



# Creativity: Can Composite indicators help?

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*Workshop:*

*CAN CREATIVITY*

*BE MEASURED?*

*Brussels, 28-29 May 2009*

*Madou Tower*



- Composite indicators' fortune

How many composites are around? Searching “composite indicators” on Scholar Google:



	Scholar Google
October 2005	992
June 2006	1,440
May 2007	1,900
October 2008	3,030
May 2009	3,770



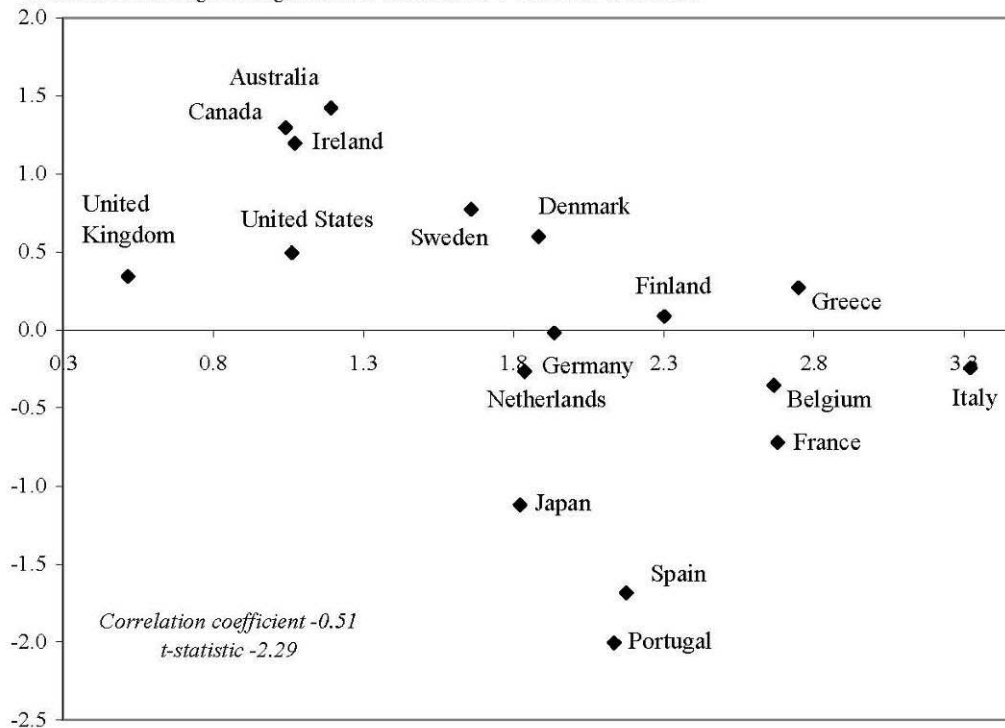
- Analysis via composite indicators

See <http://www.oecd.org/dataoecd/20/52/38859413.pdf>

## Cross-country differences in product market regulation may have contributed to divergent productivity trends

From Jean Philippe Cotis and Romain Duval,  
Competitiveness, Innovation and economic growth  
Istanbul 2007, Conference  
'Measuring and Fostering Progress'

Difference in average MFP growth rate between 1990-2000 and 1980-1990<sup>1</sup>



Product market regulation, inward oriented<sup>2</sup>, 1998

- Adjusted for hours worked.
- Indicator of economy-wide regulation excluding barriers to international trade and investment. The indicator ranges from 0 to 6, from least to most restrictive. See Nicoletti et al. (1999).

Source : OECD Productivity Database.



## Improved Test Scores = Improved Growth Performance

From Ludger Wößmann  
Contribution of  
Education and Training  
to Innovation and Growth  
Symposium on the  
Future Perspectives  
of European Education  
and Training for Growth,  
Jobs and Social  
Cohesion, Brussels,  
2007





- Composite indicators and advocacy

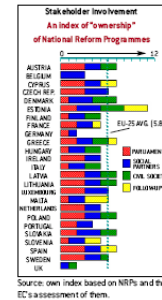
“[...] civil societies *learn* from the experience of others. Such *policy learning* can be enhanced by initiatives that facilitate cross country comparison and benchmarking. A telling example in this respect is [...] PISA.”



