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**Central Asian Regional Modeling Analysis Workshop**

Naxoz University

Almaty, Kazakhstan

12-15 December 2016

Jointly Organized by:

Asian Development Bank

CAREC Institute

**Background and Objective**

Because of the complexities of today’s economy, sophisticated research methods are needed to support effective public and private sector decision making. The Central Asian Regional Modeling Analysis (CARMA) workshop at the CAREC Institute offers a unique learning opportunity for talented government policy professionals to broaden their knowledge and perspectives on the most advanced and innovative economic research techniques. Through intensive exposure to innovative approaches, the CARMA workshop participants develop the tools and skills necessary to more effectively support evidence based policy and dialog in their home countries. Established in 2015, the CARMA workshop offers an annual four-day summer certificate training course in economic assessment methods and issues. The companion CARMA research consortium is designed to support sustained interactions between dynamic technical experts, policy makers, and private sector innovators in ongoing dialog to more effectively address emerging regional and global challenges.

The CARMA workshop offers technical analysts and policy makers an opportunity to upgrade their information and skills in an immersive setting, apply state-of-the-art decision tools to cutting-edge issues addressed by leading international experts and direct application to hands-on case studies. Each year, the CARMA workshop will address a different group of headline strategic issues, offering participants repeated opportunities to establish individual expertise and dialog on emergent national, regional, and global economic challenges to sustained and inclusive growth, poverty reduction and economic convergence. Examples of annual thematic issues are Infrastructure, Trade Facilitation, PRC and the CAREC, New Silk Road initiatives, Human Resource Development, Energy Sector Trends, etc.

**Methodology**

This course offers an introduction to the theory and practice of the three primary methods of economic policy assessment at the national and regional levels, macroeconomic modeling, input-output analysis, and dynamic Computable General Equilibrium (CGE) forecasting. The course will combine theoretical and empirical material with the latest data and software resources, training participants to assess economy wide impacts and communicate their findings to effectively support evidence-based policy dialog. Upon completion of the course, participants will be familiar with state-of-the-art decision tools that can be used to assess the economic impacts of policy and external events within and across the CAREC economies.

Macroeconomic modeling is the map and compass of contemporary aggregate economic policy guidance. With relatively high frequency tracking of national income and product accounts, policy makers can track economywide economic performance and make shorter term corrections to aggregate fiscal and monetary policy instruments. While this approach overlooks distributional issues and lacks detailed sectoral guidance, it is essential for macro management and stabilization policy.

Input-output analysis is one of the oldest tools for economic impact assessment, while it relies on very restrictive simplifying assumptions, it can provide relatively expedient and transparent indicative guidance regarding distributional impacts of demand-side policies, including government spending, project investment, and export promotion. Input-output results must be interpreted with care because of conceptual limitations, but it remains a very convenient economic assessment methodology.

The most advanced and versatile decision tool for evidence-based economic policy is the Calibrated or Computable General Equilibrium (CGE) model. This methodology has been applied in hundreds of studies for fiscal, sectoral, trade, and employment analysis around the world because it can trace structural adjustments across the economy, revealing linkage effects through market interactions and behavioral responses. Such linkages are an essential determinant of policy outcomes, where cumulative indirect effects of policies often outweigh direct effects. The CGE approach also helps enhance public policy engagement because, while economic policy may be made from the top down, the economic consequences ultimately felt from the bottom up. Stakeholders must be identifiable and their interests assessed so beneficiaries can be recruited to support policies and the adjustment needs of others can be anticipated. CGE models, supported by detailed data, are designed to elucidate linkages and improve visibility for policy makers. These models capture detailed links between behavior, incentives, and policies, revealing how patterns of demand, supply, and resource use interact and change in response to external shocks and policy changes. For these reasons, scenario analysis with such models is useful or even necessary before policy and planning decisions are taken.

The Global Trade Analysis Program (GTAP) has linked over 100 countries across a CGE based analysis network, supporting economic analysis by several thousand public and private researchers. Multilateral institutions (ADB, WB, IMF, FAO, etc.) and national governments in particular have sponsored hundreds of CGE based assessments, including work on Central Asian trade, energy, and infrastructure investment.

**Workshop Format**

The workshop provides intellectually-rigorous professional leadership training to mid-career practitioners and decision-makers, addressing leading national, regional, and global strategic issues with the most advanced economic decision tools. In particular, the program equips participants with technical training on evidence-based analysis, strategic planning, and dialog to manage and overcome risks, as well as practical skills for strategy, benefit-cost assessment and mediation/negotiation. In addition to addressing a leading policy issue every year, the program will establish an international network of skilled technical analysts and decision makers who share national responsibilities and regional policy challenges.

