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 450 participants from 41 central bank institutions.

Participating Institutions

Central banks of: Armenia, 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, 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 seven three-hour lectures on the following topics.

Empirical methods in monetary economics,
Martin Eichenbaum (Northwestern University)
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 (Northwestern University)
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 (Northwestern University)
Parity conditions in dynamic open economy models. Empirical evidence on sources of real exchange rate (RER) fluctuations. Modeling RER fluctuations. An empirical analysis of the failure of uncovered interest parity (UIP). Modeling deviations from UIP.

Macroeconomic forecasting,
James Stock (Harvard University)
A comprehensive review of forecasting methods. Topics include VARs, dynamic factor models, robust Bayes inference, nowcasting, and long-run forecast uncertainty.

Macro-prudential regulation,
Anil Kashyap (University of Chicago)
An introduction to the principles underlying macroprudential regulation and an analysis of how macroprudential considerations alter the use of regulatory tools and the design of financial regulation.
Special-topic lectures
There are five additional lectures on the following topics

Lecture 1: Outlook for U.S. monetary policy,
            Narayana Kocherlakota (Federal Reserve Bank of Minnesota)
Lecture 2: Financial frictions and monetary policy,
            Markus Brunnermeier (Princeton)
Lecture 3: Will we face secular stagnation?
            Joel Mokyr (Northwestern University)
Lecture 4: Inflation dynamics during the financial crisis,
            Simon Gilchrist (Boston University)
Lecture 5: Credit markets and the business cycle,
            Jeremy Stein (Harvard University)

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 James L. Allen Center, the home of Kellogg’s Executive Education Programs. The Center is located on the shores of Lake Michigan at Northwestern University’s Evanston campus.
Dates
The workshop will take place between Tuesday, September 8 and Tuesday, September 15, 2015. Participants are expected to arrive on Tuesday, September 8 and leave in the afternoon of Tuesday, September 15, 2015. Participants who are interested in attending the Optional Review Session on Tuesday, September 8, 2015 are expected to arrive on Monday, September 7, 2015. 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 cost of the program is $6,850 per participant. 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, 2015 are subject to a 25% fee.
Cancellations made after June 1st, 2015 are subject to the total charge.
### Advanced Workshop for Central Bankers Schedule, 2015

<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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<td>9:00 AM to 10:30 AM</td>
<td>Coffee Break</td>
<td>Using VARs Martin Eichenbaum</td>
<td>DSGE models Lawrence Christiano</td>
<td>Model estimation Lawrence Christiano</td>
<td>Financial frictions Lawrence Christiano</td>
<td>Open-economy models Sergio Rebelo</td>
<td>Forecasting James Stock</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>DSGE models Lawrence Christiano</td>
<td>Model estimation Lawrence Christiano</td>
<td>Financial frictions Lawrence Christiano</td>
<td>Open-economy models Sergio Rebelo</td>
<td>Forecasting James Stock</td>
<td>Macro-prudential regulation Anil Kashyap</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>Optional Matlab Review Session</td>
<td>Practicum Session</td>
<td>Practicum Session</td>
<td>Chicago Architectural River Cruise (starts at 3:30 pm)</td>
<td>Practicum Session</td>
<td>Practicum Session</td>
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<tr>
<td>4:00 PM to 4:15 PM</td>
<td>Coffee Break</td>
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<td>5:30 PM to 6:30 PM</td>
<td>Dinner</td>
<td>Cocktails</td>
<td>Cocktails</td>
<td>Dinner</td>
<td>Dinner</td>
<td>Optional Dinner</td>
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<tr>
<td>6:30 PM to 8:00 PM</td>
<td>Dinner</td>
<td>Dinner</td>
<td>Dinner</td>
<td>Dinner</td>
<td>Dinner</td>
<td>Celebration dinner at Stained Glass (7:15 pm)</td>
<td>Show at Chicago Theater</td>
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<tr>
<td>8:00 PM to 9:00 PM</td>
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