## LAST EXIT TO LISBON

by **Jean Pisani-Ferry**  
Director of Bruegel  
 jean.pisani-ferry@bruegel.org  
 and **André Sapir**  
Senior Fellow at Bruegel  
 and Professor of Economics at  
 Université Libre de Bruxelles  
 www.sapir@bruegel.org

**SUMMARY** The Lisbon agenda was reborn a year ago with its economic goals prioritised and a new system of governance. Of the three key changes advocated in the Kok report, only National Reform Programmes (NRPs) drawn up by the member states made it off the drawing board. The proposals to provide appropriate EU funding to support the Lisbon goals, and “name and shame” poor performing member states were rejected. **The driving force of Lisbon 2 is thus national “ownership” of the reforms.** Taking evidence of stakeholder involvement we have developed a 12-point scale in an attempt to measure how far the NRPs have been taken to heart in individual countries. In practice, the outcome is mixed at best. There is no explicit methodology behind the evaluation of the NRPs by the Commission. Also, even though the rationale for coordination of reform is strongest for countries in a currency union, Lisbon 2 lacks an explicit euro area dimension.



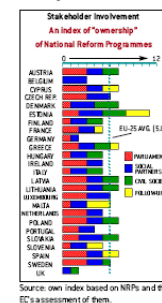
**POLICY CHALLENGE**  
 There is still value in the Lisbon agenda, but with just one of the three “legs” of governance remaining, that leg must be made stronger and be complemented. If Lisbon 2 is to be salvaged, policymakers need to strengthen the rationale for EU involvement in a range of matters that are the direct responsibility of the member states. The EU guidelines on which the NRPs are supposed to be based are far too complex and must be simplified. The publication of comparative performance indicators should be resumed. The methodology for evaluation of NRPs and the underpinnings of country-specific recommendations need to be spelled out more explicitly in order to encourage national debate on key areas of underperformance in individual countries. We feel the lack of an explicit euro area aspect is also a major weakness and should be addressed by the Eurogroup as a matter of urgency.

“Transparency benefits the democratic process as it empowers national electorates to review the performance of their own governments and it helps focus the debate on key areas of underperformance. **The use of league tables facilitates this process.**”

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- Composite indicators and the media

## The Economist's house-price indicators

% change

	Latest on a year earlier	Q3 2007	1997- 2008 or latest
Hong Kong	14.6	12.2	-26
Singapore	8.3	27.6	na
Belgium	7.5	11.0	147
Switzerland	3.7	2.3	23
Australia	2.8	11.4	169
France	2.8	5.7	150
Netherlands	2.3	3.1	105
Sweden	2.0	11.6	153
China	1.6	8.2	na
Germany	1.4	-3.1	na
Canada	1.4	6.3	70
South Africa	1.2	15.0	398
Italy	1.1	5.1	104
Spain	0.4	5.3	191
Japan	-1.8	-0.7	-33
Denmark	-2.7	2.7	124
United States (OFHEO)	-4.0	1.8	85
New Zealand	-6.8	11.4	105
Ireland	-10.2	-1.8	201
Britain	-13.9	9.5	168
United States (Case-Shiller national index)	-16.6	-4.4	79
United States (Case-Shiller ten-city index)	-18.6	-4.9	116

Sources: ABSA; ESRI; Hypoport; Japan Real Estate Institute; Nationwide; Nomisma; NVM; OFHEO; Quotable Value; Stadim; Swiss National Bank; Standard & Poor's; government offices

## Economist.com

### Markets and data

All markets and data

Daily chart

Weekly indicators

World markets

Currencies

Rankings

Big Mac index

11

## Our rankings

Business ...

Economics

Big Mac index: A light-hearted guide to whether currencies are at their "correct" level

All Economics rankings »

Education ...

Living...

Politics...

Global peace index: The world's most and least peaceful countries

All Politics rankings »

Risk...

Technology...

Use: Rankings from the Economist web edition, March 30, 2009

Another example, about Mauritius,  
Economist October 16, 2008

**Economist.com**

THE **1.3m people** of Mauritius love to prove famous people wrong. On independence from Britain in 1968, pundits such as a Nobel prize-winning economist, James Meade, and a novelist, V.S. Naipaul, did not give much of a chance to this tiny, isolated Indian Ocean island 1,800km (1,100 miles) off the coast of east Africa. Its people depended on a sugar economy and enjoyed a GDP per person of only \$200. Yet the island now boasts a **GDP** per person of **\$7,000**, and very few of its people live in absolute poverty. It once again **ranks first** in the latest annual **Mo Ibrahim index**, which measures governance in Africa. And it bagged **24th** spot in the **World Bank's** global ranking for **ease of doing business**—the only African country in the top 30, ahead of countries such as Germany and France. How does it pull it off?



- Composite indicators methodology

Methodology from: Joint  
OECD-JRC handbook.

