19.4 p.p. increase for “A job is alright but what most women really want is a home and children”.

Overall, we find strong empirical evidence of an increase in beliefs in unequal gender roles for fathers with young children. We also find a significant, though smaller, increase for men without young children living in the household, for statements (1), (5), and (6). The percentage of respondents who agreed with these statement increased by 5.3 to 7.9 p.p. during lockdown. We also find that men without young children living in the household are less likely to agree with the statement “A job is alright, but what most women really want is a home and children” during lockdown.

Finally, we do not find that women’s beliefs changed significantly during lockdown, whether they had young children living in the household or not, with only one exception. We find a small

increase in the percentage of women without young children who agree with the statement “On the whole, men make better business executives than women do”.

### 4.3 Mother’s guilt effect

Figure 5 suggests an increase—although not statistically significant—in the percentage of women with young children who agree with statement (1): “When a mother works for pay, the children suffer”. We explore whether this increase can be associated with a mother’s guilt effect (Fortin, 2005), by looking more closely at the characteristics of the women whose beliefs shifted during lockdown. We study whether women whose male partner took responsibility for the largest share of childcare during lockdown were more likely to shift their beliefs. Indeed, men were more likely to increase their share of time spent on childcare when they were relatively more at home and available than their female partner (see Figure A2). While fathers’ choices to increase their share of work on childcare is partly endogenous, this figure suggests that their increase in time spent on childcare was also exogenously determined by the way that the lockdown measures impacted the couple’s ability to work, and whether they worked from home or outside the home.

Using the benchmark model in equation (1), we include a binary variable equal to one if the male partner spent strictly more time than the female partner on childcare during lockdown, and include an interaction term with the gender variable. The results in Figure 6 show that women whose male partner took responsibility for more than 50% of childcare were more likely to agree with statements associated with a mother’s guilt effect during lockdown.<sup>18</sup> The share of these women who agree with the statement “All in all, family life suffers when the woman has a fulltime job” increased by 38.6 p.p. during lockdown. The result is statistically significant. They were also more likely to agree with the statement “A man’s job is to earn money; a woman’s job is to look after the home and family”. The share of these women who agreed with the statement “When a mother works for pay, the children suffer” increased by 31.7 p.p. during lockdown, although is not statistically significant.

The statistical significance (but not the direction) of these estimates is sensitive to the specification of the matching predictions. The effects that we estimate for this particular group of women are larger than the effects we estimate for men, but they are also less precisely estimated as the

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<sup>18</sup>The complete table of results is Panel A of Table A4 in the Appendix.

large confidence intervals on Figure 6 suggest. Low statistical power can explain the imprecisely estimated results: there are only a small number of households where the male partner took more responsibility for childcare during lockdown.

Overall, we find no evidence that taking more responsibility for childcare leads men to change their beliefs about gender roles. And, if anything, women may experience a mother’s guilt effect when men take more responsibility for childcare during lockdown.

Figure 6 also suggests that men were more likely to agree with all six statements when the female partner took responsibility for at least 50% of childcare during lockdown. Our measured effect could be the result of a selection of women taking parental leave more often in more traditional couples or in couples where men have a comparative advantage for paid labor and women for household production. This result may also be consistent with situations where women stopped working more often in couples where the male partner holds stronger beliefs in traditional gender roles or has stronger bargaining power.<sup>19</sup>

We conduct the same analysis for the time spent by partners on housework (taking all heterosexual couples into account, whether they have children or not). Figure 7 (Panel B of Table A4 in the Appendix) presents our main results. We find that women did not significantly change their beliefs. However, men were more likely to agree with unequal gender roles when their female partner was the one doing the largest share of housework during lockdown.

## 5 The conservative shift hypothesis

Research from the social and political psychology literature has documented that increased exposure to threatening circumstances, often associated with increases in levels of anxiety and economic uncertainty, leads to a conservative shift—that is, an increase in support for political conservatism (e.g. Jost et al. 2003, 2017; Lee 2020). Research conducted during the first lockdown period has found that lockdown measures were more likely to affect specific groups, including more economically vulnerable individuals and less educated workers (e.g. Adams-Prassl et al. 2020b; Barhoumi et al. 2020; Lambert et al. 2020; Lambert and Cayouette-Remblière 2021).

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<sup>19</sup>In our sample, we do not know whether an individual is not working because of the lockdown measures or by choice. Indeed, we cannot distinguish between cases where the partners could choose who would take time off work to increase their responsibility for childcare, versus cases where the female partner was unable to work and therefore took responsibility for childcare.

In our context, the conservative shift hypothesis entails that individuals facing higher uncertainty during the COVID-19 crisis were more likely to shift their beliefs towards more traditional gender roles. We estimate whether individuals from lower income households were more likely to shift their beliefs towards more traditional gender roles during lockdown.

Figure 8 presents our main results. We find that men who are not in the higher income category (above 48,000 euros per year for the household) were more likely to change their beliefs towards more unequal gender roles during lockdown.<sup>20</sup> We find shifts in beliefs for five out of six statements. The only exception concerns second-order beliefs (“A job is alright but what most women really want is a home and children”), for which we do not find a significant shift among men in lower income households. We also conducted an analysis using education levels, and find similar results: men with lower education levels (less than the equivalent of a Bachelor’s degree) were more likely to shift their beliefs (see Figure A3 in the Appendix, and Table A5).

Our findings are consistent with the conservative shift hypothesis: when individuals are threatened by economic uncertainty, this may lead to a shift towards more traditional beliefs. These results suggest that the COVID-19 crisis may have increased cultural differences between high income and low income individuals. For instance, 5.9% of low income respondents agreed with the statement “A man’s job is to earn money; a woman’s job is to look after the home and family” before lockdown, compared to 4.1% of high income respondents. After lockdown, 15.4% of low income respondents agreed with the statement, compared to 8.9% of high income respondents.

To further examine the relationship between beliefs about gender roles and income, we use cross-country data from the latest wave of the EVS. We conduct a regression analysis where an individual’s agreement with each statement is the dependent variable and household income decile is the main independent variable, controlling for gender, age, marital status, number of children, and country fixed effects. Figure 9 shows the predicted percentage of men and women who agree with each statement by household income decile. The figure shows that women are more likely than men to agree with equal gender roles. The figure also shows that egalitarian beliefs are a normal good: as income levels increase, both men and women are more likely to believe in equal gender roles.

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<sup>20</sup>We find similar results using lower thresholds.

## 6 Robustness

### 6.1 Estimation and matching alternatives

Our estimations rely on the predictions from the Nearest-Neighbor Match. In this section, we present the results of several analyses we conducted to test the robustness of our estimates to different empirical strategies and alternatives to our baseline matching exercise.

First, instead of matching respondents from the EVS survey and our IPSOS survey, we estimate our benchmark model using an OLS cross section analysis. Respondents from both surveys are representative of the French population, and descriptive statistics comparing respondents from both surveys (Table 1) suggest that both samples are comparable (the main differences between the two datasets concern the education variable). Using this unmatched dataset, we find very similar results as when using the matched dataset. Results in Table A6 in the Appendix suggest that the lockdown period is associated with a statistically significant increase in beliefs in unequal gender roles across the same four out of six statements. Statement (2) is also significant in the unmatched data. The results from the unmatched dataset confirm that the main effects are driven by men.

Second, we run our baseline model directly on the matched data. Compared to the main analysis (Table 3), we use the control variables from the Nearest-Neighbor Match in this exercise. Table A7 in the Appendix presents the results, which are similar in size and significance compared to the ones we present in Table 3.

Finally, Table A8 in the Appendix compares average treatment effects estimated using different respondent characteristics to conduct the match, and using either Mahalanobis distances (columns (1) to (6)) or Euclidean distances (columns (7) to (12)). The ATE for our baseline model is Model 1 with Mahalanobis distances. We find that our ATE are comparable to the other models and to Euclidean distances.

### 6.2 Social-desirability bias

We check whether social-desirability or type-of-interview bias can explain our results. Indeed, respondents to our survey may have been more willing to express beliefs in unequal gender roles because our survey was conducted online, compared to the EVS survey which was conducted in

person. We measure desirability bias by using data from the fifth wave of the EVS for six countries (Denmark, Finland, Germany, Iceland, Netherlands and Switzerland), where some respondents were interviewed in person and other respondents were surveyed online. In these countries, we compare respondents who answered each statement in the online version of the survey with the in-person interview version of the survey. In Panel A of Table A9 in the Appendix, we show results of regressions where the coefficient on the variable *Online survey* measures the difference in the share of individuals who agree with each statement in the online version of the survey compared to the in-person interviews. We find that men are more likely to agree with most statements in the online version (the main exception is statement (1)). Depending on the statement, respondents are between 9% and 18% more likely to agree with a statement when the question is asked online compared to an in-person interview. While this result suggests that social-desirability bias may explain part of our results, it is likely to explain only a small share of the effect that we find for two reasons. First, the economic significance of the coefficients is small compared to the changes that we measure through our lockdown survey. For instance, looking at our benchmark results reported in Table 3 for statement (4), we find that respondents are 52% more likely to agree with the statement during lockdown, compared to before the lockdown. Second, in our analysis, we make the conservative assumption that respondents would not have changed their beliefs between 2018 and before the lockdown. But had the decreasing trend of agreement on these statements continued, we would have expected a *decrease* in the share of respondents who agree with these statements in 2020 compared to 2018.

