



# A closer look on the Competitiveness of Luxembourg



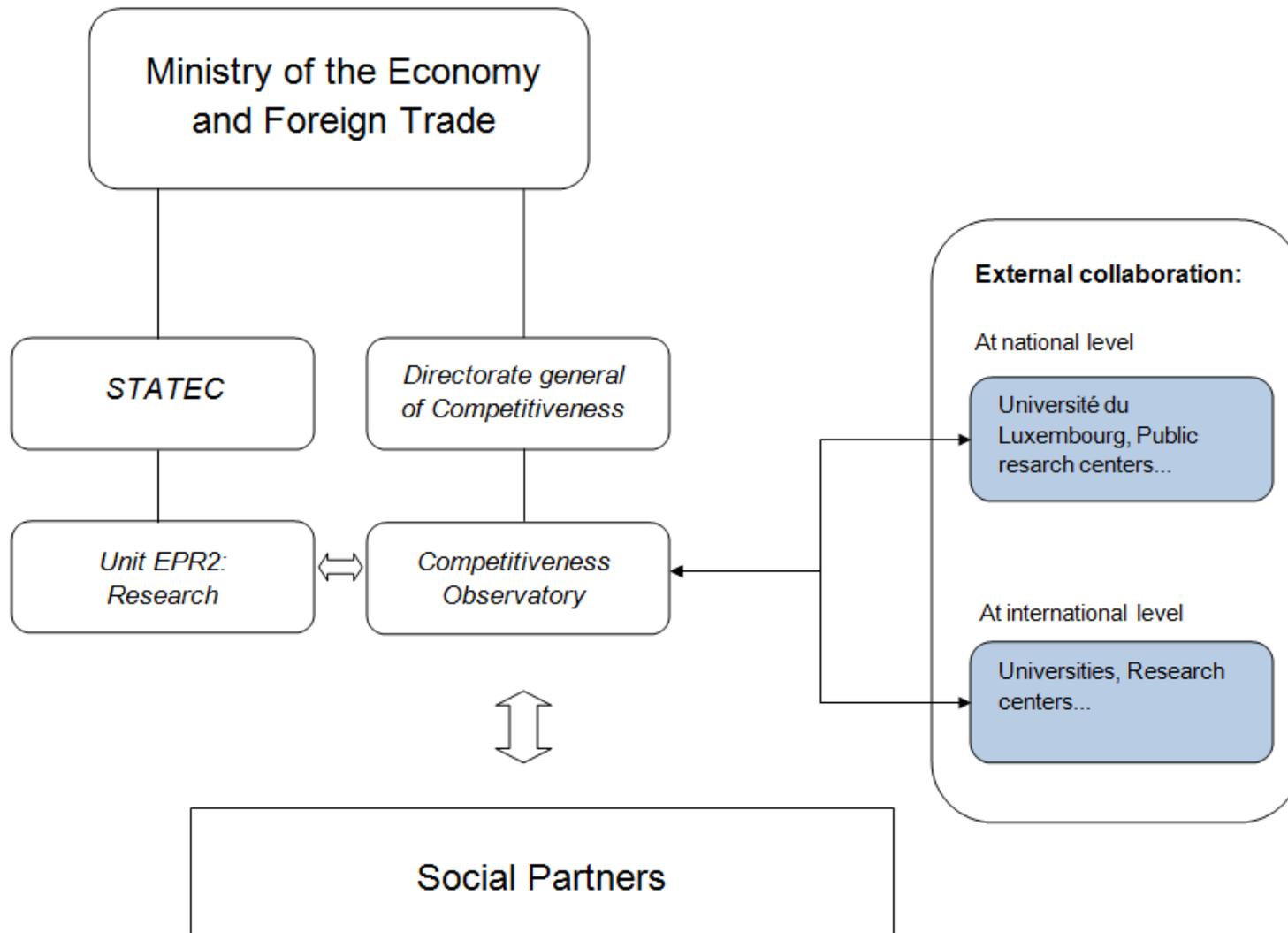
Competitiveness Luxembourg – Singapore: Partners or rivals?

Conference 12th June 2012



# Competitiveness Observatory

- Created in 2003 on a decision of social partners;
- Collect, analyze and compare data;
- Conduct or contract studies and research;
- Contribute to the deliberations and analyses of international institutions such as the European Council and the OECD;
- Input to a constructive debate between the social partners.





