

**2020 Banca d'Italia and Federal Reserve Board Joint Conference on  
“Nontraditional Data & Statistical Learning with Applications to  
Macroeconomics”**

**Wednesday, November 11, 2020**

<b>14:00 CET (8:00 ET)</b>	<b>Introductory Remarks</b> by <b>Daniele Franco</b> (Senior Deputy Governor, Bank of Italy) <span style="float: right;">(Virtual room A)</span>	
	<b>1A) Parallel Session - NLP for Central Banks</b> (Virtual room A)	<b>1B) Parallel Session - Machine Learning for Central Banks</b> (Virtual room B)
	Chair: Bo Sun (Federal Reserve Board)	Chair: Nathan Palmer (Federal Reserve Board)
<b>14:15 CET (8:15 ET)</b>	<i>What Say They About Their Mandate? A Textual Assessment of Federal Reserve Speeches</i> , <b>R. Lumsdaine</b> <sup>a</sup> and M. van Dieijen <sup>b</sup>	<i>Forecasting UK inflation bottom up</i> , <b>A. Joseph</b> <sup>a</sup> , Eleni Kalamara <sup>b</sup> , G. Potjagailo <sup>a</sup> , and G. Kapetanios <sup>b</sup>
	<sup>a</sup> American University <sup>b</sup> Erasmus University Rotterdam	<sup>a</sup> Bank of England <sup>b</sup> King's College
<b>14:35 CET (8:35 ET)</b>	<i>Media Narratives and Aggregate Fluctuations</i> , <b>I. Hull</b> <sup>a</sup> , C. Bertsch <sup>a</sup> , and X. Zhang <sup>a</sup>	<i>The Macroeconomy as a Random Forest</i> , <b>P. Goulet Coulombe</b> <sup>a</sup>
	<sup>a</sup> Sveriges Riksbank	<sup>a</sup> University of Pennsylvania
<b>14:55 CET (8:55 ET)</b>	<i>A sentiment-based risk indicator for the Mexican financial sector</i> , <b>C. Rho</b> <sup>a</sup> , R. Fernández <sup>a</sup> , and B. Palma <sup>a</sup>	<i>The Consequences of the Covid-19 Job Losses: Who Will Suffer Most and by How Much?</i> , <b>A. Gulyas</b> <sup>a</sup> , and K. Pytka <sup>a</sup>
	<sup>a</sup> Banco de Mexico	<sup>a</sup> University of Mannheim
<b>15:15 CET (9:15 ET)</b>	Discussion of all papers by the Chair	Discussion of all papers by the Chair
<b>15:30 CET (9:30 ET)</b>	Q&A & General Discussion	Q&A & General Discussion
<b>15:40 CET (9:40 ET)</b>	<b>Virtual Coffee Break</b>	

**2A) Parallel Session - Big Data for the labor market**

(Virtual room A)

Chair: Francesco D'Amuri (Bank of Italy)

15:50 CET  
(9:50 ET)

*Firm-Level Job Postings in the COVID-19 Recession and Recovery*, **D. Van Dijke**<sup>a,b</sup>, M. Buckmann<sup>a</sup>, and A. Turrell<sup>a</sup>

<sup>a</sup> Bank of England

<sup>b</sup> University of Michigan

16:10 CET  
(10:10 ET)

*Now- and Backcasting Unemployment Insurance Initial Claims with Google Trends and Machine Learning*, D. Borup<sup>a</sup>, **D. E. Rapach**<sup>b</sup>, E. C. Montes Schutte<sup>a</sup>

<sup>a</sup> Aarhus University

<sup>b</sup> Saint Louis University and Washington University at St. Louis

16:30 CET  
(10:30 ET)

Discussion of all papers by the Chair

16:40 CET  
(10:40 ET)

Q&A & General Discussion

16:50 CET  
(10:50 ET)

**Virtual Coffee Break**

**2B) Parallel Session - NLP for Nowcasting and Economic Tracking**

(Virtual room B)

Chair: Roberta Zizza (Bank of Italy)

*Forecasting with Economic News*, **L. Barbaglia**<sup>a</sup>, S. Consoli<sup>a</sup>, S. Manzan<sup>a</sup>

