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Supplementary material to

A structural analysis of labour supply elasticities in the Netherlands

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A Likelihood function

We use a discrete choice model to model the labour supply decisions. Individuals can choose from the choice set $\mathcal{H} = \{h_0, ..., h_Z\}$. Denote the choice set by males by O and by females by P. Denote a particular set of labour supply choices by the household by $\{h_{m,j}, h_{f,k}\}$. Given that the household-option specific utility component $\boldsymbol{\epsilon}$ follows a Type-I extreme value distribution, we obtain the following form for the probability of observing individuals in the discrete labour supply options (McFadden, 1978)

$$\Pr(\{h_m, h_f\} = \{h_{m,j}, h_{f,k}\}; \boldsymbol{X}, \boldsymbol{\varepsilon}) = \frac{\exp\left(u(y, h_{m,j}, h_{f,k}; \boldsymbol{X}, \boldsymbol{\varepsilon})\right))}{\sum_{o=1}^{O} \sum_{p=1}^{P} \exp\left(u(y, h_{m,o}, h_{f,p}; \boldsymbol{X}, \boldsymbol{\varepsilon})\right)}. \tag{A.1}$$

The elements of the utility function are prepared outside of the likelihood function. For employed we use observed wages. For the non-employed we use predictions from a wage equation, see below.[1] For the non-employed we draw a set R of 10 error terms r of the wage equation to determine its empirical distribution, and integrate it out of the likelihood function. In the extension with random preference heterogeneity we also draw a set N of 10 'error' terms n, and integrate it out of the likelihood function. Hence, the approach we follow is to maximize a simulated likelihood

$$L = \sum_{n=1}^{N} \frac{1}{R} \sum_{r=1}^{R} \prod_{t=1}^{T} \prod_{j=1}^{O} \prod_{k=1}^{P} \frac{\exp\left(u(y_{r,t}, h_{m,j,t}, h_{f,k,t}; \boldsymbol{X_t}, \varepsilon_n)\right)}{\sum_{o_t=1}^{O} \sum_{p_t=1}^{P} \exp\left(u(y_{r,t}, h_{m,o,t}, h_{f,p,t}; \boldsymbol{X_t}, \varepsilon_n)\right)}, \tag{A.2}$$

[1] Wages could be jointly determined within the same likelihood. However for computational reasons we imputed these beforehand.

where the draws r differ for non-employed and are the same for the employed. Note that we estimate preferences over the period 1999-2005, where the individual and household characteristics $\boldsymbol{X_t}$ may vary over time, but where we keep the random preference heterogeneity and wage draws the same over the whole period.

B Descriptive statistics

Descriptive statistics are shown in Table A.1 to Table A.4. 20% of the single men is not employed and 7% of the men in couples is not employed. 30% of the single women and 30% of the women in couples has no job. The average age is somewhat higher for men and women in couples than for singles. The average hourly wage is the highest for men in couples (18.2 euros per hour) and the lowest for single women (9.7 euros per hour). For men in couples the fraction that is higher educated is the highest (0.79) and for single women it is the lowest (0.65).[2] Only 5% of single men has children, whereas 35% of the single women has children. 64% of the couples has children.

For the estimations of the wage equations we transformed and added some variables. We made transformations for the year dummies as described in Deaton and Paxson (1994). The transformations are such that the time dummies add up to zero and are orthogonal to a time trend. The rationale is that time effects are due to macro shocks and average out over time. For age use a spline with knots at 30, 40 and 50 years old. We further construct cohorts of 5 birth years and we also added GDP in the year of birth to check whether this would pick up additional cohort effects. We run separate regressions for men and women, for singles and couples and for two education levels, so 8 groups in total. We pool the individuals with and without children to use the presence of children as an exclusion restriction (included in the participation equation, but not in the wage equation).

[2]Lower educated refers to individuals whose highest level of completed education is primary education or lower secondary education.