## International benchmarks

Organisation	Luxembourg's rank	Number of countries analyzed
<b>World Economic Forum</b> <i>Global Competitiveness Report 2010/2011</i>	23. (-3)	142
<b>International Institute for Management Development (IMD)</b> <i>World Competitiveness Yearbook 12</i>	12. (-1)	59
<b>Heritage Foundation</b> <i>Index of economic freedom 12</i>	13. (+1)	184
<b>European Commission</b> <i>Summary innovation index 11</i>	9. (+2)	27
<b>World Bank</b> <i>Ease of doing business index 2012</i>	50. (-6)	183



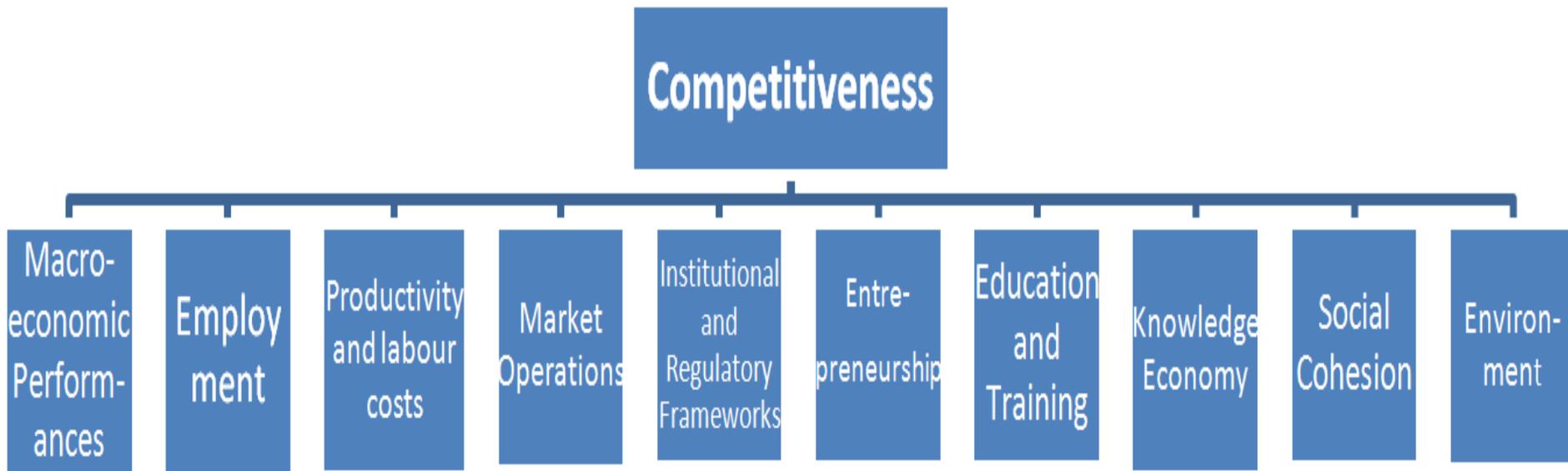
# The analysis of the Competitiveness Observatory

## The definition of competitiveness

« *Competitiveness is the capacity of a nation to durably improve the standard of living of its inhabitants and to procure for them high levels of employment and social cohesion while preserving the environment.* ».



# The Competitiveness scoreboard





## The Competitiveness Scoreboard

### Category 1: Macroeconomic performance (12 indicators)

- ▼ A1: Gross National Income per capita (PPS) (2008)
- ▼ A2: Real growth rate of GDP (2008)
- ▼ A3: Growth in domestic employment
- ▼ A4: Unemployment rate as a percentage (2008)
- ▼ A5: Inflation rate as a percentage (2008)
- ▼ A6: Public balance as a % of GDP (2008)
- ▼ A7: Public debt as a % of GDP (2008)
- ▼ A8: Gross fixed capital formation of the public administration (2008)
- ▼ A9: Terms of trade (2008)
- ▼ A10: Real effective exchange rate (1995–100) (2008)
- ▼ A11: Diversification – entropy coefficient (2008)
- ▼ A12: FDI inflows and outflows (2007)

### Category 2: Employment (9 indicators)

- ▼ B1: Employment rate (Total) (2008)
- ▼ B2: Employment rate (Men) (2008)
- ▼ B3: Employment rate (Women) (2008)
- ▼ B4: Employment rate of persons aged 55–64 (total) (2008)
- ▼ B5: Employment rate of persons aged 55–64 (Men) (2008)
- ▼ B6: Employment rate of persons aged 55–64 (Women) (2008)
- ▼ B7: Unemployment rate of persons under 25 (2008)
- ▼ B8: Long-term unemployment rate as a % (2008)
- ▼ B9: Persons holding a part-time job (2008)

