

General Discussion: Competition, Stability and Efficiency in Financial Markets

Chair: Lisa D. Cook

Mr. Costa: This is a topic that is of much interest to me. For more than eight years I have been the head of a central bank tasked with supervisory competences. I think this paper and Claudia Buch's comments provide a very interesting message. Financial stability is a public good; however it is like an umbrella—nobody remembers the need of an umbrella before raining. And when rain (i.e., the crisis) comes, we think that there is always an umbrella at hand. But when a financial crisis arises the problems are so big that it is difficult to properly address them if we did not prepare in advance.

A second topic relates to the tendency to mix up regulation with supervision. Regulation and supervision are two separate and different types of activities, entrusted to different stakeholders. The regulatory power is assigned to the legislator, whereas supervision is assigned to those in charge of implementing regulation. During good times, supervisors uphold and call for the strengthening of regulation but the legislator is not interested in taking action, looking instead for easy credit and more economic growth.

A third topic refers to the need to ensure that regulation and supervision rest on four pillars: (i) enough capital to absorb losses, (ii)

a system to control risk taking and adequate leverage, (iii) liquidity, and (iv) stress tests, critical to deal with the cycle.

A fourth topic concerns the scope of supervision. It's not a question of institutions; it's a question of activities. With the advent of new technologies, activity is spread around beyond institutions under supervision. If regulation and supervision are not activity-centered but remain institutional-centered, it will become harder to safeguard financial stability.

A final topic regarding governance. It's not possible to have good governance if there are no stakeholders pursuing it. Currently, the stock exchange dynamics with quarterly presentation of results give a big incentive to take more risks and window-dress statements. This means that it's very important that all relevant stakeholders are aware of the consequences upon failures, including resolution and bail in, in order to act pre-emptively and know the balance sheet risks over time instead of only waiting for the next quarterly disclosure.

In the end, efficiency is a problem for banks. Regulators and supervisors need to ensure stability and conditions for competition. So I agree very much with the idea that we need competition in parallel with stronger regulation, and even more effective supervision.

Mr. De Gregorio: I like the paper a lot because it tackles rigorously the idea that there is a trade-off between competition and financial stability. In order to have financial stability and strong banks, too much competition may be bad. And you argue that in order to avoid this trade-off we can do governance reform or increase capital requirements. My question is what's the reason why having more capital requirements could increase competition and efficiency at the same time? Because my view is that increasing capital requirements increases barriers to entry. So increasing significantly capital requirements, at some point you will result in having fewer banks. I think perhaps at very low levels of capital requirements, you may have an increased competition. But at some point it has to start biting competition.

My second question is the way you have thought about regulatory reforms outside the banking system. In order to induce competition through other participants of the capital markets without threatening

the stability of the banking system. For example, all the development of the debt markets, I think they have put competitive pressures on the banking system, although there are other relevant financial stability issues with debt markets.

Ms. Eberly: First I want to congratulate the authors on a really ambitious paper, and trying to take a quantitative stand on some of the qualitative trade-offs that have been discussed many times and also bringing data to bear on that quantitative analysis. My specific question is that you emphasize the role of entry and exit in your model and allowing for that as implementing competition. But Carlos Costa alluded to this in his remarks that much of the entry in the banking system, especially recently in the United States, is outside of the formal banking system. And Antoinette Schoar yesterday referred to the fintechs. And so there's lots of entry there, but that could go—it's not obvious which way that goes to me. So maybe you have a view on this in terms of competition because some fintechs are sort of cherry-picking the banks, which would seem to nudge toward destabilization, but others are really competing in different markets than formal banks are, and others might just provide competitive check on risk taking that banks might like to do. So I'd like to hear your views on those questions.

Ms. Mester: I like this work very much. I think it's really going to be helpful in the way we think about things. But suppose we're in a world where the degree of scale economies in banking is rising over time, and there's some empirical evidence that that's true, and it's rising in a way that means competition is decreasing. Help me think through your policy prescriptions. Would we need to see increasing leverage ratios and capital requirements to actually sort of get to the point of your trade-off? Or, would there be other things that would happen? Would it just scale up? Just help me think through that because I find that a very intriguing result.

Ms. Hirtle: I wanted to, similar to Loretta Mester, help think through what banks are doing in your model, which has a single product that the banks compete in. But banks are multiproduct firms. Big banks, especially, compete with different sets of products. Some of the markets they compete in are global, some are national,

some are local. So how do we think about what the state of competition is when there's that diversity?

