



# **Intellectual Capital for Communities in the Knowledge Economy Nations, Regions, Cities and Emerging Communities**



**WORLD BANK INSTITUTE**  
*Promoting knowledge and learning for a better world*

**World Conference on Intellectual Capital for Communities  
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# Trends in KBD metrics

**Francisco Javier Carrillo**

**World Capital Institute and Center for Knowledge Systems**

[fjcarillo@itesm.mx](mailto:fjcarillo@itesm.mx)



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## K-Cities and KBD

*“The concepts of KBD and K-Cities follow the realization that conventional economic analysis and economic growth theory fail to account for most of the distinctive value dimensions of knowledge-based production and overall social worth”*

Knowledge Cities, 2006, p. xiii



# Operationalization and measurement

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# Operationalization

- **History of science through scientific terms**
- **Concept-measure interplay**
- **Defining in terms of measurement operations**
- **The Social Sciences untapped legacy**

# Measurement

- **Measurement acts: significant comparisons**
- **Scales and measurement improvement**
- **Dualism in IC**



# Before KEI

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## **8 studies: indicators classes**

(KEI, WP1, D 1.5, 2008, p.3)

- **OECD, 2001: The new economy –Beyond the hype**
  - ICT
  - innovation and technology diffusion
  - human capital
  - firm creation and entrepreneurship
- **Progressive Policy Institute, 2002: The State New Economy Index**
  - knowledge jobs
  - globalization
  - economic dynamism and competition
  - digital economy
  - technological innovation capacity

## **8 studies: indicators classes**

(KEI, WP1, D 1.5, 2008, p.3)

- **Australian Bureau of Statistics, 2002: Measuring a knowledge-based economy and society**
  - innovation and entrepreneurship
  - human capital
  - ICT
- **OECD, 2003: Science, Technology and Industry Scoreboard**
  - investment in knowledge
  - investment in ICT
  - trends in trade and investment flows

## **8 studies: indicators classes**

(KEI, WP1, D 1.5, 2008, p.3)

- **DeVol et al., 2004: State Technology and Science Index**
  - R&D inputs
  - risk capital and infrastructure
  - human capital Investment
  - technology and science workforce
  - technology concentration
- **Room, G., 2004: The scope of the new economy, NESIS final report**
  - microeconomic
  - innovation
  - digital economy
  - public investments

## **8 studies: indicators classes**

(KEI, WP1, D 1.5, 2008, p.3)

- **DG Enterprise, 2004: European Innovation Scoreboard**
  - human resources
  - creation of new knowledge
  - transmission and application of knowledge
  - innovation finance
  - output and markets
- **European Commission, 2005: Towards a European Research Area: Key Figures 2003-2004**
  - investment in a KBE
  - performance of a KBE



# The KEI program

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# The KEI Program

- Knowledge Economy Indicators
- September 2004 – February 2007
- 1.58 M €
- Tübingen et al
- ...”to develop and improve indicators for the knowledge economy, including the analysis of aggregation issues and the use of composite indicators”
- Fully documented at <http://kei.publicstatistics.net>
- 8 workpackages: 7 research WPs + project report

# The KEI Program

- **WP1: Defining the K-Based Economy**
  - Categories
  - Policies
- **WP2: Indicators for the KBE**
- **WP3: Statistical analysis of KBE indicators**
- **WP4: The way forward: innovative use of KBE indicators**
- **WP5: Composite indicators for the KBE**
- **WP6: Role of multinationals for information on R&D**
- **WP7: Simulation study**
- **WP8: Final report**



# After KEI

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## KEI constraints

- **Transitional KBD perspective (increase in monetary mass resulting from technological + educational productivity leverage)**

*versus*

- **Radical KBD perspective (dynamic balance between all common value elements in a community)**
- **Inductive categories**
- **Intrinsic dualism**
- **Reductionism**

# Beyond KEI

- **Complete and consistent set of KBD value dimensions**
- **Homogeneity issue**
- **Capital systems**



# CKS Monterrey agenda

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# CKS/WCI Monterrey Agenda

- **Started 2009 aiming at MAKCi/KBD Index**
- **Track 1: Literature Review**
  - **SoA Monograph, Spanish (forthcoming)**
  - **SoA Monograph, English (forthcoming)**
- **Track 2: Statistical analysis of MAKCi data**
  - **Conference paper on quantitative model(forthcoming)**
- **Track 3: Methodological trade-offs**
  - **Whitepaper on practical cost/benefit analysis in KBD composite indicators (forthcoming)**

# CKS/WCI Monterrey Agenda

- **Track 4: Alternatives to GDP**
  - In progress
- **Track 5: Cities cross-benchmarking algorithm**
  - In progress
- **International collaboration**
  - Contributions to Ghaziabad Workshop
  - Exchanges wit research teams in Colombia, USA, Iran, Brasil



# IMT/AICTE Ghaziabad agenda

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# IMT Ghaziabad Agenda

- **AICTE Project on *Developing a Framework for Flexible Knowledge Management Indices* (Prof. Batra)**
- **Consultation Workshop, 30th April 2010**
  - **Knowledge Measurement at Village Level**
  - **Adapting KAM to City & Village Level KMeasurement**
  - **Learning from Enterprise Level KMeasurement for Adaption at the Country/ City/ Village Level**
  - **Robust approaches for KMeasurement at Enterprise Level**



# Further Developments

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## Other recent developments

- **K-Gini coefficient (Chandrasekar & Sharma, IJKBD, V1 N°3, 2010)**
- **World Bank's KAM update May 2010**  
<http://go.worldbank.org/JGAO5XE940>
- **World Knowledge Competitiveness Index –WKCI (Huggins and Izushi, Economic Development Quarterly, Vol. 23, N°4, 2009)**
- **Measuring the Progress of Societies –OECD**  
[http://www.oecd.org/pages/0,3417,en\\_40033426\\_40033828\\_1\\_1\\_1\\_1\\_1,00.html](http://www.oecd.org/pages/0,3417,en_40033426_40033828_1_1_1_1_1,00.html)
- **Beyond GDP (European Commission COM 2009, 433)**



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# Towards measuring value systems

- **Continued development of 1<sup>st</sup> generation international indices**
- **Consolidation of 1<sup>st</sup> generation regional composite indicators**
- **Solutions for policy making and regional KBD: methodological cost-benefit analysis**
- **Revisiting fundamental concepts: progress, GDP, development, KBD**
- **Integrated frameworks and dimension categories**
- **2<sup>nd</sup> generation composite indicators**



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# THANK YOU!

Francisco Javier Carrillo

[fj carrillo@itesm.mx](mailto:fj carrillo@itesm.mx)

World Capital Institute and Center for Knowledge Systems

<http://www.worldcapitalinstitute.org>

<http://www.sistemasdeconocimiento.org>

