ACTA UNIVERSITATIS AGRICULTURAE ET SILVICULTURAE MENDELIANAE BRUNENSIS
SBORNÍK MENDELOVY ZEMĚDĚLSKÉ A LESNICKÉ UNIVERZITY V BRNĚ

Ročník LII 8 Číslo 6, 2004

DEVELOPMENT OF THE RATE OF EMPLOYMENT AND UNEMPLOYMENT OF MALES AND FEMALES IN TEN ASSOCIATED COUNTRIES OF EU

J. Klíma, M. Palát

Received: June 30, 2004

Abstract

KLÍMA, J., PALÁT M.: *Development of the rate of employment and unemployment of males and females in ten associated countries of EU*. Acta univ. agric. et silvic. Mendel. Brun., 2004, LII, No. 6, pp. 87-104

The paper is focused on the evaluation the rates of employment and unemployment of women, men and as a whole in ten associated countries of EU. Rates of employment were evaluated in the period 1996-2002. Rates of unemployment were evaluated in the period 1996-2003. Employment of males in all ten associated countries of EU is higher then employment of females. Unemployment of females in the Czech Republic, Cyprus, Malta, Poland, Slovakia and Slovenia is higher than unemployment of males and in opposite unemployment of females in Estonia, Hungary, Lithuania and Latvia is lower than unemployment of males. Trends of rates of male, female and total employment and unemployment are evaluated. Methods of regression and correlation analysis, development trends and cluster analysis were applied for the mathematical-statistical analysis.

rate of employment, rate of unemployment, Czech Republic, associated countries of EU, statistical processing, development trends

Work as a conscious and useful activity of man belongs to primary production factors. On the market of work, the offer of work of households can be accepted by demanding firms and thus an employment originates in dependent activities or as a household involved in an individual business. From the macroeconomic point of view, employment originates expressed by an indicator of the rate of employment. If part of the offer of work of households is not accepted by demanding firms then unemployment originates expressed by an indicator of the rate of unemployment. Unemployment as one of accompanying phenomena of functioning the market economy has become a serious economic, social and political problem even in modern economics. Therefore, governments try to reduce already often high unemployment by specific tools of macroeconomic policy based on economic theories. Particularly the policy of employment is an important tool balancing the imbalance on the labour market. Its task is to achieve dynamic balance between labour offer and labour demand and to ensure the productive use of labour sources. However, it is necessary to emphasize that governments do not affect the labour market directly on the level of enterprises but they try to create such conditions the labour market to operate better. It refers particularly to the improvement of services associated with labour market, offering sufficient information and surveys on vacancies, the use of public costs within regional policy, governmental retraining programmes and the creation of public job opportunities. Further it refers to legislative measures, tax, wage and social policy including pension policy and other forms of employment policy. Thus, employment policy can only support or modify

the development on the labour market but it cannot modify it in principle.

As a matter of fact, practical macroeconomic policy including employment policy based on theoretical findings of various trends in economic theories does not bring necessary results in the field of reducing the unemployment to a tolerable level. Actually it appears that it is generally little effective or even ineffective. The problem can also consist in a fact that governments of countries with unused production factors deal particularly with problems of unemployment while they ought to shift the main stress to measures of macroeconomic policy maximizing the production and supporting free market. Naturally, civilizational progress is also of great importance. It reduced the need of human labour thus it lowered the rate of employment. The trend will continue certainly also in the future. However, rich countries reaching the high level of productivity can rather afford to keep part of population unemployed (thanks to direct support) than artificially create co-called full employment using various methods. It is necessary to stress that unemployment is not the only problem of present economies and its solution is always related to the improvement of whole economics.

MATERIAL A METHODS

Factographic material, i.e. the rate of male and female employment measured as the proportion of employed persons aged 15–64 years in the whole male and female population of the same age group and the rate of total employment measured as the proportion of employed persons aged 15–64 years in the whole population of the same age group and the rate of female and male unemployment measured as the proportion of unemployed persons in the whole active population of females and males and the rate of total unemployment measured as the proportion of unemployed persons in the whole active population for the reference period was obtained from the archive of structural indicators (SI) of an international comparison compiled by Eurostat. The evaluation is applied to ten associated states (the Czech Republic, Cyprus, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovenia and Slovakia). Rates of employment were evaluated in the period 1996–2002 (Hungary, Slovenia), in the period 1997–2002 (Poland), in the period 1998–2002 (Czech Republic, Estonia, Lithuania, Latvia, Slovakia) and in the period 2000–2002 (Cyprus, Malta). Rates of unemployment were evaluated in the period 1996–2003 (Hungary, Slovenia), in the period 1997–2003 (Estonia, Poland), in the period 1998–2003 (Czech Republic, Lithuania, Latvia), in the period 1999–2003 (Slovakia) and in the period 2000–2003 (Cyprus, Malta).

Problems of unemployment were dealt by Dufek (2002) Klíma, Maca (2002), Sojka, Klíma (2003). Problems of the employment were dealt by Jírová (1999). Mathematical-statistical processing of the data comes from the methodology given in papers of Minařík (1995–1996) and Seger et all. (1998) and Klíma, Palát (2003a, 2003b).

RESULTS AND DISCUSSION

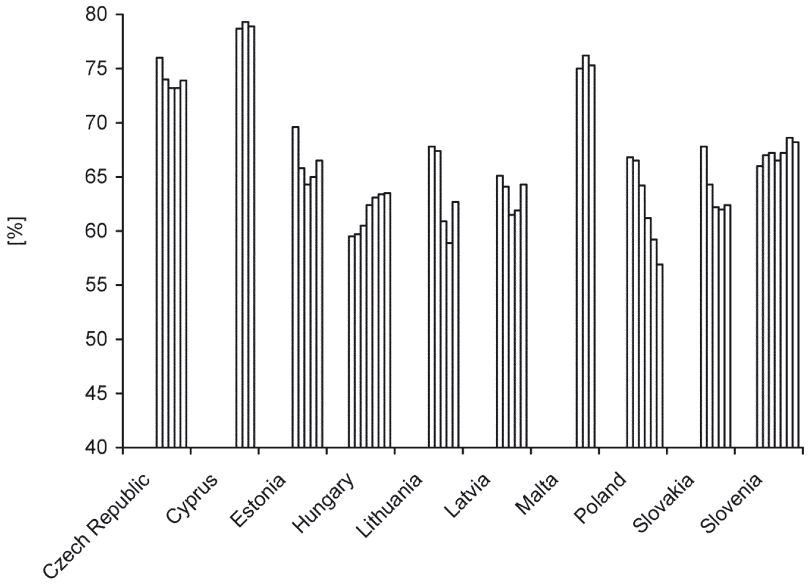
Rates of male, female and total employment in associated states of EU in the reference periods are given in Figures 1, 2 and 3, respectively. Rates of male, female and total unemployment in the reference periods are given in Figures 4, 5 and 6, respectively.

Parameters of models of development trends of rates of male, female and total employment in the reference periods are given in Table I. Models of development trends of the rates of male, female and total unemployment in the reference periods are given in Table II. An equation for the linear model is $y_t = a_{yt} + b_{yt} t$. An equation for the quadratic model is $y_t = a_{yt} + b_{yt} x + c_{yt} t^2$. An equation for the cubic model is $y_t = a_{yt} + b_{yt} t + c_{yt} t^2 + c_{yt} t^3$. Most of correlation indices I_{yt} are significant on the level of $\alpha = 0.01$ or $\alpha = 0.05$.