### Category 3: Productivity and Labour costs (5 indicators)

- ▼ C1: Trends in total factor productivity (2008)
- ▼ C2: Trends in apparent work productivity (2008)
- ▼ C3: Productivity per hour worked as a percentage of U.S. figures (2008)
- ▼ C4: Changes in unit labour costs (2008)
- ▼ C5: Costs / Revenue ratio in the banking sector (2006)

### Category 4: Market Operations (9 indicators)

- ▼ D1: Percentage of full-time workers on minimum wage<sup>66, 67</sup>
- ▼ D2: Price of electricity (ex-VAT) – industrial users (2008)
- ▼ D3: Price of gas (ex-VAT) – industrial users (2008)
- ▼ D4: Market share of the primary operator in cellular telephones (2006)
- ▼ D5: Composite basket of fixed and cellular communications (ex-VAT) (2004)
- ▼ D6: Composite basket of cellular telephone royalties (ex-VAT) (2006)
- ▼ D7: Broad band Internet access rates (2007)
- ▼ D8: Basket of domestic royalties for 2Mbits leased lines (ex-VAT) (2006)
- ▼ D9: Public markets – value of public markets using open procedure procurement (2007)
- ▼ D10: Total of State aid as a % of GDP (excluding horizontal objectives) (2007)
- ▼ Market share of the primary operator in the fixed telephony market (2006)<sup>68</sup>

### Category 5: Institutional and Regulatory Framework (10 indicators)

- ▼ E1: Corporate taxes (2008)
- ▼ E2: Taxes on physical persons (2007)
- ▼ E3: Standard VAT rate (2009)
- ▼ E4: Tax wedge: Single, without children (2008)
- ▼ E5: Tax wedge: Married, with 2 children, one wage-earner (2008)
- ▼ E6: Administration efficiency index (2008)
- ▼ E7: Rule of law index (2008)
- ▼ E8: Regulatory quality index (2008)
- ▼ E9: Degree of sophistication of online public services (2007)
- ▼ E10: Public services full available on line (2007)
- ▼ Public sector wage costs\*

### Category 6: Entrepreneurship (4 indicators)

- ▼ F1: Propensity for entrepreneurship (2007)
- ▼ F2: Self-employed jobs as a percentage of total employment (2008)
- ▼ F3: Net change in number of companies (start – up rate less windup rate) (2005)
- ▼ F4: Volatility amongst companies (start – up rate plus windup rate) (2005)



#### Category 7: Education & Training (6 indicators)

- ▼ G1: Annual cost per student in public educational facilities (2006)
- ▼ GG2: Portion of the population aged 25 to 64 with at least a secondary education (2008)
- ▼ GG3: Portion of the population aged 25 to 34 with a university education\*<sup>49</sup>
- ▼ GG4: Percentage of human resources in scientific and technological fields as a % of total employment (2007)
- ▼ GG5: Lifelong learning (participation of adults in training and teaching programmes) (2008)
- ▼ GG6: Secondary school dropouts
- ▼ GPercentage of foreign nationals in S & T human resources\*
- ▼ GPercentage of highly qualified workers (TIC) in total employment figures\*

#### Category 8: Knowledge economy (14 indicators)

- ▼ H1: Internal R&D expenditure (2007)
- ▼ H2: Public R&D budget credits (2007)
- ▼ H3: Portion of public research financed by the private sector (2007)
- ▼ Percentage of sales allocated to the introduction of new products on the market (new or significantly improved products) (2003)
- ▼ H5: Number of researchers per 1,000 employed persons (2007)
- ▼ H6: Scientific publications per million inhabitants (2005)
- ▼ H7: Number of USPTO patents per million inhabitants (2008)
- ▼ H8: Number of OEB patents per million inhabitants (2006)
- ▼ H9: Use Internet by companies (broad band) (2008)
- ▼ H10: Investment in public telecommunications as a percentage of gross fixed capital formation (2005)
- ▼ H11: Percentage of households that have broad band Internet access at home (2008)
- ▼ H12: Number of fixed or cell phones per 100 inhabitants (2005)
- ▼ H13: Percentage of households that have broad band Internet access (2008)
- ▼ H14: Number of secure web servers per 100,000 inhabitants (2006)
- ▼ H15: Percentage of total employment in medium or high technology sectors (2007)

#### Category 9: Social Cohesion (6 indicators)

- ▼ I1: Gini coefficient (2007)
- ▼ I2: At-risk of poverty rate after social transfers (2007)
- ▼ I3: At persistent risk of poverty rate (2004)
- ▼ I4: Life expectancy at birth (2007)
- ▼ I5: Wage gap between men and women (2006)
- ▼ I6: Serious work accidents (2005)