Finally, Table A9 in the Appendix shows that type-of-interview reporting bias does not depend on having children under 12 in households. This result further suggests that the effects we find during lockdown are not mainly or completely driven by social-desirability bias.

## 7 Conclusion

In this research, we study whether beliefs about gender roles are entrenched or whether a negative shock on household production constraints can lead individuals to shift their beliefs towards more unequal gender roles. We find evidence that the COVID-19 crisis led some individuals (mainly men) to believe in more *unequal* gender roles. Our research highlights two mechanisms. First, when

individuals become time-constrained (i.e. higher household production constraints), they are more likely to believe in more unequal gender roles. Second, individuals in situations of higher economic uncertainty are more likely to increase their beliefs in unequal gender roles. Men are especially more likely to shift their beliefs towards less equal gender roles. These results show that beliefs in gender equality are not entrenched. Individuals may revert to believing in unequal gender roles when they are unable to outsource household production or when they become economically vulnerable.

Overall, our results suggest that the COVID-19 crisis could lead to short run and long run reversals in trends towards women's labor market outcomes, such as the labor force participation of women. The COVID-19 crisis may impact women's labor market opportunities, especially if they lost more labor market skills than men (Alon et al., 2020b). If women are left too long out of work to care for the household, and if the observed shifts towards more unequal gender roles persist, then the COVID-19 crisis may stall or even reverse the trend towards a reduction of gender gaps on the labor market observed since the 1960s (Blau and Kahn, 2017). The COVID-19 crisis could have long run implications for women in other markets too, such as the electoral market. For instance, Le Barbanchon and Sauvagnat (2019) show that beliefs in unequal gender roles are associated with voter discrimination against female candidates in the electoral market. Using statements similar to ours, they find that voters who believe in less equal gender roles prefer voting for male candidates.

Whether the changes that we document will persist likely depends on the length of the health and economic crisis and its associated feelings of anxiety and economic uncertainty. Further research is needed to measure the long run effects of the COVID-19 on beliefs about gender roles, in France as well as in other countries. Strict lockdown measures in other countries, where childcare was unavailable for a longer period of time, may have driven more individuals to change beliefs compared to the changes we measured for France. Our results suggest that governments can promote gender equality by reducing household production constraints.

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**Table 1.** Demographic characteristics, IPSOS and EVS survey respondents

	IPSOS Survey					EVS Survey				
	Count	Mean	SD	Min	Max	Count	Mean	SD	Min	Max
Female	1,000	0.49	0.500	0	1	871	0.52	0.500	0	1
Age	1,000	41.69	11.766	18	75	871	42.21	11.982	18	81
Life satisfaction	1,000	7.24	1.919	1	10	870	7.55	1.788	1	10
<i>Marital status</i>										
Single	1,000	0.26	0.436	0	1	870	0.24	0.427	0	1
Married	1,000	0.39	0.489	0	1	870	0.34	0.474	0	1
Civil partnership	1,000	0.09	0.283	0	1	870	0.09	0.287	0	1
Cohabitation	1,000	0.19	0.390	0	1	870	0.14	0.350	0	1
Other	1,000	0.08	0.267	0	1	870	0.19	0.389	0	1
<i>Children</i>										
At least one child	1,000	0.41	0.493	0	1	871	0.48	0.500	0	1
Child 12 y.o. or under	1,000	0.31	0.464	0	1	871	0.33	0.471	0	1
Number of children	413	1.65	0.740	1	5	416	1.78	0.789	1	4
<i>Education level of respondent</i>										
Less than <i>Baccalaureat</i>	1,000	0.17	0.375	0	1	866	0.33	0.472	0	1
High school graduate	1,000	0.23	0.419	0	1	866	0.20	0.403	0	1
Two years post graduate	1,000	0.23	0.423	0	1	866	0.19	0.390	0	1
Higher education	1,000	0.37	0.483	0	1	866	0.27	0.446	0	1
<i>Household income</i>										
0 to 21,000	909	0.23	0.418	0	1	803	0.27	0.446	0	1
21,001 to 36,000	909	0.40	0.489	0	1	803	0.32	0.466	0	1
36,001 to 48,000	909	0.19	0.393	0	1	803	0.24	0.428	0	1
Above 48,000	909	0.19	0.391	0	1	803	0.17	0.373	0	1
<i>Partner's employment status</i>										
Works full time	1,000	0.47	0.500	0	1	871	0.45	0.498	0	1
Works part time	1,000	0.05	0.222	0	1	871	0.04	0.207	0	1
Works as independent	1,000	0.04	0.196	0	1	871	0.01	0.112	0	1
Other	1,000	0.12	0.326	0	1	871	0.08	0.265	0	1

*Source:* EVS and IPSOS Survey (2020).

*Notes:* In the EVS, we selected the 871 individuals who had a professional activity when they were surveyed, to match the sample from IPSOS. The “Other” category in marital status includes individuals who are either separated, divorced or widowed. The “Other” category in the partner’s employment status includes individuals who are retired, housewives or househusbands, students, unemployed and searching or not searching for a job. The “Number of children” variable only takes into account respondents who have at least one child living in the household (18 or younger). The “Higher education” variable includes individuals who have at least a Bachelor’s degree (in France, a degree validating three years of higher education).

**Table 2.** Descriptive statistics, before and during lockdown, by gender

	Before lockdown			During lockdown		
	Mean		t-test	Mean		t-test
	Male	Female	p-value	Male	Female	p-value
<i>Panel A: Agreement with statements</i>						
Statement (1): Kids	0.13	0.18	0.041	0.24	0.24	0.894
Statement (2): Family	0.22	0.31	0.002	0.25	0.27	0.584
Statement (3): Home	0.29	0.28	0.760	0.28	0.25	0.326
Statement (4): Money	0.05	0.05	0.919	0.16	0.11	0.009
Statement (5): Politics	0.05	0.09	0.034	0.17	0.09	0.000
Statement (6): Business	0.07	0.04	0.142	0.17	0.07	0.000
<i>Panel B: Time spent on household production</i>						
Childcare: Male more time	0.19	0.09	0.012	0.15	0.11	0.270
Housework: Male more time	0.14	0.10	0.257	0.20	0.18	0.376
<i>Panel C: Impact of lockdown on type of work</i>						
Hours worked per week	37.03	34.44	0.000	22.94	19.29	0.001
Not working	–	–	–	0.28	0.36	0.010
Working from home	–	–	–	0.29	0.35	0.030
Working outside	–	–	–	0.36	0.23	0.000
Mixed WFH & outside	–	–	–	0.07	0.06	0.776
Hours worked: partner	34.67	38.20	0.000	21.11	24.22	0.038
Not working: partner	0.17	0.18	0.833	0.40	0.41	0.795
Working from home: partner	–	–	–	0.31	0.25	0.071
Working outside: partner	–	–	–	0.24	0.29	0.133
Mixed WFH & outside: partner	–	–	–	0.06	0.06	0.922

*Source:* IPSOS Survey (2020).

*Notes:* Panel A shows descriptive statistics for the main outcome variables, which are binary variables equal to one if response is “Agree” or “Strongly Agree” for each statement. Statements are (1) Kids: “When a mother works for pay, the children suffer”. (2) Family: “All in all, family life suffers when the woman has a fulltime job”. (3) Home: “A job is alright but what most women really want is a home and children”. (4) Money: “A man’s job is to earn money; a woman’s job is to look after the home and family”. (5) Politics: “On the whole, men make better political leaders than women do”. (6) Business: “On the whole, men make better business executives than women do”. The number of IPSOS observations for each statement is as follows: Statement (1) has 936 observations, Statement (2) has 947 observations, Statement (3) has 898 observations, Statement (4) has 968 observations, Statement (5) has 912 observations, and Statement (6) has 927 observations.

