Online Appendix

Long-term Changes in Married Couples' Labor Supply and Taxes: Evidence from the US and Europe Since the 1980s

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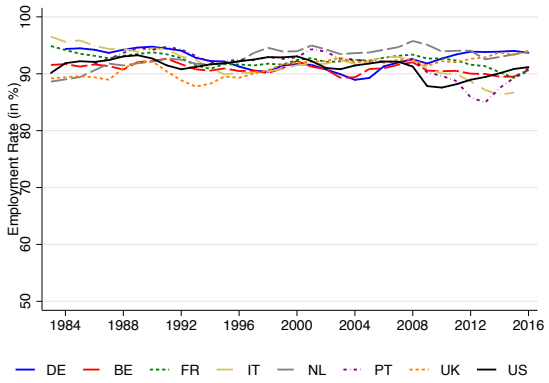
B Appendix

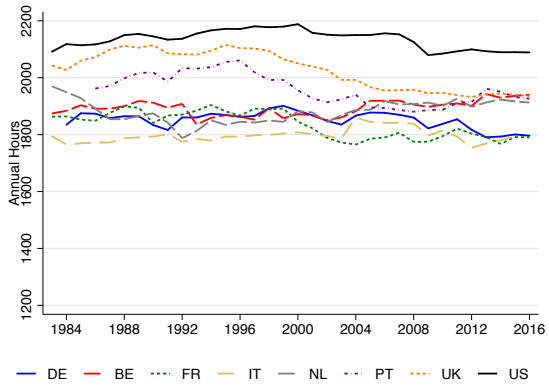
B.1 Data

Figure B.1: Labor Supply of Married Men

(a) Employment Rate



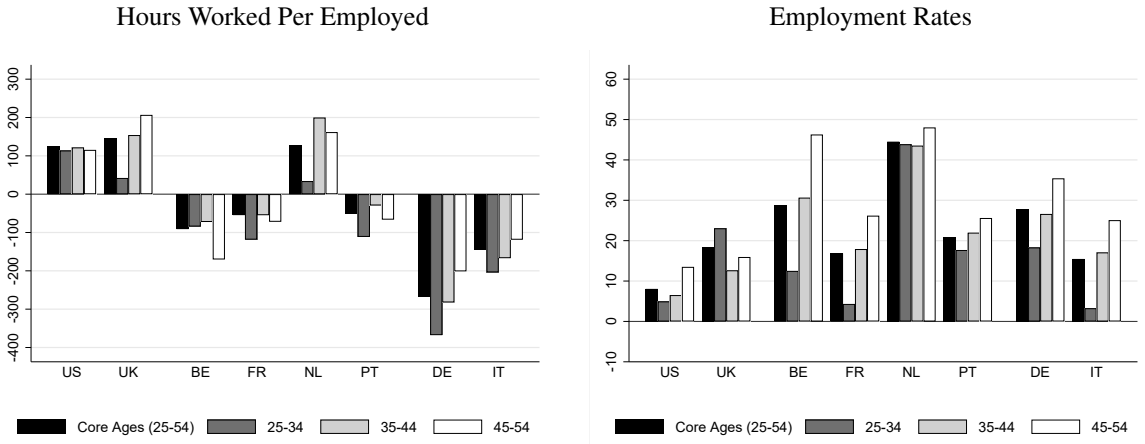
(b) Hours Worked per Employed



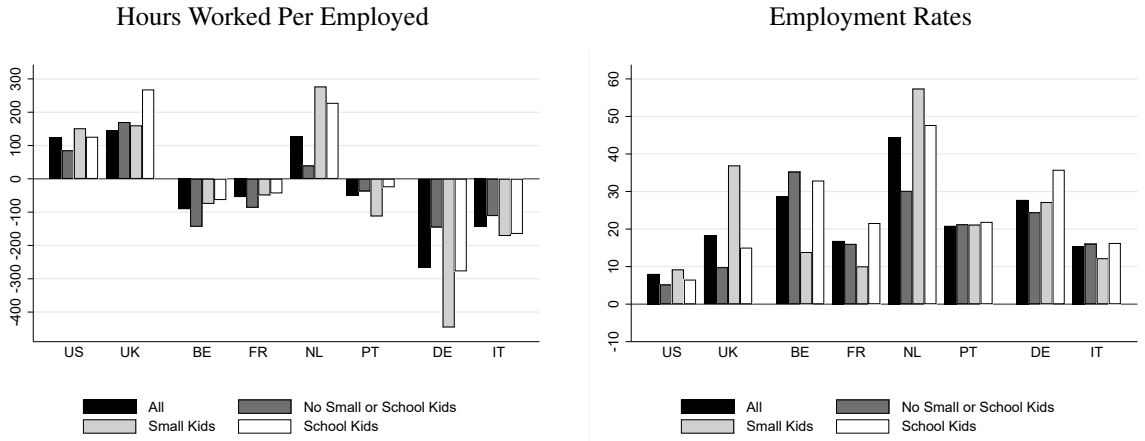
Note: Sample consists of married couples aged 25 to 54. The jump in hours worked per person for Germany in 1991 is a consequence of the reunification of East and West Germany in 1990.

Figure B.2: Robustness of Empirical Facts: Married Women

(a) Age Groups



(b) Children

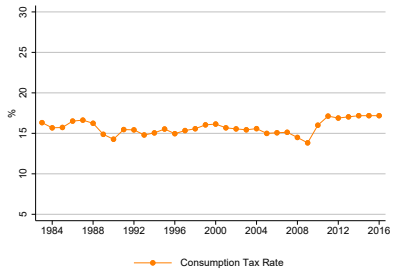


B.2 Model Inputs

Figure B.3: Consumption Tax Rates

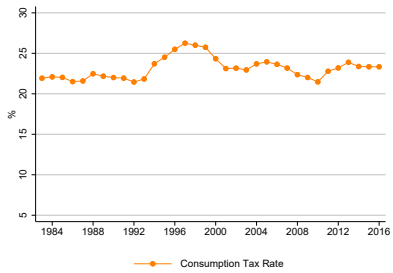
(a) United States

(b) United Kingdom

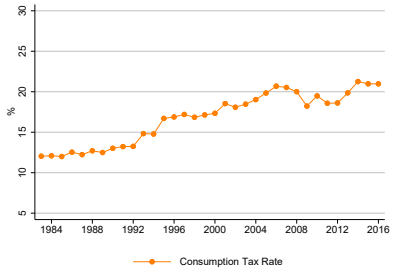


(c) Belgium

(d) France

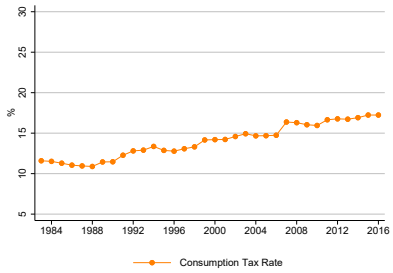


(e) Netherlands



(f) Portugal

(g) Germany



(h) Italy

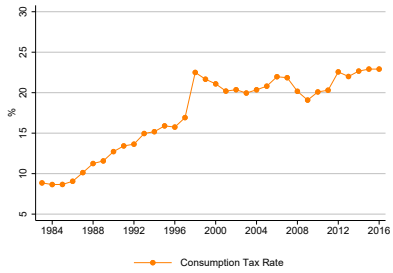
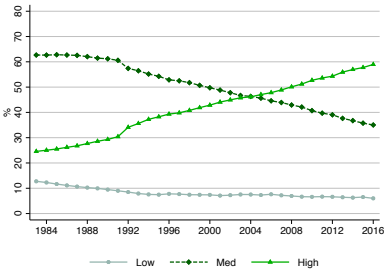
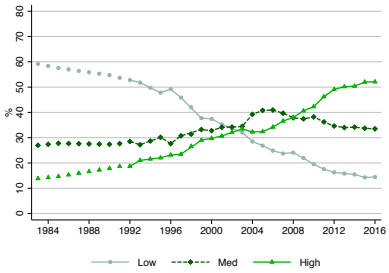