Table A.1: Descriptive statistics: single men and single fathers[a]

	All	Employed	Unemployed
Age	38.7 (10.0)	38.6 (9.8)	39.1 (10.6)
Hourly wage	12.5 (9.0)	15.7 (7.1)	–
Hours worked per week	28.1 (15.7)	35.3 (7.4)	–
Ethnicity			
Native	0.80	0.68	0.13
Western immigrant	0.10	0.07	0.03
Non-western immigrant	0.10	0.05	0.05
Education levels			
Lower educated	0.28	0.18	0.10
Higher educated	0.72	0.61	0.11
Age of youngest child			
Below 4 years	0.00	0.00	0.00
Between 4 and 12	0.02	0.01	0.00
Between 12 and 18	0.03	0.02	0.00
Number of observations	134571	107238	27333
Number of individuals	51055	40953	10975

[a]Standard deviations in parentheses

Table A.2: Descriptive statistics: single women and single mothers[a]

	All	Employed	Unemployed
Age	39.3 (10.1)	38.8 (10.0)	40.4 (10.1)
Hourly wage	9.7 (8.1)	14.3 (5.6)	–
Hours worked per week	21.1 (16.1)	31 (8.5)	–
Ethnicity			
Native	0.76	0.56	0.20
Western immigrant	0.10	0.06	0.04
Non-western immigrant	0.14	0.06	0.08
Education levels			
Lower educated	0.35	0.15	0.20
Higher educated	0.65	0.53	0.12
Age of youngest child			
Below 4 years	0.07	0.02	0.05
Between 4 and 12	0.17	0.08	0.09
Between 12 and 18	0.11	0.07	0.04
Number of observations	208897	142239	66658
Number of individuals	69001	50054	20972

[a]Standard deviations in parentheses.

Table A.3: Descriptive statistics: men in couples[a]

	All	Employed	Unemployed
Age	44.1 (7.9)	44.1 (7.9)	43.6 (8.3)
Hourly wage	18.2 (9.7)	19.4 (8.7)	–
Hours worked per week	34.5 (10.3)	36.9 (4.8)	–
Married	0.88	0.88	0.86
Ethnicity			
Native	0.86	0.83	0.03
Western immigrant	0.08	0.07	0.01
Non-western immigrant	0.06	0.04	0.03
Education levels			
Lower educated	0.21	0.18	0.03
Higher educated	0.79	0.75	0.03
Age of youngest child			
Below 4 years	0.21	0.19	0.02
Between 4 and 12	0.27	0.25	0.02
Between 12 and 18	0.16	0.15	0.01
Number of observations	359719	335892	23827
Number of individuals	105226	96469	9279

[a]Standard deviations in parentheses.

Table A.4: Descriptive statistics: women in couples[a]

	All	Employed	Unemployed
Age	41.8 (8.1)	41 (7.9)	43.4 (8.2)
Hourly wage	9.9 (8.6)	15 (5.9)	–
Hours worked per week	16 (13.6)	24.2 (9.1)	–
Married	0.88	0.84	0.95
Ethnicity			
Native	0.86	0.59	0.27
Western immigrant	0.08	0.05	0.03
Non-western immigrant	0.06	0.02	0.04
Education levels			
Lower educated	0.29	0.12	0.17
Higher educated	0.71	0.54	0.17
Age of youngest child			
Below 4 years	0.21	0.13	0.07
Between 4 and 12	0.27	0.17	0.09
Between 12 and 18	0.16	0.11	0.06
Number of observations	359719	237790	121929
Number of individuals	105249	68430	39578

[a]Standard deviations in parentheses.

C Estimating wages

C.1 Empirical methodology

To determine the best empirical model for wages we estimated a number of different models. First, we considered the pooled OLS estimator. This estimator uses the panel element in our data only to compute robust standard errors. The equation is specified as:

$$w_{it} = x'_{it}\beta + \varepsilon_{it}, \tag{A.3}$$

where w_{it} denotes the log of the hourly wage of individual i in year t. The errorterm is assumed to be independent of the explanatory variables x_{it}, and $\varepsilon_{it} \sim IID(0, \sigma^2_\varepsilon)$.

