

## 12. KEA briefing: towards a European creativity index<sup>1</sup>

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*IL FAUT APPRENDRE À JUGER UNE SOCIÉTÉ À SES BRUITS,  
À SON ART ET À SES FÊTES PLUS QU'À SES STATISTIQUES.*  
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### Abstract

*This paper summarises KEA's assessment concerning the potential establishment of a European Creativity Index. The assessment was undertaken as part of the study on the contribution of culture to creativity, conducted for the European Commission in 2008/09. It establishes a rationale for including indicators related to culture-based creativity into existing socioeconomic indicator schemes such as the European Innovation Scoreboard and other frameworks with a view to highlight the socioeconomic impacts that culture can have. Upon a brief review of existing indexes linked to innovation, creativity and cultural consumption we suggest that a focus on the cultural dimension of creativity implies taking into consideration a number of factors, many of which are usually not included in other indexes. These include, but are not limited to: education in art schools, cultural employment, cultural offering, cultural participation, technology penetration, regulatory and financial support to creation and the economic contribution of creative industries. We group these indicators in five pillars of creativity, namely: human capital, technology, the institutional environment, the social environment, openness and diversity. The cultural dimension as well as the creative contribution of each of these pillars is discussed and the paper then suggests 32 indicators (including data sources).*

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<sup>1</sup> This briefing note is a summary of key messages of KEA's report 'The contribution of culture to creativity', conducted for the European Commission in 2008/09; the report can be accessed via KEA's website (<http://www.keanet.eu>).

<sup>2</sup> In Jacques Attali, *Bruits*, Fayard 1977.

## Introduction

Jacques Attali's words find resonance at a time when statistic projections and corporate management systems seem to have failed public trust at large. Yet, measuring the creative potentials of Europe should be understood as an exercise that ultimately helps to illustrate the importance of culture and creativity to stakeholders outside the cultural realm. Moreover, calls for increased evidence-based policymaking throughout Europe are most likely here to stay. They have so far resulted in the development of a number of statistic indicator schemes which by large do not take creative or cultural factors into account and thus fall short of painting a comprehensive picture of the state of Creative Europe. The following therefore examines the possibility of establishing such indicator framework with a view to set up a European Creativity Index (ECI). A key goal of such index would be to highlight the potential of including culture-based indicators in existing frameworks related to creativity, innovation and socioeconomic development.

As part of its Lisbon strategy, the European Commission in 2000 developed a European Innovation Scoreboard to provide a comparative assessment of the innovation performance of EU Member States. This scoreboard has developed into an important tool of pan-European policy learning and succeeded in putting innovation high on the agenda of policymakers in European Member States and Regions. It is based on a wide range of indicators covering structural conditions, knowledge creation, and innovation (see Chapter 4 in this book) but has for long underestimated the role that creativity plays in the innovation process<sup>3</sup>.

But what do we really mean when we speak about this ubiquitous concept of creativity? In particular from a policy point of view creativity should not solely be considered as 'a product oriented phenomenon aimed at solving problems' Lubart (1999). It is as well a quest, a risk, an approach rather than a solution. Because creativity can mean so many things the KEA's recent study develops the concept of culture-based creativity, which derives from art and cultural productions or activities which nurture innovation. Culture-based creativity is linked to the ability of people, notably artists, to think imaginatively or metaphorically, to challenge the conventional, and to call on the symbolic and affective to communicate. Culture-based creativity is a capacity to break the natural order, the usual way of thinking and to allow the development of a new vision, an idea or a product. Culture-based creativity is creativity that comes from artists, creative professionals and the cultural and creative industries.

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<sup>3</sup> A review of the Innovation Scoreboard approach is included in KEA's full report for the European Commission.

