1163-91-818 Eyal Neuman and Alexander Schied* (aschied@uwaterloo.ca). Protecting Pegged Currency Markets from Speculative Investors.

We consider a stochastic game between a trader and a central bank in a target zone market with a lower currency peg. This currency peg is maintained by the central bank through the generation of permanent price impact, thereby aggregating an ever increasing risky position in foreign reserves. We describe this situation mathematically by means of two coupled singular control problems, where the common singularity arises from a local time along a random curve. Our first result identifies a certain local time as that central bank strategy for which this risk position is minimized. We then consider the worst-case situation the central bank may face by identifying that strategy of the strategic investor that maximizes the expected inventory of the central bank under a cost criterion, thus establishing a Stackelberg equilibrium in our model. (Received September 13, 2020)