

On some universal sigma-finite measures

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Madan, Roynette and Yor have recently been able to express the price of a European put option in terms of the probability distribution of some last passage times. This situation corresponds to a special case of a more general framework, including some examples from penalization of the Wiener measure. In all cases, some sigma-finite measure and some last passage time play a crucial role. In this talk, we will solve the problem stated by Madan-Roynette-Yor of characterizing situations in which a nonnegative submartingale can be characterized by a sigma-finite measure and a last passage time. Our construction will provide a unified framework for the known examples and an extension of the stopping theorem.