

## Study on the Economic Impacts of Convergence Interventions (2007-2013)

### Romania – TFP elasticity = 0.02

---

**Prepared for:**

European Commission

Directorate-General for Regional Policy, Unit Evaluation and Additionality

Office CSM2 – 9/126

For the attention of Ms Mahovsky

B-1049 Brussels

**EU Tender No:**

2006.CE16.0.AT.022

**Project Title:**

Study on the Economic Impacts of Convergence Interventions (2007-2013)

**Report Submitted by:**

Prof. Ali BAYAR, President, EcoMod

**Released:**

15 June 2007

**Status:**

Final

---

## **Administrative information**

### **Contact person for this project:**

Name	Prof. Ali BAYAR President, ECOMOD
Address	Université Libre de Bruxelles Avenue F. Roosevelt, 50 C.P. 140 B-1050 Brussels -- Belgium
Telephone	+32 2 650 4115
Fax	+32 2 706 7020 and +32 2 650 4137
e-mail	Ali.Bayar@ulb.ac.be

## Romania

### Scenario: Past profile of 6 countries 2000-2006

Table 1: Payments profile – Romania (mil. euro, current prices)

Romania (mil. euro, current prices)	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total
<b>Structural and cohesion funds</b>	<b>642</b>	<b>1,620</b>	<b>2,160</b>	<b>2,283</b>	<b>2,433</b>	<b>2,295</b>	<b>2,240</b>	<b>3,023</b>	<b>3,023</b>	<b>19,717</b>
<b>Structural funds</b>	<b>428</b>	<b>1,080</b>	<b>1,440</b>	<b>1,523</b>	<b>1,622</b>	<b>1,530</b>	<b>1,493</b>	<b>2,016</b>	<b>2,016</b>	<b>13,148</b>
<i>Productive environment</i>	86	217	289	306	326	307	300	404	404	2,638
Manufacturing	44	112	149	158	168	158	155	209	209	1,361
Services	42	105	140	148	158	149	145	196	196	1,278
<i>Human resources</i>	120	302	403	426	454	428	418	564	564	3,677
<i>Infrastructure</i>	199	503	671	709	755	713	695	939	939	6,123
<i>Rest (services)</i>	23	58	78	82	88	83	81	109	109	710
<b>Cohesion funds</b>	<b>214</b>	<b>540</b>	<b>719</b>	<b>761</b>	<b>811</b>	<b>765</b>	<b>746</b>	<b>1,007</b>	<b>1,007</b>	<b>6,569</b>

Table 2: Payments profile – Romania (mil. euro, 2004 prices)

Romania (mil. euro, 2004 prices)	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total
<b>Structural and cohesion funds</b>	<b>605</b>	<b>1,496</b>	<b>1,956</b>	<b>2,027</b>	<b>2,118</b>	<b>1,959</b>	<b>1,874</b>	<b>2,480</b>	<b>2,431</b>	<b>16,946</b>
<b>Structural funds</b>	<b>403</b>	<b>998</b>	<b>1,304</b>	<b>1,352</b>	<b>1,412</b>	<b>1,306</b>	<b>1,250</b>	<b>1,653</b>	<b>1,621</b>	<b>11,300</b>
<i>Productive environment</i>	81	200	262	271	283	262	251	332	325	2,268
Manufacturing	42	103	135	140	146	135	129	171	168	1,170
Services	39	97	127	131	137	127	121	161	158	1,098
<i>Human resources</i>	113	279	365	378	395	365	349	462	453	3,160
<i>Infrastructure</i>	188	465	607	630	658	608	582	770	755	5,262
<i>Rest (services)</i>	22	54	70	73	76	71	67	89	88	610
<b>Cohesion funds</b>	<b>202</b>	<b>499</b>	<b>652</b>	<b>675</b>	<b>706</b>	<b>653</b>	<b>624</b>	<b>826</b>	<b>810</b>	<b>5,646</b>

Table 3: Payments profile – Romania (% of total payments)

Romania (% of total payments)	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total
<b>Structural and cohesion funds</b>	<b>3.6</b>	<b>8.8</b>	<b>11.5</b>	<b>12.0</b>	<b>12.5</b>	<b>11.6</b>	<b>11.1</b>	<b>14.6</b>	<b>14.3</b>	<b>100.0</b>
<b>Structural funds</b>	<b>3.6</b>	<b>8.8</b>	<b>11.5</b>	<b>12.0</b>	<b>12.5</b>	<b>11.6</b>	<b>11.1</b>	<b>14.6</b>	<b>14.3</b>	<b>100.0</b>
Productive environment	3.6	8.8	11.5	12.0	12.5	11.6	11.1	14.6	14.3	100.0
Manufacturing	3.6	8.8	11.5	12.0	12.5	11.6	11.1	14.6	14.3	100.0
Services	3.6	8.8	11.5	12.0	12.5	11.6	11.1	14.6	14.3	100.0
Human resources	3.6	8.8	11.5	12.0	12.5	11.6	11.1	14.6	14.3	100.0
Infrastructure	3.6	8.8	11.5	12.0	12.5	11.6	11.1	14.6	14.3	100.0
Rest (services)	3.6	8.8	11.5	12.0	12.5	11.6	11.1	14.6	14.3	100.0
<b>Cohesion funds</b>	<b>3.6</b>	<b>8.8</b>	<b>11.5</b>	<b>12.0</b>	<b>12.5</b>	<b>11.6</b>	<b>11.1</b>	<b>14.6</b>	<b>14.3</b>	<b>100.0</b>