<sup>a</sup> European Commission - JRC

*Sentiment and Uncertainty indexes for forecasting Italian economic activity*, **V. Aprigliano**<sup>a</sup>, S. Emiliozzi<sup>a</sup>, G. Guaitoli<sup>b</sup>, A. Luciani<sup>a</sup>, J. Marcucci<sup>a</sup>, L. Monteforte<sup>c</sup>

<sup>a</sup> Bank of Italy

<sup>b</sup> University of Warwick

<sup>c</sup> Parliamentary Budget Office

Discussion of all papers by the Chair

Q&A & General Discussion

**Parallel Lightning Sessions**

**3A) Parallel Lightning Session - Big Data, and Machine Learning for Central Banks**

(Virtual room A)

Chair: Sai Ma (Federal Reserve Board)

17:00 CET  
(11:00 ET)

*Teaching Machines to Measure Economic Activities from Satellite Images: Challenges and Solution*, D. Ahn<sup>a</sup>, M. Cha<sup>b</sup>, S. Han<sup>a</sup>, **J. Kim**<sup>a</sup>, S. Sang Lee<sup>a</sup>, S. Park<sup>c</sup>, S. Park<sup>a</sup>, H. Yang<sup>d</sup>, and J. Yang<sup>e</sup>

<sup>a</sup> KAIST- <sup>b</sup> Institute for Basic Science

<sup>c</sup> University of Hong Kong

<sup>d</sup> Sogang University

<sup>e</sup> National University of Singapore

**3B) Parallel Lightning Session - Big Data and Nontraditional data for Central Banks**

(Virtual room B)

Chair: Libero Monteforte (UPB, Parliamentary Budget Office)

*Data vs collateral*, **L. Gambacorta**<sup>a</sup>, Y. Huang<sup>b</sup>, Z. Li<sup>c</sup>, H. Qiu<sup>b</sup>, and S. Chen<sup>c</sup>

