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One bank problem in the funds market

The model of this talk gives a convenient strategy that a bank in the funds market can use in order to maximize its profit in a contemporaneous reserve requirement (CRR) regime. The reserve requirements are determined by the demand deposit process, modelled as a Brownian motion with drift. We propose a new model in which the cumulative funds purchases and sales are discounted at possible different rates. We formulate and solve the problem of finding the bank's optimal strategy. The model can be extended to involve the bank's asset size and we obtain that, under some conditions, the optimal upper barrier for fund sales is a linear function of the asset size. As a consequence, the bank net purchase amount is linear in the asset size.