## Measuring creativity: a challenging task

Measuring creativity is most certainly as challenging as measuring innovation. Innovation can rely on data that is already captured by Eurostat, the statistical office of the European Communities: this includes number of science and engineers graduates, R & D expenditure, venture capital expenditure in ICT, patent applications, etc. However, European and national statistical agencies collect far less detailed data concerning the role of creativity, such as number of art students, expenditure in film, games development or A&R<sup>1</sup>. Moreover, KEA's report explains that it is rather unlikely that such attempts will be made at EU or Member State level in the near future given the subjective choices such exercise would entail.

KEA's report for the Commission briefly examines different strategies for measuring creativity (e.g. Guilford 1950, Kitto, Lock and Rudowicz, 1994, or Helson, 1999). With regards to measuring creativity at the individual level, it concludes that such approach should not be the main focus of policymakers that aim to establish a creativity index. The main reason for this recommendation is the context-dependency of individual creativity (Wallach, 1976). Because of this context-dependency, the reliability of data concerning the creativeness of individuals is often contested. On this basis, and in line with Villalba's (2008) assessment, we conclude that it is preferable to build a creativity index that focuses on the social and economic factors that influence creativity in general. In order to identify indicators that could be included in an ECI we reviewed national and international indexes linked to innovation, creativity and cultural consumption.

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<sup>1</sup> Artist & Repertoire — money invested by record companies to develop new artists

## Review of existing indexes

We assessed several creativity and innovation related indexes, as summarised below (for further information see Appendix III of KEA's report on the contribution of culture to creativity):

INDEXES	OBJECTIVE	SCOPE
<b>Creativity Indexes</b>		
Hong Kong Creativity Index <sup>1</sup>	— capture the characteristics of the sociocultural parameters and illustrate the interplay of various factors that are contributory to creativity	Set of cognitive, environmental and personality variables that interact to create creative outputs in the Hong Kong's territory
Euro-Creativity Index <sup>54</sup>	— list elements that would attract the 'creative class' to a location	The '3Ts': Technology, Tolerance and Talent
Flemish Index <sup>2</sup>	— benchmark regional innovation	Technical innovation, entrepreneurship and openness of society
<b>Cultural Life Index</b>		
Finnish Report <sup>3</sup>	— compile indicators of cultural life	The cultural sector including: music, dance, theatre, fine arts, cultural heritage, libraries, cinema and video, magazines and newspapers
<b>Innovation Indexes</b>		
EIS <sup>4</sup>	— rank the most innovative Member States	Technological innovation
Oslo Manual <sup>5</sup>	— have a better understanding of the innovation process	Economic output as well as human capital (education, talent)

<sup>1</sup> The 'Hong Kong Creativity Index' developed by the Home Affairs Bureau of the Hong Kong Special Administrative Region Government published in November 2004 (A study on Hong Kong Creativity Index, November 2004).

<sup>2</sup> The 'Euro-Creativity Index' developed in the report 'Europe in the creative age' by Florida and Tinagli in 2004 on the basis of 'The Rise of the Creative Class' published in 2002 (Florida, 2002) (Florida, R., Tinagli, I., 2004).

<sup>3</sup> 'A Composite Index of the Creative Economy' by H. P. Bowen, and L. Sleuwaegen from Vlerick Leuven Gent Management School and W. Moesen from the Catholic University of Leuven, 2006, (Bowen, H. P., Sleuwaegen L., Moesen W., 2006).

<sup>4</sup> The report prepared for the Finnish Ministry of Education and Culture by R. G. Picard, M. Grönlund and T. Toivonen on the 'Means for Overall Assessment of Cultural Life and Measuring the Involvement of the Cultural Sector in the Information Society' published in 2003 (Picard, R.G., Grönlund, M. and Toivonen, T., The Media Group, Business Research and Development Centre, Turku School of Economics and Business Administration, 2003).