Figure B.4: Female Education Shares in %

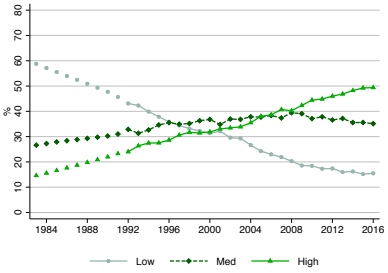
(a) United States



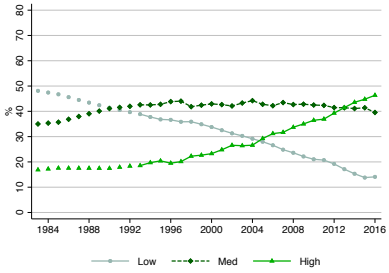
(b) United Kingdom



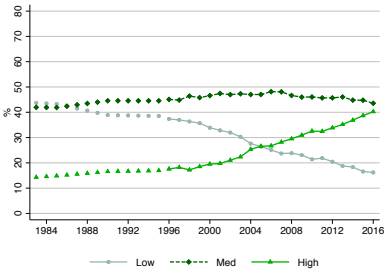
(c) Belgium



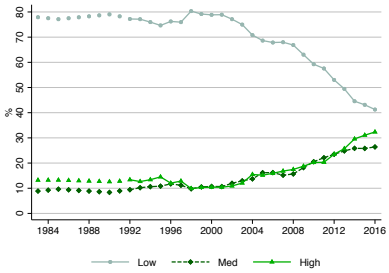
(d) France



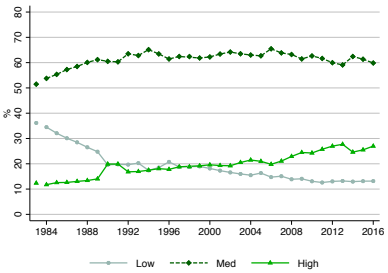
(e) Netherlands



(f) Portugal



(g) Germany



(h) Italy

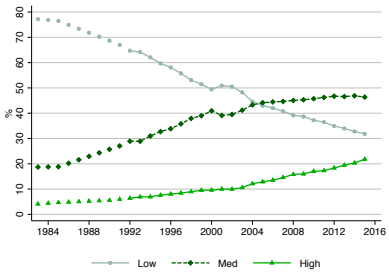
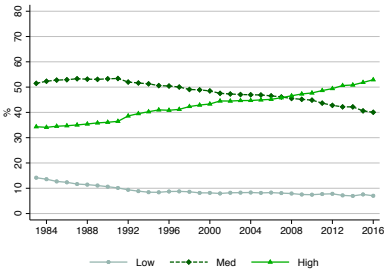
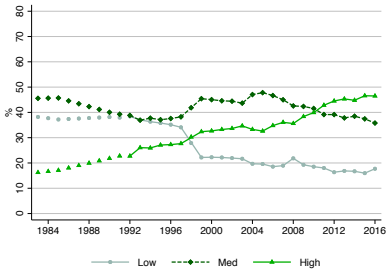


Figure B.5: Male Education Shares in %

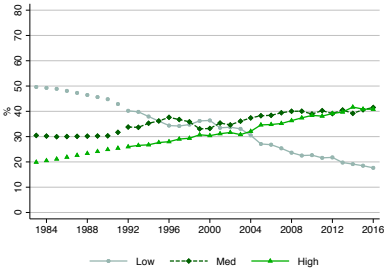
(a) United States



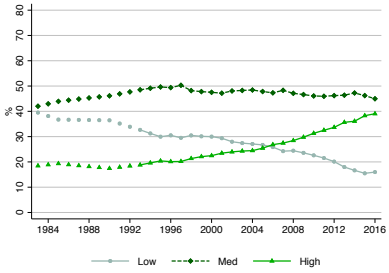
(b) United Kingdom



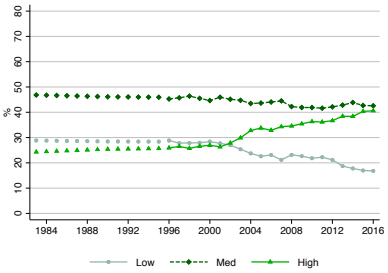
(c) Belgium



(d) France



(e) Netherlands



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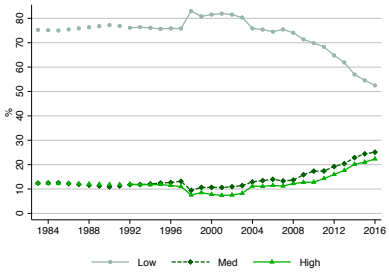
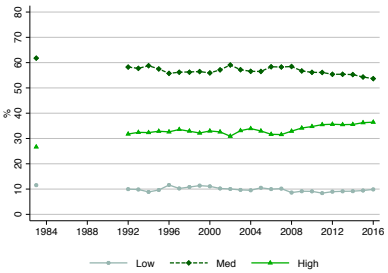


(g) Germany



(h) Italy

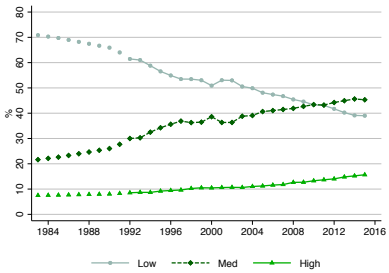
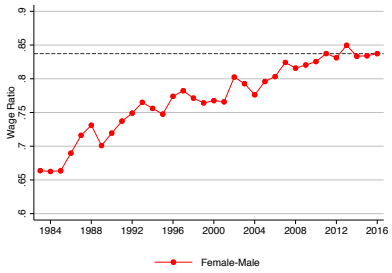
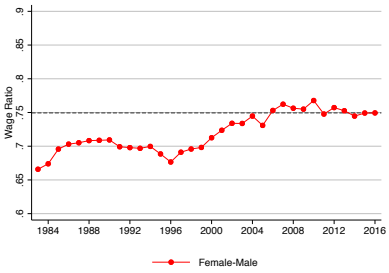


Figure B.6: Gender Wage Gap

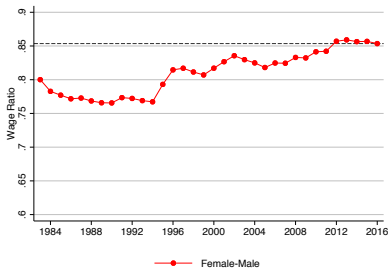
(a) United States



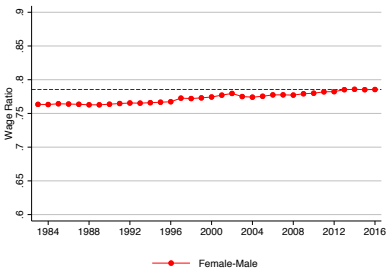
(b) United Kingdom



(c) Belgium

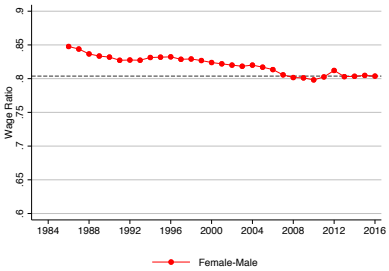


(d) France

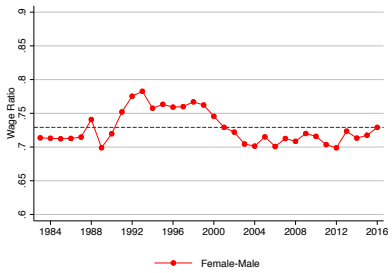


(e) Netherlands

(f) Portugal



(g) Germany



(h) Italy

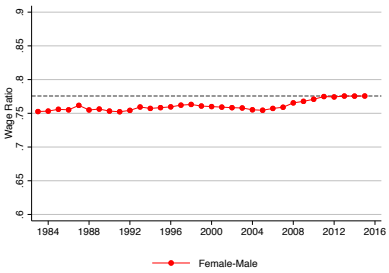
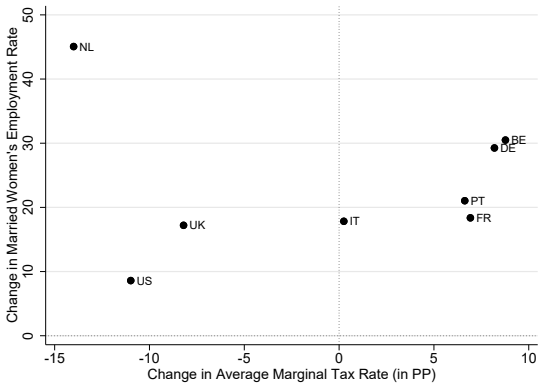
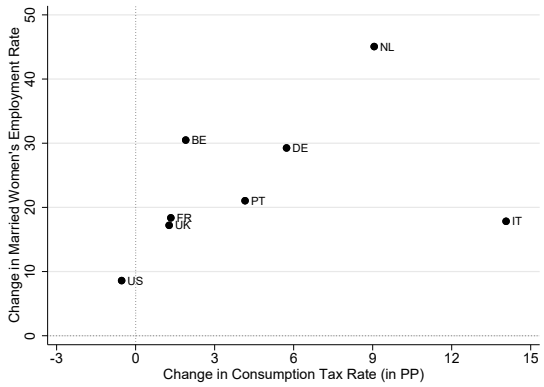


