



European
Commission

JRC Week

on Composite Indicators and Scoreboards

04-08 November 2019
JRC, Ispra - Italy



The Joint Research Centre (JRC) *is the European Commission's in-house science service. The Joint Research Centre's mission is to provide European Union (EU) policies with independent, evidence-based scientific and technical support throughout the whole policy cycle. Working in close cooperation with policy Directorates-General, the JRC addresses key societal challenges while stimulating innovation through developing new methods, tools and standards, and sharing its know-how with the Member States, the scientific community and international partners.*

The Competence Centre on Composite Indicators and Scoreboards (COIN) *brings together scientific and analytical expertise that can be applied across policy areas. By doing so, COIN helps to ensure that composite indicators and indicator frameworks are developed sensibly and used responsibly. 'Sensible development' of an indicator framework implies a quality control process based on both conceptual and statistical considerations. 'Responsible use' calls for care in drawing conclusions and recommendations without taking into account the conceptual context in which composite indicators and indicator frameworks were developed. The Competence centre examines available methodology within its remit, and provides European Commission services with quality-controlled multidimensional indicator frameworks that support the conception, implementation and evaluation of EU policies. COIN also includes the provision of support and assistance to international organisations and world-class universities as well as technical training. Best practices on developing and communicating multidimensional indicator frameworks are shared across services via communities of practice.*

The JRC Week on Composite Indicators and Scoreboards *is an annual five-day event during which local and international policy and decision makers, academics, think tanks, and practitioners in a wide range of fields learn from best practices and showcase their capacity to inform policies through the use of indicator systems that summarise multidimensional concepts.*

Find out more at: <https://composite-indicators.jrc.ec.europa.eu>

JRC Week

on Composite Indicators and Scoreboards



@EU_ScienceHub
#COINCoP



3 days

17th JRC Annual Training
on Composite Indicators
and Scoreboards

04 MON

05 TUE

06 WED



2 days

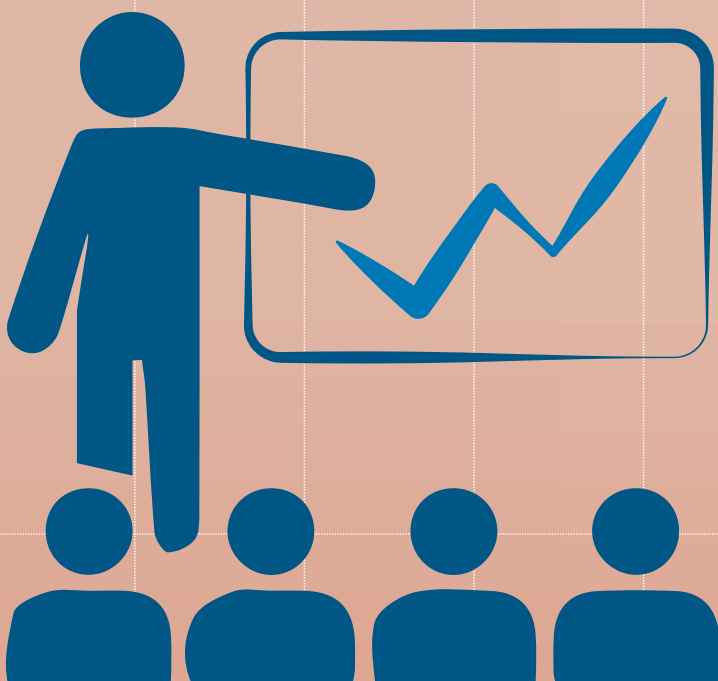
Composite Indicators
and Scoreboards
Community of Practice

07 THU

08 FRI

17th JRC Annual Training on Composite Indicators and Scoreboards

04-06 November 2019



The 17th JRC Annual Training on Composite Indicators and Scoreboards will offer lessons learnt from the JRC assessments on more than 100 well-known composite indicators and scoreboards. The training consists of presentations, Q&A sessions and a hands-on session using the COIN tool (Excel-based) for developing and statistically assessing a composite indicator or scoreboard. Participants will also have the opportunity to discuss their composite indicators/scoreboards and receive advice from the JRC.

The questions below and more will be explored during the training:

- ▶ *What are the state-of-art methods to develop and audit indices and scoreboards?*
- ▶ *How much faith can we have in multidimensional frameworks and how can common pitfalls be avoided?*
- ▶ *How can indices and scoreboards better inform policy and be communicated to the wider public?*
- ▶ *What already successful tools can be further adopted?*

Objectives

- ▶ To present the concept of composite indicators, strengths and weaknesses and domains of frequent use;
- ▶ To provide guidelines on the development of the theoretical framework and selection of indicators;
- ▶ To offer practical examples on the preparation of the data set, discuss the importance of the analysis of statistical coherence of the framework, the implications of the choice of the weighting and the aggregation method and the robustness and sensitivity analysis;
- ▶ To learn by best practices on how to ensure transparency and statistical soundness when developing composite indicators;
- ▶ To offer an Excel-based practical guide for the construction of composite indicators.