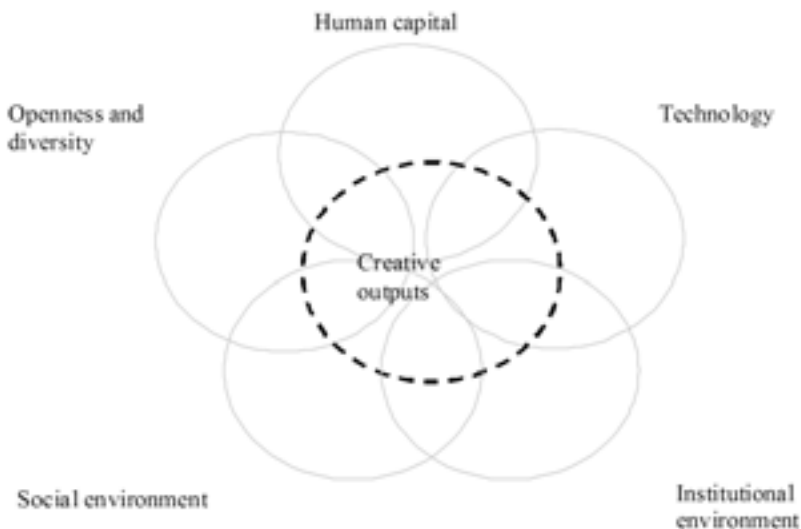
<sup>5</sup> The 'European Innovation Scoreboard 2007' prepared by the Directorate-General for Enterprise and Industry of the European Commission under the Lisbon strategy (European Innovation Scoreboard, 2007).

<sup>6</sup> The 'Oslo Manual: the Measurement of Scientific and Technological Activities, Guidelines for collecting and interpreting innovation data', third edition, a joint publication of OECD and Eurostat, 2005 (Oslo Manual: the Measurement of Scientific and Technological Activities, Guidelines for collecting and interpreting innovation data, 2005, third edition).

## Establishing the European Creativity Index (ECI)

The European Creativity Index (ECI) is a new statistical framework for illustrating and measuring the interplay of various factors that contribute to the growth of creativity in the European Union. As other indicators it measures the performance of a phenomenon using a set of indicators which highlight some of the key features of that phenomenon. It is inspired by existing indexes concerning creativity, innovation and economic performance but introduces elements that are more specifically related to arts and culture.

A focus on the cultural dimension of creativity implies taking into consideration a number of factors, many of which are usually not included in other indexes. These include, but are not limited to: education in art schools, cultural employment, cultural offering, cultural participation, technology penetration, regulatory and financial support to creation, economic contribution of creative industries. We group these indicators in six pillars of creativity, illustrated in the graph below.



## Analysis of the pillars of creativity

### *Human capital*

While it is shaped by a range of external factors (including economic status and cultural norms and values). Learning and education are important indicators concerning the levels of human capital in any given society (OECD, 2001, Barro, 2001). Nevertheless, there are also arguments opposing this positive influence of education and training on creativity. For example, Claxton (2008) highlights that traditional teaching is mainly built on dispositions of analytical thinking and tends to neglect other qualities of mind, such as imagination, intuition and intrinsic curiosity — skills that are key to creativity.

Policy documents increasingly seem to acknowledge that the way we learn and develop human capital needs to involve more interdisciplinary, non-cognitive and communicative approaches (OECD, 2001). Culture-based interventions in schools, higher education and lifelong learning can facilitate this creativity shift in learning: 'The arts provide an environment where the learner is actively engaged in creative experiences, processes and development' (Unesco, 2006); 'Research indicates that introducing learners to artistic processes, while incorporating elements of their own culture into education, cultivates in each individual a sense of creativity and initiative, a fertile imagination, emotional intelligence and a moral "compass", a capacity for critical reflection, a sense of autonomy, and freedom of thought and action<sup>5</sup>. Education in and through art also stimulates cognitive development and can make how and what learners learn more relevant to the needs of modern society' (Unesco, 2006).

On the basis that culture plays an important role in fostering the creative dimensions of human capital we suggest a number of indicators related to (i) the potential of culture- and arts-based education (primary, secondary, tertiary) to help foster creative talents and (ii) the level of creative talents coming out of tertiary education and in cultural employment (see Annex 1).