Figure B.7: Correlation of Changes in Female Employment Rates with Changes in Various Inputs

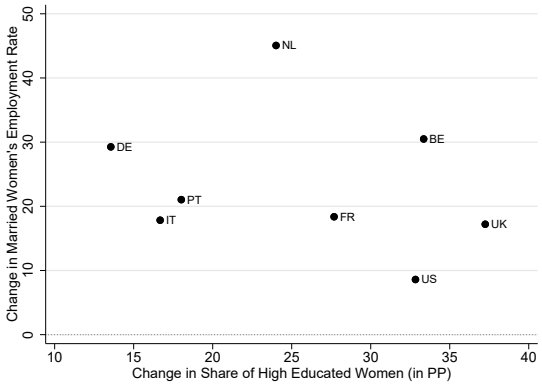
(a) Average Marginal Tax Rate



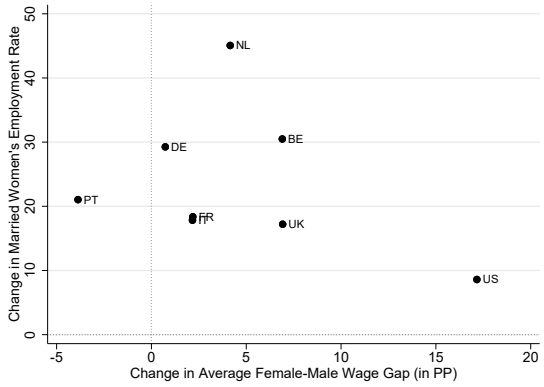
(b) Consumption Tax Rate



(c) Share of High Educated Married Women



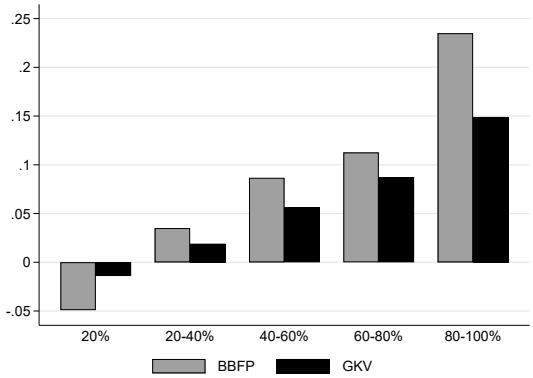
(d) Gender Wage Gap



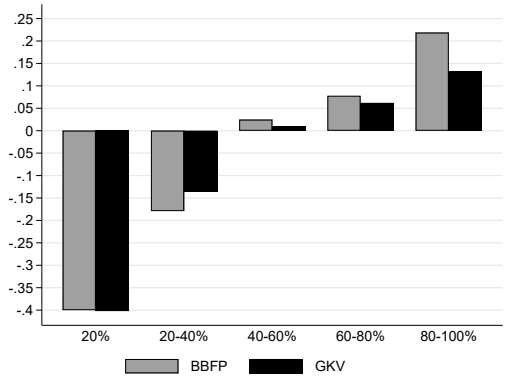
B.2.1 Comparison to Effective Average Tax Rates from Guner et al. (2014)

Figure B.8: Comparing Statutory and Effective Average Tax Rates

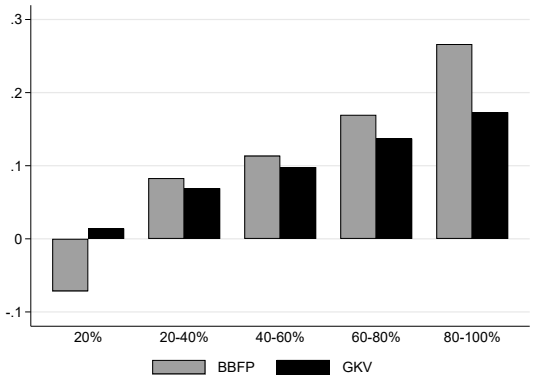
(a) Married, No Children



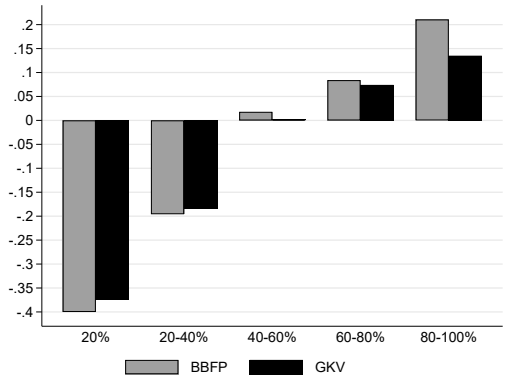
(b) Married, 2 Children



(c) Unmarried, No Children



(d) Unmarried, 2 Children



B.2.2 Education and Matching Imputation

In this section, we provide more details on the imputation of education and matching shares for missing years. The EU-LFS includes data on education only from 1992 onwards, so we have to rely on other data sources to impute data for earlier years for the European countries in our sample except Germany. Concretely, we use the information on education shares in the Barro-Lee Educational Attainment Data (Barro and Lee, 2013) to extrapolate the time series for the education and matching shares backwards until 1983. The Barro-Lee Educational Attainment Data is available by gender and age groups in 5-year intervals from as early as 1950. We first interpolate the data to account for missing years. Then, we regress the matching shares of married couples aged 25 to 54 until the year 2000 on the Barro-Lee educational shares for each of the 12 gender and age groups between ages 25 to 54 (25-29, 30-34, ... , 50-54). The exact

regression equations are given by

$$\mu(x,z) = \alpha_x + \sum_{j=m,f} \sum_{i=1}^{6} \beta_{x,i} \mu_{i,j}^{BL}(j) + \varepsilon_x \tag{B.1}$$

where $\mu(x,z)$ denotes the matching shares of women with education level x and men with education level z, and μ_i^{BL} stands for the educational shares by age group from the Barro-Lee Educational Attainment Data, with $i \in \{25\text{-}29, 30\text{-}34, 35\text{-}39, 40\text{-}44, 45\text{-}49, 50\text{-}54\}$. We then use the estimated values for α and β as well as the available (and interpolated) Barro-Lee data for the 80s and early 90s to predict matching shares $\hat{\mu}(x,z)$ prior to 1992, ensuring that the sum over all matching shares adds up to one. In order to calculate the educational shares for married women and men shown in Figures B.4 and B.5 we sum the predicted matching shares over respective educational levels as follows:

$$\hat{\mu(x)} = \sum_{z=l,m,h} \hat{\mu}(x,z) \tag{B.2}$$

$$\hat{\mu(z)} = \sum_{x=l,m,h} \hat{\mu}(x,z) \tag{B.3}$$

B.2.3 Wage Imputation

In this section, we describe the imputation of wages for missing years in more detail. The EU-LFS does not provide any earnings data for the European countries. We therefore rely on a number of other datasets to get reliable estimates. For all European countries except Germany, we use a variety of data sources: for the most recent years starting in 2004, we use the EU Statistics of Income and Living Conditions (EU-SILC) to calculate wages by gender and education. This European household data set captures income and usual hours, but features a sample size an order of magnitude smaller than the EU-LFS. From 1994 to 2001, we use the European Community Household Panel (ECHP), the EU-SILC's predecessor. For the remaining years prior to 1994, we have to rely entirely on estimations to impute gender- and education-specific wages. To do that, we first calculate average hourly wages on the aggregate level using a consistent earnings series that is available for our whole time series. The only aggregate earnings series that fulfills these requirements are the average annual wages of production workers that the OECD publishes along with their tax documentation described in Section 3.2.1. The only issue with the time series provided in the tax documentation is that for many countries, they exhibit an implausible jump in 2004. We adjust for those jumps by imposing the growth rate of average annual wages from LFS data (published by the OECD starting in 1990) for that year only. Using usual hours of full-time employees from Bick et al. (2018), we then transform those annual wages into a measure of average hourly wages of production workers, denoted by w_t^{OECD}. For each country, we afterwards regress the gender-education-specific wages from the microdata covering 1994 to 2001 and 1994 to 2016 on these average production worker wages in each country using the following regression model:

$$w_{f,x,t} = \alpha_{f,x}^w + \beta_{f,x}^w w_t^{OECD} + \varepsilon_{f,x,t} \tag{B.4}$$

$$w_{m,z,t} = \alpha_{m,z}^w + \beta_{m,z}^w w_t^{OECD} + \varepsilon_{m,z,t} \tag{B.5}$$

Using the estimated constant and coefficients for average production worker wages from each regression, we then predict gender-education-specific wages for all years between 1983 and 2016. We use the education-

specific predicted wages for married women $\hat{w}_{f,x,t}$ and men $\hat{w}_{m,z,t}$ for all years in our sample (instead of using raw data for the available years) to smooth out high frequency variations.

With the CPS, we have wage data for the US for all available years. This enables us to run a robustness check where we compare the model predictions when using the wage inputs obtained from the micro data to the results when using wages predicted through the procedure described above. The results can be found in Section B.5.1.

B.3 Targeted & Non-Targeted Moments (2016)

Table B.1: Data Targets for U.S.

	Parameters	Data	Model	$\Delta_{\text{Model-Data}}$
Hours Worked:				
HWP_m	$\alpha_m = 0.390$	2089	2080	-9
HWE_f	$\alpha_f = 0.414$	1757	1766	9
Female Employment Rates by Husband's and Own Education (in %)				
Low educ. husband:	$k_{low} = 0.519$, $\theta_{low} = 0.756$			
Low educ. woman		39.4	40.7	1.3
Medium educ. woman		56.2	53.9	−2.3
High educ. woman		66.5	67.8	1.3
Medium educ. husband:	$k_{med} = 1.297$, $\theta_{med} = 0.138$			
Low educ. woman		40.0	41.5	1.5
Medium educ. woman		66.6	64.0	−2.6
High educ. woman		82.9	85.4	2.5
High educ. husband:	$k_{high} = 0.486$, $\theta_{high} = 0.327$			
Low educ. woman		51.6	51.9	0.3
Medium educ. woman		64.5	64.1	−0.4
High educ. woman		76.2	76.4	0.2

Table B.2: Untargeted Moments for U.S.

	Data	Model	$\Delta_{\text{Model-Data}}$
Hours Worked per Man			
Low education	1939.5	1896.1	−43.4
Medium education	2059.9	2072.0	12.1
High education	2131.7	2110.6	−21.1
Hours Worked per Employed Woman			
Low education	1674.5	1486.4	−188.1
Medium education	1726.2	1698.4	−27.8
High education	1776.6	1835.4	58.8

Table B.3: Data Targets for U.K.

	Parameters	Data	Model	$\Delta_{\text{Model-Data}}$
Hours Worked:				
HWP_m	$\alpha_m = 0.460$	1935	1935	0
HWE_f	$\alpha_f = 0.787$	1315	1307	-8
Female Employment Rates by Husband's and Own Education (in %)				
Low educ. husband:	$k_{low} = 2.330$, $\theta_{low} = 0.067$			
Low educ. woman		57.3	64.0	6.7
Medium educ. woman		79.0	70.8	−8.2
High educ. woman		86.3	89.1	2.8
Medium educ. husband:	$k_{med} = 1.084$, $\theta_{med} = 0.120$			
Low educ. woman		67.7	70.1	2.4
Medium educ. woman		77.7	75.1	−2.6
High educ. woman		87.1	87.8	0.7
High educ. husband:	$k_{high} = 0.527$, $\theta_{high} = 0.212$			
Low educ. woman		71.7	71.9	0.2
Medium educ. woman		76.3	75.3	−1.0
High educ. woman		83.7	84.3	0.6

Table B.4: Untargeted Moments for U.K.

	Data	Model	$\Delta_{\text{Model-Data}}$
Hours Worked per Man			
Low education	1874.4	1832.2	−42.2
Medium education	1926.7	1902.4	−24.3
High education	1964.6	1999.3	34.7
Hours Worked per Employed Woman			
Low education	1276.1	1100.5	−175.6
Medium education	1258.6	1235.7	−22.9
High education	1356.1	1410.3	54.2

Table B.5: Data Targets for Belgium

	Parameters	Data	Model	$\Delta_{\text{Model-Data}}$
Hours Worked:				
HWP_m	$\alpha_m = 0.296$	1940	1955	15
HWE_f	$\alpha_f = 0.382$	1471	1474	3
Female Employment Rates by Husband's and Own Education (in %)				
Low educ. husband:	$k_{low} = 2.531$, $\theta_{low} = 0.058$			
Low educ. woman		48.7	61.3	12.6
Medium educ. woman		73.0	66.0	−7.0
High educ. woman		83.0	78.7	−4.3
Medium educ. husband:	$k_{med} = 5.661$, $\theta_{med} = 0.023$			
Low educ. woman		55.5	64.6	9.1
Medium educ. woman		77.8	71.7	−6.1
High educ. woman		89.0	87.8	−1.2
High educ. husband:	$k_{high} = 4.645$, $\theta_{high} = 0.026$			
Low educ. woman		44.1	59.3	15.2
Medium educ. woman		73.9	66.2	−7.7
High educ. woman		88.4	83.2	−5.2

Table B.6: Untargeted Moments for Belgium

	Data	Model	$\Delta_{\text{Model-Data}}$
Hours Worked per Man			
Low education	1798.0	1909.1	111.1
Medium education	1936.3	1946.9	10.6
High education	2006.0	1983.4	−22.6
Hours Worked per Employed Woman			
Low education	1255.1	1255.2	0.1
Medium education	1405.6	1269.0	−136.6
High education	1549.9	1688.8	138.9

Table B.7: Data Targets for France

	Parameters	Data	Model	$\Delta_{\text{Model-Data}}$
Hours Worked:				
HWP_m	$\alpha_m = 0.568$	1791	1795	4
HWE_f	$\alpha_f = 0.621$	1469	1466	-3
Female Employment Rates by Husband's and Own Education (in %)				
Low educ. husband:	$k_{low} = 2.305$, $\theta_{low} = 0.065$			
Low educ. woman		51.1	57.1	6.0
Medium educ. woman		73.6	66.2	−7.4
High educ. woman		82.8	86.2	3.4
Medium educ. husband:	$k_{med} = 2.658$, $\theta_{med} = 0.049$			
Low educ. woman		60.0	64.6	4.6
Medium educ. woman		79.7	74.0	−5.7
High educ. woman		87.9	91.1	3.2
High educ. husband:	$k_{high} = 2.689$, $\theta_{high} = 0.040$			
Low educ. woman		48.3	56.4	8.1
Medium educ. woman		77.2	66.3	−10.9
High educ. woman		85.0	88.4	3.4

Table B.8: Untargeted Moments for France

	Data	Model	$\Delta_{\text{Model-Data}}$
Hours Worked per Man			
Low education	1610.1	1691.0	80.9
Medium education	1760.4	1766.9	6.5
High education	1898.9	1868.7	−30.2
Hours Worked per Employed Woman			
Low education	1316.5	1378.2	61.7
Medium education	1452.8	1413.6	−39.2
High education	1511.7	1536.8	25.1