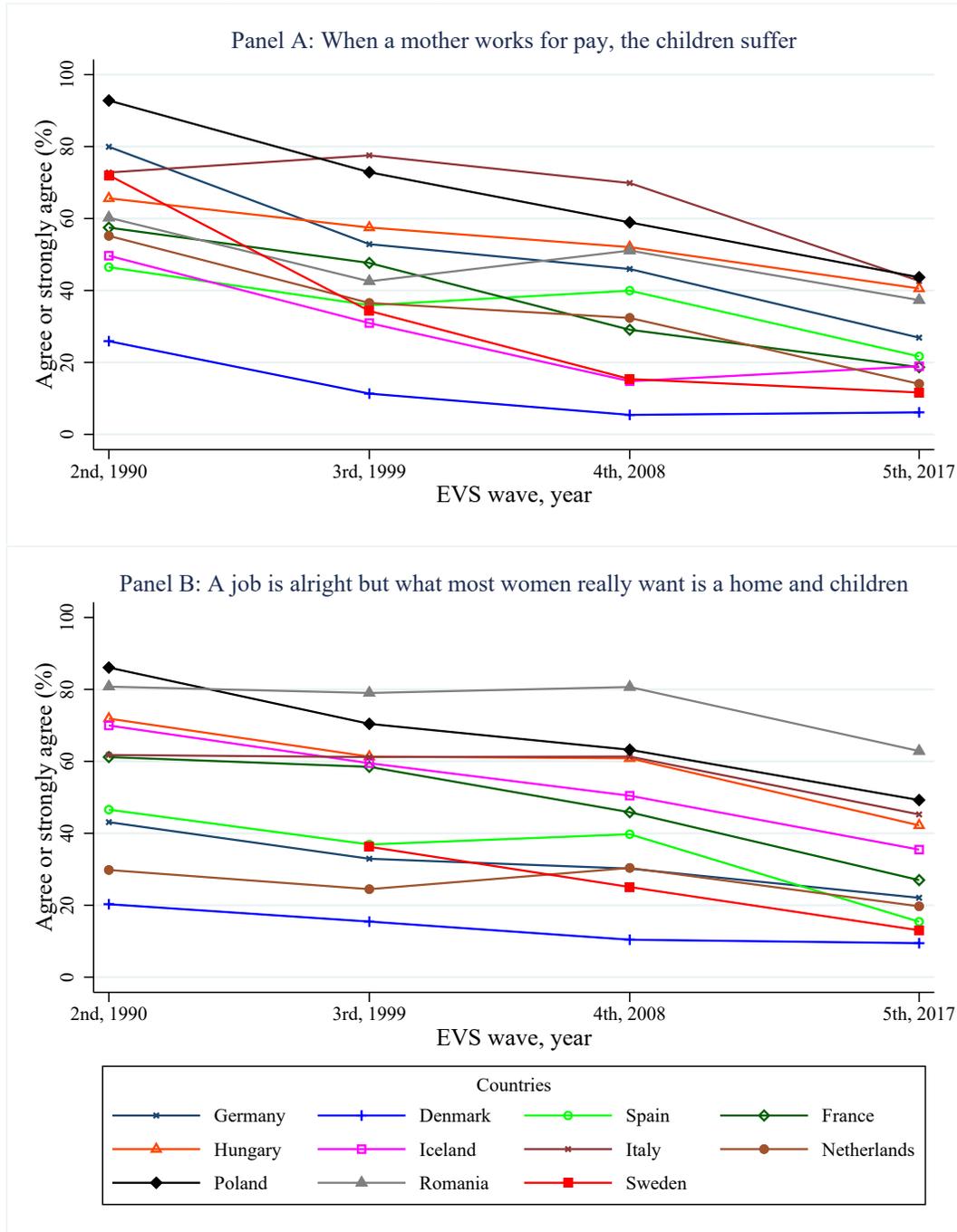
**Table 3.** Impact of lockdown on beliefs about gender roles, benchmark model

Statement:	(1) Kids	(2) Family	(3) Home	(4) Money	(5) Politics	(6) Business
Dependent variable:	“Agree” or “Strongly Agree” with Statement					
Lockdown	0.092*** (0.027)	0.046 (0.029)	-0.014 (0.032)	0.073*** (0.023)	0.098*** (0.024)	0.081*** (0.024)
Female	0.065*** (0.025)	0.108*** (0.029)	-0.032 (0.031)	-0.032* (0.017)	-0.006 (0.019)	-0.065*** (0.017)
Lockdown Female	-0.065* (0.038)	-0.086** (0.041)	0.001 (0.043)	-0.026 (0.029)	-0.080*** (0.029)	-0.032 (0.028)
Constant	0.272*** (0.065)	0.186*** (0.070)	0.439*** (0.078)	0.212*** (0.051)	0.229*** (0.054)	0.146*** (0.051)
Observations	1,705	1,721	1,643	1,755	1,662	1,689
R-squared	0.062	0.058	0.044	0.063	0.057	0.053

*Source:* IPSOS Survey (2020).

*Notes:* The dependent variable is a binary variable equal to one if response is “Agree” or “Strongly Agree” for each of the following statements. (1) Kids: “When a mother works for pay, the children suffer”. (2) Family: “All in all, family life suffers when the woman has a fulltime job”. (3) Home: “A job is alright but what most women really want is a home and children”. (4) Money: “A man’s job is to earn money; a woman’s job is to look after the home and family”. (5) Politics: “On the whole, men make better political leaders than women do”. (6) Business: “On the whole, men make better business executives than women do”. All columns control for the following characteristics: age, level of education, number of children, marital status, household income categories, number of hours worked, and region fixed effects. Significance levels: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ . Robust standard errors in parenthesis.

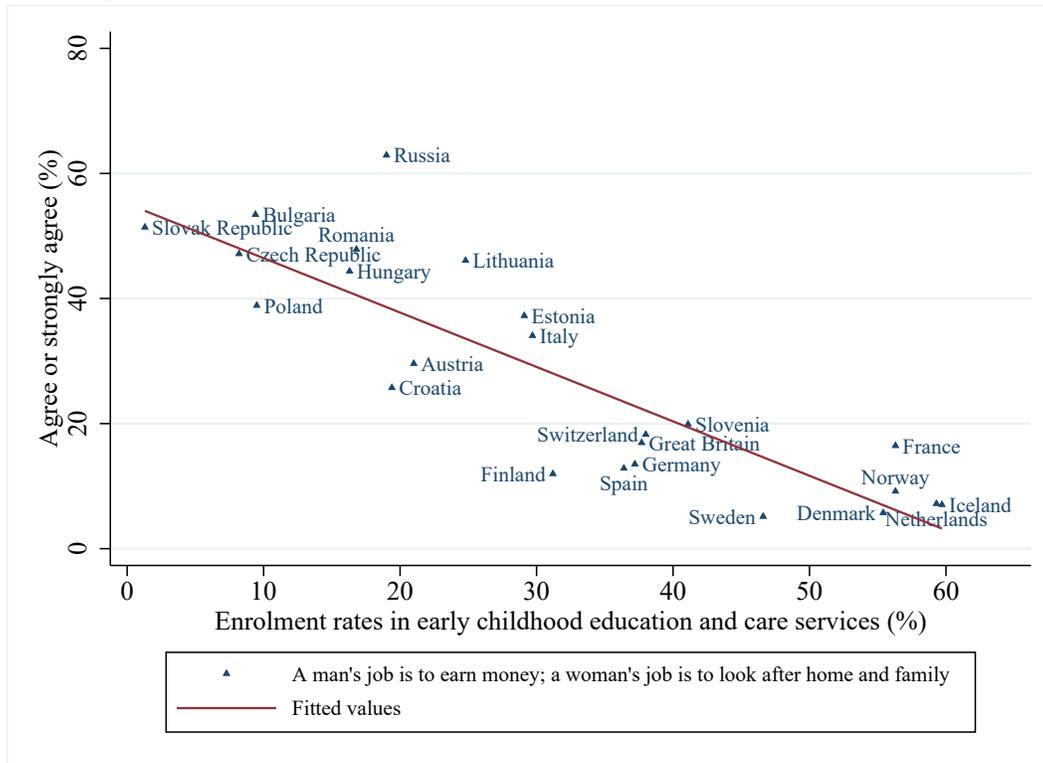
**Figure 1.** Changes in beliefs about gender roles in European countries, 1990-2018



Source: ZA4804 European Values Study Longitudinal Data File 1981-2008 (EVS, 2011) and ZA7500 European Values Study 2017: Integrated Dataset (EVS, 2020). The EVS data are available at <https://europeanvaluesstudy.eu>

Notes: This figure shows the overall decrease in beliefs in unequal gender roles since 1990, in European countries. Panel A and Panel B include the two statements for which the EVS has collected beliefs over time; the first time it collected these beliefs was in 1990, for the second wave of its survey.