Table 4: Macroeconomic effects in real terms (% change compared to BAU)

Macroeconomic effects in real terms (% change to the BAU)	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
GDP	0.23	0.68	1.18	1.66	2.15	2.58	2.98	3.49	3.95	3.91	3.94	3.94	3.92	3.89
Private consumption	0.63	1.48	1.92	2.08	2.32	2.44	2.64	3.25	3.51	2.65	2.81	2.92	2.99	3.04
Government consumption	0.37	1.00	1.54	1.95	2.37	2.69	3.00	3.52	3.90	3.58	3.56	3.54	3.51	3.49
Gross fixed investment	3.86	9.05	11.55	11.92	12.34	11.57	11.15	13.63	13.41	4.03	3.96	3.90	3.84	3.79
Exports	-0.74	-1.57	-1.57	-1.00	-0.45	0.34	0.98	0.91	1.58	4.25	4.19	4.13	4.06	4.00
Imports	2.00	4.56	5.60	5.56	5.64	5.22	5.03	6.24	6.18	2.12	2.22	2.30	2.35	2.40

Table 5: Labour market effects (% change compared to BAU)

Labour market effects	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
National employment	0.25	0.60	0.80	0.90	1.04	1.13	1.25	1.52	1.67	1.40	1.49	1.55	1.58	1.61
Number of unemployed	-2.35	-5.52	-7.31	-8.24	-9.47	-10.29	-11.39	-13.79	-15.09	-12.75	-13.49	-14.00	-14.33	-14.53
Active population	0.06	0.15	0.20	0.23	0.27	0.29	0.32	0.40	0.44	0.36	0.39	0.40	0.41	0.42
Unemployment rate (%)	7.17	6.93	6.80	6.73	6.64	6.57	6.49	6.31	6.21	6.39	6.33	6.30	6.27	6.26
Unemployment rate (% points difference with BAU)	-0.18	-0.42	-0.55	-0.62	-0.71	-0.78	-0.86	-1.04	-1.14	-0.96	-1.02	-1.05	-1.08	-1.09

*Table 6: Effects on households (% change compared to BAU)*

Effects on households	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Household real income	0.65	1.53	1.96	2.10	2.32	2.41	2.59	3.21	3.45	2.52	2.70	2.82	2.90	2.96
Household real consumption	0.63	1.48	1.91	2.07	2.31	2.43	2.63	3.24	3.50	2.62	2.79	2.91	2.98	3.03
Household real savings	0.33	0.90	1.40	1.81	2.26	2.62	2.99	3.55	3.98	3.76	3.82	3.85	3.86	3.85
Propensity to save (%)	-9.10	-9.07	-9.08	-9.10	-9.12	-9.15	-9.16	-9.16	-9.17	-9.24	-9.23	-9.22	-9.21	-9.21
Propensity to save (% points difference with BAU)	0.03	0.06	0.05	0.03	0.01	-0.02	-0.04	-0.03	-0.05	-0.11	-0.10	-0.09	-0.08	-0.08
Real average wage	0.32	0.76	1.02	1.15	1.34	1.46	1.63	2.00	2.21	1.84	1.95	2.03	2.09	2.12
Real average return to capital	0.80	1.56	1.38	0.70	0.15	-0.52	-0.97	-0.84	-1.27	-2.97	-2.69	-2.47	-2.29	-2.14

*Table 7: Private consumption (% change compared to BAU)*

Private consumption	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Agriculture	0.54	1.12	1.19	1.05	1.08	1.09	1.26	1.87	2.08	1.32	1.93	2.40	2.75	3.01
Manufacturing	0.92	2.03	2.37	2.26	2.30	2.18	2.24	2.94	3.06	1.57	1.91	2.17	2.35	2.48
High-Tech Manufacturing	1.08	2.36	2.72	2.53	2.50	2.29	2.28	3.01	3.06	1.28	1.62	1.87	2.05	2.19
Services	0.33	1.01	1.73	2.35	2.92	3.36	3.74	4.27	4.72	4.51	4.27	4.07	3.90	3.76
Construction	-1.33	-2.53	-2.22	-1.13	-0.26	0.87	1.63	1.26	2.09	6.03	5.34	4.80	4.39	4.08
Public administration	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Private consumption - total	0.60	1.42	1.87	2.05	2.31	2.45	2.66	3.26	3.54	2.74	2.88	2.98	3.05	3.09

