

# **A Disutility-Based Drift Control For Exchange Rates**

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## **Abstract**

In this paper we propose an exchange rate model as solution of a disutility based drift control problem. Assuming the exchange rate is a function of the fundamental, we suppose that Government Authorities control the fundamental's dynamic aimed at minimizing the discounted expected disutility derived by the distance between the fundamental and some specific stochastic target. The theoretical model is solved using the dynamic programming approach and introducing the concept of viscosity solution. We contribute to research on exchange rate control policies by deriving the optimal interventions aimed at stabilizing the exchange rate and preserving macroeconomic stability. We also show that, under particular conditions, it is possible to derive the optimal width of the currency band.

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