

## Discussion

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I approach this topic from a slightly different perspective, from that of the regulator. This perspective focuses on the institution, and for regulators liquidity means: can the banks generate enough funds to keep themselves solvent if people want to withdraw funds? This then relates to market liquidity. People can go to the markets to obtain liquidity, but markets are not the only source. Before going on, I would like to say that I am in complete agreement with Ian Domowitz: there seems to be a lot of searching for public policy issues here that could really be left to the market. Consequently, while some of my comments are going to concern the theoretical implications of this paper, I am not sure how empirically relevant they are.

The D'Souza and Lai paper addresses the accepted wisdom that a decline in the number of dealers will lead to a reduction in liquidity. With a neat twist, the authors show that this assumption may or may not be valid, through the one key tool that we have in finance theory—diversification. That is the essence of power in finance: diversify and you get a lot of results. The authors have admirably demonstrated that if you take a bank—or any financial institution, for that matter—and combine it with an organization that has activities that have a negative covariance with those of the bank, you are going to make the institution stronger, and you may generate more of the activity that you want. This is a nice result.

Let me suggest some context for their result. The authors have used a partial-equilibrium comparative-statics framework, which leaves some interesting extensions for them to pursue. If we started with an unconstrained world, profit-maximizing firms would seek the optimal combination of activities to engage in. The authors optimize over a subset of activities, “J” and “K.” But, as Alexandra indicated, “J” is a decision

variable as well. They worked with “J” given. But since “J” is actually a decision variable, the intriguing question is what was the constrained-equilibrium distribution of activities before the situation that the authors describe?

We have clearly relaxed something in this model. It was allowing banks to take over dealers. But one empirical implication can be learned from “revealed preference.” If, in fact, the state of the world before the one that the authors deal with was one in which no dealers merged, then there were no economies of scope among dealers. Moreover, there were no economies of scope among dealers and the unregulated sector either.

Some interesting empirical questions or implications could be pursued from this point. If banks take over some dealers, for example, somebody else was not doing it.

Furthermore, as the authors note, while the capital requirements of banks are determined as a fixed proportion of the risk contained in the banks’ portfolios, firms often maintain capital levels over and above that amount to finance operations. However, the level of risk that a bank chooses is also endogenous. While the regulator targets capital for possibly minimum investment grade, banks endogenously choose the level at which they want to operate, and that affects the amount of risk they face and the way they deal with it. For example, internationally active banks choose to operate above the capital levels that we mandate because they are dealing in markets that are regulated by the market—by Standard & Poor’s, Moody’s, and Fitch IBCA, etc. And these regulators are more demanding and require higher capital levels than we do if the banks want to trade with one another. So, the optimization problem becomes even broader. But it also becomes endogenous.

Before continuing, I would like to repeat that we should be wary about providing an excuse for expanding public policy. The model is set up and the text is written such that there is a social benefit from having a liquid market in selected securities. Government securities markets perform several important functions that hinge on the fact that they are very liquid. Otherwise stated, there is a strong externality to the private decisions of dealers. In fact, we can go further than that. This is the polar case of the externality of the pure public good because there is no excludability. It is a non-rivalrous risk commodity, which implies that there is a suboptimal amount of government interference in this market. But if a case can be made that effective government policy needs effective dealer markets, then the objective function in this paper is only a private optimum and it needs to be respecified to achieve a social optimum. It is very important to establish

empirically that we do, in fact, need effective dealer markets to transmit public policy. But if that is the case, we are not achieving a social optimum.

The key to the argument in this paper is that the cash flows from a specific activity have a negative covariance with another activity. It would be interesting to hear more about the source of that covariance. The literature on market liquidity draws on two motives for dealers—asymmetric information and inventory control. What are the sorts of activities that covary with market-making within a bank? A paper by Huberman and Halka (2001) tried to estimate systematic risk and return, and although the authors were not very successful, they did make an attempt. And they raise an interesting point: “Although market makers seem central to current models of spread and depth, the effect of their presence on spread or depth in actual markets is not obvious. For instance, the bid and ask prices and quantities shown by New York Stock Exchange (NYSE) specialists are not necessarily their own, but often are those of other traders with no special status in the market.” So it is not even clear empirically how we are going to get at some of this.

This is not a literature I know well, and one of the papers I read to introduce myself is by Maureen O’Hara (2001). She makes an intriguing comment that links to this paper: “Multi-market linkages introduce complex and often conflicting effects on market liquidity and trading behaviour. Indeed, it is not even obvious whether a segmented market equilibrium is sustainable.” This raises a question within the partial-equilibrium context. When we go to the multi-product firm, is a market equilibrium sustainable? Most of the literature is done in comparative statics and there are fascinating stories about the tatonnement process within, but it becomes very difficult to implicitly model what is going on there.

I will close with a comment about banks and their response to capital requirements. Banks are profit maximizers and if you regulate a bank, it will find a way to optimize, subject to that regulation. This does not always mean adding activities. It often means offloading to get around constraints. And it also means creating liquidity. We often forget the ingenuity of private market institutions in creating liquidity. Financial institutions have learned how to take a product—a government security—and slice it into end products. The institutions then take the return on that product and trade it; they take the volatility of the product and they trade it. They simply swap the product itself for something else. Liquidity is generated in many ways. I remain somewhat sceptical, however, that the question of needing a dealer or a dealer network to expand or contract liquidity is a public policy issue. It is a fascinating academic issue, but I am not certain that it is a public policy issue.

## References

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