EU COHESION POLICY AND SPAIN: A TERRITORIAL IMPACT ASSESSMENT

Appendix A

Table A1. Territorial Cohesion dimensions, components and indicators

Dimension	Component	Indicator
Socioeconomic Cohesion	Productivity Income Employment Innovation Industrial parks Start-ups	- Work productivity - GDP per capita - Employment rate - Patents granted - Infrastructures - Entrepreneurship
	Education Health Culture Exclusion / Inclusion Basic infrastructure Security	- Tertiary education - Physicians per capita - Culture - Poverty rate - Access to public transports - Criminality rate - CO ² emissions
Environmental Sustainability	Climate change Energy Nature and biodiversity Environment and economy Environment and health Natural resources / Garbage	- Renewable energy production - Protected areas (% of total area) - Share of expenses with environment - Waste collection and treatment - Share of urban waste collected selectively
Territorial Governance/Cooperation	Horizontal cooperation Vertical cooperation Participation Involvement Information	- INTERREG-C projects - Territorial cooperation entities / different scales - Elections participation rate - NGOs + Territorial partnerships - Public consultation processes
Morphologic polycentricity	Hierarchy / Ranking Density Connectivity Distribution / Shape	- Urban dwellers (%) / City ranking - Population density - Road connectivity / Internet connections - City compactness index

Note: In bold – indicators used to build the Territorial Cohesion Index
Source (based on Medeiros, 2012)

Table A2. ESPON TIA tools comparison

TIA tool	Territorial Dimension	2/3 Positive notes	2/3 Shortcomings
TEQUILA	Territorial quality, territorial identity, and territorial efficiency	<ul style="list-style-type: none"> - Strong rationale: based on the notion of Territorial Cohesion; - Use of regional sensibility and policy intensity. 	<ul style="list-style-type: none"> - Politically correct vision of Territorial Cohesion; - Lack of counterfactual analysis; - Ex-post analysis not possible
EATIA	Economy, society, environment, administration	<ul style="list-style-type: none"> - Goes beyond the traditional economy/society/environment view of territory; - Emphasis put in a bottom-up and participative approach; - Goes beyond the positive-negative impact analysis, by including direct/indirect and cumulative impacts, for instance 	<ul style="list-style-type: none"> - Is built upon an erroneous rationale that TIA procedures can be pain-free; - In practice, it can actually be quite painful to operationalize; - Weak rationale on the components of territorial cohesion
STEMA	Economy, society, environment	<ul style="list-style-type: none"> - Relates the TIA procedures to the Territorial Cohesion notion; - Use of a complete set of indicators 	<ul style="list-style-type: none"> - Excessively concentrated on economy competitiveness and the environmental sustainability; - Simplistic and not to precise evaluation scale.
ARTS	Natural environment, regional economy, society, and people	<ul style="list-style-type: none"> - Relation between TIA and the concepts of vulnerability and exposure; - Use of territorial sensibility element 	<ul style="list-style-type: none"> - Excessively time consuming procedure; - Lack of fundamental territorial analytical dimensions such as territorial governance and urban network governance urban network arrangements.

Note: Author's opinions based on testing all these TIA tools.

