

Experts Meeting on Big Data applications and Data Analytics in central banking

Madrid, 13th, 14th and 15th of November 2023

Location: Digital-Webex format
Language: Spanish (simultaneous translation into English)
Time: Mexico City local time (UTC -6)
Madrid local time (UTC +1)

Monday, 13th of November

08:30 - 08:45

15:30 - 15:45

Opening

CEMLA - Banco de España

08:45 - 09:25

15:45 - 16:25

Keynote lecture: Text algorithms in Economics

- *D. Stephen Hansen. University College London and Center for Economic and Policy Research (CEPR)*

Session 1: Applications of Natural Language Processing (NLP) techniques

Chair: Nicolás Forteza (Banco de España)

09:25 - 09:50

16:25 - 16:50

Analysis of CBDC narrative of central banks using large language models (LLMs)

- *Jose Carbó. Banco de España*

09:50 - 10:15

16:50 - 17:15

Analysis of the communicational dollarization: A comparative study of public authorities using Twitter

- *Santiago Taroco, Juan Manuel Tapia, Sebastián Clemente, Miguel Mello y Gerardo Licandro. Banco Central del Uruguay*

10:15 - 10:40

17:15 - 17:40

Measuring Central Bank Dovishness/Hawkishness through press coverage using gdel

- *Diego José Torres, M^a del Pilar García González. Banco de España*

10:40 - 11:10

17:40 - 18:10

Questions and answers

11:10 - 11:25
18:10 – 18:25 **Break**

Session 2: Experimental statistics (I)

Chair: Jesús Cervantes (CEMLA)

11:25 - 11:50
18:25 – 18:50 **Economic Analytics: Presenting strategic solutions in commercial banking**

- *Alejandro Padilla y Alejandro Cervantes. Banorte*

11:50 - 12:15
18:50 – 19:15 **Regional buying/selling indicators**

- *Benjamín Vásquez. Banco Central de Chile*

12:15 - 12:40
19:15 – 19:40 **GDP calculation by local region (“canton”) and planning region, 2022**

- *Andrea Jiménez Morales y Mariela Zúñiga Somarriba. Banco Central de Costa Rica*

12:40 - 13:05
19:40 – 20:05 **Impact of extreme weather phenomena on price dynamics in the Dominican Republic: 1998-2022**

- *María Castro, Lisette Santana, Betsaida Santana y Gladys Jiménez. Banco Central de la República Dominicana*

13:05 - 13:35
20:05 – 20:35 **Questions and answers**

Tuesday, 14th of November

Session 3: Experimental statistics (II)

Chair: Marina Diakonova (Banco de España)

09:00 - 09:25
16:00 - 16:25 **Big Data and Data Analytics applied to cash**

- *Eduardo Kropnick. Banco de España*

- 09:25 - 09:50
16:25 - 16:50 **Impact of air pollution on reported cases of acute respiratory infections and pneumonia in Mexico**
- *Irving Joel Llamosas Rosas. Banco de México*
- 09:50 - 10:15
16:50 - 17:15 **Utility and confidentiality assessment of synthetic financial data (pilot exercise in collaboration with the European Commission)**
- *Eugenia Koblents. Banco de España*
- 10:15 - 10:45
17:15 - 17:45 **Questions and answers**
- 10:45 - 11:00
17:45 - 18:00 **Break**

Session 4: Application of Machine Learning (ML) techniques

Chair: Alejandro Morales (Banco de España)

- 11:00 - 11:25
18:00 - 18:25 **Imputation of missing values**
- *Iker González Crespo. Banco de España*
- 11:25 - 11:50
18:25 - 18:50 **Applied Machine Learning for Central Bank statistics: Supervised models for the identification of social housing in Chile**
- *Javiera Vásquez. Banco Central de Chile*
- 11:50 - 12:15
18:50 - 19:15 **Analysing the VAT cut pass-through in Spain using supermarkets' web-scraped data and machine learning techniques**
- *Nicolás Forteza, Elvira Prades y Marc Roca. Banco de España*
- 12:15 - 12:35
19:15 - 19:35 **Questions and answers**

Wednesday, 15th of November

Sesión 5: Big Data and Data Science in a National Statistics Institute

Chair: Juan Peñalosa (Banco de España)

09:00 - 09:25

16:00 - 16:25

Measuring and monitoring social marginalization using satellite images and Artificial Intelligence

- *Elio Villaseñor. Instituto Nacional de Estadística y Geográfico de México (INEGI)*

09:25 - 09:50

16:25 - 16:50

Use of mobile phones to measure tourism

- *Belén González. Instituto Nacional de Estadística (INE)*

09:50 - 10:15

16:50 - 17:15

Banking information in the generation of new economic and social indicators

- *Alejandro Ruiz. Instituto Nacional de Estadística y Geográfico de México (INEGI)*

10:15 - 11:40

17:15 - 18:40

Questions and answers

11:40 - 12:00

18:40 - 19:00

Closure