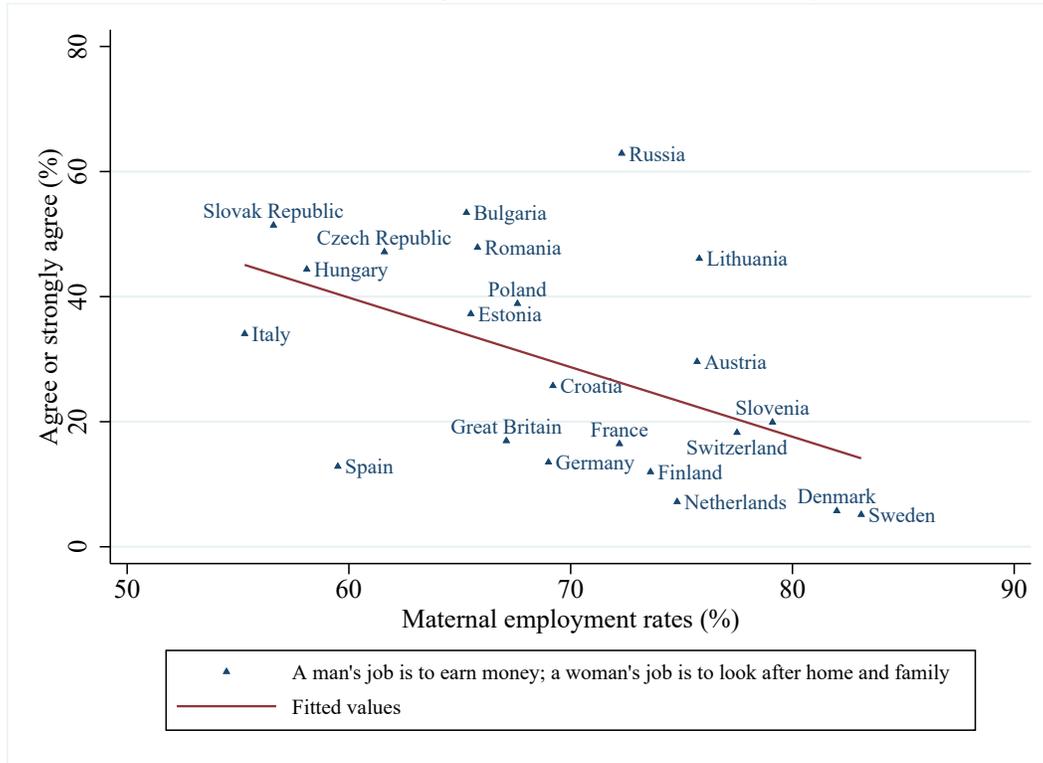
**Figure 2.** Correlation between beliefs about gender roles and enrolment rates in early childhood education and care services, OECD countries



*Source:* The data for beliefs about gender roles are from the fifth wave (2017) of the EVS (EVS, 2020). The data for enrolment rates are from the OECD Family Database, and are for 2017 or the latest year available. The OECD defines these enrolment rates as the “percent of children enrolled in early childhood education and care services (ISCED 0 and other registered ECEC services), 0- to 2-year-old”. The EVS data are available at <https://europeanvaluesstudy.eu/methodology-data-documentation/survey-2017/>. The OECD data are available at <https://www.oecd.org/els/family/database.htm>, Table PF3.2.

*Notes:* This figure presents the correlation between the percentage of individuals who agree or strongly agree with the statement “a man’s job is to earn money; a woman’s job is to look after home and family” and the enrolment rates in early childhood education and care services in European countries. The value of the Pearson correlation is 0.86 and is significant at the 1% level.

**Figure 3.** Correlation between beliefs about gender roles and maternal employment rates, OECD countries



*Source:* The data for beliefs about gender roles are from the fifth wave of the EVS (EVS, 2020). The data for maternal employment rates are from the OECD Family Database, and are for 2019 or the latest year available. The OECD defines maternal employment rates as employment rates for women (15-64 year olds) with at least one child aged 0-14, who are working full-time or part-time. The EVS data are available at <https://europeanvaluesstudy.eu/methodology-data-documentation/survey-2017/>. The OECD data are available at <https://www.oecd.org/els/family/database.htm>, Table LMF1.2.

*Notes:* This figure presents the correlation between the percentage of individuals who agree or strongly agree with the statement “a man’s job is to earn money; a woman’s job is to look after home and family” and maternal employment rates in European countries. The value of the Pearson correlation is 0.51 and is significant at the 5% level.

Figure 4. Changes in beliefs about gender roles in France, between 1990 and 2020

Source: EVS and IPSOS Survey (2020).

Notes: This figure shows the change over time of respondents' opinions about two statements regarding gender roles that the EVS has included in its survey since 1990. In France, the EVS collected data for its 2nd wave between 1990 and 1993, its 3rd wave between 1999 and 2001, its fourth wave between 2008 and 2010, and its fifth wave in 2018. We included these two statements in our IPSOS survey; the data were collected in May 2020. For each wave, we selected EVS respondents who were either employed (full-time or part-time) or self-employed, before calculating the percentage of respondents who either agree or strongly agree with each statement.

Figure 5. Impact of lockdown on respondents' beliefs about gender roles, by having children twelve or under living in the household

Source: IPSOS Survey (2020).

Notes: This figure shows the marginal effect of lockdown on the probability of agreeing with each statement for four groups of individuals: men with and without children twelve years old or under, and women with and without children twelve years old or under. To calculate these coefficients, we use the regressions for which we present the results in Table A3. All respondents (single individuals, same-sex couples, and heterosexual couples) are included in the results we present. Bars represent 95% confidence intervals.

The full model estimated in Table A3 is:

$$Y_{it} = \beta_0 + \beta_1 \text{Lockdown}_{it} + \beta_2 \text{Female}_i + \beta_3 \text{Lockdown}_{it} \times \text{Female}_i + \beta_4 \text{Childbelow12}_i + \beta_5 \text{Lockdown}_{it} \times \text{Childbelow12}_i + \beta_6 \text{Female}_i \times \text{Childbelow12}_i + \beta_7 \text{Lockdown}_{it} \times \text{Childbelow12}_i \times \text{Female}_i + X_{it} + \epsilon_{it};$$

and the corresponding marginal effects that we show in this Figure are equal to:

- $\beta_1$  for men without children who are 12 years old or under
- $\beta_1 + \beta_5$  for men with children who are 12 years old or under
- $\beta_1 + \beta_3$  for women without children who are 12 years old or under
- $\beta_1 + \beta_3 + \beta_5 + \beta_7$  for women with children who are 12 years old or under.

Figure 6. Impact of lockdown on respondents' beliefs about gender roles, by time spent on childcare

Source: IPSOS Survey (2020).

Notes: This figure shows the marginal effect of lockdown on the probability of agreeing with each statement for four groups of individuals: men spending more or less time than their female partner on childcare, and women spending more or less time than their male partner on childcare. "Female more time" represents the situations where the female partner spent more or as much time as the male partner on childcare, whereas "Male more time" represents the situations where the male partner spent more time on childcare than the female partner. To calculate these coefficients, we use the regressions for which we present the results in Panel A of Table A4 in the Appendix. Only heterosexual couples with children (all ages) are included in the results we present. Bars represent 95% confidence intervals.

Figure 7. Impact of lockdown on respondents' beliefs about gender roles, by time spent on housework

Notes: This figure shows the changes in the percentage of male and female respondents declaring that they either agree or strongly agree with each statement during lockdown, as a function of whether the female partner or the male partner spent relatively more time on housework during lockdown. "Female more time" represents situations where the female partner spent more time or as much time as the male partner on housework, whereas "Male more time" represents situations where the male partner spent more time on housework than the female partner. To calculate these coefficients, we use the regressions for which we present the results in Panel B of Table A4 in the Appendix. The sample includes all heterosexual couples. Bars represent 95% confidence intervals.

Figure 8. Impact of lockdown on respondents' beliefs about gender roles, by household income

Source: IPSOS Survey (2020).

Notes: This figure shows the marginal effect of lockdown on the probability of agreeing with each statement for four groups of individuals: men with household income below or above an annual income of 48,000 (for the household), and women with household income below or above an annual income of 48,000 (for the household). To calculate these coefficients, we use the regressions for which we present the results in Panel A of Table A5 in the Appendix. All respondents (single, same-sex couples, and heterosexual couples) are included in the results we present. Bars represent 95% confidence intervals.

Figure 9. Relationship between beliefs about gender roles and income categories, by gender

Source: EVS (2018).

Notes: We use data from 30 different countries to examine the relationship between beliefs in equal gender roles and income. The figure presents the estimates of an OLS regression, controlling for gender, age, number of children, marital status, and country fixed effects. We include all working individuals from the full dataset of the fifth wave of the EVS.