Figure A1. The TARGET_TIA Model

Source: own elaboration

Table A3. Key Territorial Development indicators of change in Spain 1990-2010

Indicator	1990 Spain	1990 EU	2010 Spain	2010 EU
1 – GDP (Million €) (EU 15)	447.205	5.192.400	1.062.591	11.331.859
2 – GDP <i>per capita</i> (€)	11.354	14.864	23.063	28.400
3 – GVA Primary Sector (%)	2.5	2.4	4.0	1.7
4 – GVA Secondary Sector (%)	35.0	31.9	30.9	24.8
5 – GVA Tertiary Sector (%)	60.7	65.7	66.6	73.5
6 – Illiteracy rate (%)	2.8	2.4	1.5	0.8
7 – Tertiary education (%)	8.1	13.99	24.3	21.3
8 – Physicians (100.000 inhabitants)	204.9	225	373.8	333
9 – Population Density (inhabitants/km ²)	76.8	89	91.2	116.6
10 – Old-age dependency ratio (%)	20.8	20.7	24.9	26.0
11 – Young age dependency ratio (%)	33.9	29.0	23.5	23.3
12 – Average age (%)	33.4	35.2	39.9	40.9
13 – Ageing ratio (%)	61.2	71.3	106.1	111.7
14 – Total age dependency ratio (%)	54.8	49.7	48.4	49.4
15 – Active population (%)	58.0	65.4	72.8	72.2
16 – Foreign Active population (%)	2.1	4.0	14.8	7.3
17 – Activity rate –(%)	50.2	56.6	57.0	57.5
18 – Unemployment rate (%)	18.9	8.2	20.1	9.6
19 – Employment rate (%)	43.6	55.7	47.1	52.0
20 – Income per capita (PPS) €	9.181	9.535	11.287	7.609
21 – R&D expenditure (companies) in % of GDP	0.79	1.12	1.40	1.27
22 – Energy consumption (domestic sector) (%)	16.0	25.4	19.0	26.6
23 – Renewable energy production share (%)	18.1	7.5	42.5	20.1
24 – Patent requested by companies to GPO	62.2	86.1	77.7	85.4
25 – PC use in the last 3 months (%)	20		72	71

Source: (EUROSTAT; PORDATA, INEE, OECD) - Note: (some indicators are close to 1990 or 2010). – Author's compilation

Figure A2. Less developed (objective 1/convergence) regions in Iberian Peninsula in the five programming cycles of the EU Cohesion Policy

Source: Data (EC, 2014) – Author cartography

Figure A3. Main strategic goals of the EU Cohesion Policy programming cycles in Spain

Source: own elaboration based on several sources

Table A4. EU structural and cohesion funds in Spain per programming period (million €) 1986-2013

	1986-1988	1989-1993	1994-1999	2000-2006	2007-2013
Structural funds	-	-	41.080	49.569	28.207
Cohesion Funds	-	-	9.574	12.322	3.250
Total	4.822	18.707	50.654	61.890	31.457

Source: (DGAPP, 2006: 52) - Adapted

Table A5. GDP per capita (PPS) – 2001 to 2012 – Spain (EU28-100)

2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
98	101	101	101	102	105	105	104	103	99	96	96

Source: Eurostat – Author Compilation

Figure A4. ERDF investments per main policy area in Spain – 1989-2013 (%)

Source: Data – (Dirección General de Fondos Comunitarios - DGFC - database) – Author Compilation

Table A6. Cohesion Fund in Spain 1993-2013 (million €)

Sector	1993-1999	2000-2006	2007-2013	Total
Environment	4.654	5.886	2.362	12.902
Water supply	1.211	1.658	679	3.548
Sanitation and cleaning	2.068	2.758	1.302	6.128
Waste management	481	1.436	370	2.287
Other	804	34	11	849
Transports	4.597	6.232	2.130	12.959
Railway	1.860	4.541	1.673	8.074
Ports	25	1.170	457	1.652
Roads	2.609	480	0	3.089
Airports	73	41	0	114
Other	29	0	0	29
Total	9.251	12.118	4.492	25.861

Source: Data (Florio, 2006; DGAPP, 2011; DGFC database) – Author compilation

Figure A5. Main Territorial Impacts of the EU Cohesion Policy in Spain – 1989-2013

Source: own elaboration

Figure A6. ERDF investments in Spanish municipalities – 2000-2013

Source: Data - DGFC (Dirección General de Fondos Comunitarios) – Author
Compilation and Cartography

Figure A7. Unemployment rate changes in Spanish municipalities – 1996-2012

Source: Data - Anuario Económico de España 2013 – Author
Compilation and Cartography

