1046-60-1427 Sara Biagini and Mihai Sirbu* (sirbu@math.utexas.edu), 1 University Station, C1200, Austin, TX 78712. A note on admissible strategies for general stochastic processes and applications. Preliminary report.

"Doubling strategies" can generate a positive net return with probability one, thus violating the foundations of Mathematical Finance and the No-Arbitrage Pricing Theory. Since Harrison and Kreps, a wide variety of constraints has been proposed in order to rule out doubling strategies. The class of strategies widely used in the applications, like portfolio selection, are the bounded-from-below strategies, which have nice mathematical properties (the Ansel-Stricker Lemma) and a clear financial interpretation. However, if one wants to account for unbounded stock prices, this set of strategies is not large enough, as it may reduce to the trivial strategy only. There have been so far some proposals (e.g. Delbaen and Schachermayer 1998, in the superreplication price problem, Biagini and Frittelli for utility maximization) to define a good set of strategies in such a way to account for general asset prices and still preserve the features of the Ansel-Stricker Lemma. Even if the sets of strategies introduced perform well in the specific applications, both present some drawbacks. This note is an attempt to remove some of the drawbacks by defining a new class of admissible strategies when working with general stochastic processes. (Received September 15, 2008)