Table B.9: Data Targets for Netherlands

	Parameters	Data	Model	$\Delta_{\text{Model-Data}}$
Hours Worked:				
HWP_m	$\alpha_m = 0.346$	1913	1860	-53
HWE_f	$\alpha_f = 0.928$	1197	1197	0
Female Employment Rates by Husband's and Own Education (in %)				
Low educ. husband:	$k_{low} = 0.556$, $\theta_{low} = 0.233$			
Low educ. woman		65.6	68.9	3.3
Medium educ. woman		81.5	78.6	−2.9
High educ. woman		90.2	86.5	−3.7
Medium educ. husband:	$k_{med} = 1.166$, $\theta_{med} = 0.085$			
Low educ. woman		65.0	72.0	7.0
Medium educ. woman		82.6	83.9	1.3
High educ. woman		91.5	93.5	2.0
High educ. husband:	$k_{high} = 1.326$, $\theta_{high} = 0.072$			
Low educ. woman		67.4	65.9	−1.5
Medium educ. woman		79.4	80.7	1.3
High educ. woman		87.2	88.8	1.6

Table B.10: Untargeted Moments for Netherlands

	Data	Model	$\Delta_{\text{Model-Data}}$
Hours Worked per Man			
Low education	1905.9	1619.0	−286.9
Medium education	1928.8	1828.1	−100.7
High education	1899.2	1993.6	94.4
Hours Worked per Employed Woman			
Low education	1056.5	1214.5	158.0
Medium education	1117.8	1153.2	35.4
High education	1317.1	1236.3	−80.8

Table B.11: Data Targets for Portugal

	Parameters	Data	Model	$\Delta_{\text{Model-Data}}$
Hours Worked:				
HWP_m	$\alpha_m = 0.400$	1927	1921	-6
HWE_f	$\alpha_f = 0.384$	1702	1634	-68
Female Employment Rates by Husband's and Own Education (in %)				
Low educ. husband:	$k_{low} = 0.350$, $\theta_{low} = 0.446$			
Low educ. woman		73.4	74.5	1.1
Medium educ. woman		81.9	80.1	−1.8
High educ. woman		90.5	89.0	−1.5
Medium educ. husband:	$k_{med} = 0.062$, $\theta_{med} = 6.081$			
Low educ. woman		79.3	81.2	1.9
Medium educ. woman		84.3	82.9	−1.4
High educ. woman		91.6	85.8	−5.8
High educ. husband:	$k_{high} = 0.273$, $\theta_{high} = 0.344$			
Low educ. woman		77.9	73.8	−4.1
Medium educ. woman		75.9	79.4	3.5
High educ. woman		90.7	88.6	−2.1

Table B.12: Untargeted Moments for Portugal

	Data	Model	$\Delta_{\text{Model-Data}}$
Hours Worked per Man			
Low education	1893.8	1892.3	−1.5
Medium education	1933.7	1880.7	−53.0
High education	1995.5	2035.2	39.7
Hours Worked per Employed Woman			
Low education	1663.5	1441.2	−222.3
Medium education	1743.2	1603.2	−140.0
High education	1710.6	1904.3	193.7

Table B.13: Data Targets for Germany

	Parameters	Data	Model	$\Delta_{\text{Model-Data}}$
Hours Worked:				
HWP_m	$\alpha_m = 0.554$	1796	1800	4
HWE_f	$\alpha_f = 0.927$	1116	1115	-1
Female Employment Rates by Husband's and Own Education (in %)				
Low educ. husband:	$k_{low} = 0.723$, $\theta_{low} = 0.183$			
Low educ. woman		53.2	56.2	3.0
Medium educ. woman		71.9	66.5	−5.4
High educ. woman		76.7	79.6	2.9
Medium educ. husband:	$k_{med} = 1.153$, $\theta_{med} = 0.069$			
Low educ. woman		58.6	63.6	5.0
Medium educ. woman		83.1	77.3	−5.8
High educ. woman		86.4	91.1	4.7
High educ. husband:	$k_{high} = 1.173$, $\theta_{high} = 0.052$			
Low educ. woman		54.4	59.9	5.5
Medium educ. woman		81.9	72.5	−9.4
High educ. woman		82.1	88.5	6.4

Table B.14: Untargeted Moments for Germany

	Data	Model	$\Delta_{\text{Model-Data}}$
Hours Worked per Man			
Low education	1639.7	1669.7	30.0
Medium education	1753.4	1718.3	−35.1
High education	1901.7	1954.5	52.8
Hours Worked per Employed Woman			
Low education	938.1	949.9	11.8
Medium education	1088.2	1102.8	14.6
High education	1233.7	1220.9	−12.8

Table B.15: Data Targets for Italy

	Parameters	Data	Model	$\Delta_{\text{Model-Data}}$
Hours Worked:				
HWP_m	$\alpha_m = 0.420$	1793	1794	1
HWE_f	$\alpha_f = 0.623$	1352	1351	-1
Female Employment Rates by Husband's and Own Education (in %)				
Low educ. husband:	$k_{low} = 2.574$, $\theta_{low} = 0.092$			
Low educ. woman		35.7	35.8	0.1
Medium educ. woman		56.8	56.7	−0.1
High educ. woman		70.3	70.5	0.2
Medium educ. husband:	$k_{med} = 2.279$, $\theta_{med} = 0.092$			
Low educ. woman		43.3	43.3	0.0
Medium educ. woman		62.7	63.6	0.9
High educ. woman		76.8	75.5	−1.3
High educ. husband:	$k_{high} = 1.588$, $\theta_{high} = 0.112$			
Low educ. woman		53.7	51.7	−2.0
Medium educ. woman		61.7	68.4	6.7
High educ. woman		82.2	77.8	−4.4

Table B.16: Untargeted Moments for Italy

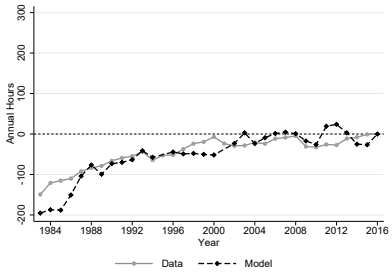
	Data	Model	$\Delta_{\text{Model-Data}}$
Hours Worked per Man			
Low education	1765.9	1838.9	73.0
Medium education	1808.8	1723.2	−85.6
High education	1817.8	1884.2	66.4
Hours Worked per Employed Woman			
Low education	1362.9	1253.5	−109.4
Medium education	1361.8	1344.0	−17.8
High education	1327.0	1507.1	180.1

