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CCAMTAC - Regional Research Seminar Series

“A Novel Minimum Variance Approach to Understanding Dollarization: Case of Georgia”

February 12, 2026

Moderation:

Mr. Kassymzhomart Assangazyev, Economic Analyst, CCAMTAC

Presenters:

Mr. Saba Metreveli, Economist, Monetary Policy Department, National Bank of Georgia

Mr. Akaki Mosakhlshvili, Chief Specialist, National Bank of Georgia

Intervention:

Ms. Karine Hambaryan, Head of Financial Stability Monitoring and Crisis Management Division, Central Bank of Armenia

Mr. Munkhbayar Purevdorj, Head of the Financial Markets Division, Bank of Mongolia

In the recent CCAMTAC research seminar economists from the National Bank of Georgia presented a minimum variance approach to understand dollarization in Georgia. The presentation, delivered by Saba Metreveli on behalf of the author team, explored a novel extension of the minimum variance portfolio framework for analyzing deposit dollarization. In its traditional form, the minimum variance portfolio approach models how depositors allocate savings between domestic and foreign currency assets to minimize risk. According to this approach, higher inflation volatility increases the relative risk of domestic currency holdings, while higher exchange rate volatility discourages foreign currency positions. Although widely used, the standard version of this framework evaluates risk over very short horizons and effectively treats currency choice as a one-period decision.

The authors argued that this short-term perspective does not fully reflect real world behavior. Decisions about savings and contracts are rarely made with monthly fluctuations in mind. Instead, households and firms consider risks that unfold over several years. This distinction is particularly important for small open economies such as Georgia, where both inflation dynamics and exchange rate movements display persistence and longer-term patterns. Ignoring these properties can lead to misleading conclusions about what constitutes a reasonable level of dollarization.

To address this limitation, the paper extends the classical framework in two important ways. First, it evaluates currency risk over multi period horizons, allowing inflation and exchange rate shocks to accumulate over time. Second, it explicitly incorporates persistence in



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macroeconomic variables. Inflation typically exhibits serial correlation, while real exchange rates often show mean reversion. These features materially affect how agents perceive long run risk. When persistence is ignored, models may understate the uncertainty associated with domestic currency purchasing power.

Using official CPI and exchange rate data, the authors estimated benchmark dollarization levels with rolling windows based on five year and ten-year changes. The contrast with standard short horizon estimates was notable. When calculated using monthly movements, the traditional model implied an unrealistically low optimal dollarization rate, around 12 percent.

Once the longer horizon structure and persistence parameters were introduced, the results became more plausible. The extended model produced benchmark estimates close to 24 percent under the five-year horizon and approximately 30 percent under the ten-year horizon. Although still below Georgia's observed deposit dollarization, cited during the seminar at roughly 47 percent, the revised estimates provided a more credible reference point. The remaining gap between the benchmark and the observed level suggests that macroeconomic volatility alone cannot fully explain currency preferences.

This gap formed the basis for an engaging policy discussion. Karine Hambaryan from the Central Bank of Armenia highlighted the relevance of the framework for other countries with similar economic histories and asked how policymakers should interpret the model's estimates. The presenters emphasized that the benchmark can be viewed both as a behavioral outcome of depositor risk optimization and as a long run diagnostic tool. If actual dollarization materially exceeds the benchmark implied by macroeconomic risks, additional structural or institutional factors are likely at work.

Several such factors were raised during the exchange, including trust effects linked to past crises, remittance flows, financial market depth, banking practices, and regulatory incentives. Ms. Hambaryan also pointed to the potential influence of non-resident deposits given recent regional migration and capital flow dynamics. The authors confirmed that their estimates relied on aggregate deposit dollarization and acknowledged that separating resident and non-resident behavior could offer additional insights.

Questions from Munkhbayar Purevdorj of the Bank of Mongolia focused on methodological robustness and possible model extensions. In particular, he raised the possibility of using alternative volatility models, such as GARCH type specifications, instead of historical variance measures. The authors agreed that this would be a useful avenue for further research. The discussion also touched on broader balance sheet considerations, including asset side dollarization and regulatory measures, although the presenters noted that the current framework intentionally isolates macroeconomic risk channels.



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An insightful intervention came from one of the coauthors Shalva Mkhatriashvili, who described the policy motivations behind the research. Georgia, he observed, had implemented many standard recommendations from the literature, including inflation targeting, exchange rate flexibility, macroprudential tools, and financial market development. Despite these efforts, dollarization remained persistent. This experience encouraged the authors to reconsider how economic agents evaluate currency risk.

A central insight of the paper is that inflation targeting stabilizes inflation rates but does not stabilize the price level itself. Past inflation is not reversed, which means that long term price level uncertainty may remain substantial even when short term inflation appears well anchored. From the perspective of households and firms making multi-year decisions, this uncertainty can sustain demand for foreign currency assets. Mr. Mkhatriashvili noted that policy strategies designed to reduce long run price level risk, including approaches resembling average inflation targeting, may therefore influence dollarization dynamics.

The seminar concluded with broad agreement on one overarching message. De dollarization is inherently a gradual and structural process. Credible monetary policy is necessary, but not sufficient. Deep domestic currency financial markets, effective risk management instruments, and strong institutional trust are equally important. By shifting attention from short term volatility to long horizon risk, the presented research offered a fresh perspective on a persistent policy challenge shared by many economies in the region.