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<sup>5</sup> For examples of research studies and evidence, refer to the reports from preparatory meetings for the World Conference on Arts Education; cf. LEA International at <http://www.unesco.org/culture/lea>

## *Openness and diversity*

Contemporary notions of economic development put increasing emphasis on the link between open and diverse societies and their creative and innovative capacities — particularly so in an economic development context.

Jane Jacobs (1993) was the first to suggest that diversity and the exchange of ideas are a source of innovation and thus play an important role in the creation of powerful and dynamic cities. Similarly, Richard Florida (2002) showed that creativity cannot flourish without a creative climate characterised by ‘a culture that’s open-minded and diverse.’ Regional economic growth is powered by creative people, who prefer places that are diverse, tolerant and open to new ideas. Diversity increases the likelihood that a place will attract different types of creative people. Greater and more diverse concentrations of creative capital in turn lead to higher rates of innovation, high-technology business formation, job generation and economic growth. Importantly, the cultural offering of a city or region (whether indicated by the number of opera houses or the number of underground punk rock bands) makes a place more attractive to these creative talents. Indeed, many argue that there is a highly dynamic relationship between today’s creative entrepreneurs (that are increasingly seen as the motor of the general economy) and the publicly funded arts venues (which stimulate creatives to develop new products and services).

On a different level, Sen’s (1993) capabilities approach shows that several substantive freedoms — including freedom of expression and the requirement to access a plurality of information sources — impact on individuals’ most basic ability to realise their full potential. Nussbaum (2000) further develops his line of reasoning and examines the importance of more imaginative, artistic and spiritual ways of individual expression in relation to one’s ability to fulfil individual potentials. The basic idea of such capabilities approach is that people who have access to cultural and information resources as well as the freedom to express themselves creatively and imaginatively stand better chances to lead a better life.

We suggest a range of indicators that link issues of openness, diversity and media pluralism to the cultural domain.

## *Cultural environment*

Today, few policy strategies in European Member States link cultural participation and the performance of the cultural and creative sectors to the general progress of society. 'Successful societies in the 21st century will be those that nurture a spirit of creativity and foster the cultural activity which goes hand in hand with it' claims a British policy document from 2001.

The cultural environment — our concert venues, galleries, book stores and cinemas (to name but a few) — are essential to the development of a creative society. They are the hotspots of disruptive debate and provide ground for argumentation, idea development and networking beyond one's restricted circle of contacts. As Elizabeth Currid (2007) points out, 'creativity would not exist as successfully or efficiently without its social world — the social is not the by-product — it is the decisive mechanism by which cultural products and cultural producers are generated, evaluated and sent to the market. 'Culture is a driver of creativity precisely because of its 'social properties'. Moreover, various studies have demonstrated that museums and galleries are 'places where creativity can flourish' (Hooper et al., 2006) because they 'encourage people to think differently, to take and transmit ideas and to generate new things based on the creativity of the past' (Travers and Glaister, 2004).

Yet, it is the exposure to arts and culture that will make people creative — not the mere existence of the earlier. Evidence shows that cultural participation — which we measure by looking into level of attendance at cultural events and participation in cultural activities for lack of better statistical data — produces new ideas and innovative ways of expressing oneself. Tony Travers of the London School of Economics and Stephen Glaister (2004) of Imperial College, London, highlighted in a report entitled *Valuing Museums: Impact and innovation among national museums*, that 'a student visiting a fine art gallery may find inspiration for a stage design or a fabric. A child visiting a science museum may find inspiration for school that would otherwise be missing. These kinds of spontaneous use of museum and gallery holdings can together be seen as creativity'. Similarly, a recent study by Engage looked into the learning benefits of engaging with galleries of contemporary art and living artists. It shows that cultural participation helps people to discover intrinsic resources of talent, ingenuity and aesthetic judgement<sup>6</sup>.