Mr. Levine: First of all, thank you Claudia for the excellent comments. Let me discuss one of Claudia's questions: is it always the case that more competition leads to greater fragility? No, we're not making that argument. There are theories going the other way, and Claudia brings up one of those: A less competitive and more concentrated banking system could generate greater "too big to fail" Expectations increase risk taking incentives. Moreover, this could generate a non-linear relationship between competition and fragility.

In the model, we have "too big to fail" and that causes incentives for excessive risk taking. We then examine in the model what happens to risk when competition intensifies? Would it be feasible to modify the model to have "too big to fail" be positively related to the structure of the banking system? I'm going to say yes, but since Dean Corbae would have to do that, I'll leave that for him to discuss.

In the econometrics, we examine a shock to competition at the individual bank level in every year for every single bank in the United States across a 20-year period and evaluate the impact of those shocks to competition on individual bank risk and systemic risk. So it's not just about the individual risk of the bank; it's about systemic risk. We find that the answer is yes and yes: competition increases individual bank fragility and systemic risk. We explored whether there are nonlinearities but we don't find those. But the United States is one market. This could differ in different markets where there are different levels of concentration.

Carlos Costa, all of these are fantastic points. I don't think there's a good reason for me to go through them, as I agree with them. I do want to say one thing though, and that is I don't think it's an either/or necessarily situation concerning supervision and regulation or governance. I think policies should target both. Indeed, improving supervision and regulation should involve actions that enhance private governance.

José De Gregorio, you asked a good question about capital. Dean is going to answer that. I think there's a bunch of questions that

come up, Loretta Mester, Jan Eberly and José, about competition from nonbank financial institutions. So here what we talk about is competition facing an institution. It doesn't matter where it comes from. We talk about it in the model in terms of bank entry, but it can be competition coming from any source. In the econometrics, we're looking at banks and we have very specific shocks to banks that come from the contestability of the market. By the way, it's not about concentration; it's about shocks to contestability. Analytically, at least right now, we're only thinking about what happens when this financial institution experiences a shock to competition, and seeing what happens.

Loretta, on economies of scale, if there are economies of scale and hence a natural tendency toward a few enormous banks, then the issue of "too big to fail" becomes a much bigger issue. Then the focus, especially in the context like the United States where there are no controlling shareholders, has to be on the executives. I don't understand why there's not more focus on having executives have much more of their wealth exposed to the bank. I don't see a way around that because unless you have great faith in the governance of banks and the ability of diffuse shareholders to effectively influence the bank's directors.

Mr. Corbae: I'll start with Bev Hirtle's question, which I think is a great question. The model doesn't have multiproduct banks and things like that, but that's obviously very important in the data. And that's something that the model should, in further work, should be addressed.

I kind of think Jan and Loretta's questions are in some sense related. The fintech kind of stuff can generate some of the increasing returns. I think in some independent work I've been doing with Pablo we find some evidence for that as well in the data. In Jan's case, in the model, I mean our competition is happening in trying to get funds. If there's a shadow banking sector that you're competing with, then it's going to raise the costs of funds to you, and the same ideas are going to pass through the model. And actually then, we have this model that allows you to kind of think about the short run and then the long run, and in the long run, that would generate a decreasing size of the banking sector. And then Loretta, our model doesn't have

increasing returns of scale in it, but if you had increasing profitability, it would naturally generate. That can kind of go against. Just natural forces can make for some entry as well if they have access to those kinds of technologies. I think it's a very complicated question but I think there are increasing returns in the industry. And in this other work, we actually have that in the model.

José, so I think that's a very good question too. Your first thought would be that by putting, in our model we literally have leverage requirements but there's a map in between that and capital requirements. But increasing capital requirements, the typical story is it's going to make banks less profitable. But there are all kinds of things involved in how profitability works and one of the things in making leverage lower that actually makes banks safer in the model, and that can raise profitability along that dimension. So it's not clear is the question. We actually have it that it can raise profitability and in the end entry into the market and competition.

Ms. Lund: I want to build on a couple of the questions. But first let me actually congratulate you on a very interesting and important paper that combines alternative sources of credit along with where the competition is coming from. I think it matters a lot to banks whether the competition is coming on the retail consumer lending side or corporate lending side. When I think about different sources of non-bank lending, there was an interesting paper put out by Brookings Papers on Economic Activity, a few months ago showing that in the U.S. mortgage market, more than half of mortgages are now coming from nonbank lenders. At the same time, we've heard about fintech and peer-to-peer type lending for consumers. On the corporate side, I think it's a very different source of competition and could have different results in how you trade off stability and competition. So on the corporate side, we've seen the tripling of the corporate nonfinancial corporate bond market where the largest companies can go issue bonds. But you've also seen the rise of these private credit funds run by asset management companies. And that's actually nearing a \$1 trillion outstanding right now. So they are able to do bilateral loans to companies. It's a pretty opaque market, but at any rate, I would be interested to see what you think about extending your model to

have different competition shocks to the banks and how that might affect year results.