Second, we estimate a Heckman two-step model, which allows for selection bias in observed wages. Employed workers may be a select subset in terms of wages of the whole group of employed and non-employed. The first step in the Heckman two-step model is to estimate a selection equation which determines participation:

$$p_{it} = x'_{it}\gamma + z'_{it}\psi + \nu_{it}. \tag{A.4}$$

The selection equation contains variables z_{it} that explain participation but do not explain the wage. We use the presence or absence of young children, and for couples also marital status. The errorterm ν_{it} is assumed to be independent of the regressors x_{it} and z_{it} and $\nu_{it} \sim N(0, \sigma^2_\nu)$. Hence, $(A.4)$ is estimated with a probit estimator. In the second step we add the inverse Mills' ratio, derived from the first step, to the wage equation $(A.3)$:

$$invMills_{it} = \phi(\hat{p_{it}})/\Phi(\hat{p_{it}}), \tag{A.5}$$

$$w_{it} = x'_{it}\beta + invMills_{it}\theta + \varepsilon_{it}. \tag{A.6}$$

The errorterm ε_{it} is assumed to be independent of x_{it} and the inverse Mills' ratio and $\varepsilon_{it} \sim N(0, \sigma^2_\varepsilon)$. Equation $(A.6)$ is estimated using pooled OLS.

Third, we also use the Heckman two-step model in Stata. For robustness of the standard errors we use the clustering option.[3]

Fourth, we apply the fixed effects estimator. This estimator takes the panel element into account. The wage equation for panel data is:

$$w_{it} = x'_{it}\beta + \alpha_i + \varepsilon_{it}, \tag{A.7}$$

[3]The results for the Heckman two-step model in Stata and for the Heckman two-step model implemented with Equations $A.4$ and $A.6$ can be different due to the iterative estimation procedure for the Heckman two-step model in Stata and due to the use of the clustering option.

where α_i are fixed individual effects. The fixed effects estimator makes no assumptions on the distribution of fixed individual effects. The individual effects drop out of the equation by estimating in deviations from the mean. Indeed, all time invariant variables drop out. Thus we rewrite equation (A.7) to:

$$(w_{it} - \bar{w}_i) = (x_{it} - \bar{x}_i)'\beta + (\varepsilon_{it} - \bar{\varepsilon}_i), \tag{A.8}$$

where $\bar{w}_i$ is the average of the log of the wage over time and $\bar{x}_i$ is the average of x_{it}. The errorterm ε_{it} is independent of all x_{it} and $\varepsilon_{it} \sim IID(0, \sigma_\varepsilon^2)$.

Fifth, we apply the random effects estimator which assumes that the individual effects α_i are independent of x_{it} and ε_{it} and $\alpha_i \sim IID(0, \sigma_\alpha^2)$.

$$w_{it} = x_{it}'\beta + \alpha_i + \varepsilon_{it}, \tag{A.9}$$

where $\varepsilon_{it} \sim IID(0, \sigma_\varepsilon^2)$ and ε_{it} is independent of x_{it} and α_i. To determine whether the random effects estimator is consistent we apply a Hausman test (Hausman, 1978).

Sixth, we apply the quasi-fixed effects estimator (Mundlak, 1978). The fixed effects estimator makes no assumptions on α_i but then all time-invariant regressors drop out of the equation. The random effects estimator keeps the time-invariant regressors but assumes that the α_i are independent of the regressors x_{it}. The quasi-fixed effects estimator allows α_i to be correlated with regressors while maintaining the time-invariant regressors:

$$w_{it} = x_{it}'\beta + \bar{x}_{1,i}'\theta + \omega_i + \varepsilon_{it}, \tag{A.10}$$

where $\bar{x}_{1,i}$ is the average over time of the subset $x_{1,it}$ of regressors which are time-varying. The individual effect α_i is equal to $\bar{x}_{1,i}'\theta + \omega_i$ and ω_i is assumed to be independent of x_{it} and ε_{it} and $\omega_i \sim IID(0, \sigma_\omega^2)$. The errorterm ε_{it} is independent of x_{it} and ω_i and $\varepsilon_{it} \sim IID(0, \sigma_\varepsilon^2)$.

