



Comment on 'Bank Capital Standards for Market Risk: A Welfare Analysis'

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This paper studies, in the presence of market risk, the moral hazard problem that results from the conflict of interest between banks who act as private value maximizers and a regulator who maximizes public welfare. On the one hand, banks activity is valuable by assumption. On the other hand, banks have a tendency to take excessive risk because of the deposit insurance in place. The regulators' objective is then to prolong the valuable activity, while controlling the risk-shifting tendency.

Instead of attempting to design the optimal contract, the paper's objective is to evaluate several regulatory mechanisms that are either in use or under consideration by regulators. Three mechanisms are compared: In the first one, the regulator's assessments of the bank's market risk determines ex-ante capital requirements. In the second and third, it is the ex-post performance of the bank's trading portfolio which determines the consequences for the bank of the regulation. More precisely, in the second mechanism, capital requirements are based on the banks' own reports, whereas in the third, each bank precommits to a maximum period loss, if ex-post the loss exceeds this amount, it incurs a penalty proportional to the excess loss.

To do so, Marshall and Venkataraman build a two period model with two types of agents, households and banks, along with the regulator. Households can invest in bank equity and bank deposits. Banks can control the volatility of the return to their trading portfolio, but this choice cannot be observed by the regulators. This is the source of the moral hazard problem. The banks' objective is to maximize the expected value of inside equity whereas the regulator's objective is to maximize an equally weighted average of the utilities of the two agents.

Deposits are assumed to provide liquidity services to households. The risk free rate is exogenously given and all agents are assumed risk neutral. On the one hand, in the event of bank failure, it is also assumed that a part of the bank value, the franchise value, is lost to society. On the other hand, a government deposit insurance scheme, which is financed through ex-post taxation on the households, ensures that depositors of failed banks are paid in full.

The main result that drives the subsequent comparative analysis of the three regulatory mechanisms considered by regulators is that while it is feasible for banks to choose any level variance of trading portfolio return, their ex-post optimal strategy

is either to choose the *lowest* or the *highest* feasible one. A bank's optimal choice of variance of trading portfolio return results from the trade-off between potential loss of franchise and benefits of the deposit insurance. Consequently, banks self-select into two types: Prudent banks are more concerned by the preservation of their franchise value while risk-seeking banks are more interested in exploiting the deposit insurance put-option.

Although the paper heavily highlights this result as a contribution, it is a fairly obvious one: The loss of franchise and the deposit insurance option's exercise are *simultaneous* events, and no additional event is structurally allowed to alter the regime of operations prior to failure. The status of the bank is monotonically related to the uncertainty introduced in the model. Therefore, the value of the bank's inside equity is either concave or convex in the uncertain state.

This would even be true in a dynamic model, and/or if the exogenous parameters of the model were not just constant but state dependent. The optimal time of abandonment would then be a random time, but the valuation exercise would still remain a one-sided problem in whatever uncertain state variable summarizes economic fundamentals.

Notice that if the bank's inside equity is convex, the bank always wants more variance for their trading portfolio. The model however assumes that the choice of variance is limited above i.e. the existence of an exogenously specified upper boundary is assumed. Although in doing so the valuation exercise is guaranteed to be non-explosive, such a conjecture structurally contradicts the results of the paper. Furthermore, this is counterfactual, because it is always easy to increase volatility using derivative securities.

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