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Price Stability, Inflation Targets and Monetary Policy

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Session 2 - General Discussion

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Michael Devereux noted that in Ambler and Cardia's model, the correlation between inflation and growth is smaller in absolute value (that is, less negative) when the variance of money growth is high (so money shocks are more important relative to other shocks). The empirical literature on inflation and growth (such as Barro's work) shows, however, that there is a significant negative correlation between inflation and growth when high-inflation countries (countries with high and variable money growth) are included in the sample, but when only low-inflation countries are included, the correlation is close to zero. This empirical evidence, he suggested, is at odds with Ambler and Cardia's interpretation. Devereux also pointed out that the Phillips curve explanation for the weak negative correlation between inflation and growth in the data does not hold, since cross-country studies use long-run averages spanning 25 years or so, and the Phillips curve argument should wash out over this time horizon.

Ambler responded that the objective in their study was to measure the slope of the trade-off between inflation and growth. He felt that although we should expect a stronger negative correlation in countries with a high variance in money growth, the slope on the regression coefficient would still be small in magnitude. He agreed that this point warranted some consideration, however. He also noted that the Phillips curve was used to interpret their stochastic simulation results—that is, to compare time-series conclusions against cross-section findings.

Juha Tarkka wondered if it is possible to assess cross-country regressions with this type of specification — that is, one where all shocks are assumed stationary. Since cross-country studies use long-run averages of inflation and money growth, any results will be dominated by non-stationary components of the series, such as shifts in means or I(1) processes. Hence, if money growth has had any such shifts, there should be a zero coefficient on money if that is the only source of non-stationarity present in the data.

Pierre Siklos pointed out that cointegration properties in cross-country studies are different from those in time-series studies. He also noted that if spatial correlation were taken into consideration, it might affect the correlation results.

The issue of the practical relevance of the conclusions was raised by Pierre Duguay. He suggested that it would be useful to conduct a set of simulation exercises in which the explanatory variables are drawn from a distribution approximating that observed in the real world. This type of exercise would provide some assessment of the practical significance of the simultaneity bias that is at the root of Ambler and Cardia's results. Duguay suggested that the paradox between Barro's empirical cross-country results and Ambler and Cardia's simulation results was due to the endogeneity of money growth and the greater relative importance of supply shocks when money growth is low and stable: when there are supply shocks, the monetary authority will accommodate the shock and the simultaneity bias will disappear.

Ambler pointed out that cross-country studies approximate the value of variables in the steady state by using long-run averages. This practice implicitly assumes that the data are coming from fluctuations around one given steady state. Otherwise, if there are regime shifts in the data it will introduce extra noise into the regression. He also agreed with Duguay that a large number of stochastic simulations are in order; however, a limiting factor would be obtaining good sources of data (especially tax data) for a lot of countries.