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Srdjan Stojanovic* (srdjan@math.uc.edu), Department of Mathematical Sciences, University of Cincinnati, Cincinnati, OH 45221-0025. *Foreign exchange rates and foreign exchange derivatives: an optimal portfolio based theory.*

We establish a simple, yet completely general, optimal portfolio based theory for foreign exchange rates, in the context of multidimensional, possibly incomplete, Ito SDE market/econometric models. In such a theory the market risk aversion is a very important parameter for the dynamics of foreign exchange rates. Furthermore, we establish a completely consistent and as general theory of foreign exchange derivatives. Some examples and the consistency of the introduced theory with the empirical observations are discussed as well. For example, we explain why Japanese Yen falls when investors ignore risks. (Received February 04, 2008)