*Table 8: Public consumption (% change compared to BAU)*

Public consumption	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Agriculture	0.66	1.36	1.43	1.22	1.22	1.18	1.34	2.04	2.25	1.25	1.96	2.51	2.92	3.23
Manufacturing	1.21	2.60	2.89	2.57	2.48	2.19	2.17	2.99	3.03	0.98	1.50	1.88	2.17	2.38
High-Tech Manufacturing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Services	0.43	1.24	2.04	2.69	3.29	3.75	4.14	4.75	5.22	4.85	4.60	4.39	4.21	4.07
Construction	-1.40	-2.66	-2.31	-1.14	-0.21	1.00	1.82	1.44	2.33	6.52	5.77	5.20	4.76	4.42
Public administration	0.31	0.75	1.01	1.17	1.38	1.55	1.78	2.21	2.48	2.20	2.42	2.59	2.73	2.83
Public consumption - total	0.37	1.00	1.54	1.95	2.37	2.69	3.00	3.52	3.90	3.58	3.56	3.54	3.51	3.49

Table 9: Domestic sales (% change compared to BAU)

Domestic sales	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Agriculture	0.14	0.29	0.35	0.44	0.65	0.91	1.25	1.70	2.06	2.24	2.71	3.07	3.33	3.51
Manufacturing	0.34	0.86	1.29	1.63	2.02	2.34	2.68	3.20	3.60	3.37	3.48	3.55	3.59	3.60
High-Tech Manufacturing	1.67	3.97	5.21	5.60	6.02	5.95	6.00	7.27	7.44	3.76	3.77	3.76	3.73	3.70
Services	0.32	0.93	1.56	2.11	2.65	3.09	3.48	4.02	4.48	4.29	4.18	4.08	3.99	3.91
Construction	3.22	7.61	9.82	10.26	10.74	10.20	9.93	12.06	11.97	4.23	4.11	4.01	3.92	3.85
Public administration	0.31	0.75	1.01	1.17	1.38	1.55	1.78	2.21	2.48	2.20	2.42	2.59	2.73	2.83
Domestic sales - total	0.64	1.61	2.28	2.68	3.11	3.36	3.65	4.36	4.71	3.67	3.71	3.72	3.72	3.71

Table 10: Domestic production (% change compared to BAU)

Domestic production	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Agriculture	-0.01	-0.04	-0.03	0.09	0.33	0.65	1.04	1.44	1.85	2.33	2.83	3.21	3.49	3.70
Manufacturing	-0.60	-1.24	-1.18	-0.64	-0.09	0.64	1.27	1.41	2.05	4.04	4.19	4.28	4.32	4.34
High-Tech Manufacturing	-0.60	-1.13	-0.81	0.00	0.75	1.65	2.35	2.49	3.22	5.28	5.09	4.91	4.74	4.58
Services	0.22	0.73	1.37	2.00	2.59	3.10	3.53	4.04	4.54	4.59	4.43	4.28	4.15	4.04
Construction	3.13	7.41	9.60	10.08	10.57	10.08	9.84	11.92	11.86	4.35	4.21	4.09	3.98	3.89
Public administration	0.31	0.75	1.01	1.17	1.38	1.55	1.78	2.21	2.48	2.20	2.42	2.59	2.73	2.83
Domestic production - total	0.12	0.45	0.94	1.46	1.99	2.48	2.92	3.40	3.90	4.12	4.12	4.11	4.09	4.05

Table 11: Employment (% change compared to BAU)

Employment	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Agriculture	-0.05	-0.04	0.12	0.38	0.64	0.92	1.17	1.34	1.61	2.07	2.10	2.11	2.11	2.10
Manufacturing	-1.19	-2.34	-2.08	-1.08	-0.32	0.67	1.30	0.89	1.55	4.80	4.16	3.67	3.30	3.01
High-Tech Manufacturing	-0.95	-1.77	-1.30	-0.17	0.70	1.72	2.36	2.08	2.77	5.52	4.71	4.08	3.59	3.21
Services	0.52	0.97	0.83	0.44	0.21	-0.05	-0.14	0.16	0.08	-0.82	-0.35	0.00	0.26	0.46
Construction	7.06	15.80	18.15	16.29	15.13	12.15	10.44	14.33	12.75	-4.19	-2.81	-1.76	-0.97	-0.38
Public administration	0.62	1.41	1.72	1.72	1.78	1.71	1.72	2.13	2.17	1.11	1.19	1.24	1.27	1.28
Employment - total	0.25	0.60	0.80	0.90	1.04	1.13	1.25	1.52	1.67	1.40	1.49	1.55	1.58	1.61

