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**INTERNATIONAL MONETARY FUND**

**Joint Vienna Institute / IMF Institute – European and Middle Eastern Division  
Course on Model-Based Monetary Policy Analysis and Forecasting (JV16.29)**

**Vienna, Austria**

**October 24 – November 4, 2016**

**PROGRAM<sup>1</sup>**

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***Monday, October 24***

9:00 a.m. – 9:30 a.m.	<b>Administrative Briefing</b> Ms. Tatiana Arnold Program Officer, Joint Vienna Institute
9:30 a.m. – 10:00 a.m.	<b>Opening Session</b> Mr. Martin Schindler, Deputy Director, Joint Vienna Institute (JVI); Mr. Rafael Portillo, Senior Economist, JVI; Mr. Mikhail Pranovich, Economist, European and Middle East Division, Institute for Capacity Development; and Mr. Jan Vlcek, Advisor, Czech National Bank
10:00 a.m. – 10:30 a.m.	<b>Test</b> Session conducted by counselors
11:00 a.m. – 12:30 p.m.	L-1 <b>Monetary Policy Frameworks and Transmission Channels</b> Lecture by Mr. Rafael Portillo <ul style="list-style-type: none"> <li>• Frameworks for monetary policy</li> <li>• Overview of transmission channels, empirical evidence</li> </ul>
2:00 p.m. – 3:30 p.m.	L-2 <b>Forecasting and Policy Analysis System (FPAS)</b> Lecture by Mr. Jan Vlcek <ul style="list-style-type: none"> <li>• FPAS components: databases, monitoring and reporting, short- and medium-term forecasting, communication and decision making</li> <li>• The role of the quarterly projection model</li> </ul>
4:00 p.m. – 5:30 p.m.	L-3 <b>Consistency of Policy Objectives and Macro Trends</b> Lecture by Mr. Mikhail Pranovich <ul style="list-style-type: none"> <li>• Convergence, PPP, and the Balassa-Samuelson effect</li> <li>• Uncovered Interest Rate Parity (UIP)</li> <li>• Interpreting economic trends</li> </ul>

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<sup>1</sup> Coffee breaks are generally from 10.30 a.m. to 11.00 a.m. and 3.30 to 4.00 p.m., unless otherwise indicated.

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**Tuesday, October 25**


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| 9:00 a.m. – 10:30 p.m.  | L-4 <b>Introduction to a Small New Keynesian Model for Policy Analysis</b><br>Lecture by Mr. Mikhail Pranovich <ul style="list-style-type: none"> <li>• Model structure</li> <li>• Long run trends and steady state</li> <li>• A brief overview of calibration</li> </ul>  |
| 11:00 a.m. – 12:30 p.m. | L-5 <b>CPI Components and their Relative Prices</b><br>Lecture by Mr. Jan Vlcek <ul style="list-style-type: none"> <li>• Core, food, and energy: inflation components and relative prices</li> <li>• shocks to CPI components, first and second-round effects, policy responses</li> <li>• Transitory and permanent shocks in relative prices</li> </ul> |
| 2:00 p.m. – 3:30 p.m.   | W-1 <b>Workshop: Introduction to the Software and Model Codes</b> <ul style="list-style-type: none"> <li>• Suite of codes</li> <li>• Generic impulse response functions</li> </ul>   |
| 4:00 p.m. – 5:30 p.m.   | W-2 <b>Workshop: Data Transformation, Interpretation and Model Calibration</b> <ul style="list-style-type: none"> <li>• Data preparation, univariate filtration</li> <li>• Initial conditions, implications for the inflation outlook</li> <li>• Preliminary calibration</li> </ul>  |
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**Wednesday, October 26**


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| 9.00 a.m. – 10:30 a.m.  | L-6 <b>Alternative Exchange Rate Regimes</b><br>Lecture by Mr. Jan Vlcek <ul style="list-style-type: none"> <li>• Exchange rate management</li> <li>• The exchange rate as an operational target</li> <li>• FX interventions</li> </ul>      |
| 11:00 a.m. – 12:30 p.m. | W-3 <b>Workshop: Model Properties Under Different Policy Regimes</b> <ul style="list-style-type: none"> <li>• Transmission of shocks in the model</li> </ul>   |
| 2.00 p.m. – 3:30 p.m.   | L-7 <b>Estimating Long-Run Trends and Gaps</b><br>Lecture by Mr. Rafael Portillo <ul style="list-style-type: none"> <li>• Identifying trends</li> <li>• Univariate filtration methods</li> <li>• The multivariate (Kalman) filter</li> </ul> |
| 4:00 p.m. – 5:30 p.m.   | W-4 <b>Workshop: Analysis of Trends and Model Calibration</b> <ul style="list-style-type: none"> <li>• Comparing univariate and multivariate filters</li> </ul>  |
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**Thursday, October 27**