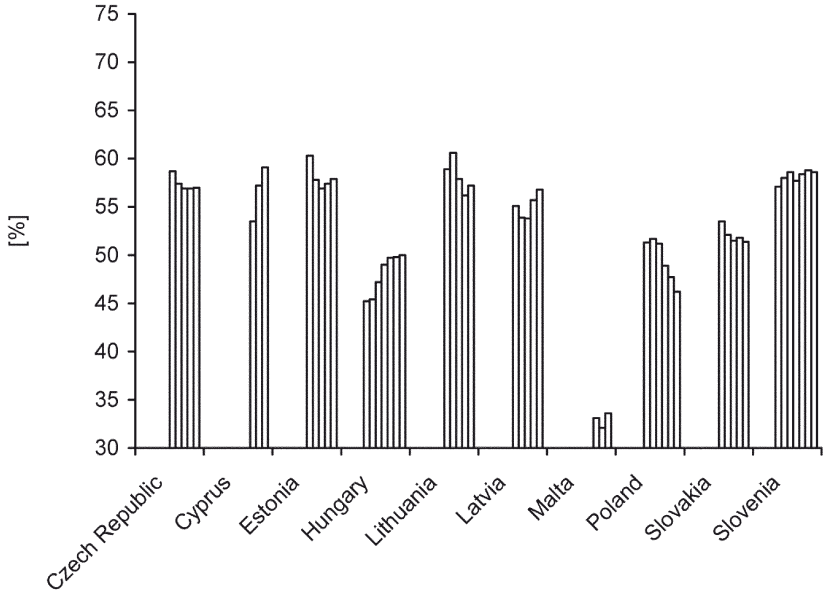
Linear trends of the rate of employment are decreasing in the Czech Republic for variables males (y_1), females (y_2) and total (y_3), in Estonia for variables males (y_7), females (y_8) and total (y_9), in Lithuania for variables males (y_{14}), females (y_{15}) and total (y_{16}), in Latvia for variable males (y_{16}), in Poland for variables males (y_{23}), females (y_{24}) and total (y_{25}) and in Slovakia for variables males (y_{25}), females (y_{26}) and total (y_{27}) - see positive regression coefficients b_{yt} in Table I. Linear trends are increasing in Cyprus for variables males (y_4), females (y_5) and total (y_6), in Hungary for variables males (y_{10}), females (y_{11}) and total (y_{12}), in Latvia for variable females (y_{17}) and total (y_{18}), in Malta for variables males (y_{19}), females (y_{20}) and total (y_{21}) and in Slovenia for variables males (y_{28}), females (y_{29}) and total (y_{30}) - see negative regression coefficients b_{yt} in Table I. The quadratic and cubic models show nonlinear in the reference period. Selected developmental trends in the reference period are given in graphical form in Figs. 7–16. Employment of males in all ten associated states of EU is higher than employment of females in the reference period.

Linear trends of the rate of unemployment are decreasing in the Czech Republic for variables males (y_{31}), in Cyprus for variables females (y_{35}) and total (y_{36}), in Estonia for variables males (y_{37}), in Hungary for variables males (y_{40}), females (y_{41}) and total (y_{42}), in Lithuania for variables males (y_{43}), in Latvia for variables males (y_{46}), females (y_{47}) and total (y_{48}) and in Slovenia for variables males (y_{58}), females (y_{59}) and total (y_{60}) - see negative regression coefficients b_{yt} in Table II. Linear trends are increasing in the Czech Republic for variables females (y_{32}) and total (y_{33}), in

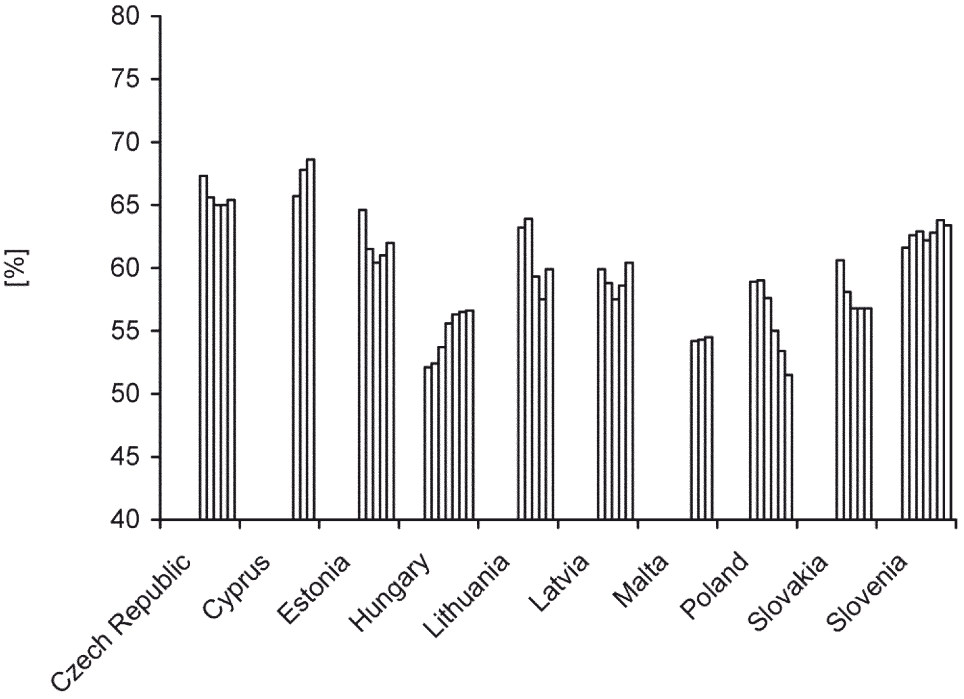
Cyprus for variables males (y_{34}), in Estonia for variables females (y_{38}) and total (y_{39}), in Lithuania for variables females (y_{43}) and total (y_{45}), in Malta for variables males (y_{49}), females (y_{50}) and total (y_{51}), in Poland for variables males (y_{52}), females (y_{53}) and total (y_{54}) and in Slovakia for variables males (y_{55}), females (y_{56}) and total (y_{57}) – see positive regression coefficients b_{yt} in Table II. The quadratic models show for example increasing trends until 2000–2001 and then decreasing in Estonia, Lithuania and Slovenia. Selected developmental trends of the rate of unemployment in the reference period are given in graphical form in Figs. 17–26. Unemployment of females in the Czech Republic, Cyprus, Malta, Poland, Slovakia and Slovenia is higher than unemployment of males and in opposite unemployment of females in Estonia, Hungary, Lithuania and Latvia is lower than unemployment of males. Cluster analysis were used for evaluation employment and unemployment of males and females in ten associated countries of EU. In dendrogram of the year 2001 (Figure 27) we can find three clusters: (1) – Czech Republic, Slovenia, Cyprus and Hungary; (2) – Malta; (3) – Estonia, Latvia, Lithuania, Poland and Slovakia.



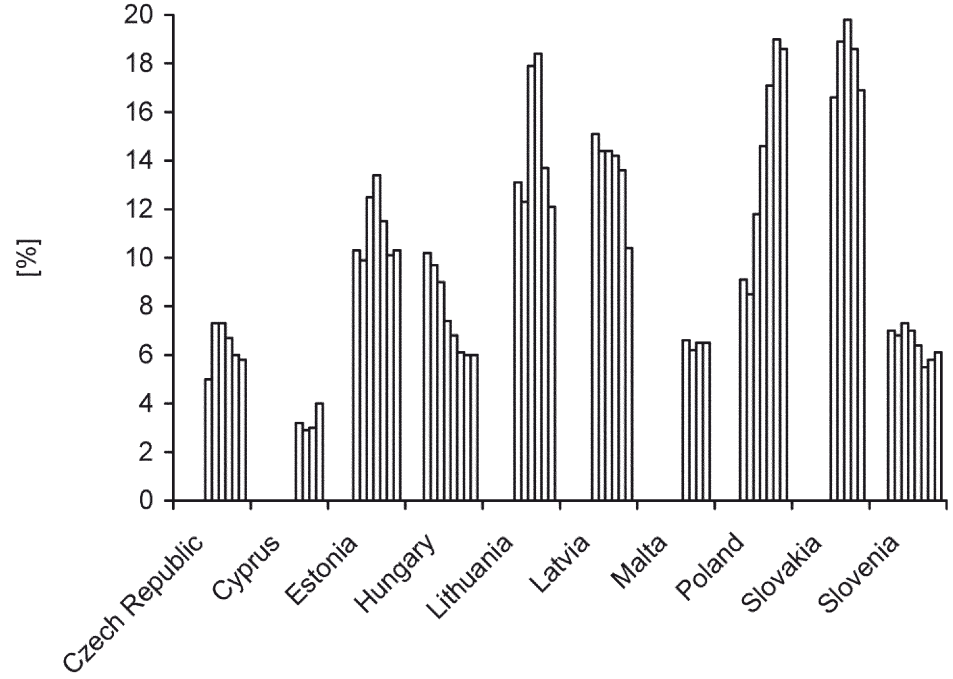
1: *Rates of the male employment in associated states of EU in the reference period*