Target Group

Researchers, data and policy analysts with an interest on multidimensional indicator frameworks.

MONDAY | 04 November 2019

12:00 Registration & Welcome Lunch

13:00 Opening & Introduction

Michaela SAISANA, *European Commission, Joint Research Centre*

13:40 Introduction to Statistical Terms

William BECKER, *European Commission, Joint Research Centre*

14:00 Steps 1 & 2: Framework & Indicators

Definition, added-value, multidimensionality, selection criteria for indicators

Daniel VERTESY, *European Commission, Joint Research Centre*

15:30 Coffee Break

16:00 Step 3: Outliers & Missing data

Outliers, winsorization, trimming, transformations (Box-Cox family)

Giacomo DAMIOLI, *European Commission, Joint Research Centre*

Missing data: mean/median, hot-deck, EM

Marcos DOMÍNGUEZ-TORREIRO, *European Commission, Joint Research Centre*

17:00 Audit your index: The COIN tool

An Excel-based tool for constructing composite indicators

William BECKER, *European Commission, Joint Research Centre*

18:00 Welcome Cocktail

19:30 End of the first day

TUESDAY | 05 November 2019

09:00 Welcome Coffee

09:30 Mind stretching

Taking stock of day one

09:45 Step 4: Normalisation

Min-max, distance to best performer, z-scores, categorical, ranking

Maria DEL SORBO, *European Commission, Joint Research Centre*

10:20 Step 5: Data-Driven Weighting Methods (Part A)

Equal weights, Principal Component Analysis, Benefit of the Doubt (DEA approach)

Eleni PAPADIMITRIOU, *European Commission, Joint Research Centre*

11:00 Coffee Break

11:30 Step 5: Data-Driven Weighting Methods (Part A)

Benefit of the Doubt (DEA approach)

Giulio CAPERNA, *European Commission, Joint Research Centre*

12:00 Step 5: Participatory Weighting Methods

Budget allocation, Analytic Hierarchy Process

Beatrice D' HOMBRES, *European Commission, Joint Research Centre*

12:45 Networking Lunch

14:00 Step 6: Aggregation rules

Generalized mean, median ranking, Borda, Outranking Matrix

Giulio CAPERNA, *European Commission, Joint Research Centre*

Marcos DOMÍNGUEZ-TORREIRO, *European Commission, Joint Research Centre*

15:30 Coffee Break

16:00 Audit your index: The COIN Tool

An Excel-based tool for constructing composite indicators

William BECKER, *European Commission, Joint Research Centre*

18:00 End of second day

WEDNESDAY | 06 November 2019

09:00 Welcome Coffee

09:30 Mind stretching

Taking stock of day one

09:45 Step 7: Statistical coherence

Correlations, cross-correlations

Pablo DE PEDRAZA, *European Commission, Joint Research Centre*

Principal component analysis, reliability analysis

Giulio CAPERNA, *European Commission, Joint Research Centre*

11:00 Coffee Break

11:30 Step 8: Quality control & Robustness

Pearson correlation coefficient, non linear Pearson correlation ratio, uncertainty and sensitivity analysis