Table A1. Percentage of respondents from each region of France, EVS and IPSOS samples

Region of France	EVS	IPSOS
Auvergne-Rhône-Alpes	11.83	15.00
Bourgogne-Franche-Comté	4.94	5.30
Bretagne	5.74	4.70
Centre-Val de Loire	3.44	3.80
Corse	0.00	0.40
Grand Est	8.38	7.60
Hauts-de-France	8.15	9.10
Ile-de-France	20.09	20.40
Normandie	6.20	4.40
Nouvelle-Aquitaine	11.83	8.60
Occitanie	7.46	8.00
PACA	5.40	5.60
Pays de la Loire	6.54	7.10

Source: EVS and IPSOS Survey (2020).

Table A2. Job combinations between partners during lockdown

Job combinations	Freq.	Percent
F not working & M not working	122	19.65
F not working & M working outside	57	9.18
F not working & M working from home	59	9.50
F working outside & M not working	42	6.76
F working outside & M working outside	74	11.92
F working outside & M working from home	30	4.83
F working from home & M not working	51	8.21
F working from home & M working outside	75	12.08
F working from home & M working from home	111	17.87
Total	621	100

Source: IPSOS Survey (2020).

Notes: Only heterosexual couples are included. "F" stands for female, and "M" stands for male.

Table A3. Impact of lockdown on respondents' beliefs about gender roles, by having children twelve years old or under living in the household

Statement:	(1) Kids	(2) Family	(3) Home	(4) Money	(5) Politics	(6) Business
Dependent variable:	\Agree" or \Strongly Agree" with Statement					
Lockdown	0.078 (0.032)	0.005 (0.035)	-0.098 (0.039)	0.034 (0.026)	0.079 (0.027)	0.053 (0.028)
Female	0.033 (0.030)	0.027 (0.035)	-0.146 (0.037)	-0.047 (0.021)	-0.044 (0.019)	-0.086 (0.019)
Lockdown Female	-0.086 (0.044)	-0.068 (0.049)	0.101 (0.052)	0.002 (0.034)	-0.033 (0.032)	0.006 (0.032)
Child below 12	-0.051 (0.033)	-0.135 (0.037)	-0.216 (0.043)	-0.062 (0.027)	-0.018 (0.030)	-0.027 (0.031)
Lockdown Child below 12	0.051 (0.054)	0.133 (0.056)	0.262 (0.064)	0.126 (0.047)	0.061 (0.049)	0.089 (0.050)
Female Child below 12	0.105 (0.053)	0.263 (0.060)	0.352 (0.064)	0.047 (0.036)	0.120 (0.044)	0.067 (0.038)
Lockdown Female Child below 12	0.064 (0.083)	-0.063 (0.088)	-0.310 (0.093)	-0.089 (0.063)	-0.148 (0.068)	-0.120 (0.063)
Constant	0.289 (0.066)	0.259 (0.071)	0.489 (0.080)	0.225 (0.052)	0.242 (0.055)	0.155 (0.052)
Observations	1,705	1,721	1,643	1,755	1,662	1,689
R-squared	0.072	0.076	0.065	0.069	0.062	0.056

Source: IPSOS Survey (2020).

Notes: The dependent variable is a binary variable equal to one if response is \Agree" or \Strongly Agree" for each of the following statements. (1) Kids: \When a mother works for pay, the children suffer". (2) Family: \All in all, family life suffers when the woman has a fulltime job". (3) Home: \A job is alright but what most women really want is a home and children". (4) Money: \A man's job is to earn money; a woman's job is to look after the home and family". (5) Politics: \On the whole, men make better political leaders than women do". (6) Business: \On the whole, men make better business executives than women do". All columns control for the following characteristics: age, number of children, marital status, household income categories, level of education, number of hours worked, and region xed effects. Corresponding marginal effects can be found in Figure 5. Significance levels: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ . Robust standard errors are in parentheses.

Table A4. Impact of lockdown on respondents' beliefs about gender roles, by time spent in childcare and housework

Statement:	(1) Kids	(2) Family	(3) Home	(4) Money	(5) Politics	(6) Business
Dependent variable:	\Agree" or \Strongly Agree" with Statement					
Panel A: Childcare time gap						
Lockdown	0.154 (0.051)	0.185 (0.052)	0.119 (0.059)	0.112 (0.042)	0.118 (0.049)	0.141 (0.048)
Female	0.121 (0.045)	0.310 (0.052)	0.189 (0.056)	-0.018 (0.032)	0.045 (0.043)	-0.071 (0.035)
Lockdown Female	-0.117 (0.073)	-0.243 (0.078)	-0.171 (0.082)	-0.079 (0.054)	-0.207 (0.063)	-0.110 (0.055)
Male more time with kids	0.065 (0.071)	0.056 (0.075)	0.107 (0.094)	-0.034 (0.036)	-0.081 (0.033)	-0.072 (0.045)
Lockdown Male more time with kids	-0.238 (0.105)	-0.178 (0.116)	-0.212 (0.141)	0.023 (0.089)	0.021 (0.084)	-0.001 (0.092)
Female Male more time with kids	-0.017 (0.159)	-0.309 (0.137)	-0.310 (0.159)	0.092 (0.099)	-0.080 (0.054)	0.057 (0.053)
Lockdown Female Male more time with kids	0.518 (0.222)	0.622 (0.208)	0.368 (0.221)	0.083 (0.164)	0.193 (0.127)	0.057 (0.135)
Constant	0.364 (0.128)	0.096 (0.139)	0.330 (0.150)	0.294 (0.104)	0.282 (0.114)	0.209 (0.101)
Observations	578	580	554	583	548	556
R-squared	0.124	0.145	0.094	0.111	0.104	0.112
Panel B: Housework time gap						
Lockdown	0.134 (0.038)	0.127 (0.039)	-0.005 (0.045)	0.076 (0.032)	0.072 (0.032)	0.085 (0.034)
Female	0.080 (0.034)	0.184 (0.039)	-0.006 (0.043)	-0.054 (0.024)	-0.004 (0.028)	-0.079 (0.023)
Lockdown Female	-0.110 (0.054)	-0.172 (0.058)	-0.046 (0.061)	-0.025 (0.042)	-0.096 (0.042)	-0.053 (0.039)
Male more time housework	-0.018 (0.062)	-0.021 (0.068)	-0.033 (0.083)	-0.118 (0.024)	-0.068 (0.034)	-0.065 (0.041)
Lockdown Male more time housework	-0.052 (0.088)	-0.112 (0.088)	-0.089 (0.102)	0.013 (0.052)	0.081 (0.066)	0.012 (0.065)
Female Male more time housework	0.235 (0.118)	0.090 (0.118)	0.051 (0.123)	0.097 (0.047)	0.033 (0.061)	0.052 (0.054)
Lockdown Female Male more time housework	-0.104 (0.154)	0.052 (0.151)	0.185 (0.158)	-0.057 (0.080)	-0.081 (0.091)	0.008 (0.085)
Constant	0.266 (0.093)	0.088 (0.096)	0.408 (0.107)	0.265 (0.069)	0.278 (0.077)	0.218 (0.067)
Observations	1,059	1,081	1,033	1,093	1,023	1,045
R-squared	0.088	0.093	0.055	0.087	0.064	0.069

Source: IPSOS Survey (2020).

Notes: See Table A3 for the description of the six statements. All columns control for the following characteristics: age, level of education, number of children, marital status, household income categories, number of hours worked, and region fixed effects. The estimation samples include couples with non missing information on both respondent and partner time use. Corresponding marginal effects can be found in Figures 6 and 7. Significance levels: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ . Robust standard errors are in parentheses.