<sup>a</sup> Bank of International Settlements

<sup>b</sup> Peking University

<sup>c</sup> Ant Group

17:15 CET (11:15 ET)	<p><i>The Knowledge Graph for Macroeconomic Analysis with Alternative Big Data</i>, <b>Y. Yang</b><sup>a</sup>, Y. Pang<sup>b</sup>, G. Huang<sup>c</sup>, and Weinan E<sup>a</sup></p> <p><sup>a</sup> Princeton University <sup>b</sup> Peking University <sup>c</sup> University of Science and Technology</p>	<p><i>Using Payments Data to Nowcast Macroeconomic Variables During the Onset of Covid-19</i>, <b>A. Desai</b><sup>a</sup>, and J. Chapman<sup>a</sup></p> <p><sup>a</sup> Bank of Canada</p>
17:30 CET (11:30 ET)	<p><i>Fear and Employment During the COVID Pandemic: Evidence from Search Behaviour in the EU</i>, <b>W. van der Wielen</b><sup>a</sup>, and S. Barrios<sup>a</sup></p> <p><sup>a</sup> European Commission - JRC</p>	<p><i>Advances in Nowcasting Economic Activity: Secular Trends, Large Shocks and New Data</i>, <b>T. Drechsel</b><sup>a</sup>, J. Antolin-Diaz<sup>b</sup>, and I. Petrella<sup>c</sup></p> <p><sup>a</sup> University of Maryland <sup>b</sup> London Business School <sup>c</sup> University of Warwick</p>
17:45 CET (11:45 ET)	<p><a href="#">Q&amp;A &amp; General Discussion</a></p>	<p><a href="#">Q&amp;A &amp; General Discussion</a></p>
17:55 CET (11:55 ET)	<p><b>Virtual Coffee Break</b></p>	
	<p><b>4A) Parallel Lightning Session - Big Data, and Machine Learning for Central Banks (Cont.)</b></p> <p>(Virtual room A)</p>	<p><b>4B) Parallel Lightning Session - NLP for Macro applications</b></p> <p>(Virtual room B)</p>
	<p><a href="#">Chair: Giuseppe Bruno (Bank of Italy)</a></p>	<p><a href="#">Chair: Leland Crane (Federal Reserve Board)</a></p>
18:05 CET (12:05 ET)	<p><i>Machine Learning for Zombie Hunting. Firms' Failures and Financial Constraints</i>, <b>F. J. Bargagli Stoffi</b><sup>a</sup>, M. Riccaboni<sup>b</sup>, and A. Rungi<sup>b</sup></p> <p><sup>a</sup> Harvard University <sup>b</sup> IMT School for Advanced Studies</p>	<p><i>Twitter-Based Economic Policy Uncertainty Index for Chile</i>, <b>A. Sagner</b><sup>a</sup>, and J. Sebastian Becerra<sup>a</sup></p> <p><sup>a</sup> Banco Central de Chile</p>
18:20 CET (12:20 ET)	<p><i>The Italian Social Mood on Economy Index and the Covid-19 Crisis Implications</i>, <b>A. Righi</b><sup>a</sup>, R. Iannaccone<sup>a</sup>, D. Zardetto<sup>a</sup> and D. Zurlo<sup>a</sup></p> <p><sup>a</sup> ISTAT</p>	<p><i>Deciphering the Fed Communication via Text-Analysis of Alternative FOMC Statements</i>, <b>T. Doh</b><sup>a</sup>, D. Song<sup>b</sup>, and S.-K. Yang<sup>a</sup></p> <p><sup>a</sup> Federal Reserve Bank of Kansas City <sup>b</sup> Johns Hopkins University</p>
18:35 CET (12:35 ET)	<p><i>Fostering European SMEs internationalization Using Big Data: The BIZMAP Application</i>, <b>L. Richardet</b><sup>a</sup>, J.-Noël Kien<sup>a</sup>, E. Kintzler<sup>a</sup>, and T. Nicolas<sup>a</sup></p> <p><sup>a</sup> Banque de France</p>	<p><i>The Network of Firms Implied by the News</i>, <b>G. Schwenkler</b><sup>a</sup>, and H. Zheng<sup>a</sup></p> <p><sup>a</sup> Boston University</p>
18:50 CET (12:50 ET)	<p><i>Pirates without Borders: the Propagation of Cyberattacks through Firms' Supply Chains</i>, <b>M. Crosignani</b><sup>a</sup>, M. Macchiavelli<sup>b</sup>, and A. F. Silva<sup>b</sup></p> <p><sup>a</sup> Federal Reserve Bank of New York <sup>b</sup> Federal Reserve Board</p>	<p><i>Can We Measure Inflation Expectations Using Twitter?</i>, C. Angelico<sup>a</sup>, J. Marcucci<sup>a</sup>, <b>M. Miccoli</b><sup>b</sup>, F. Quarta<sup>a</sup></p> <p><sup>a</sup> Bank of Italy <sup>b</sup> IMF</p>

19:05 CET  
(13:05 ET) Q&A & General Discussion

Q&A & General Discussion

19:15 CET  
(13:15 ET)

End of the first day

Thursday, November 12, 2020

Parallel Main Sessions

**5A) Parallel Session - Payments data for nowcasting**

(Virtual room A)

Chair: James Chapman (Bank of Canada, Canada)

*The Geography of Consumption and Local Economic Shocks: The Case of the Great Recession*, A. Dunn<sup>a</sup>, and M. Gholizadeh<sup>a</sup>

14:00 CET  
(8:00 ET)

<sup>a</sup>Bureau of Economic Analysis

*Liquidity in Canada during the Coronavirus Pandemic*, K. Huynh<sup>a</sup>, A. Ho<sup>b</sup>, L. Morin<sup>c</sup>, and H. Paarsch<sup>c</sup>

14:20 CET  
(8:20 ET)

<sup>a</sup>Bank of Canada

<sup>b</sup>Ryerson University

<sup>c</sup>University of Central Florida

*Tracking the COVID-19 Crisis with High-Resolution Transaction Data*, V. Carvalho<sup>a</sup>, J. Garcia<sup>b</sup>, S. Hansen<sup>c</sup>, A. Ortiz<sup>b</sup>, T. Rodrigo<sup>b</sup>, J. Rodriguez Mora<sup>d</sup>, P. Ruiz<sup>b</sup>

14:40 CET  
(8:40 ET)

