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Dissertation Abstract

Essay 1: “Demand for International Reserves: A Case Study for Korea”

Abstract: This study investigates Korean international reserve demand and its structural change after the 1997 Asian financial crisis. We model Korean reserve demand by conventional buffer stock models. Also, we introduce dynamic models, such as partial adjustment model and error correction model to examine the relationship between the reserve dynamics and the variables. The reserve dynamics for the pre- and post-crisis periods are reasonably specified by error correction model. Finally, the structural change in reserve demand after the crisis is supported statistically. We find that after the crisis, Korean reserve demand became more sensitive to adjustment cost and openness but less sensitive to the opportunity cost of holding reserves. It is consistent with the rapid reserve accumulation of Korea after the crisis.

Essay 2: “Financial Market Volatility and International Reserve Holding Behavior: A Case study for Korea, Indonesia, the Philippines and Thailand”

Abstract: This study investigates the effects of financial market volatility on the international reserve holding behavior of four Asian countries which experienced the financial crisis in 1997—Korea, Indonesia, the Philippines, and Thailand. We model the financial market volatility and estimate its effects on reserve dynamics, reserve accumulation, and reserve volatility. We estimate for two periods—pre- and post-crisis—and perform a structural break test to examine the change in the effects on reserve holding behavior. The empirical results, in general, support a structural change in reserve holding behavior after the crisis. This is consistent with the precautionary motive for reserve holdings after the crisis.

Essay 3 (*Job Market Paper*): “Opportunity Cost Effect on the Demand for International Reserves in the High Reserve Era”

Abstract: This study investigates the possible links between the international reserve accumulation by developing countries and an endogenous decrease in the magnitude of the opportunity cost effect. If the opportunity cost of reserve holdings is determined endogenously in relation to the reserve holdings themselves, the estimated coefficients of opportunity costs from conventional OLS regression will be biased downward. An increase in the reserves decreases the risk of liquidity problems imposed by a sudden capital outflow, which results in a decrease in the opportunity cost of holding reserves. Thus, a high level of reserves may make the negative opportunity cost effect smaller. Generally, empirical results from pooled data for 17 developing countries covering the 1994 to 2002 time period support this interpretation.

Essay 4: “Opportunity Cost and Demand for International Reserves: A Simultaneous Approach Incorporating the Supply Side”

Abstract: This study develops a simultaneous supply/demand model of international reserve accumulation to examine the opportunity cost effect on the demand for reserves. If the opportunity cost is also determined simultaneously by the supply side, the coefficient of the marginal opportunity cost effect obtained from OLS estimation of reserve demand equations would be biased upward. Thus, we perform system estimation methods to verify and correct for the bias. Using data for 17 developing countries covering the 1994 to 2002 time period, we identify an upward bias for over half of the countries examined and for the pooled sample, giving us a stronger, or reinforced, estimated opportunity cost effect when we incorporate the supply side. The theoretical expectation of negative opportunity cost effects is supported more firmly by our model than by past research.