- 5 years of preparation,
- 2 rounds of consultation  
with OECD high level  
statistical committee,
- finally endorsed March  
2008 (with one abstention)



Handbook on Constructing Composite Indicators: METHODOLOGY AND USER GUIDE



## Ten recommended steps

Step 1. Developing a theoretical framework

Step 2. Selecting indicators

Step 3. Imputation of missing data

Step 4. Multivariate analysis

Step 5. Normalisation of data

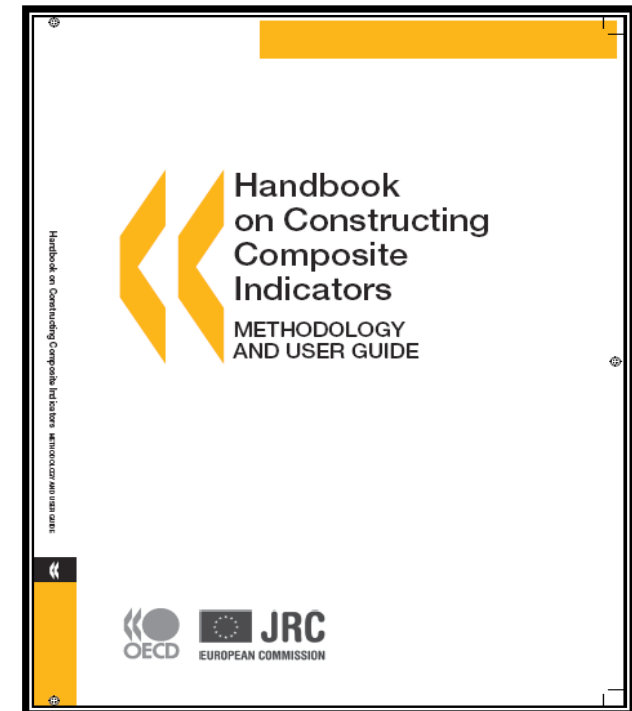
Step 6. Weighting and aggregation

Step 7. Robustness and sensitivity

Step 8. Back to the details

Step 9. Association with other variables

Step 10. Presentation and dissemination



<http://composite-indicators.jrc.ec.europa.eu/>

A good technical preparation for a CI can make it more **robust** (to uncertainties in data, weights,...) more **resilient** (remain relevant over time), more **defensible** (in dialogue with stakeholders...)

Note: a composite can be refuted or **invalidated** by practitioners.



- Examples from EAC and JRC work



## **Rickety Numbers** **International rankings of higher education** **lack statistical robustness**

Michaela Saisana, Beatrice D'Hombres, Andrea Saltelli



Jiao Tong ranking of World Universities



Michaela Saisana



Beatrice D'Hombres

Submitted to **Research Policy**



**Le Monde.fr**

**UNE ÉTUDE QUI  
MET EN CAUSE LE  
CLASSEMENT DE  
SHANGHAÏ**

[http://www.lemonde.fr/archives/article/2008/11/14/vers-un-classement-europeen-des-universites\\_1118448\\_0.html](http://www.lemonde.fr/archives/article/2008/11/14/vers-un-classement-europeen-des-universites_1118448_0.html), Saturday 15 November 2008