We apply two tests for selection in the panel estimations (Wooldridge, 2002, pp. 581-582). The first test is to add a lagged selection indicator to the wage equation. The selection indicator s_{it-1} is one if an individual worked in the previous year and zero otherwise. If the coefficient for the lagged selection indicator is significant then we reject that selection is not a problem. The second test starts with estimating

$$s_{it-1} = x_{it}'\psi + \bar{x}_i'\xi + \eta_{it}, \tag{A.11}$$

where s_{it-1} is the lagged selection indicator and $\eta_{it} \sim IID(0, \sigma_\eta^2)$. (A.11) is estimated with a probit model and the inverse Mills' ratio obtained from this regression is then added to the fixed effects model (A.8). When the inverse Mills' ratio is significant in the equation estimated by fixed effects we reject that selection is not a problem.

We work with an unbalanced panel, not all individuals are present in all years. This may result in attrition bias when attrition in the sample does not take place at random. We test for attrition bias by adding an attrition indicator which is one in the last year before attrition and zero otherwise. If this indicator is significant we reject that attrition does not bias the estimated parameters.

C.2 Results

First we consider the results for singles and then we consider the results for couples. In the end we present the results of the tests for selection and attrition.

For the higher educated single men the results of the first five estimators are presented in Table A.5. The coefficients are quite similar. We do not select these models for the following reasons. Pooled OLS is not selected because we want to correct for unobserved characteristics. With fixed effects we lose all information on time-invariant regressors. For the random effects model we reject the null hypothesis that the random effects model is consistent. Therefore we select the quasi-fixed effects model.

Table A.6 shows the estimation results for singles assuming quasi-fixed effects. The coefficients for the age variables are always positive. For single men until 30 years of age with a higher education level the coefficient for the age effect is 0.0564. For the same group with a lower education level the coefficient is only 0.0394. Thus the age effect is stronger for the higher education level, resulting in a steeper wage profile for higher educated. The age effect becomes smaller with age, income rises more for younger employees, in line with other studies (Vella and Verbeek, 1999).

The cohort variables were added to capture cohort effects that are caused by specific conditions in the past. For example the GDP level in the year of birth was added to pick up the effect of the economic situation in the year in which an individual is born. The coefficient for GDP is significant for women. The cohort variables are jointly significant at the 1% level, except for lower educated women. For this group the cohort variables are only significant at the 5% level.

We included age and cohort variables in the model and therefore we cannot include time dummies. To circumvent this problem we transformed the time dummies following Deaton and Paxson (1994). For 1999 and 2000 we calculate the coefficients from the coefficients for the other years. Due to the Deaton and Paxson transformed time dummies there are no real time effects. All time effects are assumed to be transitory. The transformed time dummies are jointly significant at the 1% level.

An individuals ethnicity sometimes has a significant influence on the wage. Western immigrants have a somewhat lower wage, whereas the reverse seems to be true for Non-