*Table 12: Investments by branch (% change compared to BAU)*

Investments by branch	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Agriculture	-0.89	-1.13	0.29	2.29	3.87	5.42	6.40	6.42	7.51	10.45	8.93	7.71	6.74	5.98
Manufacturing	-2.30	-3.64	-1.36	2.29	4.92	7.57	9.03	8.36	10.06	15.84	13.01	10.81	9.12	7.84
High-Tech Manufacturing	-1.32	-1.46	1.36	5.06	7.72	10.11	11.36	11.09	12.65	16.14	12.95	10.49	8.63	7.24
Services	7.62	17.06	20.20	19.05	18.42	15.73	14.16	18.56	17.24	-1.90	-0.66	0.30	1.04	1.61
Construction	13.83	29.69	33.08	28.83	26.07	19.97	16.62	24.41	21.24	-12.26	-8.21	-5.10	-2.76	-1.02
Public administration	0.59	1.81	3.03	4.01	4.96	5.69	6.30	7.14	7.85	7.67	7.11	6.62	6.18	5.80
Total investments - total	3.94	9.24	11.79	12.16	12.59	11.79	11.35	13.87	13.64	4.05	3.98	3.91	3.85	3.79

*Table 13: Imports (% change compared to BAU)*

Imports	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Agriculture	2.81	6.29	7.33	6.77	6.42	5.41	4.79	5.96	5.48	0.32	0.16	0.03	-0.08	-0.16
Manufacturing	1.51	3.44	4.22	4.21	4.29	4.02	3.92	4.81	4.84	2.11	2.14	2.17	2.19	2.20
High-Tech Manufacturing	2.50	5.80	7.28	7.41	7.64	7.15	6.94	8.55	8.48	2.86	2.95	3.01	3.06	3.09
Services	2.75	5.52	5.29	3.56	2.42	0.93	0.19	1.42	0.75	-4.40	-3.03	-1.96	-1.13	-0.49
Construction	9.23	20.72	23.26	20.04	18.00	13.76	11.44	16.40	14.24	-6.51	-4.48	-2.90	-1.69	-0.77
Public administration	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Imports - total	2.00	4.56	5.60	5.56	5.64	5.22	5.03	6.24	6.18	2.12	2.22	2.30	2.35	2.40

*Table 14: Exports (% change compared to BAU)*

Exports	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Agriculture	-0.57	-1.33	-1.58	-1.41	-1.18	-0.70	-0.22	-0.15	0.34	2.19	2.74	3.18	3.53	3.80
Manufacturing	-0.74	-1.62	-1.74	-1.30	-0.86	-0.15	0.44	0.35	0.96	3.59	3.70	3.77	3.81	3.83
High-Tech Manufacturing	-0.77	-1.63	-1.61	-0.98	-0.40	0.44	1.10	0.99	1.69	4.52	4.36	4.20	4.05	3.92
Services	-0.71	-1.27	-0.72	0.42	1.42	2.57	3.40	3.46	4.38	7.08	6.34	5.75	5.28	4.91
Construction	-0.85	-1.45	-0.64	0.90	2.17	3.57	4.50	4.44	5.51	8.67	7.45	6.50	5.76	5.19
Public administration	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Exports - total	-0.74	-1.57	-1.57	-1.00	-0.45	0.34	0.98	0.91	1.58	4.25	4.19	4.13	4.06	4.00

*Table 15: Consumer prices (% change compared to BAU)*

<b>Consumer prices</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
Agriculture	-0.42	-0.67	-0.26	0.40	0.87	1.32	1.54	1.36	1.59	2.54	1.87	1.34	0.94	0.63
Manufacturing	-0.84	-1.65	-1.52	-0.90	-0.45	0.13	0.47	0.20	0.54	2.26	1.89	1.60	1.37	1.20
High-Tech Manufacturing	-1.00	-2.00	-1.88	-1.19	-0.67	0.01	0.43	0.13	0.53	2.58	2.21	1.92	1.70	1.52
Services	-0.20	-0.55	-0.84	-1.00	-1.11	-1.13	-1.12	-1.20	-1.21	-0.89	-0.63	-0.43	-0.28	-0.17
Construction	1.65	3.43	3.58	2.84	2.36	1.56	1.14	2.02	1.59	-2.45	-1.74	-1.20	-0.80	-0.50
Public administration	-0.08	-0.07	0.17	0.49	0.76	1.01	1.18	1.26	1.43	1.67	1.48	1.31	1.16	1.03
<b>Consumer price index</b>	<b>-0.49</b>	<b>-1.00</b>	<b>-0.99</b>	<b>-0.68</b>	<b>-0.46</b>	<b>-0.15</b>	<b>0.03</b>	<b>-0.14</b>	<b>0.03</b>	<b>1.00</b>	<b>0.84</b>	<b>0.72</b>	<b>0.62</b>	<b>0.55</b>

