

**Bank Indonesia – IFC Workshop on
“Big Data for Central Bank Policies”
Bali, 23-25 July, 2018**

Background

The rapid development of information technology over the last decade, especially with the progress of the internet, has fostered the emergence of new digital based activities in every facet of our daily life, including economic activities. This development, combined with the greater access to large records of financial, administrative and commercial datasets, has created enormous volumes of data – Big Data.

If used effectively, Big Data has the potential to provide many opportunities, especially to strengthen decision making process in central banks. Policy formulation can be based on more complete and more granular information, and the new datasets can serve as a useful complement to more traditional, structured data. Yet this is also posing important challenges for authorities, especially when handling as well as using Big Data for policy purposes.

Objective: The 2018 International Workshop on **Big Data for Central Bank Policies** will provide a unique opportunity to understand the concept, technical methodologies, current issues, and use cases of Big Data to support central bank policy making. Methodologies presented will include basic concepts of algorithms commonly used in Big Data analytics and artificial intelligence. Workshop sessions will be instructor-led. In addition, there are also scheduled presentations about Big Data research and use cases implemented by central banks.

Date and Venue: 23 – 25 July 2018 in The Ritz-Carlton Nusa Dua, Bali, Indonesia

Target Audience: This technical workshop is primarily targetted to staff from central banks around the world. Participants are expected to have advanced degree in one of the following: economics, mathematics, or statistics; knowledge in the use of computer programming would be useful but is not required.

Expected Speakers: The organizers expect to receive substantive engagement and contributions from prominent speakers worldwide, namely from cental banks, other public institutions, as well as academics and experts.

PROGRAMME SCHEDULE

INTERNATIONAL WORKSHOP ON BIG DATA FOR CENTRAL BANK POLICIES

23 – 25 July 2018, Bali

Day 1 (Mon, 23 July 2018)

Time	Schedule	Speaker
08:30 – 09:00	Registration	
09:00 – 09:15 (15')	Opening and welcoming address	Yati Kurniati (Executive Director, Head of Statistics Department @ Bank Indonesia)
09.15 – 10.45 (90')	Session 1: Big Data for Central Banks	Bruno Tissot (Head of Statistics & Research Support and Head of IFC Secretariat @ BIS)
10.45 – 11.00 (15')	Coffee Break	
11.00 – 12.30 (90')	Session 2: Understanding Big Data: Fundamental Concepts and Framework	Paul Robinson (Head of Advanced Analytics @ Bank of England)
12.30 – 14.00 (90')	Lunch Break	
14.00 – 15.30 (90')	Session 3a: Extracting Knowledge From Large Quantitative Datasets: Classification and Clustering	Sanjiv Das (Professor @ Santa Clara University)
15.30 – 15.45 (15')	Coffee Break	
15.45 – 17.15 (90')	Session 3b: Extracting Knowledge From Large Quantitative Datasets: Classification and Clustering	Sanjiv Das (Professor @ Santa Clara University)
18.30	Welcoming Dinner	Hosted by IFC/BIS

Day 2 (Tue, 24 July 2018)

Time	Schedule	Speaker
08:30–10.00 (90')	Session 4a: Introduction to Text Mining	Stephen Hansen (Associate Professor @ University of Oxford)
10.00-10.15 (15')	Coffee break	
10.15– 11.45 (90')	Session 4b: Introduction to Text Mining (cont'd)	Stephen Hansen (Associate Professor @ University of Oxford)
11.45-13.15 (90')	Lunch Break	
13.15-14.45 (90')	Session 5 : Macroeconomic Nowcasting and Forecasting with Big Data	Roberto Rigobon (Professor @ MIT)
14.45-15.00 (15')	Coffee Break	
15.00 –16.30 (90')	Session 6 : Measuring Market and Consumer Sentiment and Confidence	Stephen Hansen (Associate Professor @ University of Oxford)
16.30 – 17.30 (60')	<p>Paper presentation: <i>“Google econometrics: Nowcasting euro area car sales and big data quality requirements”</i> Per Nymand-Andersen, European Central Bank</p> <p>Paper presentation: <i>“Measuring expectations on Bank Indonesia policy rate with machine learning on news articles”</i> Okiriza Wibisono, Bank Indonesia</p>	Chair: Paul Robinson (Head of Advanced Analytics @ Bank of England)

Day 3 (Wed, 25 July 2018)

Time	Schedule	Speaker
08:30 – 10.00 (90')	Session 7a: Introduction to Network Analysis and Visualization	Kimmo Soramaki (CEO @ Financial Network Analytics)
10.00 – 10.15 (15')	Coffee Break	
10.15 – 11.45 (90')	Session 7b: Introduction to Network Analysis and Visualization	Kimmo Soramaki (CEO @ Financial Network Analytics)
11.45 – 13.15 (90')	Lunch Break	
13.15 – 14.45 (90')	<p>Paper presentation: “Standardized approach in developing economic indicators using internet searching applications” Paphatsorn Sawaengsuksant, Bank of Thailand</p> <p>Paper presentation: “Nowcasting private consumption: traditional indicators, uncertainty measures, credit cards, and some internet data” Alberto Urtasun, Banco de Espana</p> <p>Paper presentation: “Nowcasting New Zealand GDP” Tugrul Vehbi, Reserve Bank of New Zealand</p>	Chair: Roberto Rigobon (Professor @ MIT)
14.45 – 15.15 (30')	Coffee Break	
15.15 – 16.15 (60')	<p>Paper presentation: “Predictability in sovereign bond returns using technical trading rule: do developed and emerging markets differ?” Tom Fong, Hong Kong Monetary Authority</p> <p>Paper presentation: “A robust machine learning approach for credit risk analysis of large loan-level datasets using deep learning and extreme gradient boosting” Vasileios Siakoulis, Bank of Greece</p>	Chair: Paul Robinson (Head of Advanced Analytics @ Bank of England)
16.15 – 16.30 (15')	Closing	Bruno Tissot (Head of Statistics & Research Support and Head of IFC Secretariat @ BIS)
19.00 – 21.00 (120')	Gala Dinner	Hosted by Bank Indonesia