

Optimal portfolio and consumption decisions under exchange rate and interest rate risks A jump-diffusion approach*

Fecha de recepción: 14.04.2009

Fecha de aceptación: 11.11.2009

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*The authors are very gratefully
for many valuable comments
and suggestions made for two
anonymous referees.

Abstract

This research develops a stochastic model of the consumer's decision making under an environment of risk and uncertainty. In the proposed model agents perceive that a mixed diffusion-jump process drives the exchange rate depreciation and a diffusion process governs the real interest rate, these processes are supposed to be correlated. We generalize the proposals from Giuliano and Turnovsky (2003), Grinols and Turnovsky (1993) and Merton (1969 and 1971) by including sudden and unexpected jumps in the stochastic dynamics of relevant variables in the intended model. We examine portfolio, consumption and wealth equilibrium dynamics under the optimal decisions. We also assess the effects on portfolio, consumption and welfare of sudden and permanent changes in the parameters determining the expectations of the exchange rate depreciation.

Keywords: portfolio choice, intertemporal consumer choice, consumer behavior.

JEL classification: G11, D91, D10.