*Table 16: Price index of domestic production (% change compared to BAU)*

<b>Price index of domestic production</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
Agriculture	-0.40	-0.61	-0.17	0.50	0.98	1.43	1.64	1.46	1.68	2.59	1.89	1.34	0.92	0.59
Manufacturing	-0.74	-1.40	-1.16	-0.50	-0.03	0.53	0.84	0.54	0.86	2.49	1.96	1.56	1.25	1.02
High-Tech Manufacturing	-0.66	-1.29	-1.12	-0.57	-0.16	0.33	0.61	0.37	0.66	2.09	1.70	1.40	1.19	1.02
Services	-0.20	-0.58	-0.87	-1.03	-1.14	-1.16	-1.15	-1.24	-1.25	-0.89	-0.64	-0.44	-0.29	-0.18
Construction	1.64	3.39	3.53	2.79	2.32	1.52	1.10	1.98	1.54	-2.44	-1.73	-1.20	-0.80	-0.50
Public administration	-0.08	-0.07	0.17	0.49	0.76	1.01	1.18	1.26	1.43	1.67	1.48	1.31	1.16	1.03
<b>Price index of total domestic production</b>	<b>-0.26</b>	<b>-0.53</b>	<b>-0.52</b>	<b>-0.34</b>	<b>-0.22</b>	<b>-0.05</b>	<b>0.06</b>	<b>-0.03</b>	<b>0.07</b>	<b>0.60</b>	<b>0.51</b>	<b>0.44</b>	<b>0.38</b>	<b>0.34</b>



## Romania

### Scenario: Worst case payment scenario (n+3/n+2)

Table 17: Payments profile – Romania (mil. euro, current prices)

Romania (mil. euro, current prices)	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total
<b>Structural and cohesion funds</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1,338</b>	<b>1,920</b>	<b>2,583</b>	<b>6,439</b>	<b>3,589</b>	<b>3,847</b>	<b>19,717</b>
<b>Structural funds</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>892</b>	<b>1,280</b>	<b>1,722</b>	<b>4,294</b>	<b>2,394</b>	<b>2,566</b>	<b>13,148</b>
<i>Productive environment</i>	0	0	0	179	257	346	862	480	515	2,638
Manufacturing	0	0	0	92	133	178	444	248	266	1,361
Services	0	0	0	87	124	167	417	233	249	1,278
<i>Human resources</i>	0	0	0	250	358	482	1,201	669	718	3,677
<i>Infrastructure</i>	0	0	0	416	596	802	1,999	1,115	1,195	6,123
<i>Rest (services)</i>	0	0	0	48	69	93	232	129	139	710
<b>Cohesion funds</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>446</b>	<b>640</b>	<b>861</b>	<b>2,145</b>	<b>1,196</b>	<b>1,281</b>	<b>6,569</b>

Table 18: Payments profile – Romania (mil. euro, 2004 prices)

Romania (mil. euro, 2004 prices)	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total
<b>Structural and cohesion funds</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1,188</b>	<b>1,672</b>	<b>2,204</b>	<b>5,388</b>	<b>2,944</b>	<b>3,094</b>	<b>16,491</b>
<b>Structural funds</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>792</b>	<b>1,115</b>	<b>1,470</b>	<b>3,593</b>	<b>1,964</b>	<b>2,064</b>	<b>10,997</b>
<i>Productive environment</i>	0	0	0	159	224	295	721	394	414	2,207
Manufacturing	0	0	0	82	115	152	372	203	214	1,138
Services	0	0	0	77	108	143	349	191	201	1,069
<i>Human resources</i>	0	0	0	222	312	411	1,005	549	577	3,075
<i>Infrastructure</i>	0	0	0	369	519	684	1,673	914	961	5,121
<i>Rest (services)</i>	0	0	0	43	60	79	194	106	111	594
<b>Cohesion funds</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>396</b>	<b>557</b>	<b>735</b>	<b>1,795</b>	<b>981</b>	<b>1,031</b>	<b>5,494</b>

Table 19: Payments profile – Romania (% of total payments)

Romania (% of total payments)	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total
<b>Structural and cohesion funds</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>7.2</b>	<b>10.1</b>	<b>13.4</b>	<b>32.7</b>	<b>17.9</b>	<b>18.8</b>	<b>100.0</b>
<b>Structural funds</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>7.2</b>	<b>10.1</b>	<b>13.4</b>	<b>32.7</b>	<b>17.9</b>	<b>18.8</b>	<b>100.0</b>
Productive environment	0.0	0.0	0.0	7.2	10.1	13.4	32.7	17.9	18.8	100.0
Manufacturing	0.0	0.0	0.0	7.2	10.1	13.4	32.7	17.9	18.8	100.0
Services	0.0	0.0	0.0	7.2	10.1	13.4	32.7	17.9	18.8	100.0
Human resources	0.0	0.0	0.0	7.2	10.1	13.4	32.7	17.9	18.8	100.0
Infrastructure	0.0	0.0	0.0	7.2	10.1	13.4	32.7	17.9	18.8	100.0
Rest (services)	0.0	0.0	0.0	7.2	10.1	13.4	32.7	17.9	18.8	100.0
<b>Cohesion funds</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>7.2</b>	<b>10.1</b>	<b>13.4</b>	<b>32.7</b>	<b>17.9</b>	<b>18.8</b>	<b>100.0</b>