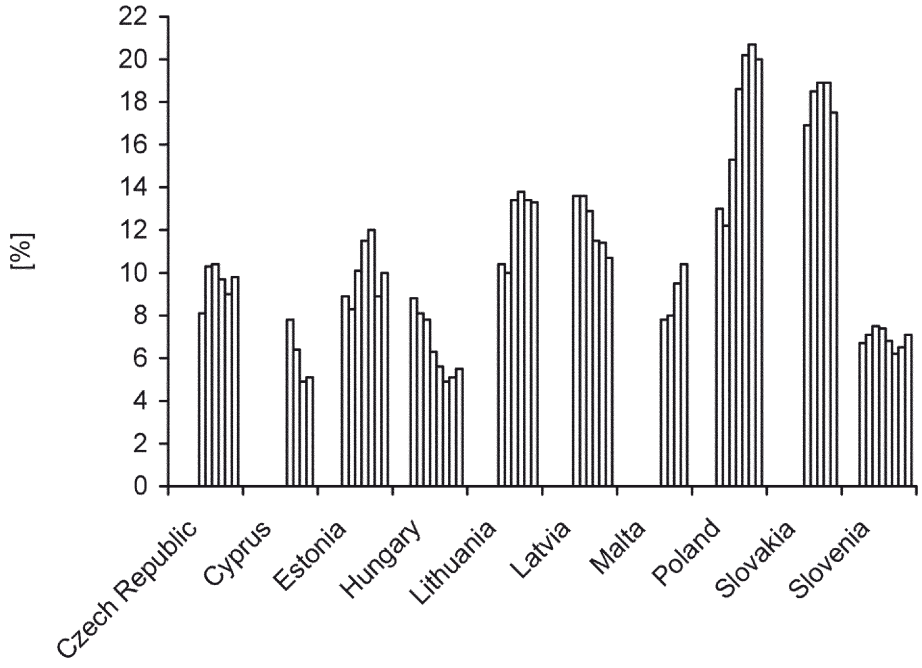
2: *Rates of the female employment in associated states of EU in the reference period*



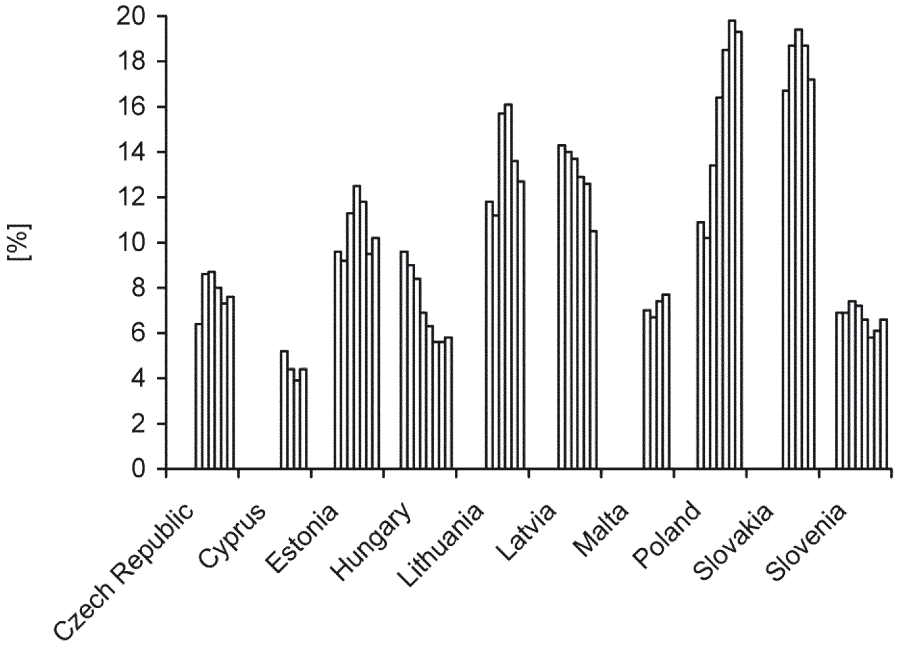
3: *Rates of the total employment in associated states of EU in the reference period*



4: *Rates of the male unemployment in associated states of EU in the reference period*



5: *Rates of the female unemployment in associated states of EU in the reference period*



6: *Rates of the total unemployment in associated states of EU in the reference period*

I: *Models of development trends of the rate of employment of males, females and total in the reference period*

Rates of employment		Model type	Model parameters				I_{yt}
			a_{yt}	b_{yt}	c_{yt}	d_{yt}	
Czech Republic	Males (y_1)	1	1074.06	–0.5000	-	-	0.6886
		2	1772501.745	–1771.9285714	0.442857142860	-	0.9975^{++}
		3	335105498.2	–501771.7066	250.4428	–0.0417	0.9999^{++}
Czech Republic	Females (y_2)	1	837.38	–0.3900	-	-	0.8049
		2	943694.0514	–943.24714286	0.235714285717	-	0.9895^{+}
		3	467609903.5	–700942.9581	350.2357	–0.0583	0.9999^{++}
Czech Republic	Total (y_3)	1	945.66	–0.4400	-	-	0.7301
		2	1372373.545	–1371.8685714	0.342857142860	-	0.9931^{++}
		3	468038571.9	–701371.5629	350.3428	–0.0583	0.9998^{++}
Cyprus	Males (y_4)	1	–121.1333	0.1000	-	-	0.3272
Cyprus	Females (y_5)	1	–5546.2000	2.8000	-	-	0.9832^{+}
Cyprus	Total (y_6)	1	–2834.0833	1.4500	-	-	0.9680^{+}
Estonia	Males (y_7)	1	1466.2400	–0.7000	-	-	0.5392
		2	3658607.268	–3657.8429	0.9143	-	0.9925^{++}
		3	1003657657	–1503657.2685	750.9142	–0.1250	0.9992^{++}
Estonia	Females (y_8)	1	1098.0600	–0.5200	-	-	0.6263
		2	2115382.717	–2114.8057	0.5286	-	0.9797^{+}
		3	1068781031	–1602114.1854	800.5285	–0.1333	0.9984^{++}
Estonia	Total (y_9)	1	1201.9000	–0.5700	-	-	0.5556
		2	2829771.914	–2829.1414	0.7071	-	0.9870^{+}
		3	1069495415	–1602828.5127	800.7071	–0.1333	0.9993^{++}
Hungary	Males (y_{10})	1	–1508.9143	0.7857	-	-	0.9574^{++}
		2	–258394.4357	257.8000	–0.0643	-	0.9670^{++}
		3	510085514.2	–765641.9068	383.0774	–0.0639	0.9909^{++}
Hungary	Females (y_{11})	1	–1786.7536	0.9179	-	-	0.9460^{++}
		2	–510800.6571	510.1869	–0.1274	-	0.9729^{++}
		3	465455372.7	–698789.5394	349.6976	–0.0583	0.9872^{++}
Hungary	Total (y_{12})	1	–1680.1036	0.8679	-	-	0.9522^{++}
		2	–425065.5000	424.4655	–0.1060	-	0.9732^{++}
		3	487729975.9	–732175.2517	366.3774	–0.0611	0.9909^{++}
Lithuania	Males (y_{13})	1	3803.5400	–1.8700	-	-	0.7494
		2	3689515.982	–3687.5843	0.9214	-	0.8675
		3	–7929635742	11896307.0466	–5949.0776	0.9917	0.9900^{++}
Lithuania	Females (y_{14})	1	1618.1600	–0.7800	-	-	0.7327
		2	–112667.4972	113.5057	–0.0286	-	0.7334
		3	–4733441234	7100110.3789	–3550.0280	0.5917	0.9913^{++}
Lithuania	Total (y_{15})	1	2660.7600	–1.3000	-	-	0.7593
		2	1774088.445	–1772.7286	0.4429	-	0.8186
		3	–6331552818	9498223.0152	–4749.5564	0.7917	0.9889^{+}

