

Appendix to Public Employment Analysis with OECD Economic Outlook Data

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1 Annual Data

Description of annual data.

Table 1: Data statistics

Statistic	N	Mean	St. Dev.	Min	Max
Change in Public Employment Rate (CPER)	544	0.098	0.495	-1.527	2.861
Lagged change in Public Employment Rate	544	0.114	0.501	-1.817	2.861
Time	544	1,992.919	12.993	1,962	2,011
GDP growth	544	2.766	2.876	-14.814	11.953
Unemployment rate	544	7.168	4.080	1.124	21.391
Government expenditure in % of GDP	544	44.768	8.502	21.415	68.570
Log of adult population in million	544	2.640	1.372	-1.010	5.454
Household net income, in % of GDP	544	57.169	10.918	31.224	76.943

1.1 Linear model output

Table 2: Main variable result

	<i>Dependent variable:</i>
	Difference in public employment rate
GDP growth	−0.065*** (0.008)
Unemployment rate	0.002 (0.005)
Government expenditure in % of GDP	−0.006** (0.003)
Log of adult population in million	−0.057*** (0.019)
Household net income, in % of GDP	0.001 (0.003)
Constant	0.867*** (0.269)
Year fixed-effect	Yes
Auto-correlation effect	Yes
Observations	544
R ²	0.555
Adjusted R ²	0.505
Residual Std. Error	0.348 (df = 488)
F Statistic	11.068*** (df = 55; 488)
<i>Note:</i>	*p<0.1; **p<0.05; ***p<0.01

Table 3: Robustness of log of adult population

	<i>Dependent variable:</i>	
	Difference in public employment rate	
	(1)	(2)
GDP growth	−0.073*** (0.010)	−0.074*** (0.010)
Unemployment rate	0.007 (0.006)	0.007 (0.006)
Government expenditure in % of GDP	−0.007** (0.003)	−0.007** (0.003)
Household net income, in % of GDP	−0.001 (0.003)	−0.001 (0.003)
Log of total population in million	−0.034 (0.023)	
lpop		−0.035 (0.024)
Constant	0.918*** (0.244)	0.905*** (0.244)
Year fixed-effect	Yes	Yes
Auto-correlation effect	Yes	Yes
Observations	446	446
R ²	0.493	0.493
Adjusted R ²	0.446	0.446
Residual Std. Error (df = 407)	0.359	0.359
F Statistic (df = 38; 407)	10.419***	10.425***

Note:

*p<0.1; **p<0.05; ***p<0.01

Table 4: Effect of income inequality

	<i>Dependent variable:</i>	
	Difference in public employment rate	
	(1)	(2)
GDP growth	−0.093*** (0.017)	−0.089*** (0.016)
Unemployment rate	0.029** (0.013)	0.026** (0.013)
Government expenditure in % of GDP	−0.012 (0.008)	−0.007 (0.007)
Log of adult population in million	0.001 (0.049)	−0.021 (0.045)
Household net income, in % of GDP	−0.009 (0.011)	−0.008 (0.011)
Gini coefficient	−1.541 (1.460)	
Constant	1.302 (0.872)	0.668 (0.632)
Year fixed-effect	Yes	Yes
Auto-correlation effect	Yes	Yes
Observations	124	124
R ²	0.688	0.684
Adjusted R ²	0.553	0.553
Residual Std. Error	0.357 (df = 86)	0.358 (df = 87)
F Statistic	5.119*** (df = 37; 86)	5.224*** (df = 36; 87)

Note:

*p<0.1; **p<0.05; ***p<0.01

Table 5: Effect of the gini coefficient (Toth 2015)

	<i>Dependent variable:</i>	
	Difference in public employment rate	
	(1)	(2)
GDP growth	−0.083*** (0.012)	−0.083*** (0.012)
Unemployment rate	0.011 (0.008)	0.011 (0.007)
Government expenditure in % of GDP	−0.007 (0.005)	−0.007 (0.004)
Log of adult population in million	−0.049 (0.035)	−0.050 (0.032)
Household net income, in % of GDP	0.003 (0.004)	0.003 (0.004)
Gini coefficient (Toth 2015)	−0.034 (0.865)	
Constant	0.717 (0.489)	0.706* (0.401)
Year fixed-effect	Yes	Yes
Auto-correlation effect	Yes	Yes
Observations	300	300
R ²	0.505	0.505
Adjusted R ²	0.435	0.437
Residual Std. Error	0.388 (df = 262)	0.388 (df = 263)
F Statistic	7.226*** (df = 37; 262)	7.455*** (df = 36; 263)