Figure A8. Average Income per capita in Spanish municipalities - 2012

Source: <http://www.esri.es/> - arranged by the author

Table A7. EU Cohesion Policy in Spain – Territorial Impacts Matrix – 1990-2010

Dimension	Component	Posi/Nega	Endo/Exog	Sust/Shor	Mult/Subs	Average	Poli/Inte	Regi/Sens
Socioeconomic Cohesion (SOC)	Education	3	2	2	3	2.5	1	1
Socioeconomic Cohesion (SOC)	Health	2	2	2	2	2	0,5	0.75
Socioeconomic Cohesion (SOC)	Culture / Sports	2	2	2	2	2	0.25	0.75
Socioeconomic Cohesion (SOC)	Exclusion/Inclusion	1	1	1	1	1	0.25	0.75
Socioeconomic Cohesion (ECO)	Income	3	3	1	3	2.5	0.75	0.75
Socioeconomic Cohesion (ECO)	Employment	3	3	1	3	2.5	0.75	1
Socioeconomic Cohesion (ECO)	Productivity	2	3	2	2	2.25	0.5	1
Socioeconomic Cohesion (ECO)	Innovation	2	3	3	3	2.75	0.75	1
Average		2.25	2.38	1.75	2.38	2.19	0.59	0.88
Environmental Sustainability	Energy	1	2	2	2	1.75	0.25	0.75
Environmental Sustainability	Environmental Protection	2	3	3	3	2.75	0.5	0.75
Environmental Sustainability	Sanitation / Recycling	4	3	3	3	3.25	1	0.75
Environmental Sustainability	Biodiversity	1	1	1	1	1	0.25	0.5
Average		2.00	2.25	2.25	2.25	2.19	0.50	0.69
Governance/Cooperation	Horizontal Cooperation	2	2	2	2	2	0.5	0.5
Governance/Cooperation	Vertical Cooperation	2	2	2	2	2	0.5	0.75
Governance/Cooperation	Participation	1	1	1	1	1	0.25	0.75
Governance/Cooperation	Involvement	2	1	1	1	1.25	0.25	0.75
Average		1.75	1.50	1.50	1.50	1.56	0.38	0.69
Morphologic Polycentricity	Hierarchy / Ranking	-1	-1	-2	-2	-1.5	0.25	0.75
Morphologic Polycentricity	Density	1	2	1	1	1.25	0,5	0.5
Morphologic Polycentricity	Connectivity	4	3	1	3	2.75	1	0.75
Morphologic Polycentricity	Distribution / Shape	-1	-1	-1	-1	-1	0,25	0.25
Average		0.75	0.75	-0.25	0.25	0.38	0.50	0.56
General Average		1.69	1.72	1.31	1.59	1.58	0.49	0.70

Note: Posi/Nega – Positive vs Negative; Endo/Exog – Endogenous vs Exogenous; Sust/Shor – Sustainability vs Short-term; Mult/Subs – Multiplier/Substitution; Poli/Inte – Policy Intensity; Regi/Sens – Regional Sensibility.

Reference List:

DGAPP (2006) *Marco Estratégico Nacional de Referencia 2007-2013. España una manera de hacer Europa*. Dirección General de Fondos Comunitarios, Ministerio de Economía y Hacienda, Madrid.

DGAPP (2011) *Programa Operativo de Fondo de Cohesion – FEDER 2007-2013*. Dirección General de Análisis y Programación Presupuestaria, Ministerio de Hacienda y Administraciones Públicas, Madrid.

EC (2014) *Sixth Report on Economic, Social and Territorial Cohesion. Investment for jobs and growth: Promoting development and good governance in EU regions and cities*, European Commission, July 2014, Brussels.

Florio, M. (2006) Evaluating Structural and Cohesion Funds Programmes, *Regional Studies*, 40(0): 211-224.

Medeiros, E. (ed) (2012) *A coesão Territorial. O conceito e o seu significado na política de coesão da UE*. Centro de Estudos Geográficos, Universidade de Lisboa, Lisbon.