Latvia	Males (y_{16})	1	823.3800	–0.3800	-	-	0.3790
		2	2800821.980	–2800.3800	0.7000	-	0.9090^{+}
		3	–2397196658	3597197.8801	–1799.2996	0.3000	0.9774^{+}
Latvia	Females (y_{17})	1	–984.9400	0.5200	-	-	0.6514
		2	1884728.402	–1885.1943	0.4714	-	0.9553^{+}
		3	1268550249	–1901884.5522	950.4714	–0.1583	0.9845^{+}
Latvia	Total (y_{18})	1	–100.9600	0.0800	-	-	0.1109
		2	2342755.011	–2342.7771	0.5857	-	0.9663^{+}
		3	–597656534.8	897656.6676	–449.4141	0.0750	0.9743^{+}
Malta	Males (y_{19})	1	–224.6500	0.1500	-	-	0.2402
Malta	Females (y_{20})	1	–467.3167	0.2500	-	-	0.3272
Malta	Total (y_{21})	1	–245.8167	0.1500	-	-	0.9819^{+}
Poland	Males (y_{22})	1	4312.8324	–2.1257	-	-	0.9861^{++}
		2	–623943.8914	626.2886	–0.1571	-	0.9918^{++}
		3	–1007274703	1510981.2888	–755.5238	0.1259	0.9982^{++}
Poland	Females (y_{23})	1	2323.2171	–1.1371	-	-	0.9427^{+}
		2	–875808.3400	877.2146	–0.2196	-	0.9795^{++}
		3	–866891546.2	1300226.7528	–650.0571	0.1083	0.9946^{++}
Poland	Total (y_{24})	1	3277.9514	–1.6114	-	-	0.9738^{++}
		2	–767764.3914	769.6243	–0.1929	-	0.9885^{++}
		3	–933400090.4	1400069.1162	–700.0179	0.1167	0.9978^{++}
Slovakia	Males (y_{25})	1	2683.7400	-1.3100	-	-	0.8457^{+}
		2	2774110.925	–2772.7386	0.6929	-	0.9976^{++}
		3	536106968.4	–802772.4781	400.6928	–0.0667	0.9990^{++}
Slovakia	Females (y_{26})	1	952.0600	–0.4500	-	-	0.8367^{+}
		2	829523.0743	–829.0214	0.2071	-	0.9528^{+}
		3	1000828584	–1500828.4638	750.2071	–0.1250	0.9928^{++}
Slovakia	Total (y_{27})	1	1837.8200	–0.8900	-	-	0.8513^{+}
		2	1801836.920	–1800.8900	0.4500	-	0.9921^{++}
		3	801801087.2	–1201800.4455	600.4499	–0.1000	0.9986^{++}
Slovenia	Males (y_{28})	1	–632.4071	0.3500	-	-	0.8352^{+}
		2	84996.1000	–85.3214	0.0214	-	0.8398^{+}
		3	–133048196.1	199714.6001	–99.9286	0.0167	0.8471^{+}
Slovenia	Females (y_{29})	1	–363.0464	0.2107	-	-	0.7493^{+}
		2	–157348.6429	157.2750	–0.0393	-	0.7874^{+}
		3	199857145.7	299857.1704	–149.9643	0.0250	0.8252^{+}
Slovenia	Total (y_{30})	1	–486.9679	0.2750	-	-	0.8138^{+}
		2	–43301.2214	43.1107	–0.0107	-	0.8156^{+}
		3	–155365360.7	233143.0221	–116.6190	0.0194	0.8312^{+}

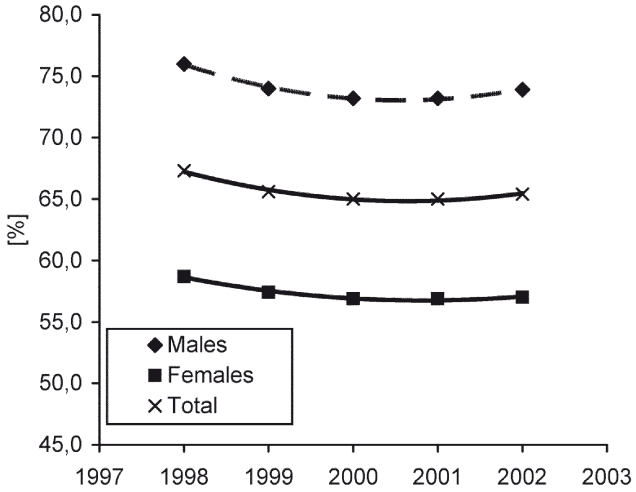
Type of the function: (1) – linear, (2) – quadratic, (3) – cubic
Correlation index I_{yt} significant on the level: + $\alpha = 0.05$
++ $\alpha = 0.01$

II: *Models of development trends of the rate of unemployment of males, females and total in the reference period*