In line with this argumentation we suggest indicators linked to the cultural offer as well as the cultural participation in a given Member State.

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<sup>6</sup> Report *Inspiring Learning in Galleries* published by Engage, London, 2008 (Inspiring Learning in Galleries, 2008).

## Technology

The fast development of digital technology transforms the global cultural sphere. In the past 10 years technology has had both disruptive and unifying effects in art and the cultural and creative industries, unleashing individual creativity and creating a virtual cultural commons while dismantling traditional business models.

As shown by Manuel Castells (1998), digital technology has released two opposing processes taking place at the same time: on the one hand, culture is becoming global as media companies are able to reach out to the entire planet and provide a plethora of creative content to diverse audiences. On the other hand, culture becomes customised, personalised, user-generated and more local. It also shifts increasingly from being focused around experience to engagement. Audiences turn into participants and consumers into creators.

Helmut Anheier and Yudhishtir Raj Isar (2008), in *Cultures and Globalisation: the Cultural Economy*, point out that 'the technological products made available to individuals can turn many into creators themselves: from the personal computer and digital camera to the cell phone, humankind inhabits an increasingly networked world in which communication and personal expression and development reign supreme.'

Our indicators concerning the roll out of digital technology infrastructure and equipment try to capture the reciprocity between culture, creativity and ICT proliferation. However, data concerning such phenomenon is limited. The uptake of new forms of content, such as creative user-generated content would, for example, be of interest in this context and more research in this area is needed<sup>7</sup>. Data on open content and open source tools would also be beneficial.

## The institutional environment

The well-being of societies and countries is clearly linked to the transparency, accountability and resilience of their regulatory institutions, as highlighted by several NGO's such as Transparency International<sup>8</sup>. Michael Porter (1990) also identified the clear links between a country's competitiveness and several institutional factors, including the rule of law and the appropriateness of public policies.

<sup>7</sup> The authors of this study suggest the commissioning of a short content analysis concerning the share of cultural content within a sample of member profiles on UCG sites such as Myspace, BEBO or Facebook in all European Member States.

<sup>8</sup> The latest Corruption Index for the EU and central Europe (last accessed January 2009) is available online (<http://www.transparency.org>).

Residing primarily within the remit of Member States, cultural policies and support initiatives for creativity and the creative industries are diverse across the EU (as shown in Chapter 6). By assessing each Member States indirect and direct investments into culture we propose to assess a country's ambition to foster an ecosystem conducive to creativity: A further fundamental factor that stimulates creativity and rewards creative people or investment in the cultural and creative industries is copyright (or authors' right). Copyright is the equivalent to patent in R & D; its function is to provide a monopoly right to protect creators and promote investment in creativity.

### *The creative outputs*

Europe's cultural and creative industries are increasingly considered to be drivers of creativity and economic growth throughout the economy. The National Endowment of Science, Technology and the Arts' analysis of the Community Innovation Survey 2004 and input-output data concerning the trade between creative companies and companies operating outside the creative industries showed that firms who spend twice the average amount on creative inputs are 25 % more likely to introduce product innovations. It also showed that firms that have supply chain linkages with creative industries typically offer more diverse and higher quality products than those who don't (Bakhshi et al., 2008).

This causation has been a primary interest of this report and we therefore suggest including statistics concerning the performance of the cultural and creative industries as indicators concerning the creative potential of a country. To be sure, this does not imply that the economic contribution of the sector in terms of GDP is equal to its economic relevance for the general economy. It simply recognises that the cultural and creative sectors are an important motor of creativity and innovation in Europe.

In this context, the index below includes indicators related to the economic contribution of the cultural and creative industries to a Member State's GDP as well as indicators concerning outputs of the sector.

## *The European creativity index*

The ECI is thus composed of 32 indicators, grouped over six sub-indexes.