B.4 Results

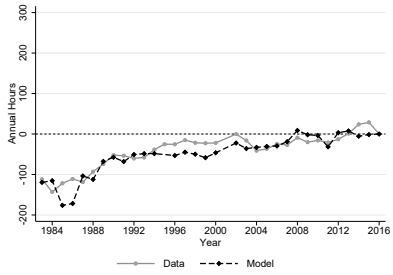
B.4.1 Time Series Predictions

Figure B.9: Time Series Predictions for Female Hours Worked per Employed

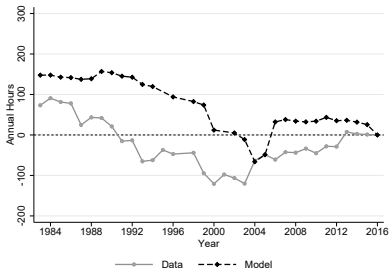
(a) United States



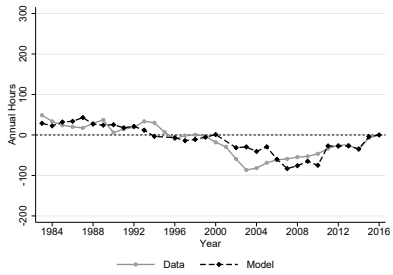
(b) United Kingdom



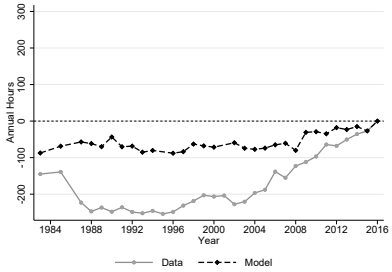
(c) Belgium



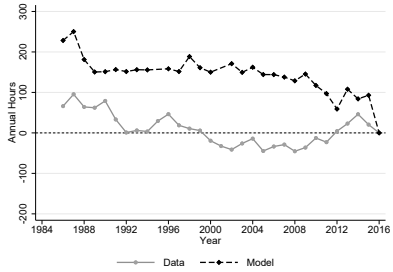
(d) France



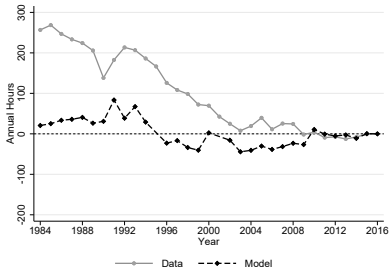
(e) Netherlands



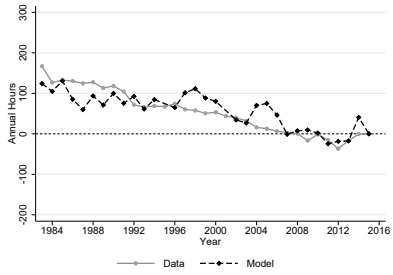
(f) Portugal



(g) Germany



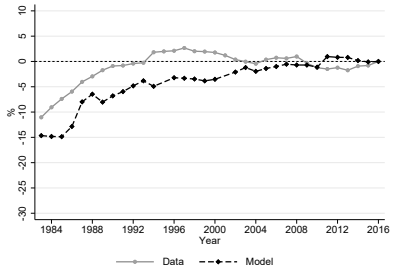
(h) Italy



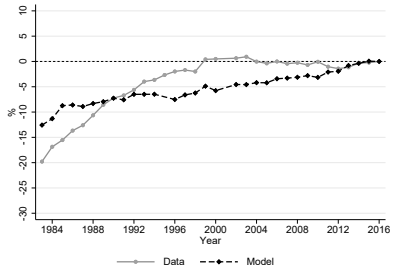
Note: We exclude the years 1995 and 2001 from the graphs because the OECD does not provide tax codes for these years.

Figure B.10: Time Series Predictions for Female Employment Rates

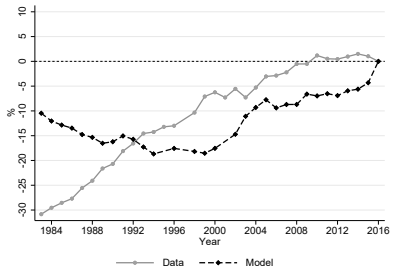
(a) United States



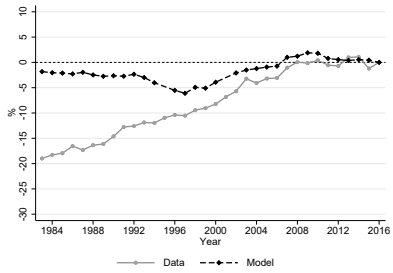
(b) United Kingdom



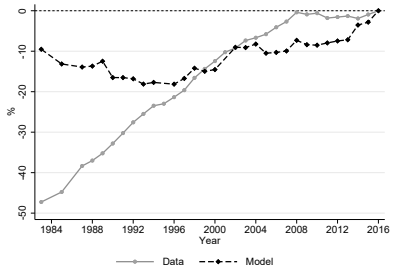
(c) Belgium



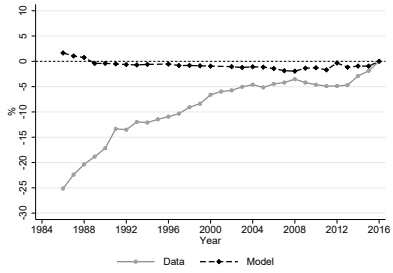
(d) France



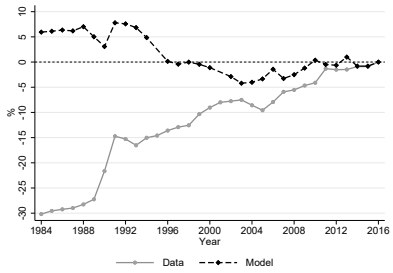
(e) Netherlands



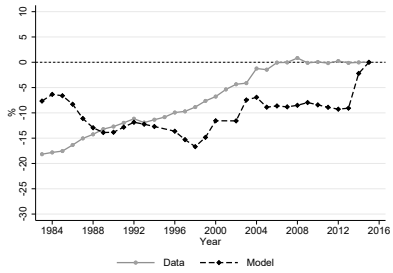
(f) Portugal



(g) Germany

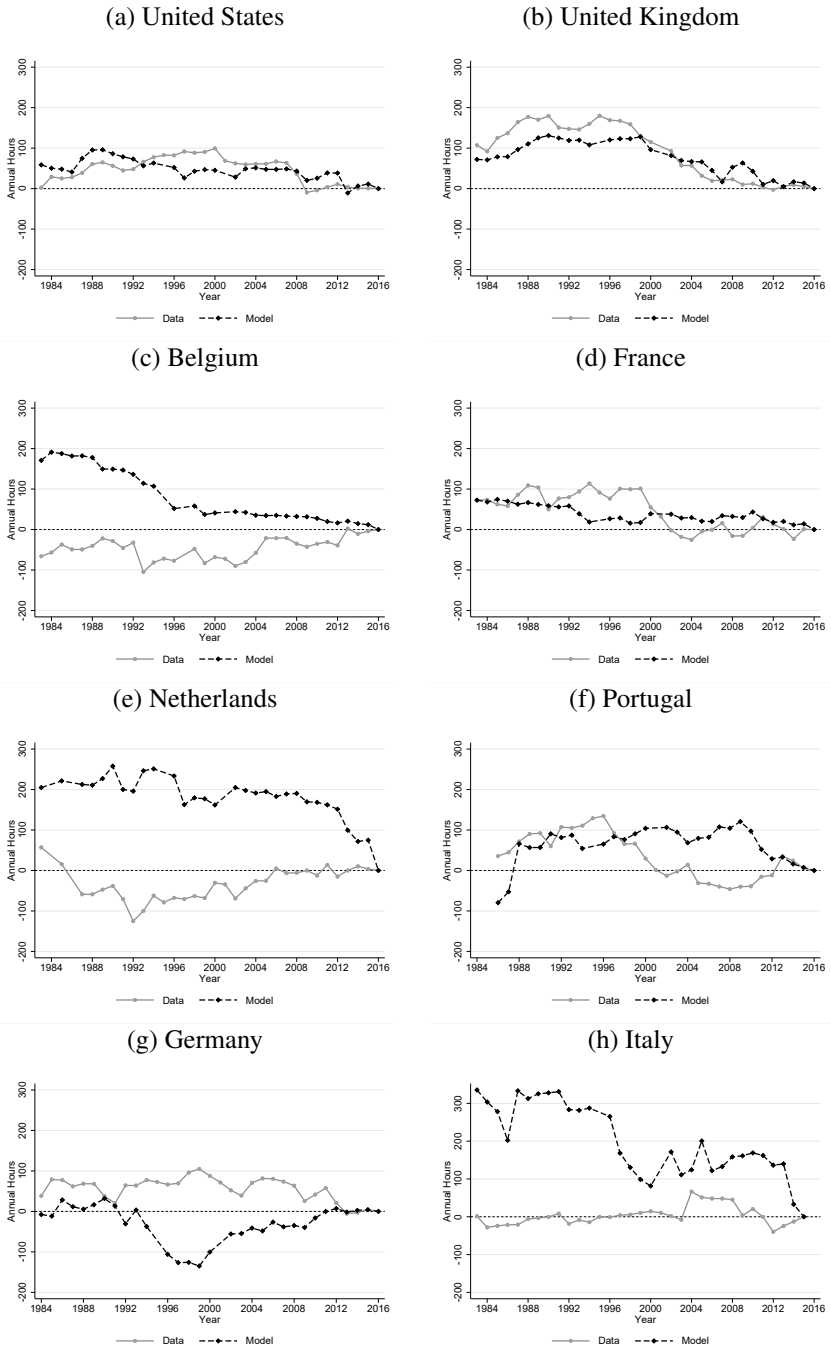


(h) Italy



Note: We exclude the years 1995 and 2001 from the graphs because the OECD does not provide tax codes for these years.