#### Category 10: Environment (7 indicators)

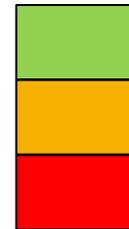
- ▼ J1: Number of ISO 14001 certifications (2007)
- ▼ J2: Number of ISO 9001 certifications (2007)
- ▼ J3: Total greenhouse gas emissions (2007)
- ▼ J4: Percentage of renewable energy (2007)
- ▼ J5: Volume of municipal waste generated (2007)
- ▼ J6: Energy intensity of the economy (2007)
- ▼ J7: Modal split in transportation choice – percentage of car users as transportation method (2007)

Source: Fontagné (2004)



# Methods to analyse 80 indicators

**1. Luxembourg compared to EU averages.**



**Evolution of LU performances in time:**



**2. The calculation of a composite indicator on the basis of the 80 indicators of the scoreboard**



## Macroeconomic Performances

Code	Indicateur		LU	UE-27	DE	FR	BE	MIN	MAX
A1	Gross National Income per capita at market prices PPS (2011)	↓	191	100	122	109	121	BU 43	LU
A2	Real growth rate of GDP as a % (2011)	↓	1.6	1.5	3	1.7	1.9	GR -6.9	EE 7.6
A3	Growth in domestic employment as a % (2011)	↑	1.5	0.3	1.3	0.6	1.3	BU -4.2	EE 7
A4	Unemployment rate as a % (2011)	↑	5.7	9.7	5.9	9.7	7.2	AT 4.4	ES 21.7
A5	Inflation rate as a % (2011)	↓	3.4	3.10	2.5	2.3	3.5	IR 1.2	RO 5.8
A6	Public balance as a % of GDP (2011)	↑	-0.6	-4.5	-1	-5.2	-3.7	IR -13.1	EE 1
A7	Public debt as a % of GDP (2011)	↑	18.2	82.5	81.2	85.8	98	EE 6	GR 165.3
A8	Gross fixed capital formation as % of GDP (2011)	↓	3.89	2.4	1.54	3.13	1.8	AT 1.54	PO 6.61
A9	Terms of trade (2011)	↓	108.14	-	98.23	96.46	97.65	IR 94.5	RO 139.82
A10	Real effective exchange rate (2000 = 100) (2011)	↓	101.84	96.53	95.47	96.77	101.32	UK 81.8	SK 130.6
A11	Diversification – Entropy coefficient (2010)	↑	0.58	0.69	0.66	0.67	0.66	LU	SK 0.72
A12	Market integration (2010)	↓	365.8	1	2.3	2.3	3.2	PT -1.6	LU

\*taux d'inflation LU : IPCN, autres IPCH ; taux de chômage harmonisé EUROSTAT/BIT LU:Adem; \*\*UE-15



## Employment

Code	Indicator		LU	EU-27	DE	FR	BE	MIN	MAX
B1	Employment rate, as a % (2011)	↓	64.6	64.3	72.5	63.8	61.9	HU 55.8	NL 74.9
B2	Employment rate - Men (2011)	↓	72.1	70.1	77.3	68.1	67.1	LT 60.9	NL 79.8
B3	Employment rate – Women (2011)	↓	56.9	58.5	67.7	59.7	56.7	MT 41	DK 70.4
B4	Employment rate of persons aged 55-64, as a % (2011)	↓	39.3	47.4	59.9	41.4	38.7	MT 31.7	SE 72.3
B5	Employment rate of persons aged 55-64 (Men) (2011)	↑	47	55.2	67	44	46	HU 39.8	SE 75.7
B6	Employment rate of persons aged 55-64 (Women) (2011)	↑	47.4	40.2	55.3	35.6	40	SK 22.7	SE 57.2
B7	Unemployment rate of persons under 25, as a % (2011)	↑	15.6	21.4	8.6	22.9	18.7	NL 7.6	ES 46.4
B8	Long-term unemployment rate as a % (2011)	↓	1.4	4.1	2.8	4	3.5	AT 1.1	SK 9.2
B9	Persons holding a part-time job as a % (2011)	↓	18.4	19.5	26.6	17.9	25.1	BU 2.4	NL 49.1