<b>HUMAN CAPITAL</b>	<b>DATA SOURCES</b>
The potential of culture- and arts-based education to help foster creative talents	
1. Number of hours dedicated to arts and culture in primary and secondary education	'Key data on education in Europe in 2005'; by Education and Culture DG, Eurydice and Eurostat, available on Eurydice website: <a href="http://www.eurydice.org/">www.eurydice.org/</a>
2. Number of art schools per million population	European Leagues of Institutes of the Arts (Elia) website: <a href="http://www.elia-artschools.org/">http://www.elia-artschools.org/</a>
The level of creative talents coming out of tertiary education and in cultural employment	
3. Tertiary students by field of education related to culture	Eurostat's, 'Cultural statistics', available on: <a href="http://epp.eurostat.ec.europa.eu/">http://epp.eurostat.ec.europa.eu/</a>
4. Cultural employment in total employment	'Cultural statistics in Europe', Edition 2007, Eurostat, p. 54
<b>OPENNESS AND DIVERSITY</b>	<b>DATA SOURCES</b>
Attitude in population	
5. Percentage of population that express tolerant attitudes toward minorities	EUMC and SORA
6. Share of population interested in arts and culture in other European countries	'European cultural values', 2007, Eurobarometer 278 requested by Education and Culture DG
Market data	
7. Market shares of non-national European film	The European Audiovisual Observatory: <a href="http://www.obs.coe.int/">http://www.obs.coe.int/</a>
8. Level of Media Pluralism in European Member States	Current Study on Media Pluralism Indicators carried out on behalf of Information Society and Media DG <sup>1</sup>
9. Share of non-nationals in cultural employment	Eurobarometer 278
<b>CULTURAL ENVIRONMENT</b>	<b>DATA SOURCES</b>
Cultural Participation	
10. Average annual cultural expenditure per household	Eurostat's 'Cultural statistics' available at: <a href="http://epp.eurostat.ec.europa.eu/">http://epp.eurostat.ec.europa.eu/</a>
11. Percentage of persons participating in cultural activities at least once in 12 months	Eurostat's 'Cultural statistics' available at: <a href="http://epp.eurostat.ec.europa.eu/">http://epp.eurostat.ec.europa.eu/</a>
Cultural offering	
12. Number of public theatres per capita	Data available from relevant national minister
13. Number of public museums per capita	Data available from relevant national minister
14. Number of public concert halls	Data available from relevant national minister
<sup>1</sup> Currently developed by the University of Leuven as part of an Information Society and Media DG Study on Media Pluralism Indicators in Europe ( <a href="http://ec.europa.eu/avpolicy/info_centre/library/studies/index_en.htm">http://ec.europa.eu/avpolicy/info_centre/library/studies/index_en.htm</a> ) (January 2008).	

