GENERAL COLLOQUIUM SEMINAR

Optimal Central Bank Interventions in the presence of Regime Switching

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Abstract: In a foreign exchange market that is affected by the conditions of the monetary fundamentals (unemployment, interest rate, inflation rate, trade deficit and GDP, among others), we model the foreign exchange rate as a process with parameters modulated by an observable continuous-time Markov chain. Under this setup, we consider the problem of the domestic Central Bank that has to choose the optimal intervention strategy that minimizes the total intervention cost of keeping the exchange rate as close as possible to a given target rate. We solve the problem by using techniques of stochastic impulse control with regime switching.

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