

ON A PARABOLIC FREE BOUNDARY EQUATION MODELING
PRICE FORMATION

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Abstract. We discuss existence and uniqueness of solutions for a one dimensional parabolic evolution equation with a free boundary. This problem was introduced by J.-M. Lasry and P.-L. Lions as description of the dynamical formation of the price of a good. Short time existence and uniqueness is established by a contraction argument. Then we discuss the issue of global-in-time-extension of the local solution, which is intimately connected to the regularity of the free boundary. We also present numerical results.