Table A5. Impact of lockdown on respondents' beliefs about gender roles, by household income and respondent level of education

Statement:	(1) Kids	(2) Family	(3) Home	(4) Money	(5) Politics	(6) Business
Dependent variable:	\Agree" or \Strongly Agree" with Statement					
Panel A: By level of household income						
Lockdown	0.102 (0.031)	0.078 (0.033)	0.017 (0.037)	0.090 (0.027)	0.114 (0.027)	0.101 (0.028)
Female	0.055 (0.028)	0.118 (0.032)	-0.035 (0.034)	-0.022 (0.020)	-0.019 (0.020)	-0.068 (0.019)
Lockdown Female	-0.069 (0.042)	-0.114 (0.046)	-0.027 (0.048)	-0.057 (0.033)	-0.092 (0.033)	-0.056 (0.032)
Higher income	-0.020 (0.038)	0.026 (0.047)	0.016 (0.055)	-0.019 (0.030)	-0.033 (0.030)	-0.025 (0.034)
Lockdown Higher income	-0.049 (0.056)	-0.144 (0.062)	-0.155 (0.072)	-0.087 (0.044)	-0.082 (0.046)	-0.096 (0.048)
Female Higher income	0.071 (0.065)	-0.025 (0.075)	0.048 (0.082)	-0.035 (0.034)	0.084 (0.052)	0.020 (0.042)
Lockdown Female Higher income	0.005 (0.096)	0.112 (0.102)	0.123 (0.111)	0.159 (0.063)	0.043 (0.075)	0.120 (0.068)
Constant	0.253 (0.064)	0.152 (0.069)	0.405 (0.077)	0.172 (0.051)	0.217 (0.053)	0.152 (0.051)
Observations	1705	1721	1643	1755	1662	1689
R-squared	0.063	0.060	0.046	0.062	0.061	0.057
Panel B: By level of education of the respondent						
Lockdown	0.127 (0.034)	0.065 (0.038)	-0.024 (0.041)	0.081 (0.029)	0.110 (0.030)	0.122 (0.030)
Female	0.099 (0.034)	0.122 (0.039)	-0.094 (0.040)	-0.023 (0.025)	-0.023 (0.023)	-0.062 (0.019)
Lockdown Female	-0.113 (0.050)	-0.096 (0.055)	0.070 (0.057)	-0.029 (0.040)	-0.047 (0.038)	-0.048 (0.035)
Higher Education	0.005 (0.033)	-0.040 (0.038)	-0.141 (0.045)	-0.017 (0.027)	-0.010 (0.028)	0.045 (0.032)
Lockdown Higher Education	-0.094 (0.051)	-0.048 (0.054)	0.032 (0.062)	-0.020 (0.042)	-0.028 (0.045)	-0.109 (0.047)
Female Higher Education	-0.090 (0.050)	-0.036 (0.059)	0.162 (0.062)	-0.024 (0.034)	0.043 (0.038)	-0.010 (0.038)
Lockdown Female Higher Education	0.129 (0.076)	0.027 (0.082)	-0.180 (0.087)	0.008 (0.056)	-0.086 (0.059)	0.048 (0.058)
Constant	0.221 (0.065)	0.151 (0.072)	0.441 (0.079)	0.190 (0.051)	0.227 (0.055)	0.128 (0.052)
Observations	1,705	1,721	1,643	1,755	1,662	1,689
R-squared	0.061	0.057	0.047	0.063	0.059	0.057

Source: IPSOS Survey (2020).

Notes: See Table A3 for the description of the six statements. All columns control for the following characteristics: age, level of education, number of children, marital status, household income categories, number of hours worked, and region xed e ects. Corresponding marginal e ects can be found in Figures 8 and A3. Significance levels: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. Robust standard errors are in parentheses.

**Table A6.** Impact of lockdown on respondents’ beliefs about gender roles, Cross-sectional evidence

Statement:	(1) Kids	(2) Family	(3) Home	(4) Money	(5) Politics	(6) Business
Dependent variable:	“Agree” or “Strongly Agree” with Statement					
Lockdown	0.095*** (0.028)	0.060** (0.029)	0.044 (0.032)	0.101*** (0.022)	0.115*** (0.023)	0.104*** (0.023)
Female	0.041 (0.027)	0.077** (0.031)	0.002 (0.031)	-0.009 (0.019)	0.020 (0.019)	-0.012 (0.018)
Lockdown x Female	-0.040 (0.039)	-0.059 (0.042)	-0.025 (0.044)	-0.045 (0.030)	-0.104*** (0.030)	-0.085*** (0.028)
Constant	0.337*** (0.067)	0.316*** (0.071)	0.522*** (0.075)	0.235*** (0.052)	0.276*** (0.052)	0.210*** (0.051)
Observations	1,645	1,653	1,608	1,670	1,602	1,630
R-squared	0.074	0.070	0.066	0.058	0.051	0.047

*Source:* EVS and IPSOS Survey (2020).

*Notes:* This table describes the results of our baseline regression described in equation (1), using a dataset that includes directly the responses from the EVS and IPSOS surveys (unmatched dataset). See Table A3 for the description of the six statements. All columns control for the following characteristics: age, level of education, number of children, marital status, household income categories, and region fixed effects. We use the same control variables as the results presented in Table 3, except for number of hours worked, because the EVS dataset does not include this information. Significance levels: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ . Robust standard errors are in parentheses.

**Table A7.** Impact of lockdown on beliefs in gender roles, Direct match

Statement:	(1) Kids	(2) Family	(3) Home	(4) Money	(5) Politics	(6) Business
Dependent variable:	“Agree” or “Strongly Agree” with Statement					
Lockdown	0.114*** (0.024)	0.042 (0.027)	0.013 (0.030)	0.113*** (0.020)	0.129*** (0.021)	0.110*** (0.021)
Female	0.073*** (0.023)	0.113*** (0.027)	0.018 (0.029)	0.008 (0.014)	0.033** (0.017)	-0.024 (0.015)
Lockdown x Female	-0.067* (0.035)	-0.087** (0.039)	-0.037 (0.041)	-0.063** (0.026)	-0.124*** (0.027)	-0.075*** (0.026)
Constant	0.484*** (0.077)	0.493*** (0.085)	0.567*** (0.091)	0.205*** (0.059)	0.214*** (0.060)	0.070 (0.050)
Observations	1,872	1,894	1,796	1,936	1,824	1,854
R-squared	0.110	0.083	0.067	0.062	0.071	0.050

*Source:* EVS and IPSOS Survey (2020).

*Notes:* This table shows the corresponding results of Table 3 using the matched sample directly, and using the variables that we used to conduct the Nearest-Neighbor Match as controls: age, level of education, marital status, life satisfaction, whether the respondent has children living in the household, and region fixed effects. See Table A3 for the description of the six statements. Significance levels: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

**Table A8.** Impact of lockdown on beliefs in gender roles, ATE using different Nearest-Neighbor Matching models

Statement:	Mahalanobis distance						Euclidean distance					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Dependent variable:	Kids	Family	Home	Money	Politics	Business	Kids	Family	Home	Money	Politics	Business
“Agree” or “Strongly Agree” with Statement												
Model 1	0.066*** (0.022)	-0.003 (0.023)	-0.010 (0.025)	0.064*** (0.016)	0.053*** (0.016)	0.060*** (0.015)	0.049** (0.022)	0.018 (0.022)	-0.012 (0.024)	0.063*** (0.016)	0.064*** (0.016)	0.061*** (0.015)
Model 2	0.068*** (0.021)	0.001 (0.023)	0.003 (0.025)	0.058*** (0.016)	0.059*** (0.017)	0.065*** (0.015)	0.046** (0.022)	0.009 (0.022)	-0.019 (0.025)	0.064*** (0.016)	0.057*** (0.016)	0.058*** (0.016)
Model 3	0.083*** (0.022)	0.021 (0.024)	0.000 (0.025)	0.068*** (0.016)	0.060*** (0.016)	0.059*** (0.015)	0.067*** (0.023)	0.012 (0.023)	-0.012 (0.025)	0.059*** (0.017)	0.059*** (0.017)	0.052*** (0.016)
Model 4	0.085*** (0.023)	0.016 (0.025)	0.011 (0.026)	0.075*** (0.016)	0.058*** (0.017)	0.064*** (0.015)	0.067*** (0.023)	0.005 (0.023)	-0.009 (0.025)	0.065*** (0.016)	0.057*** (0.017)	0.053*** (0.015)
Model 5	0.081*** (0.022)	0.017 (0.024)	0.041* (0.025)	0.083*** (0.017)	0.071*** (0.017)	0.062*** (0.016)	0.068*** (0.022)	0.009 (0.023)	0.011 (0.025)	0.076*** (0.016)	0.060*** (0.016)	0.059*** (0.016)
Model 6	0.083*** (0.021)	0.013 (0.023)	0.005 (0.025)	0.077*** (0.016)	0.059*** (0.016)	0.068*** (0.015)	0.045** (0.022)	0.013 (0.023)	-0.009 (0.024)	0.053*** (0.015)	0.050*** (0.016)	0.053*** (0.016)
Model 7	0.076*** (0.022)	0.003 (0.024)	-0.006 (0.025)	0.051*** (0.017)	0.052*** (0.016)	0.065*** (0.016)	0.056** (0.022)	0.025 (0.023)	0.001 (0.024)	0.065*** (0.016)	0.063*** (0.016)	0.059*** (0.015)
Model 8	0.076*** (0.023)	0.003 (0.024)	0.004 (0.026)	0.064*** (0.017)	0.054*** (0.017)	0.067*** (0.016)	0.045* (0.024)	0.018 (0.024)	-0.004 (0.026)	0.069*** (0.018)	0.068*** (0.017)	0.065*** (0.016)

*Notes:* This table shows ATE of Nearest-Neighbor Matching models where the matching variables differ by model. Model 1 with Mahalanobis distance is the one we use for our main matching exercise. Model 1 matches on age, marital status, life satisfaction, education, number of children, region, and exact matches on female and having a child 12 or under. Model 2: matches on age, marital status, life satisfaction, education, number of children, region, and exact matches on female. Model 3: matches on age, marital status, education, number of children, region, and exact matches on female. Model 4: matches on age, marital status, education, region, and exact matches on female. Model 5: matches on age, marital status, education, and exact matches on female. Model 6: matches on age, life satisfaction, education, number of children, region, and exact matches on female and being married. Model 7: matches on age, marital status, life satisfaction, education, number of children, region, and exact matches on female and having a child 12 or under. Model 8: matches on age, marital status, life satisfaction, education, number of children, income, and exact matches on female and having a child 12 or under. Significance levels: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.10$ . Robust standard errors are in parentheses.