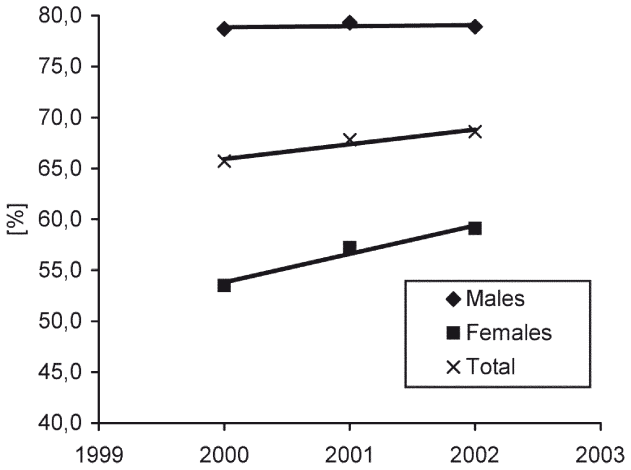
Rates of unemployment		Model type	Model parameters				I_{yt}
			a_{yt}	b_{yt}	c_{yt}	d_{yt}	
Czech Republic	Males (y_{31})	1	34.92857142	–0.0142857142	-	-	0.0292
		2	–1093367.914	1093.11607144	–0.273214285718	-	0.8175^{+}
		3	–1150101349.	1724175.76752	–861.5995707986	0.14351851312	0.9940^{++}
Czech Republic	Females (y_{32})	1	–213.3628571	0.11142857142	-	-	0.2400
		2	–729148.5914	728.865000013	–0.182142857146	-	0.6210
		3	–1512971903.	2268527.95555	–1133.798760915	0.18888888078	0.9991^{++}
Czech Republic	Total (y_{33})	1	–72.25333333	0.04000000000	-	-	0.0866
		2	–907668.0771	907.409642871	–0.226785714289	-	0.7224^{+}
		3	–1327826560	1990789.95152	–994.9198018871	0.16574073417	0.9993^{++}
Cyprus	Males (y_{34})	1	–497.1000	0.2500	-	-	0.6466
		2	1301453.225	–1300.7250	0.3250	-	0.9916^{++}
Cyprus	Females (y_{35})	1	1927.4900	–0.9600	-	-	0.9229^{+}
		2	1604327.890	–1602.1600	0.4000	-	0.9849^{++}
Cyprus	Total (y_{36})	1	584.9100	–0.2900	-	-	0.6962
		2	1302535.235	–1301.2650	0.3250	-	0.9857^{++}
Estonia	Males (y_{37})	1	54.0000	–0.0214	-	-	0.0346
		2	–1076135.400	1076.1690	–0.2690	-	0.7403^{+}
		3	–178853587.3	267742.6580	–133.6024	0.0222	0.7467^{+}
Estonia	Females (y_{38})	1	–447.1857	0.2286	-	-	0.3558
		2	–848065.3857	847.8476	–0.2119	-	0.6729
		3	310262460.8	–465818.4862	233.1214	–0.0389	0.6936
Estonia	Total (y_{39})	1	–196.5571	0.1036	-	-	0.1743
		2	–966862.2572	966.7702	–0.2417	-	0.7263^{+}
		3	43477493.05	–65699.8405	33.0917	–0.0056	0.7267^{+}
Hungary	Males (y_{40})	1	1369.2143	–0.6810	-	-	0.9593^{++}
		2	305978.3571	–305.3667	0.0762	-	0.9831^{++}
		3	–225786483.3	338918.6549	–169.5784	0.0283	0.9944^{++}
Hungary	Females (y_{41})	1	1137.1821	–0.5655	-	-	0.9188^{++}
		2	374759.3339	–374.2815	0.0935	-	0.9676^{++}
		3	–288296861.8	432742.0972	–216.5191	0.0361	0.9925^{++}
Hungary	Total (y_{42})	1	1259.2179	–0.6262	-	-	0.9460^{++}
		2	343944.5036	–343.3976	0.0857	-	0.9808^{++}
		3	–237860611.3	357053.3364	–178.6575	0.0298	0.9953^{++}
Lithuania	Males (y_{43})	1	31.7305	–0.0086	-	-	0.0001
		2	–3230151.831	3229.3700	–0.8071	-	0.7805^{+}
		3	1242146348	–1864370.0524	932.7596	–0.1556	0.8052^{+}
Lithuania	Females (y_{44})	1	–1422.2610	0.7171	-	-	0.7870^{+}
		2	–980482.3229	979.5332	–0.2446	-	0.8793^{++}
		3	807031588.1	–1210736.6630	605.4623	–0.1009	0.9048^{++}
Lithuania	Total (y_{45})	1	–678.0848	0.3457	-	-	0.3200
		2	–2108873.108	2108.0154	–0.5268	-	0.7807^{+}
		3	1028291886	–1543108.1203	771.8885	–0.1287	0.8136^{+}

Latvia	Males (y_{46})	1	1505.4848	–0.7457	-	-	0.8311^{+}
		2	1063311.662	1063.8061	-0.2661	-	0.9372^{++}
		3	1266551924	–1899885.4108	949.9714	–0.1583	0.9968^{++}
Latvia	Females (y_{47})	1	1298.3190	–0.6429	-	-	0.9661^{++}
		2	–77312.3429	77.9482	–0.0196	-	0.9670^{++}
		3	–481919404.3	722661.0485	–361.2210	0.0602	0.9825^{++}
Latvia	Total (y_{48})	1	1384.7714	–0.6857	-	-	0.9257^{++}
		2	–641793.3714	642.3321	–0.1607	-	0.9785^{++}
		3	444135458.5	–666357.3570	333.2559	–0.0556	0.9891^{++}
Malta	Males (y_{49})	1	6.4500	0.0000	-	-	0.0001
		2	400606.5500	–400.3000	0.1000	-	0.6666
Malta	Females (y_{50})	1	–1852.4700	0.9300	-	-	0.9666^{+}
		2	699197.7050	–699.5950	0.1750	-	0.9803^{++}
Malta	Total (y_{51})	1	–553.2200	0.2800	-	-	0.8221
		2	600346.9300	–600.1700	0.1500	-	0.9115^{+}
Poland	Males (y_{52})	1	–3900.1857	1.9571	-	-	0.9650^{++}
		2	–318185.5857	316.2429	–0.0786	-	0.9673^{++}
		3	1399679282	2099682.4088	1049.9214	–0.1750	0.9966^{++}
Poland	Females (y_{53})	1	–3047.1429	1.5321	-	-	0.9222^{++}
		2	–760189.2429	758.6750	–0.1893	-	0.9431^{++}
		3	1421459462	–2132573.2919	1066.4773	–0.1778	0.9888^{++}
Poland	Total (y_{54})	1	–3520.2143	1.7679	-	-	0.9527^{++}
		2	–493995.9143	492.2440	–0.1226	-	0.9596^{++}
		3	1399503472	–2099506.4090	1049.8773	–0.1750	0.9947^{++}
Slovakia	Males (y_{55})	1	–41.8700	0.0300	-	-	0.0346
		2	–2888641.148	2887.1871	–0.7214	-	0.9894^{++}
		3	–603788563.2	903787.1305	–450.9464	0.0750	0.9949^{++}
Slovakia	Females (y_{56})	1	–302.0200	0.1600	-	-	0.2814
		2	–1830701.562	1829.6457	–0.4571	-	0.9921^{++}
		3	131702650.3	–198370.3955	99.5929	–0.0167	0.9928^{++}
Slovakia	Total (y_{57})	1	–181.9600	0.1000	-	-	0.1389
		2	–2402581.360	2401.3000	–0.6000	-	0.9968^{++}
		3	–336235855.3	502901.2445	–250.7250	0.0417	0.9992^{++}
Slovenia	Males (y_{58})	1	418.2893	–0.2060	-	-	0.7853^{+}
		2	–25759.0589	25.9780	–0.0065	-	0.7868^{+}
		3	–264473181.8	396796.9167	–198.4418	0.0331	0.9188^{++}
Slovenia	Females (y_{59})	1	118.7893	–0.0560	-	-	0.3077
		2	–45096.6304	45.1708	–0.0113	-	0.3319
		3	–337165093.1	505852.3974	–252.9784	0.0422	0.9331^{++}
Slovenia	Total (y_{60})	1	280.4286	–0.1369	-	-	0.6260
		2	–25896.9196	26.0470	–0.0065	-	0.6288
		3	–300809605.7	451315.1284	–225.7077	0,0376	0.9022^{++}

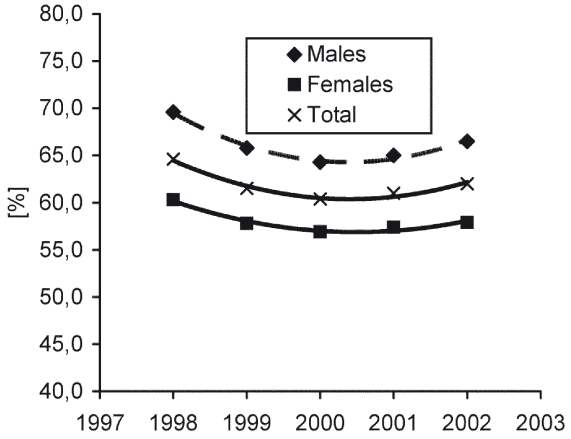
For explanations see Table I



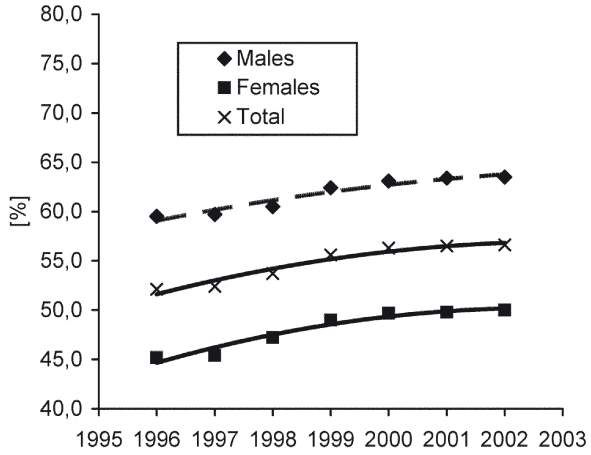
7: *Rates of the employment of males, females and total in the Czech Republic in the period 1998–2002*