Mr. Dotsey: This actually was a subbullet in the discussant's slides but she didn't mention it. But it came to my mind. What is it in your environment that prevents private contracts from solving these agency problems? Those types of frictions would seem very important in terms of what the regulator faces in terms of inducing banks. You think of like back-weighted compensation to make the managers have a longer perspective or something like that.

Ms. Eisfeldt: I also want to compliment the authors. This is such an important question and it's nice to have a dynamic quantitative model thinking about competition, valuation and incentives. I just wanted to ask a question, and also to put forward a caveat to the idea that equity stakeholders are necessarily good for bank governance. You and I discussed this a little bit in private conversation. I, along with my co-authors Atkeson, D'Avernas and Weill, have a new macro annual chapter on bank valuations in which we argue that the bank really has three claim holders—debt claim holders, equity claim holders and taxpayers. Because taxpayers pay part of the debt claim in case of default, the equity holders actually like the bank to take on excessive risk, and to take on excessive leverage. The more leverage, and the more credit risk the bank takes on, the more chance the equity holders have of ending up in the state of the world where the government bails the bank out. The higher the chance of a bailout, the higher the value of the debt that equity holders can sell initially, while having part of the liability backed by taxpayers. This argument also places a caveat on how much you want to expose the executives of the bank to the upside performance of the bank. I should also just very quickly advertise, in addition to our work that is focused on the drivers of market-to-book ratios, or valuation ratios for banks, in the aggregate time series, a nice paper about the cross section by Meiselman, Nagel and Purnanandam. This paper is very interesting because it shows that the banks that perform the best pre-crisis perform the worst in the crisis. So basically if you want to perform well, meaning if you want a high return on equity, you can lever up, take on more credit risk, make your assets BB instead of BBB. You'll have great

performance in normal times, and crash in the crisis, with the benefit of an infusion from taxpayers.

Mr. Ingves: A couple of reflections as sort of a practitioner when it comes to this. First of all, it's a very interesting paper and it's nice that you try to put these things together and do the analysis the way you do. But in there, you have a kind of enlightened policymaker. In the real world that's not always the case. So it wouldn't hurt if you also come up with some kind of an analysis when the time frame of the policymaker is identical to the time frame of the management team of the bank. One very practical example of this that comes to my mind is lending to small and medium-size enterprises (SMEs). As long as I can remember, and then I have been in this business for a long time, there is a perennial demand from politicians for diluting the capital requirements to SMEs. What the politicians consider to be insufficient SME financing has always been considered to be a serious problem and SMEs that don't get any money are always vocal, regardless of the risks involved. That's one issue where the time frame really, really matters and where sometimes the policymaker is not as wise as you put it in the paper.

The other reflection is that you talk about risk and capacity to absorb risk in terms of a leverage ratio. And in my capacity as chairman of the Basel Committee now for seven years, I have received an infinite number of complaints about the leverage ratio either from policymakers in different corners of the world, or from bankers. Never from bank shareholders though. It's always bank management teams that come to me or write letters to me saying if you push up the leverage ratio, we promise to do really stupid things. That is always the argument. A counterargument is to say, well if you put in place a 100 percent leverage ratio so that you only use your own money, do you still promise me to do really stupid things? But there's something about the leverage ratio which doesn't jive with the way bankers look at it, and they usually revert to talking about risk weights in different shapes and forms. But when they talk about risk weights, the underlying assumption is that those risk weights will always produce a lower capital requirement than otherwise.

Mr. Levine: I agree with everything and I wrote a book about un-enlightened regulators that I presented in a similar forum, then was not invited back for a long time. I'm not going to go into that. But I would say that if you have bank executives promising to do stupid things unless the regulators do something in a particular fashion, it probably doesn't say much about the overall governance of the bank supervisory and regulatory regime.

Andrea Eisfeldt, exactly. We completely agree and that is part of our model.

Mr. Corbae: Since we're at a bankers conference, we wanted to say everybody's enlightened. Andrea's paper is a really cool paper. The other night I tried to put into the model "too big to fail" in a way that you could kind of ... so they have a decomposition of how much is due to charter value, how much is due to the government subsidy. You can actually calibrate a model where the probability of getting bailed out actually is the thing that generates that split. I think we're going to think about how to do that. I think it will be cool.