Table 20: Macroeconomic effects in real terms (% change compared to BAU)

Macroeconomic effects in real terms (% change to the BAU)	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
GDP	0.00	0.00	0.00	0.34	0.73	1.22	2.32	2.89	3.49	3.45	3.50	3.52	3.53	3.51
Private consumption	0.00	0.00	0.00	0.94	1.33	1.79	4.06	2.88	3.30	2.19	2.39	2.53	2.63	2.70
Government consumption	0.00	0.00	0.00	0.56	1.00	1.52	3.14	3.15	3.66	3.25	3.23	3.21	3.18	3.16
Gross fixed investment	0.00	0.00	0.00	6.27	8.66	11.13	24.45	15.04	15.61	3.71	3.66	3.59	3.53	3.48
Exports	0.00	0.00	0.00	-1.32	-1.44	-1.46	-3.92	-0.15	0.49	3.88	3.83	3.78	3.72	3.66
Imports	0.00	0.00	0.00	3.07	4.11	5.19	11.74	6.79	7.08	1.87	1.98	2.07	2.13	2.17

Table 21: Labour market effects (% change compared to BAU)

Labour market effects	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
National employment	0.00	0.00	0.00	0.37	0.55	0.75	1.63	1.29	1.51	1.16	1.27	1.35	1.40	1.43
Number of unemployed	0.00	0.00	0.00	-3.43	-5.01	-6.91	-14.71	-11.71	-13.66	-10.57	-11.54	-12.22	-12.68	-12.99
Active population	0.00	0.00	0.00	0.09	0.14	0.19	0.43	0.33	0.39	0.30	0.33	0.35	0.36	0.37
Unemployment rate (%)	7.35	7.35	7.35	7.09	6.97	6.83	6.24	6.47	6.32	6.55	6.48	6.43	6.39	6.37
Unemployment rate (% points difference with BAU)	0.00	0.00	0.00	-0.26	-0.38	-0.52	-1.11	-0.88	-1.03	-0.80	-0.87	-0.92	-0.96	-0.98

*Table 22: Effects on households (% change compared to BAU)*

Effects on households	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Household real income	0.00	0.00	0.00	0.97	1.37	1.83	4.14	2.86	3.26	2.05	2.28	2.44	2.55	2.62
Household real consumption	0.00	0.00	0.00	0.93	1.33	1.79	4.04	2.87	3.29	2.16	2.37	2.52	2.62	2.69
Household real savings	0.00	0.00	0.00	0.50	0.90	1.40	2.91	2.97	3.55	3.28	3.37	3.43	3.46	3.47
Propensity to save (%)	-9.13	-9.13	-9.13	-9.08	-9.08	-9.09	-9.02	-9.14	-9.15	-9.24	-9.22	-9.21	-9.21	-9.20
Propensity to save (% points difference with BAU)	0.00	0.00	0.00	0.04	0.04	0.04	0.11	-0.01	-0.03	-0.11	-0.10	-0.09	-0.08	-0.08
Real average wage	0.00	0.00	0.00	0.47	0.69	0.96	2.15	1.68	1.98	1.50	1.65	1.75	1.83	1.87
Real average return to capital	0.00	0.00	0.00	1.18	1.16	1.06	3.03	-0.27	-0.70	-2.94	-2.63	-2.38	-2.18	-2.03

*Table 23: Private consumption (% change compared to BAU)*

Private consumption	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Agriculture	0.00	0.00	0.00	0.83	0.91	1.06	2.78	1.07	1.42	0.39	1.12	1.69	2.12	2.44
Manufacturing	0.00	0.00	0.00	1.38	1.73	2.13	5.10	2.63	2.93	1.00	1.42	1.73	1.96	2.13
High-Tech Manufacturing	0.00	0.00	0.00	1.60	1.99	2.41	5.82	2.84	3.09	0.78	1.19	1.49	1.71	1.88
Services	0.00	0.00	0.00	0.50	1.08	1.76	3.47	4.00	4.61	4.37	4.09	3.86	3.68	3.52
Construction	0.00	0.00	0.00	-2.20	-2.13	-1.94	-5.00	0.54	1.25	6.25	5.44	4.81	4.33	3.95
Public administration	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Private consumption - total	0.00	0.00	0.00	0.90	1.29	1.75	3.95	2.88	3.32	2.29	2.47	2.60	2.69	2.75

*Table 24: Public consumption (% change compared to BAU)*

Public consumption	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Agriculture	0.00	0.00	0.00	1.02	1.11	1.26	3.32	1.17	1.53	0.20	1.05	1.71	2.21	2.59
Manufacturing	0.00	0.00	0.00	1.81	2.16	2.54	6.27	2.66	2.92	0.26	0.89	1.36	1.71	1.97
High-Tech Manufacturing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Services	0.00	0.00	0.00	0.64	1.29	2.05	4.10	4.48	5.13	4.68	4.40	4.16	3.97	3.81
Construction	0.00	0.00	0.00	-2.33	-2.24	-2.02	-5.24	0.67	1.43	6.76	5.88	5.20	4.68	4.28
Public administration	0.00	0.00	0.00	0.47	0.69	0.96	2.12	1.73	2.09	1.70	1.95	2.15	2.31	2.44
Public consumption - total	0.00	0.00	0.00	0.56	1.00	1.52	3.14	3.15	3.66	3.25	3.23	3.21	3.18	3.16