William BECKER, *European Commission, Joint Research Centre*

13:00 Networking Lunch

14:00 Steps 9 & 10: Visualisation & Communication

Data visualisation

Carlos MOURA, *European Commission, Joint Research Centre*

Communication

Valentina ALBERTI, *European Commission, Joint Research Centre*

15:00 Coffee break

15:30 Audit your index: The COIN Tool

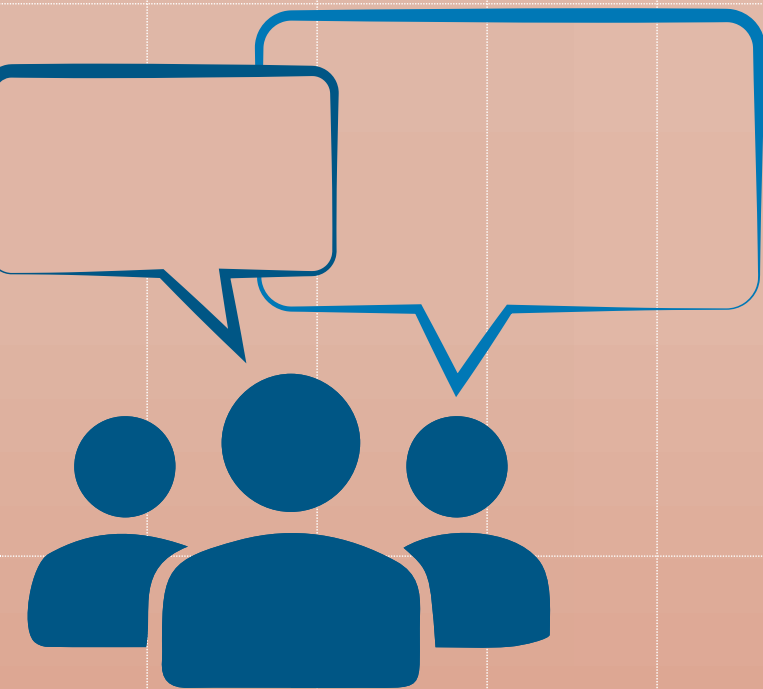
An Excel-based tool for constructing composite indicators

William BECKER, *European Commission, Joint Research Centre*

18:00 End of training

Composite Indicators and Scoreboards Community of Practice

07-08 November 2019



Purpose and Scope

The purpose of the Community of Practice on Composite Indicators and Scoreboards (COINCoP) is to bring together policy analysts and researchers from the European Commission, international organisations, think tanks and the academia, to foster a practical exchange of experiences across a wide range of key policy areas that are monitored through composite indicators and scoreboards.

- ▶ *How should indices and scoreboards be used for policy and what should be avoided?*
- ▶ *How can indices and scoreboards be communicated to the wider public?*

The Community of Practice will facilitate collaboration between scientists and policy makers on the sensible development and responsible use of indices and scoreboards, encapsulating the 'big picture' on matters that are crucial for the European Union and helping to shape policy and monitor progress. It offers an ideal opportunity to share political and technical challenges in building multidimensional frameworks and stay up to date with the latest developments on composite indicators as well as on data visualisation tools.

This year's Community of Practice meeting will feature presentations by over 20 speakers from international institutions such as the MIT, Yale-NUS College, World Economic Forum, OECD, Sustainable Development Solutions Network, Germanwatch, Equal Measures 2030, SRI International, among others. The discussion topics will focus on sustainable cities, energy transition, climate change, child wellbeing, African governance, gender equality and artificial intelligence.

THURSDAY | 07 November 2019

09:00 Registration & Welcome Coffee

09:30 Opening

Michaela SAISANA, *European Commission, Joint Research Centre*

09:40 Session 1: Climate change and energy transition

Moderated by: Ana Rita NEVES, *European Commission, Joint Research Centre*

Climate Change Performance Index

Jan BURCK, *Germanwatch*

Energy Transition Index

Harsh Vijay SINGH, *World Economic Forum*

Indicator frameworks for the Energy Union

Bogdan ATANASIU, *European Commission, Directorate-General for Energy*

11:00 Coffee Break

11:30 Session 2: Future and sustainable cities

Moderated by: Eleni PAPADIMITRIOU, *European Commission, Joint Research Centre*

The Future of Cities

Carlo LAVALLE, *European Commission, Joint Research Centre*

Cities in Motion Index

Carlos CARRASCO, *IESE Business School*

SDG Index and Dashboards for European Cities

Guillaume LAFORTUNE, *Sustainable Development Solutions Network;*

John DAGEVOS, *Telos, Tilburg University*

Monitoring SDGs at local/regional level

Marine SIVA, *European Committee of the Regions*

13:00 Networking Lunch

14:00 Session 3: Creative and inclusive cities

Moderated by: **Francesco PANELLA**, *European Commission, Joint Research Centre*

Senseable Cities

Fabio DUARTE, *MIT Senseable City Lab*

Cultural and Creative Cities Monitor

Valentina MONTALTO, *European Commission, Joint Research Centre*

Urban Environment & Social Inclusion Index

Angel HSU, *Yale-NUS College*

From data to local policy making

Giorgia BOLDRINI, *City of Bologna, Italy*

15:30 Coffee Break

16:00 Session 4: Africa: governance, integration and childhood

Moderator: **Maria DEL SORBO**, *European Commission Joint Research Centre*

Africa Regional Integration Index

Shamnaaz SUFRAUJ, *United Nations Economic Commission for Africa*

Simon MEVEL, *United Nations Economic Commission for Africa*

Ibrahim Index of African Governance

Yannick VUYLSTEKE, *Mo Ibrahim Foundation*

Child Friendliness Index

Negussie DEJENE, *The African Child Policy Forum*

End of Childhood Index

Doris MPOUMOU, *Save the Children*

17:30 End of the first day

FRIDAY | 08 November 2019

09:00 Registration & Welcome Coffee

09:30 Session 5: Artificial intelligence and economic complexity

Moderated by: Daniel VERTESY, *European Commission, Joint Research Centre*

Artificial Intelligence Index

Ray PERRAULT, *SRI International*

AI Watch: the European Observatory for Artificial Intelligence

Alessandro ANNONI, *European Commission, Joint Research Centre*

Economic Complexity Index

Alex SIMOES, *Datawheel*

11:00 Coffee Break

11:30 Session 6: Gender equality

Moderator: Lewis DIJKSTRA, *European Commission, Directorate-General for Regional and Urban Policy*

