This week-long workshop for central bank economists has two objectives. First, to expose participants to frontier models and techniques in monetary economics. Second, to foster discussion and exchange of ideas about applied monetary policy problems faced by different central banks.

The week is organized around lectures and computer-based assignments.

The workshop has been held annually since 2004. It has been attended, so far, by roughly 650 participants from 43 central-bank institutions.

Participating Institutions

Central Banks:
Armenia, Argentina, Australia, Austria, Bangladesh, Brazil, Belgium, Canada, Colombia, Costa Rica, Denmark, Finland, France, Germany, Greece, Hong Kong, Iceland, India, Italy, Israel, Japan, Korea, Malaysia, Mexico, Netherlands, Norway, Philippines, Poland, Russia, Slovakia, Spain, South Africa, Sweden, Switzerland and Uruguay.

Federal Reserve Banks:
Atlanta, Boston, Cleveland, and Dallas, European Central Bank, the Bank of International Settlements, the Inter-American Development Bank, and the International Monetary Fund.
Course lectures

The workshop includes eight three-hour course lectures on the following topics.

Empirical methods in monetary economics,
Martin Eichenbaum

Alternative techniques to estimate and empirically evaluate models of the monetary transmission mechanism: (i) structural VARs identified with short run restrictions, long run restrictions, and sign restrictions; (ii) fitting dynamic models to impulse response functions; (iii) maximum likelihood methods.

Specification, estimation, and analysis of monetary models,
Lawrence Christiano

Structural monetary models: the role of different frictions, such as sticky wages, sticky prices, working capital, and credit market imperfections. The use of Bayesian and other methods to estimate models and a review of recent developments in the use of models in the monetary policy process.

Open-economy models,
Sergio Rebelo

Understanding movements in the real exchange rate and the failure of uncovered interest parity. Designing open-economy models consistent with the key facts about nominal and real exchange rates.

Hank models
Matthew Rognlie

A discussion of Heterogeneous Agent New Keynesian Models that incorporate uninsurable idiosyncratic income risk and assets with different degrees of liquid.

Macroeconomic forecasting with big data
Girogio Primiceri

A comprehensive review of forecasting methods. Topics include VARs, dynamic factor models, robust Bayes inference, nowcasting, and long-run forecast uncertainty.
Advanced Workshop
For Central Bankers

Special-topic lectures

Matteo Maggiori (Stanford): The Role of International Capital Flows?

Valerie Ramey (University of California at San Diego): Government Spending Multipliers

Ricardo Reis (London School of Economics): Quantitative Easing

2019 Sandor Family Lecture on Banking (keynote speaker to be announced)

Practicum

The course lectures are complemented with afternoon sessions designed to provide participants with hands-on experience with the techniques presented.

Logistics

The workshop takes place at the Kellogg Global Hub located on the shores of Lake Michigan at Northwestern University’s Evanston campus.
Dates
The workshop will take place from Tuesday, September 8 to Tuesday, September 15, 2020. Participants are expected to arrive on Tuesday, September 8 and leave in the afternoon of Tuesday, September 15, 2020. Participants who are interested in attending the Optional Review Session on Tuesday, September 8, 2020 are expected to arrive on Monday, September 7, 2020. This optional session is devoted to a comprehensive tutorial on what you need to know about Matlab to be able to use the software employed in the course.

Schedule
A preliminary workshop schedule is attached.

Software and lecture materials
At the end of the workshop, participants receive all the lecture materials and programs used during the practicum sessions.

Price
The fee (payable in U.S. dollars) includes tuition, course materials, accommodations, social program, meals, coffee breaks, and receptions. Enrollment is confirmed only upon receipt of full payment.

Cancellations made before June 1st, 2020 are subject to a 25% fee.
Cancellations made after June 1st, 2020 are subject to the total charge.
## Advanced Workshop for Central Bankers Schedule, 2020

<table>
<thead>
<tr>
<th>08/Sep Tuesday</th>
<th>09/Sep Wednesday</th>
<th>10/Sep Thursday</th>
<th>11/Sep Friday</th>
<th>12/Sep Saturday</th>
<th>13/Sep Sunday</th>
<th>14/Sep Monday</th>
<th>15/Sep Tuesday</th>
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<tbody>
<tr>
<td>7:30 AM to 9:00 AM</td>
<td>Breakfast, Allen Center</td>
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<tr>
<td>9:00 AM to 10:30 AM</td>
<td>Using VARs Martin Eichenbaum</td>
<td>Model estimation Lawrence Christiano</td>
<td>DSGE models Lawrence Christiano</td>
<td>Open-economy models Sergio Rebelo</td>
<td>Financial frictions Lawrence Christiano</td>
<td>Macro Forecasting with big data Giorgio Primiceri</td>
<td>Hank models Matthew Rognlie</td>
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<td>10:30 AM to 10:45 AM</td>
<td>Coffee Break</td>
<td>Coffee Break</td>
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<tr>
<td>10:45 AM to 12:15 PM</td>
<td>Using VARs Martin Eichenbaum</td>
<td>Model estimation Lawrence Christiano</td>
<td>DSGE models Lawrence Christiano</td>
<td>Open-economy models Sergio Rebelo</td>
<td>Financial frictions Lawrence Christiano</td>
<td>Macro Forecasting with big data Giorgio Primiceri</td>
<td>Hank models Matthew Rognlie</td>
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<td>12:15 PM to 1:30 PM</td>
<td>Lunch</td>
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<td>1:30 PM to 4:00 PM</td>
<td>Using VARs Martin Eichenbaum</td>
<td>Amir Sufi Finance and Business Cycles</td>
<td>Chicago Architectural River Cruise (starts at 3:30 pm)</td>
<td>DSGE Practicum2</td>
<td>Forecasting Practicum</td>
<td>Coffee Break</td>
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<td>4:00 PM to 4:15 PM</td>
<td>Coffee Break</td>
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<tr>
<td>4:15 PM to 5:30 PM</td>
<td>Optional Matlab Review Session 3:30 pm - 6:30 pm</td>
<td>Valerie Ramey Government Spending Multipliers</td>
<td>2019 Sandor Family Lecture on Banking (keynote speaker to be announced)</td>
<td>Matthew Shapiro International Capital Flows</td>
<td>Ricardo Reis, Quantitative Easing</td>
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<td>5:30 PM to 6:30 PM</td>
<td>Dinner</td>
<td>Cocktails</td>
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<tr>
<td>6:30 PM to 8:00 PM</td>
<td>Dinner</td>
<td>Dinner</td>
<td>Bus to blues show</td>
<td>Optional Dinner</td>
<td>Celebration dinner at Stained Glass (7:15 pm)</td>
<td>Blues show, 9:30 pm - 11:00 pm</td>
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*Note: Schedule is subject to change.*