Figure B.11: Time Series Predictions for Male Hours Worked per Employed

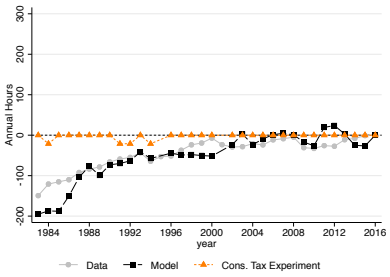


Note: We exclude the years 1995 and 2001 from the graphs because the OECD does not provide tax codes for these years.

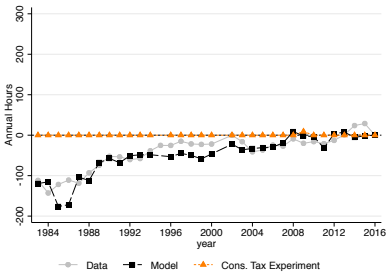
B.4.2 Decomposition Results: Married Women's Hours Worked per Employed

Figure B.12: Model output when only varying consumption tax

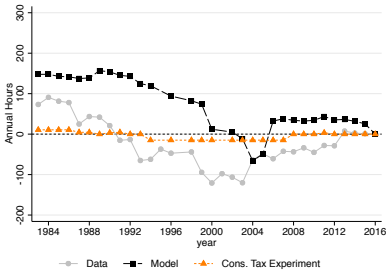
(a) United States



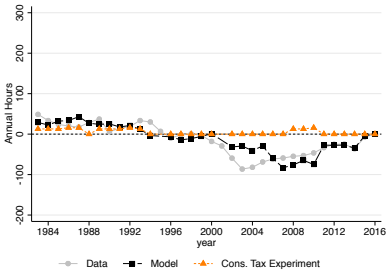
(b) United Kingdom



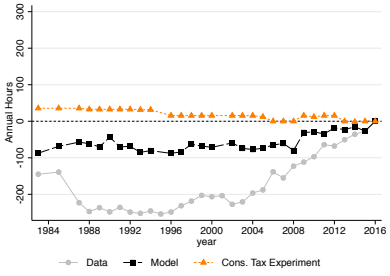
(c) Belgium



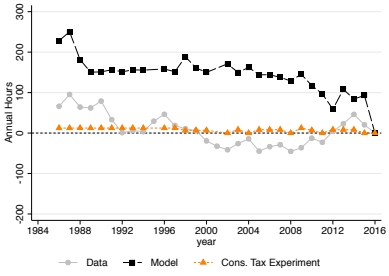
(d) France



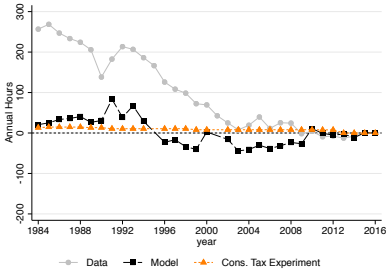
(e) Netherlands



(f) Portugal



(g) Germany



(h) Italy

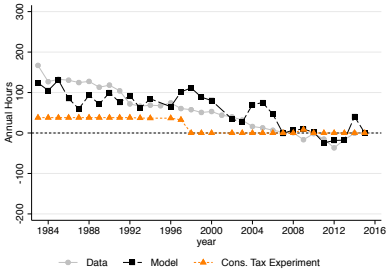
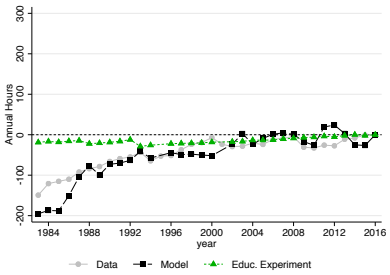
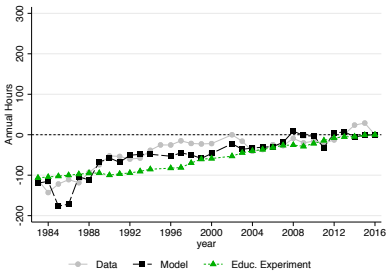


Figure B.13: Model output when only varying educational composition and matching

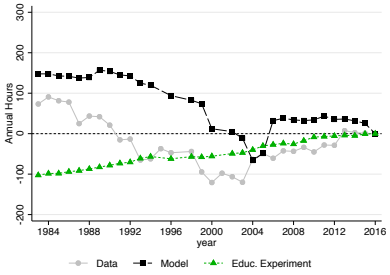
(a) United States



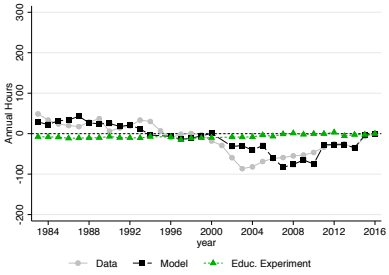
(b) United Kingdom



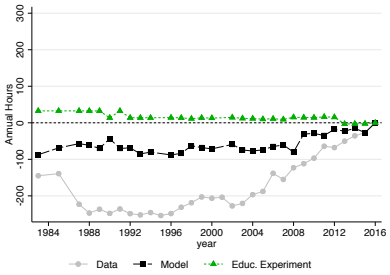
(c) Belgium



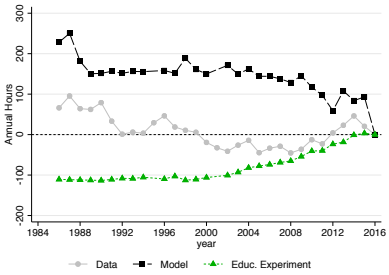
(d) France



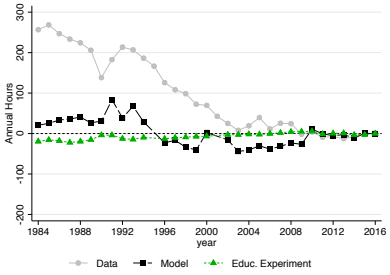
(e) Netherlands



(f) Portugal



(g) Germany



(h) Italy

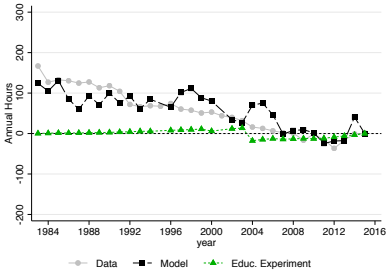
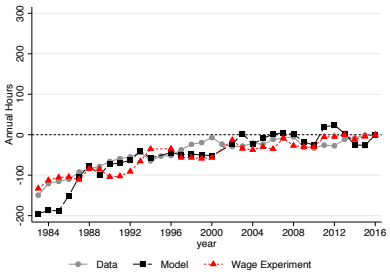
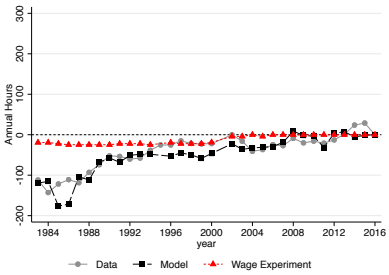


