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In a general Feller martingale market with several assets, the existence of optimal exercise regions for multi-dimensional Bermudan options can be established by reference to Neveu's theory of Snell envelopes – and also, as will be shown, more directly from standard martingale arguments combined with the strong Markov property. Based on this, in the framework of a log-Lévy martingale market, explicit formulae and asymptotic results on the perpetual American-Bermudan (barrier-like) put option price difference (“continuity correction”) near the exercise boundary will be proven, under the – of course, fairly restrictive – assumption that the logarithmic optimal exercise region, subject to the barrier, does not depend on the time mesh size and is, up to translation, a half-space.

For this sake, Wiener-Hopf type results by Feller will be generalized to higher dimensions. It will be shown that an extrapolation from the exact Bermudan prices to the American price cannot be polynomial in the exercise mesh size in the setting of many common market models, and more specific bounds on the natural scaling exponent of the non-polynomial extrapolation for a number of (both one- and multi-dimensional) market models will be deduced. (Received August 08, 2006)