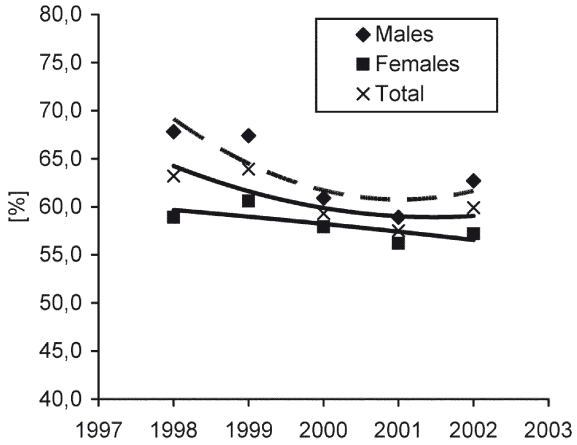
8: *Rates of the employment of males, females and total in Cyprus in the period 2000–2002*



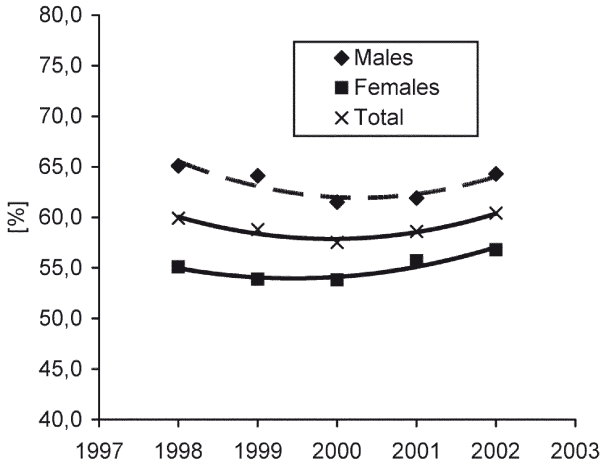
9: *Rates of the employment of males, females and total in Estonia in the period 1998–2002*



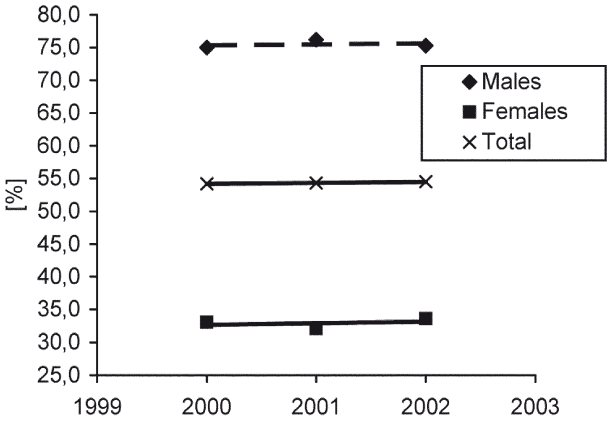
10: *Rates of the employment of males, females and total in Hungary in the period 1996–2002*



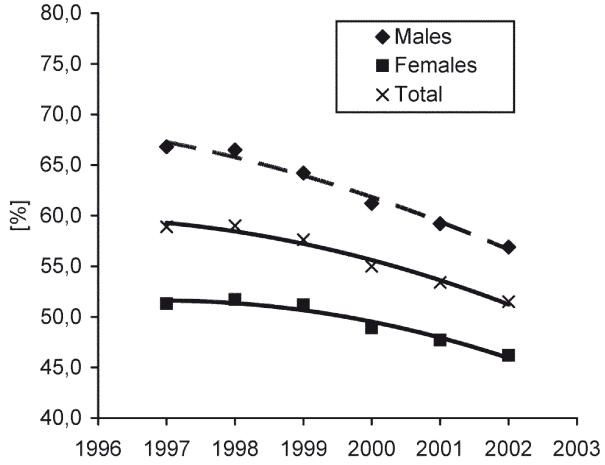
11: *Rates of the employment of males, females and total in Lithuania in the period 1998–2002*



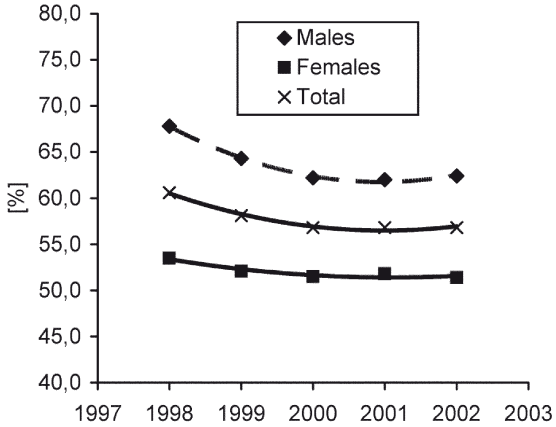
12: *Rates of the employment of males, females and total in Latvia in the period 1998–2002*



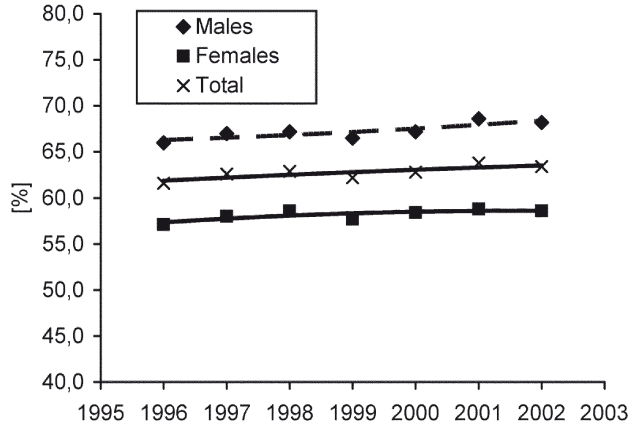
13: *Rates of the employment of males, females and total in Malta in the period 2000–2002*



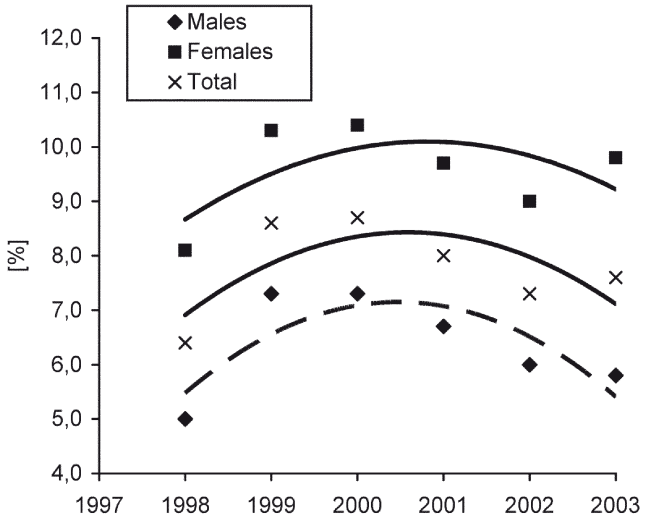
14: *Rates of the employment of males, females and total in Poland in the period 1997–2002*



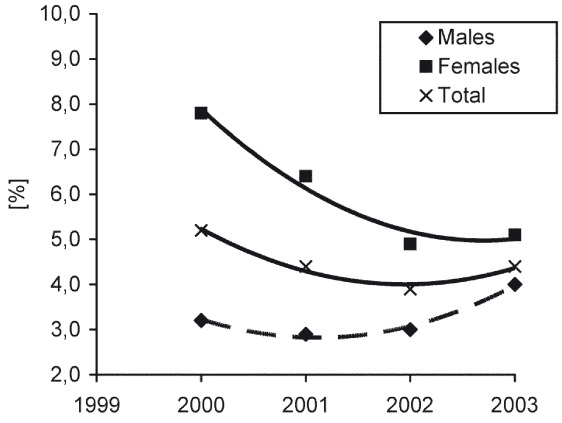
15: *Rates of the employment of males, females and total in Slovakia in the period 1998–2002*