15. Number of cinema screens by country	The European Audiovisual Observatory: <a href="http://www.obs.coe.int/">http://www.obs.coe.int/</a>
<b>TECHNOLOGY</b>	<b>DATA SOURCES</b>
16. Broadband penetration rate	Eurostat's 'Sciences and technology': <a href="http://epp.eurostat.ec.europa.eu/">http://epp.eurostat.ec.europa.eu/</a>
17. Percentage of households who have personal computers and video game consoles at home	'Cultural statistics in Europe', Edition 2007, Eurostat, p. 142
<b>REGULATORY INCENTIVES TO CREATE</b>	<b>DATA SOURCES</b>
<b>Financial support</b>	
18. Tax break for artists or people who work in the creative sector	'Etude sur les crédits d'impôt culturels à l'étranger', May 2008, KEA European Affairs, p. 37
19. VAT rates on books, press, sound recordings, video, film receipts, freelance authors, visual artists	<i>Creative Europe</i> , ERICarts Report presented by the Network of European Foundations for Innovative Co-operation, 2002, p. 100
20. Tax incentives concerning donations and sponsoring	'Etude sur les crédits d'impôt culturels à l'étranger', May 2008, KEA European Affairs, p. 28
21. Direct public expenditure on culture	'The Economy of Culture', 2006, KEA, MKW, Turun Kauppakorkeakoulu, p. 125
22. Level of state funding to cinema	The European Audiovisual Observatory, 'KORDA': <a href="http://korda.obs.coe.int/web/search_aide.php">http://korda.obs.coe.int/web/search_aide.php</a>
23. Level of state funding to public TV	The European Audiovisual Observatory: <a href="http://www.obs.coe.int/">http://www.obs.coe.int/</a>
<b>Intellectual Property</b>	
24. Level of rights collected by authors in music per capita	Available from the International Confederation of Societies of Authors and Composers: <a href="http://www.cisac.org">http://www.cisac.org</a>
<b>OUTCOMES OF CREATIVITY</b>	<b>DATA SOURCES</b>
Economic contribution of creativity	
25. Values added of creative industries as % of GDP	'The Economy of Culture', 2006, KEA, MKW, Turun Kauppakorkeakoulu, p. 66
26. Turnover in music industries per capita	IFPI website: <a href="http://www.ifpi.org/">http://www.ifpi.org/</a>
27. Turnover in book industries per capita	Eurostats, 'Cultural statistics', available at: <a href="http://epp.eurostat.ec.europa.eu/">http://epp.eurostat.ec.europa.eu/</a>
28. Turnover in cinema industries per capita	The European Audiovisual Observatory: <a href="http://www.obs.coe.int/">http://www.obs.coe.int/</a>
Other outcomes of creative activities	
29. Number of feature films produced per year and per capita	European Audiovisual Observatory, Yearbook 2007 on 'Film and home video'
30. Number of recordings released per capita	IFPI website: <a href="http://www.ifpi.org/">http://www.ifpi.org/</a>
31. Number of books published per year and capita	Unesco, Institute for Statistics, 'Culture and Communication': <a href="http://www.uis.unesco.org">http://www.uis.unesco.org</a>
32. Number of design applications per million population	OHIM/Eurostat

## Conclusions

On the previous pages we briefly summarised our suggestion to include more culture-related indicators into existing and to be developed indicator frameworks concerning creativity, innovation and economic and social progress. Culture, as has been briefly highlighted in this Chapter and is further explored in our study on the contribution of culture to creativity, is an important resource of the European Union, which is evenly spread across its territory and has the potential to make EU Member States more creative, innovative and sustainable. It is therefore essential for policymakers, economists and statisticians to widen their horizons and start appreciating that culture-based interventions can help Europe to reform its economy and its public services. In these times of economic and social upheaval a rethink is required which firmly moves culture from the fringes of policymaking further to the centre. By developing a better understanding of what culture and creativity are and by attempting to measure their practical impacts on society (albeit acknowledging that not everything can be measured) Europe would take a step in the right direction.

### References

- Anheier, H. and Raj Isar, Y., (2008). *Cultures and Globalization: the Cultural Economy*. London: Sage.
- Attali, J. (1977). *Bruits*. Fayard.
- Bakhshi, H., McVittie, E. and Simmie, J. (2008). Creating innovation: do the creative industries support innovation in the wider economy. *NESTA Research Report*. London: NESTA
- Barro, R. (2001). Education and economic growth. In D. J. Helliwell (ed.), *The contribution of Human and Social Capital to Sustained Economic Growth and Well-Being*. Paris: OECD.
- Bowen, H.P., Sleuwaegen, L. and Moesen, W. (2006). A composite index of the creative economy with application to regional best practices. Leuven: *Vlerick Leuven Gent Management School Working Paper Series*.
- Castells, M. (1998). *L'ère de l'information. Vol. 1. La société en réseaux*. Paris: Fayard.
- Claxton, G. (2008). Cultivating positive learning dispositions. H. Daniels, H. Lauder and J. Porter (eds), *Routledge Companion to Education*. London: Routledge.
- Cultural Initiatives Silicon Valley (2005). *Creative Community Index: Measuring Progress Toward a Vibrant Silicon Valley*, San Jose, CA: Cultural Initiatives Silicon Valley.
- Currid, E. (2007). *The Warhol Economy - How Fashion Art and Music drive New York City*. Princeton: Princeton University Press.

