APPENDIX

Linear specification of VAR model

We consider the following VAR model to investigate the relationship between female (male) employment rate (ER) and GDP growth in different economic sectors (construction, education and accommodation & food services) in the three chosen countries (Germany, Poland and Portugal):

$$Y_{j,t} = c + \sum_{i=1}^{p} A_{j,i} Y_{j,t-i} + \eta_t \quad (1)$$

where Y_t is a *n* x 1 vector of endogenous variables, c is an *n* x 1 vector of constants, A is a *n* x *n* matrix of coefficients, and *i* = 1,…, *p* is the number of lags, η_t is *n* x 1 vector of error terms with zero mean and the variance Ω. Subscript *j* refers to the particular gender group, i.e. female and male.

We define the vector Y_t in (1) as first-differences of all variables, i.e. $Y_t' = [\Delta ER_t \quad \Delta GDP_t]$.

Table A3. Residual diagnostics for VAR models (linear specification of VAR models)

	GERMANY					
	Construction		**Education**		**Accomodation**	
	Female	Male	Female	Male	Female	Male
order of VAR model	4	4	5	5	4	4
autocorrelation LM test(1-4)	1.47 (0.17)	1.58 (0.13)	1.33 (0.25)	1.15 (0.37)	0.94 (0.54)	0.96 (52)
normality JB test	2.12 (0.71)	2.16 (0.71)	1.76 (0.78)	1.78 (0.78)	2.39 (0.66)	2.37 (0. 67)
heteroscedasticity (White -chi-sq)	47.4 (0.5)	48.5 (0.18)	0.72 (0.56)	71.5 (0.15)	44.0 (0.39)	44.5 (0.62)
	POLAND					
order of VAR model	2	2	2	2	2	2
autocorrelation LM test(1-4)	1.69 (0.09)	1.73 (0.08)	1.33 (0.22)	1.24 (0.28)	1.59 (0.08)	1.68 (0.09)
normality JB test	3.87 (0.42)	5.36 (0.25)	1.14 (0.89)	1.25 (0.87)	1.87 (0.76)	1.79 (0.77)
heteroscedasticity (White -chi-sq)	14.5 (0.94)	12.7 (0.97)	22.1 (0.58)	23.1 (0.51)	37.8 (0.04)	37.6 (0.04)
	PORTUGAL					
order of VAR model	3	3	3	3	4	4
autocorrelation LM test(1-4)	1.11 (0.39)	0.59 (0.87)	0.51 (0.93)	0.82 (0.66)	1.05 (0.43)	1.16 (0.34)
normality JB test	1.57 (0.81)	1.15 (0. 88)	2.54 (0.64)	2.24 (0.69)	4.02 (0.4)	3.6 (0.46)
heteroscedasticity (White -chi-sq)	29.9 (0.75)	30.8 (0.71)	39.6 (0.31)	37.7 (0.39)	53.9 (0.31)	54.1 (0.25)

Table A4. Residual diagnostics for VAR models (asymmetric specification of VAR models)

	GERMANY					
	Construction		**Education**		Accomodation	
	Female	Male	Female	Male	Female	Male
order of VAR model	3	3	5	5	4	4

autocorrelation	1.05	1.11	0.3	0.33	1.22	1.24
LM test(1-4)	(0.45)	(0.38)	(0.99)	(0.99)	(0.32)	(0.30)
normality	4.05	6.76	11.06	11.7	11.5	10.1
JB test	(0.67)	(0.34)	(0.09)	(0.07)	(0.07)	(0.10)
heteroscedasticity	107.9	107.5	188.1	188.1	141.1	
(White -chi-sq)	(0.43)	(0.50)	(0.32)	(0.32)	(0.55)	141.1 (0.55)
			POLAND			
order of VAR model	2	2	1	1	2	2
autocorrelation	1.08	1.14	1.22	1.18	1.29	1.27
LM test(1-4)	(0.40)	(0.34)	(0.24)	(0.28)	(0.21)	(0.22)
normality	8.1	9.6	11.4	11.3	8.95	8.56
JB test	(0.23)	(0.14)	(0.08)	(0.08)	(0.18)	(0.20)
heteroscedasticity	71.6	66.2	31.6	33.1	82.5	82.6
(White -chi-sq)	(0.49)	(0.67)	(0.68)	(0.61)	(0.10)	(0.10)
			PORTUGAL			
order of VAR model	3	3	3	3	4	4
autocorrelation	1.08	0.95	0.68	0.94	1.08	0.95
LM test(1-4)	(0.43)	(0.57)	(0.87)	(0.57)	(0.43)	(0.57)
normality	2.39	1.43	4.51	3.1	2.39	1.43
JB test	(0.88)	(0.96)	(0.61)	(0.79)	(0.88)	(0.96)
heteroscedasticity	155.2	152.9	138.3	131.2	155.2	152.9
(White -chi-sq)	(0.25)	(0.29)	(0.03)	(0.06)	(0.25)	(0.29)

Note: in parentheses are given p-values.