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CCAMTAC- Regional Research/Analytical Economic Policy Seminars

“Financial DSGE Model for Azerbaijan Economy,

Estimation, Forecasting, and Welfare Analyses”

Thursday, March 31, 2022

Moderator:

Norbert Funke, Director, CCAMTAC

Presenter:

Elchin Mustafayev, Senior Economist, Research Department, Central Bank of Azerbaijan

Discussant:

Martin Fukac, Resident Advisor, CCAMTAC

Mr. Elchin Mustafayev presented a draft paper, prepared jointly with Ms. Nazrin Ramazanova, a CBA colleague, which used a small open economy dynamic stochastic general equilibrium model, with a financial accelerator and imperfect exchange rate pass-through, to provide a qualitative and quantitative characterization of the optimal monetary policies for Azerbaijan. The model outperforms a model without financial frictions both for in- and out-of-sample fit of the data. Specifically, the authors find that the new setup can generate more accurate forecasts for the non-oil GDP at longer horizons. The model results also suggest that flexible inflation targeting with output stabilization is still an optimal policy from a welfare point of view in Azerbaijan, notwithstanding the presence of a financial accelerator and the imperfect pass-through of the exchange rate. Dollarization tends to increase general economic volatility. However, it is not optimal to respond to nominal exchange rate movements as the level of dollarization increases. Oil price volatility is the main driver of business cycles in the non-oil economy (explains 31.1 percent of fluctuations). Financial shocks are statistically significant drivers but account only for 7.4 percent of non-oil output volatility.

In his comments, Martin Fukac noted that the paper addresses a very timely topic in the country-specific context. It is one of the few general equilibrium models developed for informing monetary policy in Azerbaijan, building on the early work of Huseynov and Ahmadov (2014). The paper nicely contributes to the understanding of the monetary transmission mechanism in Azerbaijan. It also contributes to the broader understanding of optimal monetary policies and policy mix in the context of resource-rich and (liabilities) dollarized countries. He suggested framing the paper more clearly around a policy problem to further increase the paper's relevancy and likely impact. For example, since the Azerbaijan government's strategic goal for the next



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decade is to grow the non-oil sector and reduce the share of hydrocarbon in the national income creation, one policy question could be "What is the optimal monetary policy and optimal policy mix over the transition period"? He also suggested that models used for policy analysis and forecasting are usually two different tools and this model would be particularly suited for policy analysis. The subsequent discussion focused on some specifications of the model as well as the central bank's ongoing work in this area.