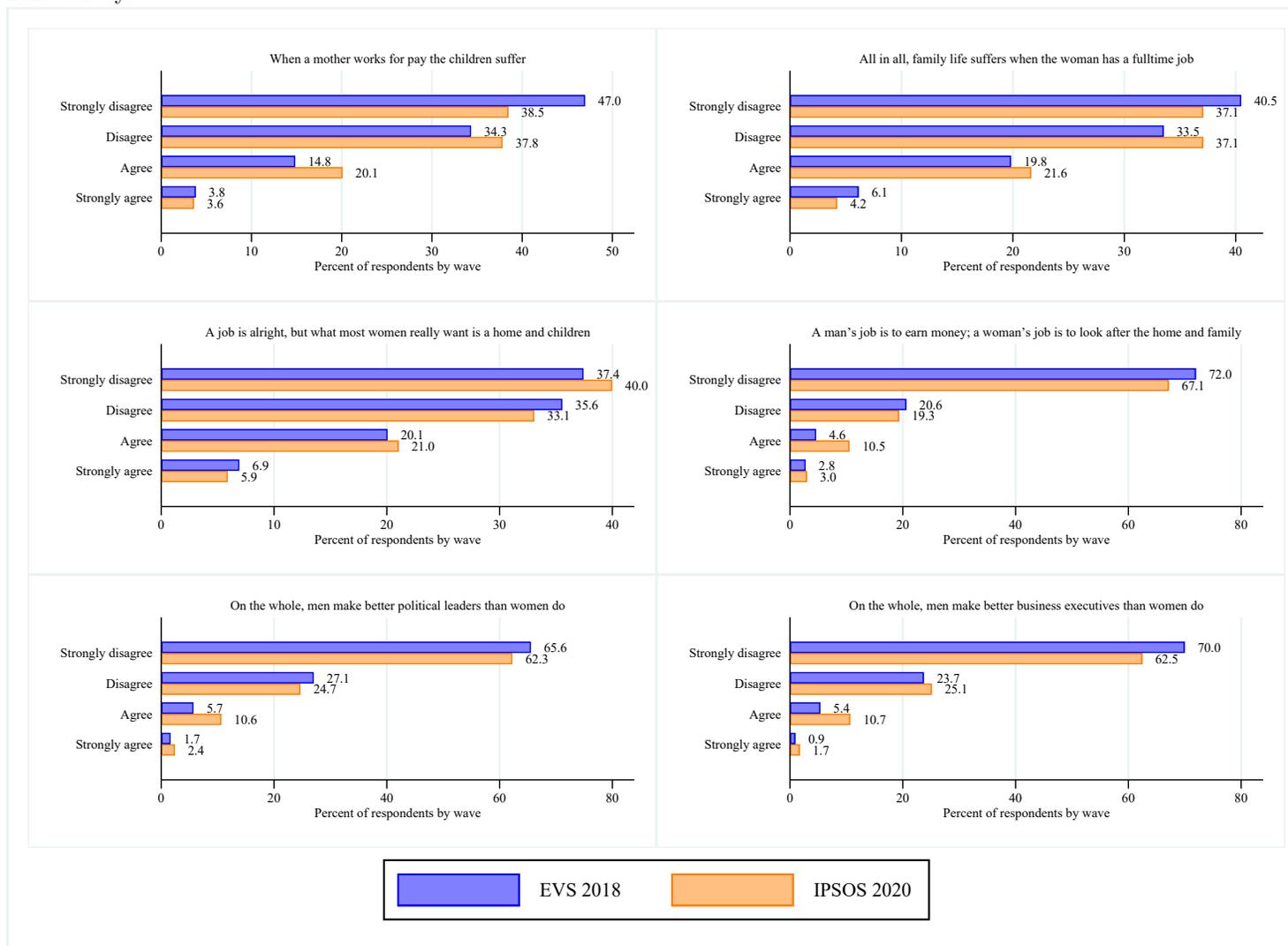
**Table A9.** Analysis of response bias, in person interview versus self-administered, EVS 2018

Statement:	(1) Kids	(2) Family	(3) Home	(4) Money	(5) Politics	(6) Business
Dependent variable:	“Agree” or “Strongly Agree” with Statement					
<b>Panel A: Benchmark</b>						
Online survey	-0.003 (0.013)	0.029** (0.014)	0.044*** (0.014)	0.020** (0.009)	0.045*** (0.009)	0.049*** (0.010)
Female	-0.074*** (0.013)	0.024 (0.015)	-0.051*** (0.014)	-0.031*** (0.009)	-0.016 (0.010)	-0.045*** (0.010)
Online survey Female	-0.021 (0.017)	-0.036* (0.019)	-0.041** (0.018)	-0.019 (0.012)	-0.062*** (0.013)	-0.071*** (0.013)
Constant	0.242*** (0.036)	0.339*** (0.041)	0.401*** (0.040)	0.177*** (0.026)	0.244*** (0.027)	0.272*** (0.028)
Observations	7,919	7,895	7,803	7,951	7,887	7,888
R-squared	0.114	0.169	0.110	0.055	0.040	0.049
<b>Panel B: Children under 12</b>						
Online survey	-0.002 (0.017)	-0.001 (0.019)	0.058*** (0.019)	0.026** (0.012)	0.059*** (0.013)	0.061*** (0.013)
Female	-0.086*** (0.019)	-0.030 (0.021)	-0.049** (0.021)	-0.033** (0.013)	-0.019 (0.014)	-0.039*** (0.015)
Online survey Female	-0.024 (0.024)	0.003 (0.027)	-0.086*** (0.026)	-0.023 (0.017)	-0.072*** (0.018)	-0.088*** (0.018)
Kids	-0.008 (0.018)	-0.016 (0.021)	-0.019 (0.020)	0.002 (0.013)	0.012 (0.014)	0.005 (0.014)
Online survey Kids	-0.004 (0.023)	0.058** (0.027)	-0.033 (0.026)	-0.013 (0.017)	-0.029 (0.018)	-0.025 (0.018)
Female Kids	0.023 (0.026)	0.105*** (0.030)	-0.004 (0.029)	0.003 (0.018)	0.006 (0.019)	-0.011 (0.020)
Online survey Female Kids	0.010 (0.034)	-0.071* (0.038)	0.100*** (0.037)	0.010 (0.024)	0.022 (0.025)	0.036 (0.026)
Constant	0.248*** (0.037)	0.371*** (0.042)	0.406*** (0.041)	0.175*** (0.026)	0.241*** (0.028)	0.267*** (0.029)
Observations	7,919	7,895	7,803	7,951	7,887	7,888
R-squared	0.114	0.171	0.112	0.055	0.041	0.049

Source: EVS (2020).

Notes: Data include respondents’ beliefs about gender roles in six countries where a mixed-method (online survey or in-person interview) was applied for data collection: Denmark, Finland, Germany, Iceland, Netherlands, and Switzerland. See Table A2 for the description of the six statements. All regressions include regional fixed effects, as well as controls for age, household income category, level of education, marital status, and whether the respondent has children living in the household. Full results are available on request. Significance levels: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.10$ .