<sup>a</sup>University of Cambridge

<sup>b</sup>BBVA Research

<sup>c</sup>Imperial College

<sup>d</sup>University of Edinburgh

*Policy uncertainty and daily consumer card payments*, G. Ardizzi<sup>a</sup>, S. Emiliozzi<sup>a</sup>, J. Marcucci<sup>a</sup>, and L. Monteforte<sup>b</sup>

15:00 CET  
(9:00 ET)

<sup>a</sup>Bank of Italy

<sup>b</sup>Parliamentary Budget Office

15:20 CET  
(9:20 ET)

Discussion of all papers by the Chair

15:35 CET  
(9:35 ET)

Q&A & General Discussion

15:45 CET  
(9:45 ET)

Virtual Coffee Break

**5B) Parallel Session - NLP and the economy**

(Virtual room B)

Chair: Federico M. Ferrara (London School of Economics)

*Regulation during COVID-19: News Sentiment Improved, While Uncertainty Remains*, T. Sinclair<sup>a</sup>, and Z. Xie

<sup>a</sup>George Washington University

*Firm-level Risk Exposures and Stock Returns in the Wake of COVID-19*, S. Davis<sup>a</sup>, S. Hansen<sup>b</sup>, C. Seminario-Amez<sup>a</sup>

<sup>a</sup>University of Chicago

<sup>b</sup>Imperial College

*Monetary policy uncertainty in Mexico: an unsupervised approach*, C. Moreno Perez<sup>a</sup>, and M. Minozzo

<sup>a</sup>University of Verona

*Measuring central banks' sentiment and its spillover effects with a network approach*, G. Tizzanini<sup>a</sup>, P. Lorenzini<sup>a</sup>, M. Priola<sup>a</sup>, L. Zicchino<sup>a</sup>

<sup>a</sup>Prometeia S.p.A.

Discussion of all papers by the Chair

Q&A & General Discussion

## Parallel Lightning Sessions

### 6A) Parallel Lightning Session - NLP and Macroeconomic Applications (Virtual room A)

Chair: Ines Buono (Bank of Italy)

15:55 CET  
(9:55 ET)

*Oil Shocks: A Textual Analysis Approach*, **D. Datta**<sup>a</sup>, and D. Dias<sup>a</sup>

<sup>a</sup> Federal Reserve Board of Governors

16:10 CET  
(10:10 ET)

*Reading the News: Telling Supply from Demand in Commodity Markets*, S. Mouabbi<sup>a</sup>, **E. Passari**<sup>b</sup>, and A. Rousset Planat

<sup>a</sup> Banque de France

<sup>b</sup> University Paris Dauphine

16:25 CET  
(10:25 ET)

*Do words hurt more than actions? The impact of trade tensions on financial markets*, M. Ferrari<sup>a</sup>, **M. S. Pagliari**<sup>b</sup> and F. Kurcz<sup>c</sup>

<sup>a</sup> European Central Bank and Catholic University of Milan

<sup>b</sup> European Central Bank

<sup>c</sup> Bundesbank

16:40 CET  
(10:40 ET)

Q&A & General Discussion

16:50 CET  
(10:50 ET)

### Virtual Coffee Break

### 7A) Parallel Lightning Session - Big data for Central Banking (Virtual room A)

Chair: Silvia Fabiani (Bank of Italy)

17:00 CET  
(11:00 ET)

*Investment in Real Time and High Definition: A Big data Approach*, **A. Ortiz**<sup>a</sup>, A. Barlas<sup>a</sup>, S. Guler<sup>a</sup>, and T. Rodrigo<sup>a</sup>

<sup>a</sup> BBVA Research

17:15 CET  
(11:15 ET)

*Advance Layoff Notices and Labor Market Forecasting*, **K. Lunsford**<sup>a</sup>, and P. M. Krolkowski<sup>a</sup>

<sup>a</sup> Federal Reserve Bank of Cleveland

### 6B) Parallel Lightning Session - Big Data for Macroeconomics (Virtual room B)

Chair: Tomaz Cajner (Federal Reserve Board)