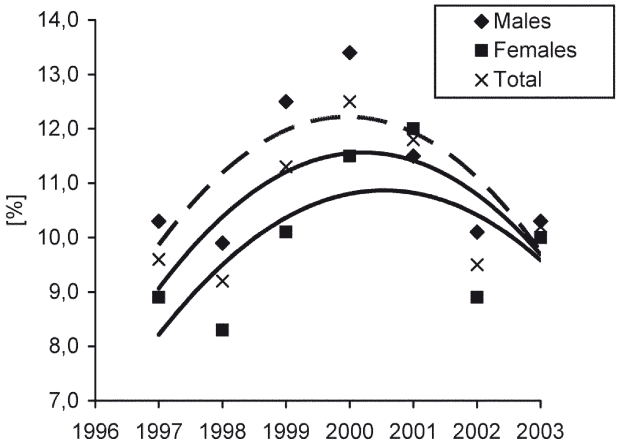
16: *Rates of the employment of males, females and total in Slovenia in the period 1996–2002*



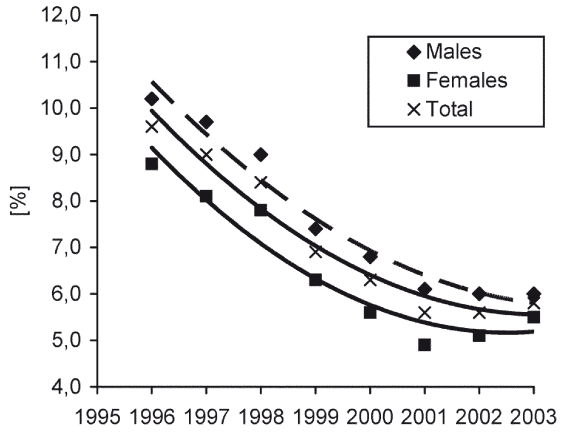
17: *Rates of the unemployment of males, females and total in the Czech Republic in the period 1998–2003*



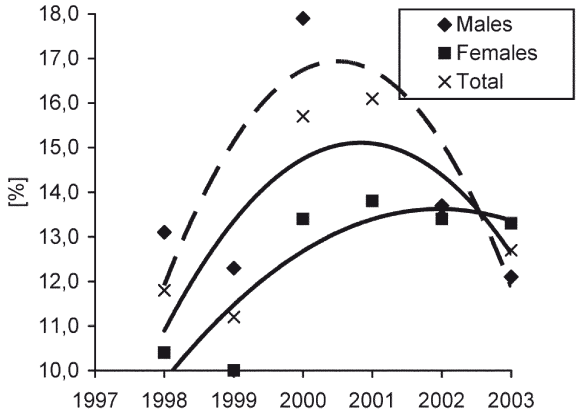
18: *Rates of the unemployment of males, females and total in Cyprus in the period 2000–2003*



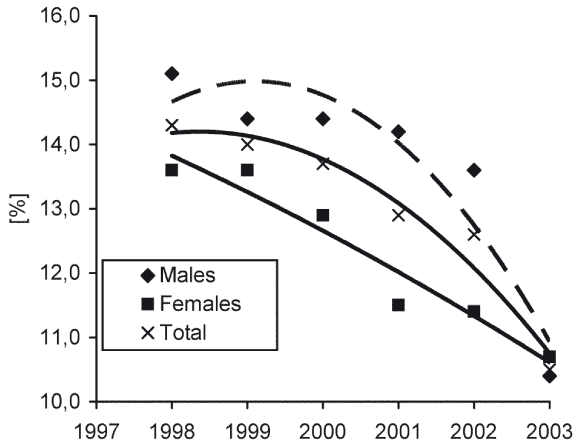
19: *Rates of the unemployment of males, females and total in Estonia in the period 1997–2003*



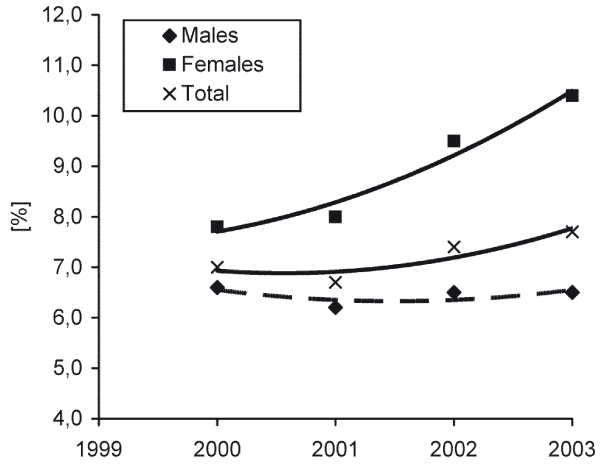
20: *Rates of the unemployment of males, females and total in Hungary in the period 1996–2003*



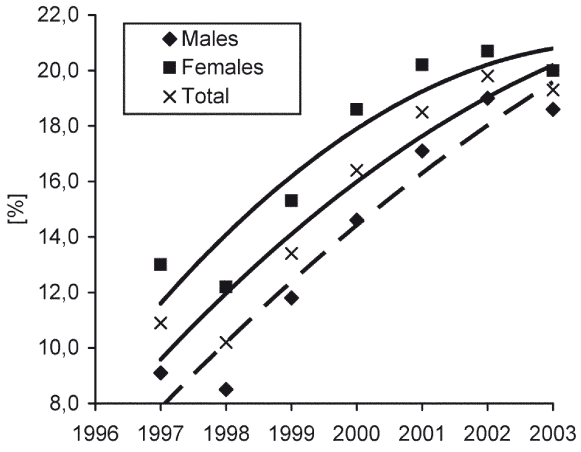
21: *Rates of the unemployment of males, females and total in Lithuania in the period 1998–2003*



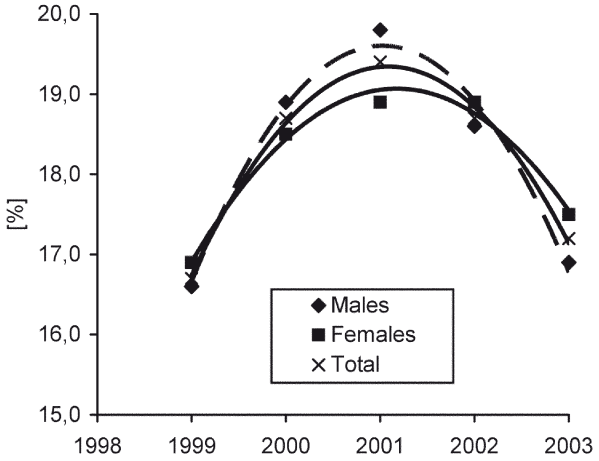
22: *Rates of the unemployment of males, females and total in Latvia in the period 1998–2003*



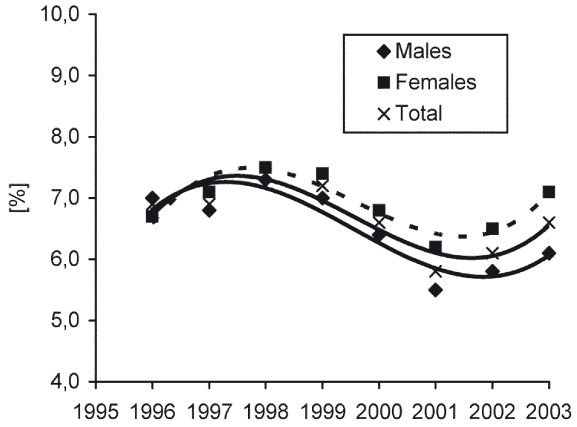
23: *Rates of the unemployment of males, females and total in Malta in the period 2000–2003*