**Target Participants**

To support national policy capacity, regional policy dialog, and the role of CI as a regional facilitator program, the Workshop will be most effective if it targets upwardly mobile, mid-career, public decision-makers across Central Asia who want to upgrade their skills in emergent strategic areas. Each year, the most up-to-date technical approaches will be presented as a direct, hands-on capacity building exercise, applied state-of-the-art techniques to salient regional development issues. Four days of interactive and team-based training will begin with morning lectures outlining the underlying theory. Each afternoon, hands-on guided laboratories will provide direct opportunities to process data, carry out analyses, communicate and discuss results in a supervised environment.

**Workshop Materials and Prerequisites:**

Because of the nature and technical contents, the CARMA workshop requires that participants are familiar with basic economics and statistics. Prior experience with Microsoft Excel and at least rudimentary computer programming are also recommended.

Each participant must bring an individual MS Office equipped laptop (PC or Mac) to all sessions. All course content will be electronic and made available at no direct cost on the internet. Content will be hosted on a course website that will remain online after the course is finished to serve as a future reference. Participants will be given internet access during class, as well as CARMA network membership for as long as they remain active in policy research. All other computer software and data will be made available electronically, during the course, at no charge to invited participants.

In terms of recruitment, it is recommended that every member country be represented by at least two participants, one who has recognized technical capacity and one who it a recognized actor in domestic policymaking. This combination will assure the two necessary conditions for local technology adoption, technical proficiency and policy relevance.

**Timing and Place of the Workshop**

The 4-day Workshop will be held during interval of 12-15 December at Narxoz University in Almaty, Kazakhstan. A provisional outline of the Workshop is given below:

**Provisional Program of the CARMA Workshop**

**Day 1: Models for Scenario Analysis [Monday, December 12]**

Introduction to scenario tools for simple policy analysis and results communication.

**9:00 – Opening Session: Welcoming remarks – ADB/CI/NU representatives**

**9:15 – 10:30 –**  *Lecture 1: Introduction and Overview of the Training*

**10:30 – 10:45 -** *Coffee Break*

**10:45-12:00 -** *Lecture 2: Overview of Economic Scenario Analysis*

**12:00-13:00 -** *Lunch*

**13:00 – 14:30 –** *Lecture 3: Economic Growth Theory*

**14:45 – 15:00** – *Coffee Break*

**15:00 – 17:00** – *Workshop 1: Modeling Economic Growth*

**17:00** *– End of Day 1*

**Day 2: Central Asian Regional Economic Model – CAREM [Wednesday, December 13]**

A new economic assessment package for the CAREC regional economies.

**9:00 – 10:30 –**  *Lecture 4: Macroeconomic Theory*

**10:30 – 10:45 -** *Coffee Break*

**10:45-12:00 –** *Workshop 2: Macroeconomic Modeling*

**12:00-13:00 -** *Lunch*

**13:00 – 14:30 –** *Lecture 5: Structural (Input-output) Assessment Module*

**14:45 – 15:00** – *Coffee Break*

**15:00 – 17:00** – *Workshop 3: Case Studies for Economic Impact Assessment*

**17:00** *– End of Day 2*

**Day 3: Methodologies [Thursday, December 14]**

**9:00 – 10:30 -** *Lecture 6: Theory to CGE Modeling*

**10:30 – 10:45** – *Coffee Break*

**10:45 – 12:00** *– Lecture 7: Analytics of an Excel Based CGE Model*

**12:00 – 13:00** - *Lunch*

**13:00-14:45** - *Workshop 4: Working with a Single Country CGE Model*

**14:45-15:00** *– Coffee Break*

**15:00 – 16:30** – **Tour of Narxoz University**

**16:30 -** *End of Day 3*

**Day 4: Applications [December 15]**

**9:00 – 10:30 -** *Lecture 7: National Data Resources and Models*

**10:30 – 10:45** – *Coffee Break*

**10:45 – 12:00** *– Workshop 6: National Policy Assessment Exercise*

**12:00 – 13:00** - *Lunch*

**13:00-15:00** - *Workshop 7: Presentation of National Results*

**15:00 – 15:15** - **Concluding remarks by ADB/CI/NU representatives**

**15:15 - 15:30 – Certificate Presentation and Group Photo**

*End of Workshop*