Note:

*p<0.1; **p<0.05; ***p<0.01

Table 6: Effect of the GDP per capita

	<i>Dependent variable:</i>	
	Difference in public employment rate	
	(1)	(2)
GDP growth	−0.072*** (0.009)	−0.071*** (0.009)
Unemployment rate	0.004 (0.006)	0.005 (0.005)
Government expenditure in % of GDP	−0.006** (0.003)	−0.006** (0.003)
Log of adult population in million	−0.042* (0.022)	−0.043* (0.022)
Household net income, in % of GDP	−0.001 (0.003)	−0.001 (0.003)
GDP per capita, in USD Millions	−0.00000 (0.00000)	
Constant	1.068*** (0.264)	1.053*** (0.260)
Year fixed-effect	Yes	Yes
Auto-correlation effect	Yes	Yes
Observations	508	508
R ²	0.542	0.541
Adjusted R ²	0.494	0.495
Residual Std. Error	0.352 (df = 459)	0.352 (df = 460)
F Statistic	11.296*** (df = 48; 459)	11.556*** (df = 47; 460)

Note:

*p<0.1; **p<0.05; ***p<0.01

Table 7: Effect of IMF fiscal transparency index

	<i>Dependent variable:</i>	
	Difference in public employment rate	
	(1)	(2)
GDP growth	−0.076*** (0.015)	−0.076*** (0.015)
Unemployment rate	0.014 (0.010)	0.013 (0.010)
Government expenditure in % of GDP	−0.008 (0.006)	−0.009 (0.006)
Log of adult population in million	−0.017 (0.036)	−0.018 (0.036)
Household net income, in % of GDP	−0.003 (0.006)	−0.002 (0.006)
IMF GFS Index	−0.002 (0.001)	
Constant	0.696* (0.375)	0.636* (0.373)
Year fixed-effect	Yes	Yes
Auto-correlation effect	Yes	Yes
Observations	157	157
R ²	0.548	0.544
Adjusted R ²	0.500	0.499
Residual Std. Error	0.360 (df = 141)	0.361 (df = 142)
F Statistic	11.418*** (df = 15; 141)	12.091*** (df = 14; 142)

Note:

*p<0.1; **p<0.05; ***p<0.01

Table 8: Effect of Lassen Fiscal Transparency index

	<i>Dependent variable:</i>	
	Difference in public employment rate	
	(1)	(2)
GDP growth	−0.078*** (0.020)	−0.073*** (0.012)
Unemployment rate	0.004 (0.006)	0.004 (0.006)
Government expenditure in % of GDP	−0.010*** (0.004)	−0.010*** (0.003)
Log of adult population in million	−0.073** (0.032)	−0.077*** (0.029)
Household net income, in % of GDP	0.001 (0.003)	0.001 (0.003)
Fiscal Transparency	−0.006 (0.014)	
Effect of Fiscal Transparency on GDP Growth	0.001 (0.004)	
Constant	1.112*** (0.290)	1.088*** (0.282)
Year fixed-effect	Yes	Yes
Auto-correlation effect	Yes	Yes
Observations	413	413
R ²	0.590	0.589
Adjusted R ²	0.524	0.526
Residual Std. Error	0.338 (df = 355)	0.337 (df = 357)
F Statistic	8.947*** (df = 57; 355)	9.315*** (df = 55; 357)

Note:

*p<0.1; **p<0.05; ***p<0.01

Table 9: Effect of Lassen Fiscal Transparency index

	<i>Dependent variable:</i>	
	Difference in public employment rate	
	(1)	(2)
GDP growth	−0.081*** (0.021)	−0.069*** (0.008)
Unemployment rate	0.004 (0.005)	0.004 (0.005)
Government expenditure in % of GDP	−0.005* (0.003)	−0.006** (0.003)
Log of adult population in million	−0.046** (0.021)	−0.048** (0.021)
Household net income, in % of GDP	−0.001 (0.003)	−0.001 (0.003)
Fiscal Transparency	−0.0001 (0.002)	
Effect of Fiscal Transparency on GDP Growth	0.0002 (0.0003)	
Constant	0.937*** (0.301)	0.938*** (0.271)
Year fixed-effect	Yes	Yes
Auto-correlation effect	Yes	Yes
Observations	537	537
R ²	0.555	0.554
Adjusted R ²	0.502	0.503
Residual Std. Error	0.349 (df = 479)	0.349 (df = 481)
F Statistic	10.463*** (df = 57; 479)	10.862*** (df = 55; 481)

Note:

*p<0.1; **p<0.05; ***p<0.01

Table 10: Effect of Government Political Side

	<i>Dependent variable:</i>	
	Difference in public employment rate	
	(1)	(2)
GDP growth	−0.065*** (0.011)	−0.060*** (0.011)
Unemployment rate	0.004 (0.006)	0.009 (0.006)
Government expenditure in % of GDP	−0.009** (0.004)	−0.011*** (0.004)
Log of adult population in million	−0.061* (0.031)	−0.070** (0.031)
Household net income, in % of GDP	0.001 (0.003)	0.0002 (0.003)
Left government effect	0.149*** (0.039)	
Constant	0.996*** (0.260)	1.212*** (0.259)
Year fixed-effect	Yes	Yes
Auto-correlation effect	Yes	Yes
Observations	393	393
R ²	0.518	0.498
Adjusted R ²	0.459	0.437
Residual Std. Error	0.341 (df = 349)	0.348 (df = 350)
F Statistic	8.727*** (df = 43; 349)	8.253*** (df = 42; 350)

Note:

*p<0.1; **p<0.05; ***p<0.01

Table 11: Effect of years left until election

	<i>Dependent variable:</i>	
	Difference in public employment rate	
	(1)	(2)
GDP growth	−0.075*** (0.009)	−0.074*** (0.009)
Unemployment rate	0.006 (0.005)	0.006 (0.005)
Government expenditure in % of GDP	−0.007** (0.003)	−0.006** (0.003)
Log of adult population in million	−0.040* (0.023)	−0.039* (0.023)
Household net income, in % of GDP	−0.001 (0.003)	−0.001 (0.003)
Years left until election	−0.026* (0.013)	
Constant	1.100*** (0.242)	1.064*** (0.243)
Year fixed-effect	Yes	Yes
Auto-correlation effect	Yes	Yes
Observations	477	477
R ²	0.528	0.524
Adjusted R ²	0.482	0.478
Residual Std. Error	0.355 (df = 433)	0.356 (df = 434)
F Statistic	11.285*** (df = 43; 433)	11.388*** (df = 42; 434)

Note:

*p<0.1; **p<0.05; ***p<0.01

2 Quarterly Data

Description of quarterly data.

Table 12: Data statistics

Statistic	N	Mean	St. Dev.	Min	Max
Difference with previous public employment rate (CPER)	1,476	−0.008	0.187	−1.255	1.434
Lagged of difference in public employment rate	1,476	−0.008	0.188	−1.255	1.434
Year	1,476	2,001.923	6.344	1,990	2,012
Quarter	1,476	2.544	4.834	−41.531	33.204
GDP growth	1,476	7.435	3.471	1.011	20.359
Unemployment rate	1,476	7.423	3.485	1.011	20.359
Lagged unemployment rate	1,476	45.739	7.462	30.894	68.766
Government expenditure in % of GDP (interpolated)	1,476	16.100	1.577	12.586	19.285
Log of adult population (interpolated)	1,476	30,564.060	13,752.170	7,654.995	92,475.070

2.1 Linear model output

Table 13: Main variable result

	<i>Dependent variable:</i>
	Difference in public employment rate
GDP growth	−0.001 (0.001)
Unemployment rate	0.153*** (0.011)
Lagged unemployment rate	−0.156*** (0.011)
Government expenditure in % of GDP (interpolated)	−0.001 (0.001)
Log of adult population (interpolated)	−0.008*** (0.003)
GDP per capita, in USD Millions (interpolated)	−0.00000 (0.00000)
Constant	0.526 (1.660)
Year fixed-effect	Yes
Auto-correlation effect	Yes
Seasonal effect	Yes
Observations	1,476
R ²	0.220
Adjusted R ²	0.214
Residual Std. Error	0.165 (df = 1464)
F Statistic	37.541*** (df = 11; 1464)
<i>Note:</i>	*p<0.1; **p<0.05; ***p<0.01

Table 14: Effect of Lassen Fiscal Score

	<i>Dependent variable:</i>	
	Difference in public employment rate	
	(1)	(2)
GDP growth	−0.001 (0.003)	−0.002 (0.001)
Unemployment rate	0.151*** (0.016)	0.150*** (0.016)
Lagged unemployment rate	−0.157*** (0.016)	−0.157*** (0.016)
Government expenditure in % of GDP (interpolated)	−0.0003 (0.001)	−0.00001 (0.001)
Log of adult population (interpolated)	0.001 (0.007)	−0.006 (0.004)
GDP per capita, in USD Millions (interpolated)	−0.00000 (0.00000)	−0.00000 (0.00000)
Fiscal Transparency	−0.005 (0.005)	
Effect of fiscal transparency on GDP growth	−0.0003 (0.001)	
Constant	0.124 (3.593)	0.298 (3.574)
Year fixed-effect	Yes	Yes
Auto-correlation effect	Yes	Yes
Seasonal effect	Yes	Yes
Observations	990	990
R ²	0.185	0.184
Adjusted R ²	0.175	0.174
Residual Std. Error	0.159 (df = 976)	0.159 (df = 978)
F Statistic	17.085*** (df = 13; 976)	19.991*** (df = 11; 978)