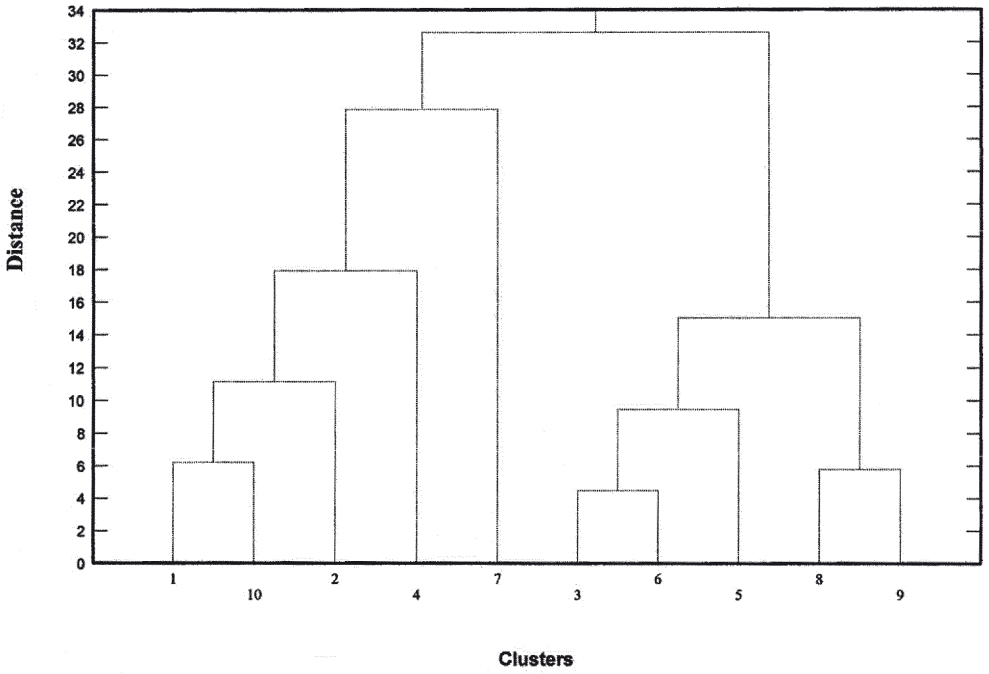
24: *Rates of the unemployment of males, females and total in Poland in the period 1997–2003*



25: *Rates of the unemployment of males, females and total in Slovakia in the period 1999–2003*



26: *Rates of the unemployment of males, females and total in Slovenia in the period 1996–2003*



27: *Dendrogram from employment and unemployment of males and females in ten associated countries of EU in 2000. (1 – Czech Republic, 2 – Cyprus, 3 – Estonia, 4 –Hungary, 5 – Lithuania, 6 – Latvia, 7 – Malta, 8 – Poland, 9 – Slovakia, 10 – Slovenia)*

SUMMARY

The paper is focused on the evaluation the rates of employment and unemployment of women, men and as a whole in ten associated countries of EU. The rate of male and female employment measured as the proportion of employed persons aged 15–64 years in the whole male and female population of the same age group and the rate of total employment measured as the proportion of employed persons aged 15–64 years in the whole population of the same age group and the rate of female and male unemployment measured as the proportion of unemployed persons in the whole active population of females and males and the rate of total unemployment measured as the proportion of unemployed persons in the whole active population for the reference period. Rates of employment were evaluated in the period 1996-2002. Rates of unemployment were evaluated in the period 1996–2003. Employment of males in all ten associated countries of EU is higher then employment of females. Trends of rates of male, female and total employment are evaluated. Unemployment of females in the Czech Republic, Cyprus, Malta, Poland, Slovakia and Slovenia is higher than unemployment of males and in opposite unemployment of females in Estonia, Hungary, Lithuania and Latvia is lower than unemployment of males. Methods of regression and correlation analysis, development trends and cluster analysis were applied for the mathematical-statistical analysis.

SOUHRN

Vývoj míry zaměstnanosti a nezaměstnanosti mužů a žen v deseti přístupových zemích EU

Příspěvek je zaměřen na posouzení míry zaměstnanosti a míry nezaměstnanosti žen, mužů a celkem v přístupových zemích do EU. Míra zaměstnanosti žen a mužů, měřená jako podíl zaměstnaných osob ve věku 15–64 let na celkové ženské a mužské populaci stejné věkové skupiny a míra zaměstnanosti celkem, měřená jako podíl zaměstnaných osob ve věku 15–64 let na celkovém obyvatelstvu stejné věkové skupiny a míra nezaměstnanosti žen a mužů, měřená jako podíl nezaměstnaných osob na celkové aktivní populaci žen a mužů a míra nezaměstnanosti celkem, měřená jako podíl nezaměstnaných osob na celkovém aktivním obyvatelstvu za referenční období. Míra zaměstnanosti byla hodnocena v období 1996–2002, míra nezaměstnanosti v období 1996–2003. Zaměstnanost mužů v deseti přístupových

zemích do EU je vyšší než zaměstnanost žen. Nezaměstnanost žen v České republice, na Kypru, Maltě, v Polsku, Slovensku a Slovinsku je vyšší než nezaměstnanost mužů a naopak v Estonsku, Maďarsku, Litvě a Lotyšsku je vyšší nezaměstnanost mužů než žen. Vyhodnoceny byly tendence míry zaměstnanosti a nezaměstnanosti mužů, žen a celkem v daném referenčním období. Pro statistickou analýzu daného materiálu bylo použito vývojových trendů a metod regresní a korelační analýzy a shlukové analýzy.

míra zaměstnanosti, míra nezaměstnanosti, Česká republika, přístupové země do EU, statistické metody, trend

ACKNOWLEDGEMENT

The paper was prepared thanks to the support from the CR Grant agency (Reg. No. 402/03/1105), MSM 431100007 and IGA MZLU 2/191/2004.

REFERENCES

DUFEK, J.: Analýza současného vývoje nezaměstnanosti v okresech Jihomoravského kraje. Acta univ. Agric. Et silvic. Mendel. Brun., 2002, L, No. 2, pp. 77-86, ISSN 1211-8516

JÍROVÁ, H.: Trh práce a politika zaměstnanosti. Praha, VŠE, 1999, 95 s. ISBN 80-7079-635-9

KLÍMA, J., MACA, E.: The development of unemployment under conditions of an economic transformation in the Czech Republic. Acta univ. Agric. Et silvic. Mendel. Brun., 2002, L, No. 2, pp. 53-64, ISSN 1211-8516

KLÍMA, J., PALÁT, M.: Analysis of the development of an external debt of the Czech Republic. Acta univ. Agric. et silvic. Mendel. Brun. (Brno), 2003, LI, 6, pp.47-60

KLÍMA, J., PALÁT, M.: Labour productivity as a factor forming the economic efficiency and competitive ability of the country. Agric. Econ., 2003, 49, (11): 515-519

MINAŘÍK, B.: Statistika I, II, III. Učební texty, 1995-1996, MZLU Brno

SEGER, J., HINDLS, R., HRONOVÁ, S.: Statistika v hospodářství., ECT Publishing Praha, 1998, s. 636, ISBN 80-86006-56-5

SOJKA, M., KLÍMA, J.: Problematika nezaměstnanosti ve světle soudobých ekonomických teorií. Může pomoci při vysvětlení vývoje nezaměstnanosti v České republice hypotéza hystereze? Sborník příspěvků z mezinárodní vědecké konference Firma a konkurenční prostředí, PEF MZLU Brno březen 2003, s. 108-114, ISBN

Address

Doc. Ing. Jan Klíma, CSc., Ing. Milan Palát, Ústav ekonomie, Mendelova zemědělská a lesnická univerzita v Brně, Zemědělská 1, 613 00 Brno, Česká republika, e-mail: klima@mendelu.cz, xpalat@node.mendelu.cz