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Appendices

Appendix A: Data Description

Table 1

Explanatory Variables: Definitions, Sources, and Transformation

Variable name	Description	Source	Original frequency	Transformation
Fiscal balance	Fiscal balance as a percentage of GDP	Eurostat	Quarterly	–
Fiscal balance ^p	Projected (1 year ahead) fiscal balance as a percentage of GDP	European Commission Economic Forecast	Biannual	For every first and second quarter, the Spring series is considered, while for every third and fourth quarter, the Autumn series is taken into account.
GDP growth	Growth rate of GDP at market prices (year-on-year)	Eurostat	Quarterly	–
GDP growth ^p	Projected (1 year ahead) growth rate of GDP at market prices (year-on-year)	European Commission Economic Forecast	Biannual	For every first and second quarter, the Spring series is considered, while for every third and fourth quarter, the Autumn series is taken into account.
Government debt	General government gross debt as a percentage of GDP	Eurostat	Quarterly	–
Inflation	All items HICP, annual rate of change	Eurostat	Monthly	Unweighted quarterly average from monthly data.
Investment	Gross fixed capital formation as a percentage of GDP	Eurostat	Quarterly	–
Private debt	Private debt as a percentage of GDP	Eurostat	Annual	Linear interpolation
Unemployment	Unemployment, percentage of active population	Eurostat	Quarterly	–
CA	Current account balance as a percentage of GDP	Eurostat	Quarterly	–
External debt	Gross external debt as a percentage of GDP	Eurostat, national central banks	Quarterly	Authors' computation based on Eurostat and national central banks' data.

II

Reserves	Reserves in months of imports	IMF, Eurostat	Quarterly, annual	Authors' computation based on IMF and Eurostat data. Annual data linearly interpolated to quarterly frequency for Malta (2004 – 2007) and Slovenia (2004 – 2005).
Corruption	Corruption Perceptions Index, which places countries on a scale from 0 (highly corrupt) to 100 (very clean).	Transparency International	Annual	For each quarter of a year, the annual value is taken.
Governance	Indices from the World Bank, which reflect six dimensions of governance: Voice and Accountability, Political stability, Government Effectiveness, Regulatory Quality, Rule of Law, Control of Corruption. For each index estimate of governance (ranges from approximately –2.5 (weak) to 2.5 (strong) governance performance).	World Bank	Annual	The mean from the first five indices is calculated. Control of Corruption is already accounted for in the <i>Corruption</i> variable. For each quarter of a year, the annual value is taken.
EPU	Economic Policy Uncertainty index, which measures European policy-related economic uncertainty.	< http://www.policyuncertainty.com/europe_monthly.html >	Monthly	Unweighted quarterly average from monthly data.
VIX	CBOE Volatility Index	Thomson Reuters Eikon	Quarterly	–

Source: Authors' own compilation.

Table 2

Descriptive Statistics

	Czechia				Hungary				Poland			
	Mean	Std. Dev.	Max.	Min.	Mean	Std. Dev.	Max.	Min.	Mean	Std. Dev.	Max.	Min.
Rating*	16.85	0.61	17.78	15.67	12.70	1.79	15.56	10.44	15.16	0.27	15.44	14.56
<i>Macroeconomic variables</i>												
CA	-1.23	4.21	11.00	-10.60	-1.45	4.82	5.90	-11.60	-3.22	2.44	2.30	-7.30
External debt	55.17	16.35	88.52	28.13	127.68	33.98	180.96	61.63	60.21	11.26	75.56	40.02
Fiscal balance	-1.82	2.14	1.70	-8.10	-4.21	2.60	4.40	-11.60	-3.66	1.96	0.70	-8.30
Fiscal balance ^p	-2.65	1.91	0.80	-5.70	-3.63	1.45	-1.90	-7.40	-3.20	2.11	4.60	-7.50
GDP growth	2.93	3.11	7.40	-5.40	2.03	3.10	5.40	-7.60	4.07	1.83	8.90	0.00
GDP growth ^p	2.87	1.35	5.10	0.30	2.37	1.25	4.20	-0.50	3.58	1.12	5.60	0.80
Government debt	35.05	6.18	45.20	26.00	73.33	7.38	84.00	58.60	50.34	3.68	56.90	42.70
Inflation	2.01	1.60	7.57	-0.13	3.62	2.47	8.80	-0.93	2.06	1.67	4.77	-1.20
Investment	27.09	1.65	30.90	24.80	22.18	1.93	26.90	18.80	19.70	1.59	23.50	17.30
Private debt	73.86	10.59	84.80	53.00	91.55	16.21	116.80	69.80	66.89	13.36	81.60	41.40
Unemployment	5.70	1.72	8.10	2.00	7.65	2.43	11.20	3.50	9.69	4.16	19.50	3.80
Reserves	5.00	2.40	11.35	3.01	3.89	1.21	5.81	2.27	4.90	0.66	6.04	3.23
<i>Qualitative variables</i>												
Corruption	50.07	5.04	59.00	42.00	50.07	3.16	55.00	45.00	51.73	10.14	63.00	34.00
Governance	1.01	0.05	1.07	0.87	0.77	0.17	1.02	0.51	0.76	0.14	0.93	0.53

Note: * The descriptive statistics are presented for the average of Fitch, Moody's and S&P ratings for a given country.