- Directorate-General for Enterprises and Industry of the European Commission. *European Innovation Scoreboard 2007*.
- Florida, R. (2002). *The Rise of the Creative Class. And How It's Transforming Work, Leisure and Everyday Life*. New York: Basic Books.
- Florida, R. and Tinagli, I. (2004). *Europe in the Creative Age*. Europe: Demos.
- Guilford, J. (1950). Creativity. *American Psychologist*, 5 , 444-54.
- Helson, R. (1999). A longitudinal study of creative personality in women, *Creativity Research Journal*, 12 , 89-102.
- Home Affairs Bureau HKSARG. (2004). A Study on Creativity Index. Retrieved May 2009, from [http://www.hab.gov.hk/file\\_manager/en/documents/policy\\_responsibilities/arts\\_culture\\_recreation\\_and\\_sport/HKCI-InteriReport-printed.pdf](http://www.hab.gov.hk/file_manager/en/documents/policy_responsibilities/arts_culture_recreation_and_sport/HKCI-InteriReport-printed.pdf).
- Hooper-Greenhill, E., Dodd, J., Gibson, L., Phillips, M., Jones C., Sullivan, E. and Museums, Libraries and Archives Council and Renaissance. (2006). *What did you learn at the museum today? Second study: evaluation of the outcome and impact of learning through implementation of Education Programme Delivery Plans across nine Regional Hubs*. Leicester: Research Centre for Museums and Galleries Citation (RCMG).
- Jacob, J. (1993). *The Death and Life of Great American Cities*. New York: Random House Publishing Group.
- Kitto, J., Lok, D. and Rudowicz, E. (1999). Measuring creative thinking : an activity-based approach, *Creativity Research Journal*, 12 , 89-102.
- Lubart, T. (1999). Creativity across Cultures. In R.J Sternberg (ed.), *Handbook of Creativity*, p339-350. Cambridge: Cambridge University Press.
- Nussbaum, M. (2000). *Women and Human Development: The Capabilities Approach*. Cambridge: Cambridge University Press.
- OECD. (2001). *The Wellbeing of Nations – The Role of Human Social Capital*. Paris: OECD.
- OECD and EURSTAT (2005). *Oslo Manual: the Measurement of Scientific and Technological Activities, Guidelines for collecting and interpreting innovation data*. (2005, 3rd edition). Paris: OECD.
- Picard, R.G., Grönlund, M. and Toivonen, T. The Media Group, Business Research and Development Centre, Turku School of Economics and Business Administration . (2003). *Means for Overall Assessment of Cultural Life and Measuring the Involvement of the Cultural Sector in the Information Society*. Helsinki: Finnish Ministry of Education and Culture.
- Porter, M. E. (1990 ). *The Competitive Advantage of Nations*. London: Macmillan.
- Sen, A. (1993). Capability and Well-being. In M. Nussbaum and A. Sen (eds), *The Quality of Life*. Oxford: Clarendon Press.

- Travers, T. A. (2004). Valuing Museums: Impact and innovation among national museums. *National Museums Directors' Conference*. United Kingdom.
- UK Department of Culture (2001). *Culture and Creativity: The Next Ten Years*. Green Paper.
- UNESCO. (6-9 March 2006). Road Map for arts education. *The World conference on Arts Education: building creative capacity for the 21st Century*. Lisbon : UNESCO.
- Villalba, E. (2008). *On Creativity: Towards an understanding of creativity and its measurements*. JRC Scientific and Technical Reports 23561 EN. Luxembourg: OPOCE.
- Wallach, M. (January-February 1976). Tests tell us little about talent, *American Scientist*, 57-63.