Figure B.14: Model output when only varying wages

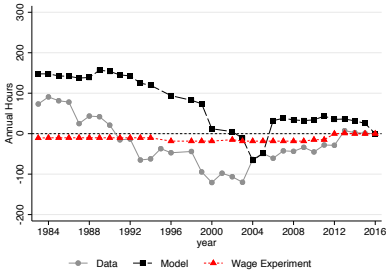
(a) United States



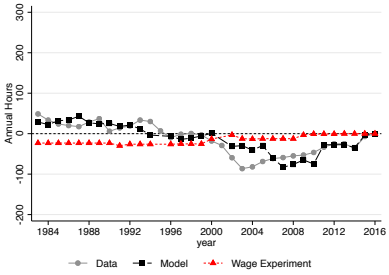
(b) United Kingdom



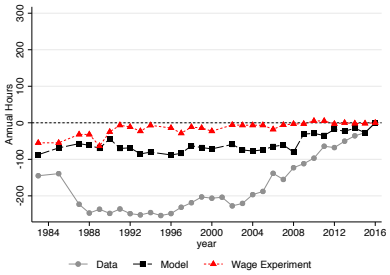
(c) Belgium



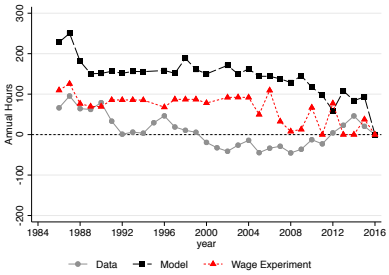
(d) France



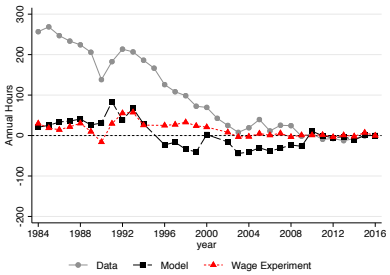
(e) Netherlands



(f) Portugal



(g) Germany



(h) Italy

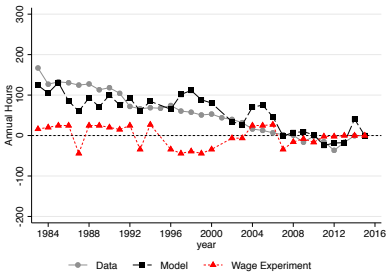
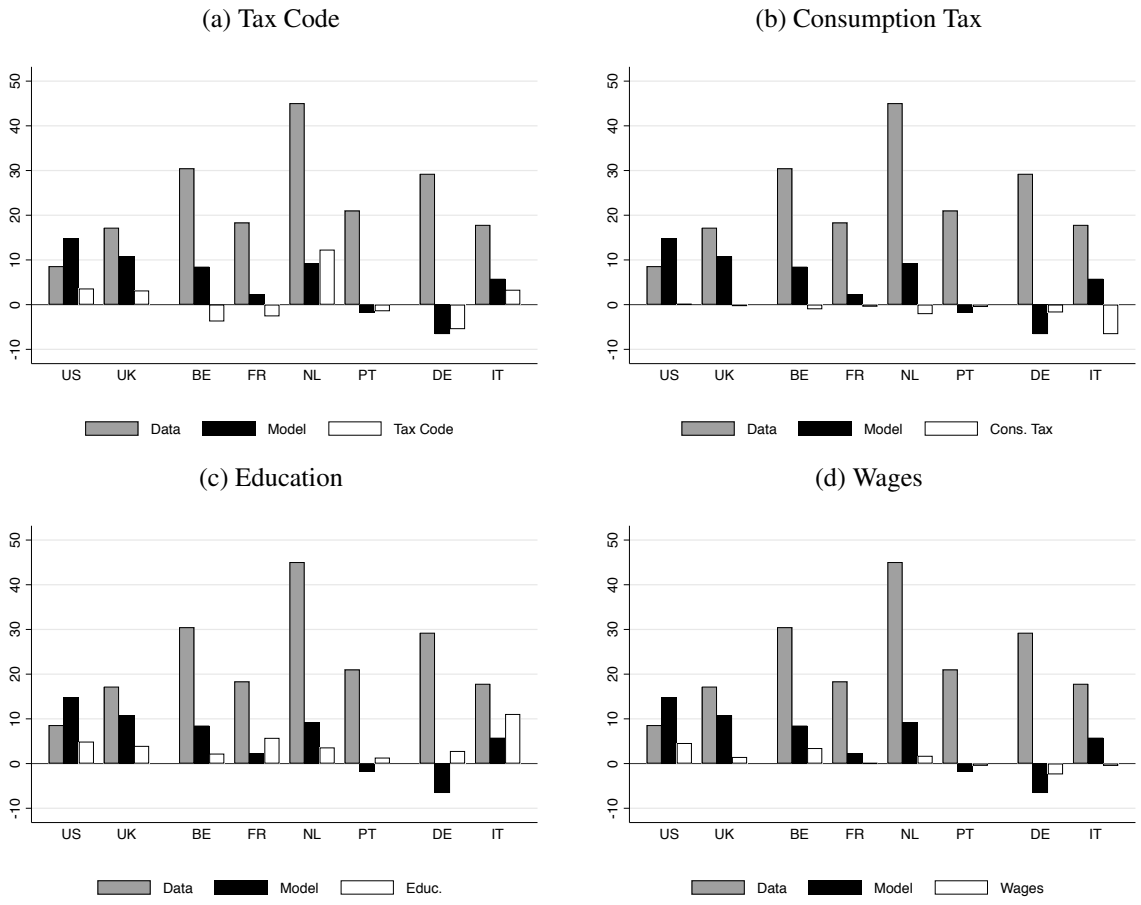


Figure B.15: Changes in Married Women's Employment Rates between 1983-85 and 2014-16: Decomposition



B.5 Decomposition Results: Married Women's Employment Rates

Overall, the variation in labor income and consumption taxes, educational composition, and wages explain on average 113 percent of the changes in hours worked per employed married woman between 1983 and 2016. The model is less successful in replicating the secular increase in married women's employment rates that we observe over the same time period, as shown in Figure 5: across countries, it explains on average only 37 percent of the increase. The decomposition results for the female employment rates are shown in Table B.17 and Figure B.15. Figure B.15 reveals that the small predicted changes in employment rates are due to all input factors indicating changes that are small compared to the data, rather than the input factors pointing in different directions. Moreover, as Table B.17 shows, the only input experiment that consistently positively correlates with the time-series of married women's employment rates are the educational shares, with correlation coefficients between 0.63 and 0.98 in all countries. The increase in the share of high educated women consistently predicts an increase in employment rates, as observed in the data.

Table B.17: Correlation between Data and Decomposition Output for Female Employment Rates

Country	**Total**	**Tax Code**	**Cons. Tax**	**Educ.**	**Wages**
Positive Hours Trend					
United States	0.79	0.77	0.27	0.63	0.71
United Kingdom	0.81	0.37	0.06	0.72	0.55
Changing Hours Trend					
Belgium	0.64	−0.55	−0.53	0.97	0.87
France	0.66	−0.04	−0.23	0.94	0.56
Netherlands	0.65	0.76	−0.96	0.89	0.85
Portugal	−0.77	−0.85	−0.69	0.82	−0.66
Negative Hours Trend					
Germany	−0.69	−0.73	−0.96	0.93	−0.09
Italy	0.34	0.13	−0.91	0.98	−0.35

B.5.1 Imputed vs. Actual Wages

Prior to 1994, we do not have microdata on earnings that would enable to estimate gender- and education-specific wages as we do in later years. In Appendix Section B.2.3, we describe how we impute wages for those missing years.

In order to assess the consequences of these imputations we run a robustness check, where we use the fact that for the US we have access to micro data to calculate the full time-series of gender- and education-specific wages. In the baseline model, we use the micro data provided by the US CPS to directly calculate or estimate (in the case of Heckman corrected wages for married women) wages for the full time-series and use these as our input into the model. In this robustness check, we instead estimate wages as if we did not have the full time series available but instead the same number of years as for the European countries. We then use those wages as inputs into the model, and compare the results to the baseline results.

In principle we could run the same robustness check for Germany, for which we also have micro data on wages for the whole time series. But the German reunification and the concurrent abrupt changes in wages, which the predictions would not capture, make the results less meaningful, so we abstain from looking at Germany here.

The results based on imputed wages for the US are depicted as the dotted line (with triangular markers) in Figure B.16. Naturally, for the years 1994 and following (which are in-sample), using imputed or actual wages has only minor effects on the results. For the years prior to 1994, the model results based on imputed wages lie however always above the model results based on actual wages. The fraction of changes explained by the model drops from 138 to 77 percent in the case of hours worked per employed and from 172 to 136 percent in the case of employment rates. This is because the ratio of female to male wages implied by the imputation is too high compared to the actual data as Figure B.17 shows, thus implying higher hours and employment rates. Assuming that in the other countries the imputed ratio of female to male wages is also higher than the actual ratio in the early sample period, the model fit would improve for married women's employment rates for all countries if the actual data would be available. For hours worked per employed married woman, the model fit would improve for some and worsen for other countries.

Figure B.16: Time-Series Predictions for Married Women's Labor Supply in the US: Actual vs. Imputed Wages

Figure B.17: Gender Wage Gap in the US: Actual vs. Imputed Wages

(a) United States

References

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