Table 25: Domestic sales (% change compared to BAU)

Domestic sales	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Agriculture	0.00	0.00	0.00	0.20	0.23	0.33	0.88	0.71	1.17	1.36	1.94	2.38	2.71	2.95
Manufacturing	0.00	0.00	0.00	0.49	0.83	1.27	2.62	2.60	3.14	2.85	3.01	3.12	3.18	3.22
High-Tech Manufacturing	0.00	0.00	0.00	2.67	3.81	5.05	10.93	7.46	8.03	3.37	3.40	3.40	3.39	3.36
Services	0.00	0.00	0.00	0.47	0.98	1.58	3.10	3.58	4.20	3.97	3.86	3.76	3.67	3.59
Construction	0.00	0.00	0.00	5.23	7.31	9.49	20.74	13.18	13.77	3.95	3.83	3.73	3.63	3.55
Public administration	0.00	0.00	0.00	0.47	0.69	0.96	2.12	1.73	2.09	1.70	1.95	2.15	2.31	2.44
Domestic sales - total	0.00	0.00	0.00	1.00	1.57	2.24	4.71	3.98	4.54	3.22	3.29	3.33	3.34	3.34

Table 26: Domestic production (% change compared to BAU)

Domestic production	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Agriculture	0.00	0.00	0.00	-0.02	-0.06	-0.01	0.09	0.33	0.81	1.38	2.00	2.47	2.83	3.09
Manufacturing	0.00	0.00	0.00	-0.99	-1.05	-1.01	-2.67	0.13	0.80	3.33	3.55	3.70	3.79	3.84
High-Tech Manufacturing	0.00	0.00	0.00	-1.00	-0.86	-0.59	-2.22	1.44	2.24	4.91	4.75	4.58	4.41	4.26
Services	0.00	0.00	0.00	0.32	0.82	1.43	2.67	3.58	4.24	4.32	4.15	3.99	3.85	3.74
Construction	0.00	0.00	0.00	5.08	7.14	9.29	20.25	13.01	13.62	4.10	3.95	3.81	3.70	3.60
Public administration	0.00	0.00	0.00	0.47	0.69	0.96	2.12	1.73	2.09	1.70	1.95	2.15	2.31	2.44
Domestic production - total	0.00	0.00	0.00	0.18	0.54	1.00	1.80	2.72	3.35	3.64	3.68	3.69	3.68	3.66

Table 27: Employment (% change compared to BAU)

Employment	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Agriculture	0.00	0.00	0.00	-0.11	0.00	0.16	0.14	0.89	1.21	1.80	1.85	1.88	1.89	1.90
Manufacturing	0.00	0.00	0.00	-1.94	-1.90	-1.78	-5.12	0.39	0.92	5.10	4.34	3.76	3.32	2.98
High-Tech Manufacturing	0.00	0.00	0.00	-1.58	-1.33	-0.98	-3.73	1.80	2.42	6.01	5.05	4.30	3.72	3.27
Services	0.00	0.00	0.00	0.76	0.70	0.64	1.82	-0.10	-0.11	-1.30	-0.74	-0.32	0.00	0.24
Construction	0.00	0.00	0.00	11.60	14.29	16.92	41.29	16.72	16.32	-5.40	-3.75	-2.49	-1.54	-0.83
Public administration	0.00	0.00	0.00	0.94	1.25	1.59	3.60	2.13	2.30	0.93	1.04	1.10	1.14	1.16
Employment - total	0.00	0.00	0.00	0.37	0.55	0.75	1.63	1.29	1.51	1.16	1.27	1.35	1.40	1.43

Table 28: Investments by branch (% change compared to BAU)

Investments by branch	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Agriculture	0.00	0.00	0.00	-1.54	-0.53	0.66	-0.11	6.27	7.46	11.33	9.57	8.16	7.04	6.15
Manufacturing	0.00	0.00	0.00	-3.74	-2.23	-0.49	-5.15	9.04	10.52	17.85	14.53	11.90	9.87	8.32
High-Tech Manufacturing	0.00	0.00	0.00	-2.21	-0.13	2.17	0.09	12.73	14.16	18.60	14.82	11.86	9.58	7.87
Services	0.00	0.00	0.00	12.45	15.79	19.12	44.09	20.95	21.01	-3.29	-1.83	-0.68	0.21	0.89
Construction	0.00	0.00	0.00	22.40	26.58	30.67	69.56	27.71	26.88	-15.85	-11.09	-7.38	-4.56	-2.45
Public administration	0.00	0.00	0.00	0.80	1.80	2.98	6.59	6.71	7.76	7.63	7.02	6.49	6.03	5.63
Total investments - total	0.00	0.00	0.00	6.40	8.84	11.36	24.95	15.34	15.91	3.75	3.68	3.61	3.55	3.49