Source: Authors' own calculations.

IV

	Estonia				Latvia				Lithuania			
	<i>Mean</i>	<i>Std. Dev.</i>	<i>Max.</i>	<i>Min.</i>	<i>Mean</i>	<i>Std. Dev.</i>	<i>Max.</i>	<i>Min.</i>	<i>Mean</i>	<i>Std. Dev.</i>	<i>Max.</i>	<i>Min.</i>
Rating*	16.73	0.71	17.65	15.00	13.94	1.59	15.44	10.67	14.64	0.91	16.00	13.00
<i>Macroeconomic variables</i>												
CA	-3.14	7.09	5.50	-20.30	-5.16	8.56	12.80	-25.50	-3.76	6.47	10.60	-22.00
External debt	93.87	15.07	129.30	61.07	127.46	26.90	169.58	66.29	71.19	14.13	87.64	39.72
Fiscal balance	0.19	2.34	5.20	-6.70	-2.31	3.23	1.90	-11.70	-2.56	3.69	1.40	-18.70
Fiscal balance ^p	-0.43	1.51	3.50	-3.90	-2.84	3.49	0.80	-13.60	-2.52	2.53	0.40	-9.20
GDP growth	3.12	6.21	11.40	-18.50	3.15	6.96	15.20	-15.70	3.45	5.63	12.00	-15.70
GDP growth ^p	3.85	2.46	9.50	-1.20	3.76	3.02	8.90	-4.00	3.51	2.69	7.50	-4.70
Government debt	7.21	2.40	10.60	3.40	30.49	14.04	48.10	8.20	30.03	10.40	42.60	13.40
Inflation	3.53	2.86	11.50	-2.03	4.01	4.56	17.53	-3.87	2.99	2.98	12.30	-1.33
Investment	27.73	4.98	38.70	19.90	25.36	5.62	37.40	15.90	20.98	3.62	29.40	14.60
Private debt	115.47	14.81	145.80	84.50	96.41	21.25	137.40	68.70	61.83	11.27	83.40	40.60
Unemployment	8.30	3.56	18.60	3.60	11.18	4.03	20.30	5.30	9.88	3.92	18.10	3.90
Reserves	1.36	1.30	4.34	0.13	3.69	1.46	7.37	1.98	2.38	0.93	3.96	0.42
<i>Qualitative variables</i>												
Corruption	66.80	3.30	73.00	60.00	49.53	6.16	58.00	40.00	52.53	5.24	59.00	46.00
Governance	1.10	0.07	1.20	0.96	0.78	0.07	0.89	0.68	0.89	0.09	1.04	0.78

Note: * The descriptive statistics are presented for the average of Fitch, Moody's and S&P ratings for a given country.

Source: Authors' own calculations.

	Malta				Slovakia				Slovenia			
	<i>Mean</i>	<i>Std. Dev.</i>	<i>Max.</i>	<i>Min.</i>	<i>Mean</i>	<i>Std. Dev.</i>	<i>Max.</i>	<i>Min.</i>	<i>Mean</i>	<i>Std. Dev.</i>	<i>Max.</i>	<i>Min.</i>
Rating*	15.83	0.59	16.67	14.99	16.41	0.62	17.11	14.27	16.64	2.32	19.11	13.11
<i>Macroeconomic variables</i>												
CA	-0.56	7.90	15.90	-16.50	-3.99	4.76	4.30	-17.60	0.84	4.02	8.40	-7.00
External debt	892.69	213.49	1162.69	375.07	74.52	18.37	113.85	39.98	100.78	21.51	125.91	49.81
Fiscal balance	-1.75	2.31	4.00	-6.60	-3.39	2.12	0.10	-9.30	-3.46	5.33	1.30	-38.90
Fiscal balance ^p	-2.20	1.59	1.30	-4.50	-3.04	1.54	-0.30	-6.00	-2.82	2.11	0.40	-7.10
GDP growth	4.22	3.47	11.50	-3.60	3.95	3.76	13.90	-5.90	2.18	3.81	8.10	-9.50
GDP growth ^p	2.47	1.23	5.10	0.20	3.87	1.67	7.20	0.70	2.40	1.59	4.60	-1.60
Government debt	64.05	6.95	71.90	45.50	43.71	9.62	57.60	26.60	49.59	23.14	83.90	21.80
Inflation	1.98	1.29	5.30	-0.90	2.29	2.16	8.23	-0.73	2.04	1.67	6.43	-0.87
Investment	20.30	2.86	27.80	16.00	22.60	2.38	27.10	18.60	22.32	4.14	30.50	17.10
Private debt	148.55	14.92	174.50	129.80	70.35	14.45	94.50	46.80	93.71	16.42	115.20	67.20
Unemployment	5.13	0.83	6.50	3.00	12.01	2.92	17.90	5.90	7.12	1.83	10.80	4.20
Reserves	1.54	1.74	5.22	0.32	0.80	0.71	2.66	0.21	1.24	1.71	5.49	0.25
<i>Qualitative variables</i>												
Corruption	58.13	4.35	68.00	53.00	46.80	3.74	51.00	40.00	61.67	2.96	67.00	57.00
Governance	1.21	0.07	1.33	1.08	0.85	0.04	0.92	0.74	0.96	0.04	1.04	0.90