# What are the levels of Active Citizenship in Europe?

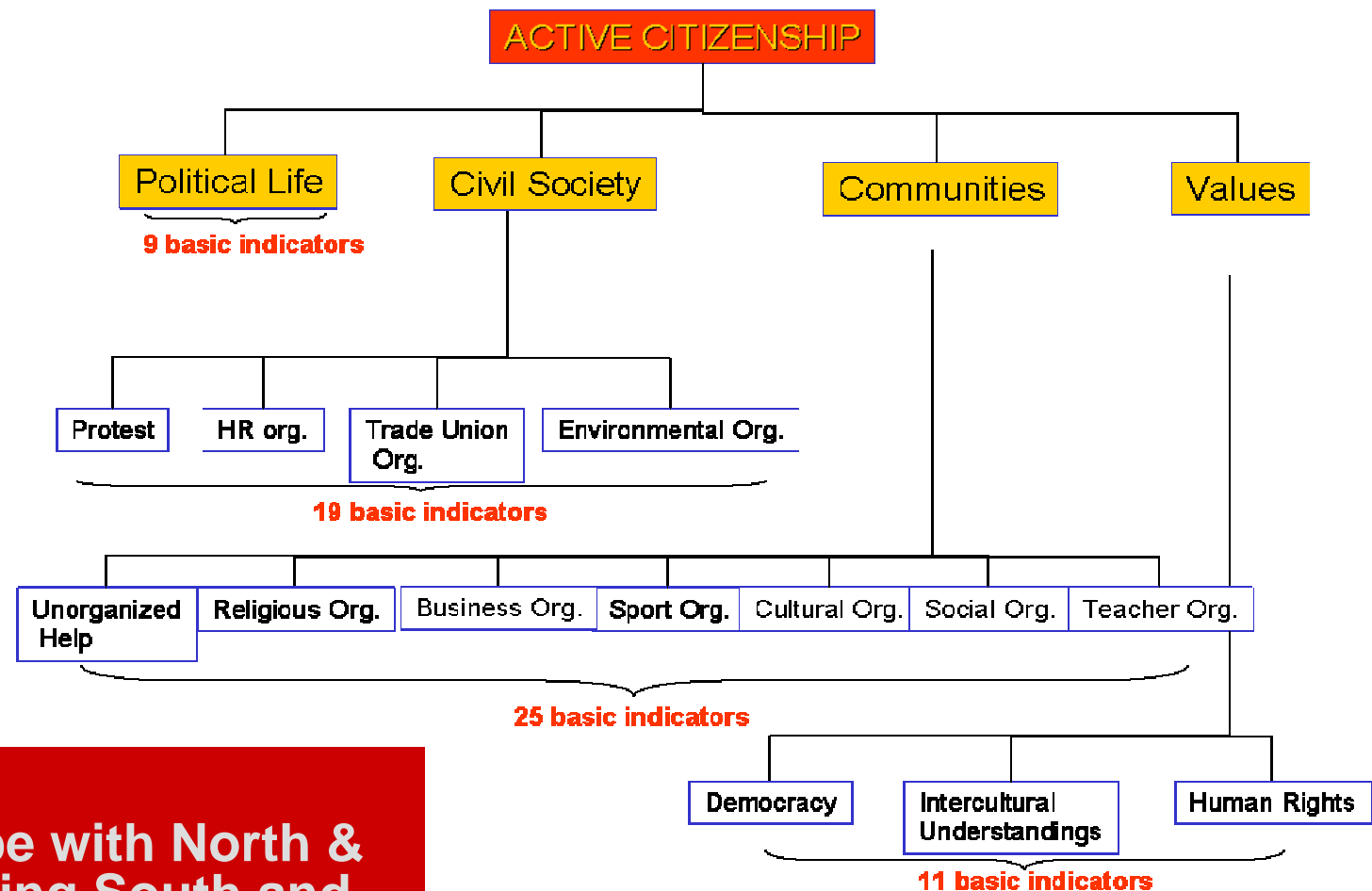
EUROPEAN COMMISSION

63 indicator index from European Social Survey data on adult participation in Politics, Community & Civil Society and Values