Table A.5: Outcomes: log hourly wages single men, higher educated

	Pooled OLS	Heckman 1	Heckman 2	Fixed Effects	Random Effects
Age effect					
20–30	0.0491***	0.0360***	0.0484***	0.0564***	0.0548***
31–40	0.0174***	0.0184***	0.0174***	0.0335***	0.0319***
41–50	0.0133***	0.0118***	0.0132***	0.0169***	0.0166***
51–57	0.00690***	0.00725***	0.00692***	0.0116***	0.0114***
Cohort effect					
1975–1985	0.0491	–0.0400	0.0446		0.281***
1970–1974	0.0322	–0.0420	0.0285		0.228***
1965–1969	0.0173	–0.0376	0.0145		0.151***
1960–1964	–0.00947	–0.0585	–0.0119		0.0624**
1955–1959	–0.0505	-0.0849***	-0.0522*		–0.00914
1950–1954	-0.0547*	-0.0738**	-0.0556*		–0.0308
1945–1949	-0.0511*	-0.0667**	-0.0519*		-0.0500*
GDP-level year of birth	–0.000526	–0.000569	–0.000528		0.000463
Time effect					
2001	0.0110***	0.00479*	0.0107***	0.0151***	0.0149***
2002	0.00319*	–0.00404	0.00283	0.0108***	0.0103***
2003	0.000286	-0.00356*	9.27e-05	0.00513***	0.00477***
2004	-0.00219*	–2.61e-07	–0.00208	-0.00398***	-0.00399***
2005	-0.00351**	0.00266	-0.00320**	-0.0105***	-0.00997***
1999[a]	0.0211	–0.00283	0.01988	0.01969	0.0352
2000[b]	–0.038	0.00146	–0.03597	–0.04559	–0.0602
Ethnicity					
Western immigrant	-0.158***	-0.0698**	-0.154***		-0.163***
Non-western immigrant	–0.00308	-0.0410***	–0.00499		0.00295
Inverse Mills' ratio		-0.264***			
Observations[c]	71752	71752	71752	71752	71752
Number of individuals				19766	19766

*** p<0.01, ** p<0.05, * p<0.1

[a] Calculated as –(t2000 + t2001 + t2002)

[b] Calculated as –2 x t2001 – 3 x t2002

[c] This is the number of uncensored observations, the number of censored observations is 12059

Table A.6: Outcomes for quasi-fixed effect estimator: singles and single parents

	Lower educated		Higher educated	
	Men	Women	Men	Women
Age effect				
20–30	0.0394***	0.0574***	0.0564***	0.0533***
31–40	0.0152***	0.0193***	0.0334***	0.0292***
41–50	0.0112***	0.0191***	0.0168***	0.0208***
51–57	0.00759***	0.0151***	0.0116***	0.0164***
Cohort effect				
1975–1985	0.192***	0.149***	–0.0618	–0.0294
1970–1974	0.0996	–0.00894	–0.0576	-0.0723*
1965–1969	0.0579	–0.0432	–0.0377	-0.0704*
1960–1964	0.0181	–0.0622	–0.0308	-0.0718**
1955–1959	0.00888	-0.0800**	-0.0736*	-0.0713**
1950–1954	–0.0304	-0.0894***	-0.0800**	-0.0609**
1945–1949	–0.00252	-0.0535**	-0.0643**	-0.0472**
GDP-level year of birth	5.39e-05	-0.00159**	-0.00104*	-0.00100**
Time effect				
2001	0.00295	0.00606***	0.0149***	0.0107***
2002	0.00387**	0.0187***	0.0104***	0.0181***
2003	0.0118***	0.00780***	0.00496***	0.0101***
2004	-0.00313*	-0.00822***	-0.00385***	-0.00400***
2005	-0.00801***	-0.00937***	-0.0102***	-0.0156***
1999[a]	0.01069	0.04346	0.0357	0.0469
2000[b]	–0.01751	–0.06822	–0.061	–0.0757
Ethnicity				
Western immigrant	-0.0781***	-0.0660***	-0.164***	-0.102***
Non-western immigrant	0.0216*	0.0116	0.00352	0.0275***
Mundlak averages				
Age 20–30	-0.00688*	-0.0272***	-0.00995***	-0.00738***
Age 31–40	–0.00579	-0.0139***	-0.0242***	-0.0235***
Age 41–50	–0.00204	-0.0133***	–0.00212	-0.0176***
Age 51–57	-0.0127**	-0.0193***	-0.00949*	-0.0131***
Observations	20200	26261	71752	99422
Number of individuals	5894	7628	19766	25858

*** p<0.01, ** p<0.05, * p<0.1

[a] Calculated as –(t2000 + t2001 + t2002)