Note: * The descriptive statistics are presented for the average of Fitch, Moody's and S&P ratings for a given country.

Source: Authors' own calculations.

	<i>Mean</i>	<i>Std. Dev.</i>	<i>Max.</i>	<i>Min.</i>
EPU	157.91	62.33	307.63	60.33
VIX	18.41	7.96	45.42	9.59

Source: Authors' own calculations.

Appendix B: Estimation Results of Unrestricted Models

(with all variables included)

Table 3

Results of the Estimation of the Parameters of the Unrestricted Panel Model with Fixed Effects and Robust Standard Errors

Variable	Estimate	Standard error	p-value
Constant	16.326	0.520	0.000
CA	−0.049	0.007	0.000
Fiscal balance	0.007	0.024	0.751
Fiscal balance ^p	0.026	0.025	0.296
GDP growth	−0.004	0.011	0.714
Government debt	−0.073	0.004	0.000
Inflation	−0.027	0.013	0.032
Investment	−0.061	0.013	0.000
Private debt	−0.001	0.002	0.781
Unemployment	−0.097	0.013	0.000
Reserves	0.017	0.023	0.465
Corruption	−0.009	0.008	0.246
Governance	5.236	0.345	0.000
EPU	0.000	0.001	0.633
EMU	0.880	0.099	0.000
VIX	−0.005	0.006	0.384

Source: Authors' own calculations.

Table 4

Results of the Estimation of the Parameters for the First Sub-period with All Variables

Variable	Estimate	Standard error	p-value
Constant	17.122	0.450	0.000
CA	0.001	0.004	0.911
Fiscal balance	−0.022	0.015	0.134
Fiscal balance ^p	−0.016	0.037	0.674
GDP growth	0.026	0.013	0.050
Government debt	−0.053	0.011	0.000
Inflation	−0.011	0.010	0.265
Investment	0.017	0.017	0.328
Private debt	−0.010	0.003	0.003
Unemployment	−0.057	0.011	0.000
Reserves	−0.178	0.048	0.000
Corruption	0.018	0.007	0.010
Governance	1.148	0.460	0.014
EPU	0.000	0.001	0.725
EMU	0.149	0.270	0.581
VIX	−0.014	0.010	0.143

Source: Authors' own calculations.

Table 5

**Results of the Estimation of the Parameters for the Second Sub-period
with All Variables**

Variable	Estimate	Standard error	p-value
Constant	8.249	2.392	0.001
CA	-0.030	0.012	0.014
Fiscal balance	-0.027	0.032	0.406
Fiscal balance ^p	0.006	0.044	0.890
GDP growth	0.058	0.019	0.002
Government debt	-0.027	0.012	0.022
Inflation	-0.088	0.040	0.032
Investment	0.044	0.026	0.099
Private debt	0.052	0.013	0.000
Unemployment	-0.173	0.044	0.000
Reserves	-0.312	0.087	0.001
Corruption	0.028	0.021	0.183
Governance	3.481	0.851	0.000
EMU	-0.002	0.001	0.220
EMU	0.844	0.295	0.005
VIX	0.000	0.005	0.934

Source: Authors' own calculations.

Table 6

**Results of the Estimation of the Parameters for the Third Sub-period
with All Variables**

Variable	Estimate	Standard error	p-value
Constant	17.504	0.312	0.000
CA	-0.002	0.005	0.608
Fiscal balance	0.001	0.005	0.779
Fiscal balance ^p	0.026	0.017	0.131
GDP growth	-0.046	0.014	0.001
Government debt	-0.007	0.006	0.262
Inflation	0.027	0.013	0.036
Investment	0.015	0.011	0.161
Private debt	-0.026	0.002	0.000
Unemployment	-0.162	0.014	0.000
Reserves	-0.064	0.013	0.000
Corruption	-0.026	0.009	0.004
Governance	3.140	0.273	0.000
EMU	0.000	0.000	0.133
EMU	0.333	0.142	0.020
VIX	0.001	0.002	0.638

Source: Authors' own calculations.