Regional Gender Equality Monitor

Eleni PAPADIMITRIOU, *European Commission, Joint Research Centre*

Social Institutions & Gender Index

Pierre DE BOISSÉSON, *Organisation for Economic Co-operation and Development (OECD)*

SDG Gender Index

Albert MOTIVANS, *Equal Measures 2030*

12:50 Closing

Michaela SAISANA, *European Commission, Joint Research Centre*

13:00 Networking Lunch

14:00 JRC optional tour

Tour #1: JRC Visitor's Centre

Get to know the variety of research to support EU policies taking place at the JRC and engage in the many interactive exhibitions available.

Tour #2: JRC Makerspace

Discover the first Makerspace in an EU institution, a collaborative space designed to promote active participation, knowledge sharing, and scientific research through open-ended exploration and experimentation.

Tour #3: European Laboratory for Structural Assessment (ELSA)

Find out more about European research in structural and earthquake engineering and visit the ELSA Reaction Wall, one of the largest facilities in the world to test the vulnerability of buildings to earthquakes and other hazards.

15:30 End of the Community of Practice Meeting

Speakers

For more information on the speakers, lecturers and organising team please visit: bit.ly/jrcweekagenda



ALBERT MOTIVANS
Equal Measures 2030



ALESSANDRO ANNONI
Joint Research Centre



ALEX SIMOES
Datawheel



ANA RITA NEVES
Joint Research Centre



ANGEL HSU
*Yale-NUS College
Data-Driven Lab*



BEATRICE D'HOMBRES
Joint Research Centre



BOGDAN ATANASIU
Directorate-General for Energy



CARLO LAVALLE
Joint Research Centre



CARLOS CARRASCO
IESE Business School



CARLOS MOURA
Joint Research Centre



DÁNIEL VÉRTESY
Joint Research Centre



DORIS MPOUMOU
Save the Children



ELENI PAPADIMITRIOU
Joint Research Centre



FABIO DUARTE
MIT Senseable City Lab



FRANCESCO PANELLA
Joint Research Centre



GIACOMO DAMIOLI
Joint Research Centre



GIORGIA BOLDRINI
City of Bologna, Italy



GIULIO CAPERNA
Joint Research Centre



GUILLAUME LAFORTUNE
*Sustainable Development
Solutions Network*



HARSH VIJAY SINGH
World Economic Forum



JAN BURCK
Germanwatch



JOHN DAGEVOS
Tilburg University, Telos



LEWIS DIJKSTRA
*Directorate-General for
Regional and Urban Policy*



**MARCOS
DOMÍNGUEZ-TORREIRO**
Joint Research Centre



MARIA DEL SORBO
Joint Research Centre



MARINE SIVA
European Committee of Regions



MICHAELA SAISANA
Joint Research Centre



NEGUSSIE DEJENE
African Child Policy Forum



PABLO DE PEDRAZA
Joint Research Centre



PIERRE DE BOISSÉS
*Organisation for Economic
Co-operation and Development*



RAY PERRAULT
*SRI International's Artificial
Intelligence Center*



SHAMNAAZ B. SUFRAUJ
*United Nations Economic
Commission for Africa*



SIMON MEVEL
*United Nations Economic
Commission for Africa*



VALENTINA ALBERTI
Joint Research Centre



VALENTINA MONTALTO
Joint Research Centre



WILLIAM BECKER
Joint Research Centre



YANNICK VUYLSTEKE
Ibrahim Foundation

Links available from 4 to 8 November 2019:

Pose questions: www.slido.com | [#jrcweek](https://twitter.com/jrcweek)

Download presentations: bit.ly/jrcweekslides | [2019JRCweek!](#)

If you would like to learn more about the activities of the European Commission's Competence Centre on Composite Indicators and Scoreboards (COIN), please contact us by:

E-mail: jrc-coin@ec.europa.eu

Tel: **+39 0332 78 6448**

Web: <https://ec.europa.eu/jrc/en/coin>

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



The European Commission's science and knowledge service

Joint Research Centre

JRC Mission

As the science and knowledge service of the European Commission, the Joint Research Centre's mission is to support EU policies with independent evidence throughout the whole policy cycle.



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