[b] Calculated as –2 x t2001 –3 x t2002

Table A.7: Outcomes for quasi-fixed effect estimator: couples

	Lower educated		Higher educated	
	Men	Women	Men	Women
Age effect				
20–30	0.0261***	0.0309***	0.0447***	0.0400***
31–40	0.0143***	0.0136***	0.0254***	0.0218***
41–50	0.00785***	0.0125***	0.0102***	0.0177***
51–57	0.00281***	0.00698***	0.00299***	0.0143***
Cohort effect				
1975–1985	-0.0989**	-0.111**	0.0846***	-0.151***
1970–1974	-0.0885***	-0.162***	0.0709***	-0.167***
1965–1969	-0.108***	-0.144***	0.0431**	-0.163***
1960–1964	-0.105***	-0.128***	0.0105	-0.169***
1955–1959	-0.0903***	-0.116***	0.00380	-0.142***
1950–1954	-0.0739***	-0.0662**	–0.00201	-0.108***
1945–1949	-0.0417***	–0.0443	–0.00643	-0.0690***
GDP-level year of birth	–7.27e-05	0.000163	0.000249	0.000651*
Time effect				
2001	0.00971***	0.0132***	0.0134***	0.0124***
2002	0.00605***	0.0177***	0.00952***	0.0215***
2003	0.00504***	0.00833***	0.00549***	0.0105***
2004	0.00148*	-0.0178***	-0.00253***	-0.00965***
2005	-0.0101***	-0.00358***	-0.0105***	-0.0133***
1999[a]	0.02181	0.0486	0.03244	0.0554
2000[b]	–0.03757	–0.0795	–0.05536	–0.0893
Ethnicity				
Western immigrant	-0.133***	-0.0785***	-0.213***	-0.0938***
Non-western immigrant	0.0193**	0.00425	0.000463	0.0227***
Partner				
Age partner	0.00381***	–0.000640	0.00707***	–0.000265
Married	0.00613	–0.00235	0.0104***	0.0159***
Mundlak averages				
Age 20–30	-0.0135*	–0.00352	–0.00276	0.00810***
Age 31–40	-0.00800***	-0.0118***	–0.00148	-0.0125***
Age 41–50	-0.00940***	-0.0155***	-0.00963***	-0.0231***
Age 51–57	-0.0156***	-0.0138***	–0.00112	-0.0136***
Married	0.0384***	-0.0208*	–0.00229	-0.0954***
Observations	59254	40768	255807	182785
Number of idnr	15055	10735	60574	43428

*** p<0.01, ** p<0.05, * p<0.1

[a] Calculated as –(t2000 + t2001 + t2002)

[b] Calculated as –2 x t2001 –3 x t2002

Table A.8: Chi-squared tests: singles

	Lower educated		Higher educated	
	Men	Women	Men	Women
Joint significance				
Mundlak averages	10.55*	160.66***	110.08***	283.67***
Age dummies	382.77***	4922.4***	942.55***	6729.15***
Cohort dummies	42.17***	17.85**	112.44***	54.58***
Time dummies (Deaton-Paxson)	44.67***	403.51***	108.53***	795.38***
*** p<0.01, ** p<0.05, * p<0.1				

Table A.9: Chi-squared tests: couples

	Lower educated		Higher educated	
	Men	Women	Men	Women
Joint significance				
Mundlak averages	84.51***	57.74***	99.26***	792.08***
Age dummies	249.07***	3009.36***	208.45***	2092.84***
Cohort dummies	20.88***	31.83***	35.47***	54.8***
Time dummies (Deaton Paxson)	199.19***	1876.85***	237.54***	1792.24***
*** p<0.01, ** p<0.05, * p<0.1				

Table A.10: Tests for selection and attrition: singles

	Lower educated		Higher educated	
	Men	Women	Men	Women
Lagged selection indicator	0.000632	0.0145*	0.00845	0.0274***
Inverse Mills' ratio	–0.160	-1.152***	0.210*	-0.393***
Attrition indicator	–0.00387	–0.00161	0.00201	0.00391**
*** p<0.01, ** p<0.05, * p<0.1				

Table A.11: Tests for selection and attrition: couples

	Lower educated		Higher educated	
	Men	Women	Men	Women
Lagged selection indicator	0.0148	0.0220***	0.0447***	0.0227***
Inverse Mills' ratio	–0.0833	–0.000864	-0.170***	0.138**
Attrition indicator	-0.00565***	–0.00235	-0.00290***	–0.000955
*** p<0.01, ** p<0.05, * p<0.1				

Western immigrants.