Note:

*p<0.1; **p<0.05; ***p<0.01

Table 15: Effect of IMF GFS Score

	<i>Dependent variable:</i>	
	Difference in public employment rate	
	(1)	(2)
GDP growth	−0.0003 (0.004)	−0.001 (0.001)
Unemployment rate	0.164*** (0.012)	0.162*** (0.012)
Lagged unemployment rate	−0.166*** (0.012)	−0.165*** (0.012)
Government expenditure in % of GDP (interpolated)	−0.001 (0.001)	−0.001 (0.001)
Log of adult population (interpolated)	−0.007** (0.003)	−0.007** (0.003)
GDP per capita, in USD Millions (interpolated)	−0.00000 (0.00000)	−0.00000 (0.00000)
Fiscal Transparency	0.0003 (0.0004)	
Effect of fiscal transparency on GDP growth	−0.00001 (0.0001)	
Constant	0.700 (1.671)	0.713 (1.670)
Year fixed-effect	Yes	Yes
Auto-correlation effect	Yes	Yes
Seasonal effect	Yes	Yes
Observations	1,434	1,434
R ²	0.222	0.222
Adjusted R ²	0.215	0.216
Residual Std. Error	0.162 (df = 1420)	0.161 (df = 1422)
F Statistic	31.224*** (df = 13; 1420)	36.875*** (df = 11; 1422)

Note:

*p<0.1; **p<0.05; ***p<0.01

Table 16: Effect of Government Political Side

	<i>Dependent variable:</i>	
	Difference in public employment rate	
	(1)	(2)
GDP growth	−0.002 (0.001)	−0.002 (0.001)
Unemployment rate	0.151*** (0.012)	0.151*** (0.012)
Lagged unemployment rate	−0.154*** (0.012)	−0.154*** (0.012)
Government expenditure in % of GDP (interpolated)	−0.001 (0.001)	−0.001 (0.001)
Log of adult population (interpolated)	−0.006** (0.003)	−0.006** (0.003)
GDP per capita, in USD Millions (interpolated)	−0.00000 (0.00000)	−0.00000 (0.00000)
Left Side Government	0.001 (0.005)	
Constant	0.429 (1.849)	0.578 (1.777)
Year fixed-effect	Yes	Yes
Auto-correlation effect	Yes	Yes
Seasonal effect	Yes	Yes
Observations	1,390	1,390
R ²	0.222	0.222
Adjusted R ²	0.216	0.216
Residual Std. Error	0.166 (df = 1377)	0.166 (df = 1378)
F Statistic	32.803*** (df = 12; 1377)	35.801*** (df = 11; 1378)

Note:

*p<0.1; **p<0.05; ***p<0.01

Table 17: Effect of Government Political Side

	<i>Dependent variable:</i>	
	Difference in public employment rate	
	(1)	(2)
GDP growth	−0.002* (0.001)	−0.002 (0.001)
Unemployment rate	0.151*** (0.012)	0.151*** (0.012)
Lagged unemployment rate	−0.154*** (0.012)	−0.154*** (0.012)
Government expenditure in % of GDP (interpolated)	−0.001 (0.001)	−0.001 (0.001)
Log of adult population (interpolated)	−0.006** (0.003)	−0.006** (0.003)
GDP per capita, in USD Millions (interpolated)	−0.00000 (0.00000)	−0.00000 (0.00000)
Years until next election	−0.007* (0.004)	
Constant	0.671 (1.776)	0.578 (1.777)
Year fixed-effect	Yes	Yes
Auto-correlation effect	Yes	Yes
Seasonal effect	Yes	Yes
Observations	1,390	1,390
R ²	0.224	0.222
Adjusted R ²	0.218	0.216
Residual Std. Error	0.166 (df = 1377)	0.166 (df = 1378)
F Statistic	33.188*** (df = 12; 1377)	35.801*** (df = 11; 1378)

Note:

*p<0.1; **p<0.05; ***p<0.01