Table 29: Imports (% change compared to BAU)

Imports	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Agriculture	0.00	0.00	0.00	4.12	5.31	6.47	15.27	7.51	7.42	0.75	0.55	0.37	0.23	0.10
Manufacturing	0.00	0.00	0.00	2.25	3.03	3.85	8.67	5.23	5.49	1.98	2.00	2.02	2.03	2.04
High-Tech Manufacturing	0.00	0.00	0.00	3.97	5.41	6.91	15.43	9.26	9.67	2.50	2.61	2.69	2.74	2.78
Services	0.00	0.00	0.00	4.11	4.26	4.32	11.77	1.51	1.13	-5.56	-3.96	-2.71	-1.73	-0.98
Construction	0.00	0.00	0.00	15.04	18.16	21.18	55.32	19.25	18.54	-8.20	-5.83	-3.97	-2.54	-1.45
Public administration	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Imports - total	0.00	0.00	0.00	3.07	4.11	5.19	11.74	6.79	7.08	1.87	1.98	2.07	2.13	2.17

Table 30: Exports (% change compared to BAU)

Exports	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Agriculture	0.00	0.00	0.00	-0.95	-1.28	-1.54	-3.46	-1.52	-1.08	1.19	1.84	2.37	2.78	3.11
Manufacturing	0.00	0.00	0.00	-1.32	-1.54	-1.68	-4.26	-0.84	-0.28	3.04	3.19	3.30	3.37	3.41
High-Tech Manufacturing	0.00	0.00	0.00	-1.39	-1.49	-1.49	-4.12	-0.01	0.65	4.28	4.12	3.96	3.81	3.68
Services	0.00	0.00	0.00	-1.25	-0.90	-0.38	-2.11	2.96	3.89	7.39	6.51	5.81	5.26	4.81
Construction	0.00	0.00	0.00	-1.53	-0.95	-0.20	-2.45	4.24	5.30	9.43	7.97	6.82	5.93	5.25
Public administration	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Exports - total	0.00	0.00	0.00	-1.32	-1.44	-1.46	-3.92	-0.15	0.49	3.88	3.83	3.78	3.72	3.66

Table 31: Consumer prices (% change compared to BAU)

Consumer prices	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Agriculture	0.00	0.00	0.00	-0.66	-0.38	-0.06	-0.99	1.61	1.84	3.13	2.34	1.72	1.24	0.87
Manufacturing	0.00	0.00	0.00	-1.25	-1.25	-1.21	-3.37	-0.08	0.19	2.45	2.01	1.67	1.41	1.21
High-Tech Manufacturing	0.00	0.00	0.00	-1.49	-1.53	-1.51	-4.09	-0.31	0.02	2.69	2.27	1.94	1.68	1.48
Services	0.00	0.00	0.00	-0.30	-0.56	-0.82	-1.71	-1.52	-1.57	-1.17	-0.86	-0.61	-0.43	-0.28
Construction	0.00	0.00	0.00	2.74	3.04	3.31	7.98	2.20	2.03	-3.09	-2.25	-1.60	-1.10	-0.74
Public administration	0.00	0.00	0.00	-0.13	0.04	0.26	0.20	1.14	1.37	1.73	1.52	1.34	1.18	1.05
Consumer price index	0.00	0.00	0.00	-0.74	-0.79	-0.82	-2.22	-0.35	-0.21	1.05	0.87	0.74	0.63	0.54

Table 32: Price index of domestic production (% change compared to BAU)

Price index of domestic production	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Agriculture	0.00	0.00	0.00	-0.63	-0.32	0.02	-0.83	1.76	1.98	3.23	2.40	1.75	1.25	0.85
Manufacturing	0.00	0.00	0.00	-1.14	-1.04	-0.91	-2.85	0.52	0.76	2.90	2.26	1.77	1.41	1.13
High-Tech Manufacturing	0.00	0.00	0.00	-1.01	-0.97	-0.89	-2.69	0.26	0.48	2.34	1.87	1.52	1.25	1.05
Services	0.00	0.00	0.00	-0.31	-0.58	-0.85	-1.78	-1.56	-1.60	-1.16	-0.85	-0.62	-0.43	-0.29
Construction	0.00	0.00	0.00	2.71	3.00	3.26	7.90	2.15	1.98	-3.08	-2.24	-1.59	-1.10	-0.74
Public administration	0.00	0.00	0.00	-0.13	0.04	0.26	0.20	1.14	1.37	1.73	1.52	1.34	1.18	1.05
Price index of total domestic production	0.00	0.00	0.00	-0.39	-0.41	-0.42	-1.14	-0.14	-0.06	0.62	0.52	0.44	0.38	0.33