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- 9:00 a.m. – 10:30 a.m.      **W-4 Workshop: Analysis of Trends and Model Calibration, continued.**
- Tuning the multivariate filter
  - Model filtration and recalibration
- 11:00 a.m. – 12:30 p.m.      **L-8 Methods in Model Parameterization, Assessment of Model Properties**  
Lecture by Mr. Rafael Portillo
- Calibration vs. estimation
  - Maximum likelihood and Bayesian estimation
  - Model properties, recursive forecasts
- 2:00 p.m. – 5:30 p.m.      **W-5 Workshop: Estimation and Assessment of the Model**
- Model parameterization
  - Maximum likelihood and Bayesian estimation
  - Model properties: assessment based on recursive (multi-step ahead projection) forecast
  - Fine-tuning of the model

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**Friday, October 28**


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- 9:00 a.m. – 10:30 a.m.      **L-9 Nowcasting**  
Lecture by Mr. Rafael Portillo
- Nowcasting in the FPAS context
  - State Space Models,
  - Dynamic Factor Models (DFM)
- 11:00 a.m. – 12:30 p.m.      **L-10 Near-Term Forecasting**  
Lecture by Mr. Mikhail Pranovich
- Vector Auto Regressions (VARs)
  - Forecasting using VARs
- 2:00 p.m. – 3:30 p.m.      **W-6 Workshop: Nowcasting**
- Using a DFM to nowcast GDP
- 4:00 p.m. – 5:30 p.m.      **W-7 Workshop: Near-Term Forecasting**
- Using VARs to forecast inflation components
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**Monday, October 31**


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- 9:00 a.m. – 10:30 a.m.      L-11 **Extending the Core Model: Fiscal Policy**  
Lecture by Mr. Mikhail Pranovich
- Fiscal rules and fiscal accounting
  - Long term trends and crowding out
  - Simulations
- 11:00 a.m. – 12:30 p.m.      W-8 **Workshop: Fiscal Extension**
- Fiscal satellite module codes
  - Short-term fiscal multipliers
  - Fiscal expansion/consolidation scenarios
- 2:00 p.m. – 3:30 p.m.      **Preparation**
- 4:00 p.m. – 5:30 p.m.      O-1 **Group presentation: Initial Conditions**  
Analysis of initial conditions and inflation outlook
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**Tuesday, November 1**


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- 9:00 a.m. – 10:30 a.m.      L-12 **Baseline and Alternative Forecast Scenarios:  
Risk Analysis under Uncertainty**  
Lecture by Mr. Jan Vlcek
- Building macro scenarios for policy dialogue
  - Baseline forecast and alternative scenarios
- 11:00 a.m. – 12:30 p.m.      W-9 **Workshop: Scenario Formulation and Policy Analysis**
- Baseline forecast
  - Design of alternative scenarios
- 2:00 p.m. – 5:00 p.m.      W-9 **Workshop: Scenario Formulation and Policy Analysis**
- Design of alternative scenarios
  - External environment
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**Wednesday, November 2**


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- 9:00 a.m. – 12:30 p.m.      W-9 **Workshop: Scenario Formulation and Policy Analysis**
- Design of macroeconomic scenarios (continued)
- 2:00 p.m. – 5:00 p.m.      W-9 **Workshop: Scenario Formulation and Policy Analysis**
- Preparation of final presentations
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***Thursday, November 3***

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- 9:00 a.m. – 12:30 p.m.      **W-9 Workshop: Scenario Formulation and Policy Analysis**  
• Preparation of final presentations (continued)
- 2:00 p.m. – 2:30 p.m.      **Course Evaluation**
- 2:30 p.m. – 5:30 p.m.      **O-2 Final Group Presentations – Country Case Studies**  
Forecast, scenarios, and policy analysis for Czech Republic, Kazakhstan and Singapore
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***Friday, November 4***

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- 9:00 a.m. – 9:30 a.m.      **Test**  
Session conducted by counselors
- 9:30 a.m. – 10:30 a.m.      **L-13 Guest Lecture: Title TBD**  
Lecture by Tibor Hledik, Head of Forecasting Division, Monetary Department, Czech National Bank
- 11:00 a.m. – 12:30 p.m.      **Closing Session**  
Mr. Rafael Portillo, Mr. Mikhail Pranovich, Mr. Jan Vlcek
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