*Business Exit During the COVID-19 Pandemic: Non-Traditional Measures in Historical Context*, L.D. Crane<sup>a</sup>, **R.A. Decker**<sup>a</sup>, A. Flaaen<sup>a</sup>, A. Hamins-Puertolas<sup>a</sup>, and C. Kurza<sup>a</sup>

<sup>a</sup> Federal Reserve Board of Governors

*Price setting in Chile: Micro evidence from consumer on-line prices during the social outbreak and Covid-19*, **E. Prades**<sup>a</sup>, and J. Peña<sup>b</sup>

<sup>a</sup> Banco de España

<sup>b</sup> Banco Central de Chile

*Tracking activity in real time with Google Trends*, **N. Woloszko**<sup>a</sup>

<sup>a</sup> OECD

Q&A & General Discussion

### 7B) Parallel Lightning Session - NLP Applications for Central Banking (Virtual room B)

Chair: Ricardo Correa (Federal Reserve Board)

*Analysing monetary policy statements of the Reserve Bank of India*, **A. Mathur**<sup>a</sup>, and R. Sengupta<sup>b</sup>

<sup>a</sup> IHEID, Geneva

<sup>b</sup> IGIDR, India

*When the Markets Get Co.V.I.D.: Contagion, Viruses and Information Diffusion*, M. Croce<sup>a</sup>, M. J. Arteaga Garavito<sup>a</sup>, P. Farroni<sup>a</sup>, and **I. Wolfskeil**<sup>a</sup>

<sup>a</sup> Bocconi University

17:30 CET (11:30 ET)	<i>Can satellite data predict industrial production?</i> , J.-C. Bricongne <sup>a</sup> , B. Meunier <sup>a</sup> , T. Pical <sup>b</sup>	<i>Application of text mining to the analysis of climate-related disclosures</i> , <b>Á. I. Moreno<sup>a</sup></b> , and T. Caminero <sup>a</sup>
	<sup>a</sup> Banque de France <sup>b</sup> Aix-Marseille School of Economics	<sup>a</sup> Banco de España
17:45 CET (11:45 ET)	Q&A & General Discussion	Q&A & General Discussion
17:55 CET (11:55 ET)	<b>Virtual Coffee Break</b>	
18:05 CET (12:05 ET)	<b>Panel Discussion: The Role of Big Data, Nontraditional data, and Machine Learning in Economic Policy</b>	
	(Virtual room A)	
	Chair: Per Nymand Andersen (ECB)	
	Participants:	
	<ul style="list-style-type: none"> <li>• <b>Ellen Meade</b> (Federal Reserve Board)</li> <li>• <b>Tara Sinclair</b> (George Washington University)</li> <li>• <b>Stephen Hansen</b> (Imperial College London)</li> <li>• <b>Marco Marini</b> (IMF)</li> <li>• <b>Giuseppe Bruno</b> (Bank of Italy)</li> </ul>	
18:55 CET (12:55 ET)	Q&A & General Discussion	
19:30 CET (13:30 ET)	<b>Concluding Remarks</b> by <b>John Stevens</b> (Senior Associate Director, Federal Reserve Board)	
	(Virtual room A)	
19:45 CET (13:45 ET)	<b>End of the second day</b>	

**NB:** There are **two virtual conference rooms** for **Parallel Sessions** and **Parallel Lightning Sessions**: 1) **virtual room A** where all plenary sessions will be held; and 2) **virtual room B**. Participants who want to join the plenary sessions should use the link to virtual room A. If presenters agree on that, all sessions will be recorded.

In **Parallel Sessions** presenters will have **15 minutes** to present their paper with **5 minutes** devoted to Q&A which can only be submitted **through the chat**. At the end of each Parallel Session, the Chair will briefly discuss all the papers (**15 minutes**) and then open the floor/screen to the discussion from the participants (**10 minutes**).

In **Parallel Lightning Sessions** presenters will have only **10 minutes** to present their paper with **5 minutes** devoted to Q&A which can only be submitted **through the chat**. At the end of each Parallel Lightning Session, there will be an open discussion with Q&A from the participants (**10 minutes**).

**Organizing Committee:**

Giuseppe Bruno (Bank of Italy)  
Ricardo Correa (Federal Reserve Board)  
Christopher J. Kurz (Federal Reserve Board)  
Juri Marcucci (Bank of Italy)