## Ranking of the Competitiveness Composite indicator 2005-2011

	2005	2006	2007	2008	2009	2010	2011
Allemagne	13	9	10	8	10	5	6
Autriche	9	8	7	7	7	7	5
Belgique	17	16	15	15	17	18	18
Bulgarie	20	22	20	14	19	19	15
Chypre	21	18	18	11	11	20	22
Danemark	2	2	2	3	2	2	3
Espagne	18	20	17	19	20	23	23
Estonie	7	5	8	10	13	11	7
Finlande	3	4	4	4	5	4	4
France	15	15	13	13	12	13	11
Grèce	25	23	24	24	23	27	27
Hongrie	23	21	27	26	26	26	24
Irlande	14	13	12	18	15	15	17
Italie	22	24	21	21	18	16	21
Lettonie	12	17	16	23	24	14	14
Lituanie	10	11	11	22	27	22	20
<b>Luxembourg</b>	<b>8</b>	<b>10</b>	<b>9</b>	<b>9</b>	<b>8</b>	<b>10</b>	<b>12</b>
Malte	24	26	25	25	25	25	25
Pays-Bas	5	3	3	2	3	3	2
Pologne	27	25	23	20	14	17	13
Portugal	26	27	26	27	22	24	26
Roumanie	19	14	22	16	16	21	19
Royaume-Uni	6	7	6	5	4	9	10
République slovaque	16	19	19	17	21	12	16
République tchèque	11	12	14	12	6	8	9
Slovénie	4	6	5	6	9	6	8
Suède	1	1	1	1	1	1	1



## Ranking of composite indicator at category level in 2011

	1	2	3	4	Luxembourg
<b>Macroeconomic performances</b>	Luxembourg	Estonia	Sweden	Poland	<b>1</b>
<b>Employment</b>	Sweden	Netherlands	Germany	Denmark	<b>10</b>
<b>Productivity and labour costs</b>	Ireland	Estonia	Netherlands	Finland	<b>26</b>
<b>Market operations</b>	Romania	United Kingdom	Estonia	Bulgaria	<b>14</b>
<b>Institutional and Regulatory Frameworks</b>	Ireland	Luxembourg	United Kingdom	Netherlands	<b>2</b>
<b>Entrepreneurship</b>	Greece	Bulgaria	Romania	Poland Czech	<b>23</b>
<b>Education and Training</b>	Denmark	Finland	Sweden	Republic	<b>14</b>
<b>Knowledge Economy</b>	Finland	Denmark	Sweden	Germany Slovak	<b>6</b>
<b>Social Cohesion</b>	Slovenia Czech	Sweden	Hungary	Republic	<b>15</b>
<b>Environment</b>	republic	Sweden	Romania	Italy	<b>27</b>



## Ranking of composite indicator at category level neighbouring countries (in 2011)

	France	Belgium	Germany	Netherlands	Luxembourg
<b>Macroeconomic performances</b>	17	20	9	5	<b>1</b>
<b>Employment</b>	13	12	3	2	<b>10</b>
<b>Productivity and labour costs</b>	11	13	9	3	<b>26</b>
<b>Market operations</b>	10	15	23	7	<b>14</b>
<b>Institutional and Regulatory Frameworks</b>	21	24	11	4	<b>2</b>
<b>Entrepreneurship</b>	5	26	21	10	<b>23</b>
<b>Education and Training</b>	20	17	13	8	<b>14</b>
<b>Knowledge Economy</b>	10	7	4	5	<b>6</b>
<b>Social Cohesion</b>	8	5	13	7	<b>15</b>
<b>Environment</b>	18	22	15	2	<b>27</b>



## Results of Studies by Research Unit of **STATEC** on Competitiveness Issues

- Productivity
- Innovation
- Entrepreneurship
- Information and Communication Technologies



<http://www.odc.public.lu/>



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**2012** World Competitiveness Yearbook 2012  
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IMD WORLD COMPETITIVENESS YEARBOOK

L'Institut suisse IMD vient de publier la nouvelle édition 2012 de son rapport annuel sur la compétitivité, le World Competitiveness Yearbook (WCY). Depuis 1989, ce rapport est publié annuellement. Dans cette nouvelle édition 59 pays ...

IMD World Competitiveness Yearbook 2012

**Recommandations par pays 2012-2013**  
30-05-2012

En date du 30 mai 2012, la Commission européenne a adopté dans le cadre du semestre européen un ensemble de recommandations concernant les mesures budgétaires et les réformes économiques à ...

Recommandations par pays 2012-2013 adressées au Luxembourg dans le cadre du semestre européen

**Evénements**

Conférence "Competitiveness Luxembourg-Singapore: partners or rivals?" (Luxembourg-Kirchberg, 12.6.2012).

**Dernières publications**

Avril 2012

Luxembourg 2020

Programme national de réforme du Grand-Duché de Luxembourg dans le cadre du semestre européen 2012