**CRELL** 20

Centre for Research on Lifelong Learning



**•Results:**  
•two speed Europe with North & West out performing South and East Europe

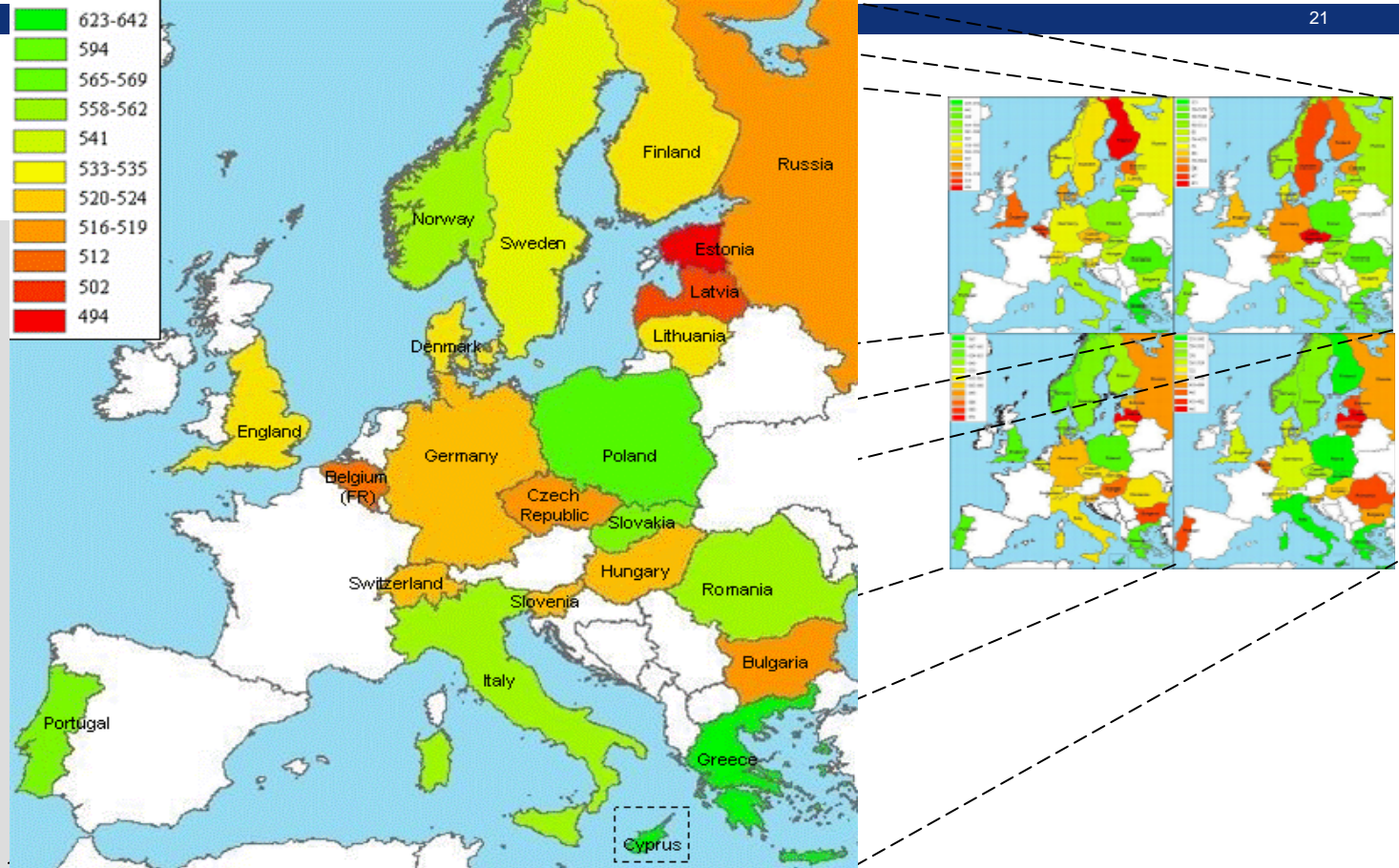
# What are the levels of Civic Competence of young people in Europe?

28 April 2007 – IPSC scientific seminar

21



**84 indicators –  
IEA data on:  
1) knowledge,  
2) skills,  
3) attitudes,  
values and  
4) beliefs on  
citizenship**

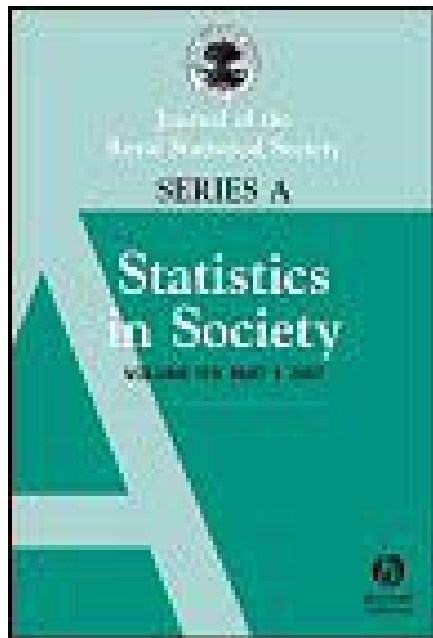


## Results:

Newer democracies perform better on Attitudes towards participation and Citizenship values.

Older and more stable democracies perform better on Social Justice and Cognitive tasks on civic knowledge and skills.

## Other sources:



Saisana M., Saltelli A., Tarantola S. (2005)  
Uncertainty and Sensitivity analysis techniques as  
tools for the quality assessment of composite  
indicators, *Journal of the Royal Statistical Society*,  
**A 168(2)**, 307-323.

Saltelli, A., 2007, Composite  
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*Social Indicators Research*, **81** , 65-77.

Brand DA, Saisana M, Rynn LA, Pennoni F, Lowenfels  
AB, 2007, Comparative Analysis of Alcohol Control  
Policies in 30 Countries, *PLoS Medicine*, **4(4)**, 752-  
759.

The first step: agree on a framework!

- Technology
  - European Innovation Scoreboard
- Tolerance
  - Active Citizenship - Values
- Talent
  - Lifelong learning indicator (?)  
(from Richard Florida's framework)

More reading at

<http://composite-indicators.jrc.ec.europa.eu>



 composite indicators