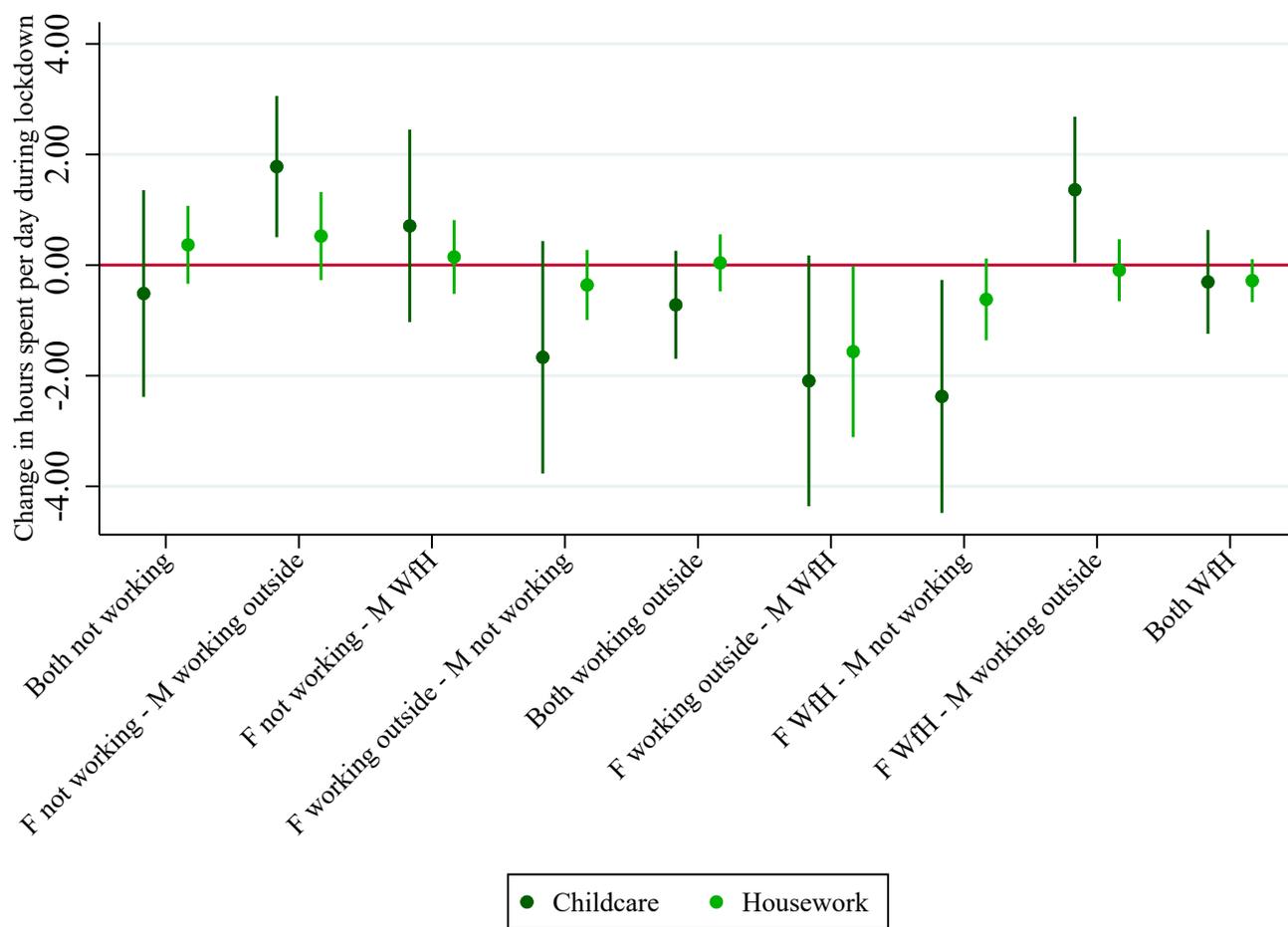
**Figure A1.** Distributions of respondents' answers to the six statements on beliefs about gender roles, EVS 2018 and IPSOS 2020 surveys



Source: EVS and IPSOS Survey (2020).

Notes: This figure shows the percentage of respondents who answered “Strongly disagree”, “Disagree”, “Agree” or “Strongly Agree” to each of the six statements on beliefs about gender roles, for each survey. All 871 EVS and 1,000 IPSOS respondents are included.

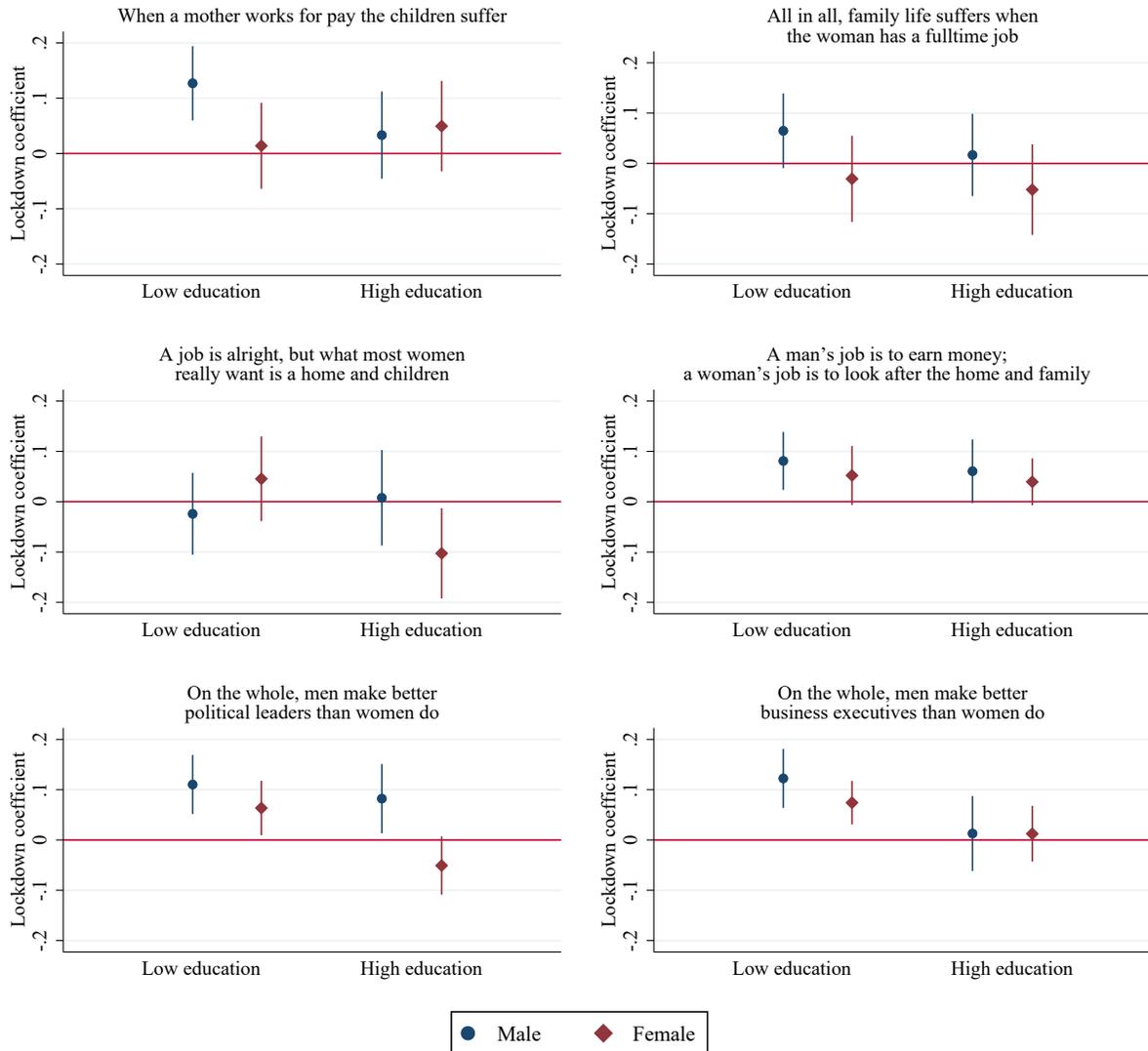
**Figure A2.** Impact of lockdown on time spent on childcare and housework by individuals in heterosexual couples, by job situation



Source: IPSOS Survey (2020).

Notes: This figure presents the nine situations that heterosexual couples were in during the first lockdown period. Each partner, male (M) or female (F) was either not working, working from home (WfH) or working outside the home (outside). We included respondents who declared working partly from home, partly outside from home, in the WfH category. The vertical axis shows the change in relative time spent (in number of hours) by the female and the male partner on either childcare (dark green) or housework (light green). A positive value means that the female partner increased the time she spent on childcare or housework compared to her male partner during lockdown. A negative value suggests that the male partner spent relatively more time on the activity than his female partner during lockdown, compared to before lockdown. The estimated model controls for the following characteristics: age, level of education, number of children, marital status, family income categories, number of hours worked, and region fixed effects. Bars represent 95% confidence intervals.

**Figure A3.** Impact of lockdown on respondents' beliefs about gender roles, by level of education



Source: IPSOS Survey (2020).

Notes: This figure shows the marginal effect of lockdown on the probability of agreeing with each statement for four groups of respondents: men with low or high educational level, and women with low or high educational level. A high level of education corresponds to a respondent who obtained at least the equivalent of a Bachelor's degree (three years after high school). To calculate these coefficients, we use the regressions for which we present the results in Panel B of Table A5 in the Appendix. All respondents (single, same-sex couples, and heterosexual couples) are included in the results we present. Bars represent 95% confidence intervals.