The Mundlak variables are not directly interpretable; they are included to correct for the correlation between the (unobserved) individual effects and the time-varying explanatory variables. They are jointly significant at the 1% level, except for lower educated men. Hence, there are unobserved fixed effects that are correlated with the time-varying explanatory variables, which motivates our use of the quasi-fixed effects model.

Table A.7 shows the estimation results for men and women in couples. The coefficients are quite similar to those for single men and women. There are three extra variables: the age of the partner, the marital status and the Mundlak variable of marital status. For lower educated men and women the coefficient for the age of the partner is significant but small. Higher educated married partners have a somewhat higher wage than higher educated partners that are not married.

For all 8 subgroups we test for selection and attrition. As described above, selection is not a problem when the lagged selection indicator is not significant. The same holds for the inverse Mills' ratio. The results for singles are shown in Table A.10 and for couples in Table A.11. In some specifications we can not reject that selection and/or attrition is present in the estimates for wages. This is particularly true for higher educated women.

D Sensitivity analysis labour supply elasticities

Table A.12: Standard errors of the elasticities

	Total	Ext.	Int.
Singles	0.43	0.36	0.06
	(0.01)	(0.01)	(0.00)
Single parents	0.57	0.41	0.15
	(0.01)	(0.01)	(0.01)
Males in couples w/o children	0.06	0.06	0.00
	(0.01)	(0.01)	(0.01)
Females in couples w/o children	0.26	0.20	0.07
	(0.02)	(0.02)	(0.01)
Males in couples with children	0.13	0.13	0.00
	(0.01)	(0.01)	(0.01)
Females in couples without children	0.47	0.36	0.10
	(0.03)	(0.03)	(0.02)

Average simulated labour supply elasticities following an increase of 10% in gross hourly wages over 50 sets of independent draws from the estimated distributions of all preference parameters. 'Total' is the elasticity of total working hours, 'Ext.' is the participation elasticity, 'Int.' is the hours per employed elasticity. Log-quadratic specification for all household types except single parents for which we use the Box-Cox 2 specification.

Table A.13: Impulse in gross wages vs. net income

	Gross wages +10%[a]			Net income +10%[b]		
	Total	Ext.	Int.	Total	Ext.	Int.
Singles	0.43	0.36	0.07	0.54	0.53	0.01
Single parents	0.60	0.42	0.17	0.90	0.99	-0.08

Simulated labour supply elasticities following an increase of 10% in gross hourly wages. 'Total' is the elasticity of total working hours, 'Ext.' is the participation elasticity, 'Int.' is the hours per employed elasticity. Log-quadratic specification for all household types except single parents for which we use the Box-Cox 2 specification. [b]Simulated labour supply elasticities following an increase of 10% in net income in discrete options with strictly positive working hours.

Table A.14: Labour supply elasticities over time

	1999			2005		
	Total	Ext.	Int.	Total	Ext.	Int.
Singles	0.46	0.38	0.08	0.44	0.37	0.07
Single parents	0.62	0.43	0.19	0.56	0.40	0.15
Males in couples w/o children	0.07	0.07	0.00	0.08	0.08	0.01
Females in couples w/o children	0.27	0.22	0.05	0.28	0.23	0.05
Males in couples with children	0.13	0.12	0.00	0.16	0.14	0.01
Females in couples without children	0.52	0.38	0.13	0.47	0.35	0.11

Simulated labour supply elasticities following an increase of 10% in gross hourly wages. 'Total' is the elasticity of total working hours, 'Ext.' is the participation elasticity, 'Int.' is the hours per employed elasticity. Log-quadratic specification for all household types except single parents for which we use the Box-Cox 2 specification.

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