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Comment

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On

Are Capital Buffers Pro-Cyclical?

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The second paragraph of the Ayuso, Perez, and Saurina paper provides an excellent summary of the cyclicality issue in Basel II. I emphasize that the problem is correctly stated here as the pro-cyclical nature of capital *requirements*. *The* question is will Basel II capital *requirements* increase during periods of weak aggregate demand and decline as economies strengthen? This pattern could reflect cyclical changes in PDs, LGDs, or--more critically--changes in grade because of cyclical changes in borrower credit ratings. Procyclical capital requirements could clearly induce responses in banking that exacerbate the business cycle.

The authors correctly argue that such a problem could very well be mitigated by offsetting contra-cyclical changes in the buffer stock of excess *regulatory* capital and seek to test whether this has occurred in Spain using banking data from 1986-2000. Their evidence does not support that view, but their empirical evidence and analysis is seriously flawed.

[1] The opinions expressed are not necessarily those of the Board of Governors of the Federal Reserve System, although the author believes they should be.

[2] I have gained so much from discussions with my colleagues that I have lost track of how much of what I now believe is based on my own thinking and how much is plagiarism. In any event, thanks to Dave Jones, Mark Carey, and Darryll Hendricks for your patience and your help since the Basel II journey began.

The authors' show nothing on required capital and, even if they did, Basel I capital requirements are not sensitive to the cycle because of the limited number of risk buckets. Holding this to the side, their results do imply that capital buffers grow larger during economic downturns and smaller during booms, exactly the *opposite* of what we would hope if the buffers were to offset any procyclical requirement in required capital. Look at the chart on their final page. In the year of the 1993 recession, we see a large increase in the buffer. Does this mean banks were raising large amounts of capital and squeezing borrowers precisely when we would hope that they would be willing to draw down their buffers? One cannot tell because, as the authors carefully note, the Basel Accord was not implemented in Spain until 1993, and they also note that the Accord's requirements were *less* stringent than Spanish capital regulations through 1992, resulting, of course in an increase in the regulatory capital buffer. The resultant increase in the buffer is thus hardly a surprise and we cannot tell whether the change in the buffer was due to regulatory or business cycle effects.

Of course, the data cover more than one year. I suppose the authors might drop 1993 from the sample and see if their results stay the same. But even then the results may be difficult to understand. The econometrics are based on only 13 annual observations, and some of their instrumental variables include four-year lags of variables of interest. Thus, fully removing 1993 from the data would require dropping five of the thirteen years of data, and even with thirteen years the data contain only a single full business cycle.

The data again indicate procyclicality of the buffer during 1998-2000, when the buffer declined while GDP growth was strong. However, structural changes in the

banking system might have caused this. It would, as for 1993, be helpful to see plots of all of the level of actual capital, of required capital, and of the buffer.

A more minor matter is that the data set includes both commercial and savings banks. The savings banks are quasi-public entities and might behave differently than the commercial banks. It would be helpful if the authors could provide separate results for these two types of banks.

Overall, I find it hard to draw any firm conclusions from the evidence in the paper. My personal view is that the general procyclicality criticism of Basel II is, at the least, overdone. Capital buffers, to be sure, are quite important, but still only a subset of the broader question: is Basel II itself likely to create pro-cyclicality in credit flows and hence the economy? As I shall indicate shortly, I submit the question is mis-specified and, as a result, has created no end of confusion and unnecessary *angst*.

I have no doubt that excess regulatory capital--the buffer, total capital less required capital--will, in fact, vary *contra*-cyclically under Basel II: rise during booms and fall during recessions. Buffers are there to be used and indeed are designed for just that purpose; that is the major reason creditors like excess regulatory capital so much and will charge strongly capitalized banks less for funds. Pillar 2 should reinforce this build up of the buffer during periods of growth. When thinking about buffers I'm reminded of Churchill's comments to the Admirals in World War I, who seemed to be avoiding battle: If they weren't going to use the fleet, he asked, could he please borrow it? Supervisors should think of buffer capital in exactly the same way: it is there to be used, not just to be admired.

Under Basel I, one never knows if the buffer is real or not. Since the *required* capital is not truly risk-sensitive, it could well be that the banks' with the largest *measured* excess *regulatory* capital are the most *economically undercapitalized* entities. This problem is what Basel II should be designed to address: to make required capital reflective of relative and absolute risk. And Pillar 2, which the Ayuso et al paper surprisingly does not mention, is, I believe, there in part so that supervisors, on a bank-by-bank basis, can assure that banks have sufficient buffers to take at least some of the sting out of any pro-cyclical migration of booked credits from lower to higher capital charges. Like Churchill's fleet, the management plus supervisory pillar 2 should create a buffer whose purpose is to be used, not only to absorb write-offs, but also to absorb cyclical increases in required capital.

There is, I believe, no denying that *required* capital under Basel II will have a pro-cyclical dimension because underlying risks are cyclical. This cyclicality may be getting worse since market developments have increasingly shifted the highest quality borrowers to direct finance and away from banks. This tendency reduces the idiosyncratic risk dimension of bank portfolios, while increasing the systematic or cyclical risk patterns in well-diversified bank portfolios. In addition, with all our advances, it is still difficult to predict the future and there will, as a result, be procyclical migrations of credits into differing risk buckets.

Does this suggest that Basel II, with its more risk-sensitive capital charges, will affect credit costs and flows in ways that will *increase* the real business cycle? To correctly answer that question, one has to keep in mind that a procyclical pattern to bank credit availability and flows is there now and was there before Basel I. The real question,

I submit, is not whether Basel II will induce a procyclical pattern, but rather will Basel II make it worse or better? I think Basel II will make it better.

Formal credit risk management in banking is relatively young. In most banks it is prenatal and in some stillborn. Thus, lending officers are the driver of bank credit flows most of the time. Lending officers have a particular characteristic: they want to lend. Not only do they want to lend, they want to increase their bank's share of the market. Credit risk managers, and I would argue supervisors, historically have found it quite difficult to have their voices of caution heard to constrain lending officers during periods of expansion, optimism, and rising prosperity when current and future business looks so good and bank credit competition is so intense. I would argue that the major reason is that the caution without quantification, without structure, carries no weight. Only as economies turn weak and past loans begin to default do these voices, on the basis of unfolding evidence, develop real strength. Pessimism comes to the fore with charge offs and additional reserving and that pessimism, reinforced by evidence, by facts about how bad things are, causes loan rejections of perfectly sound loans. That is, again the lack of quantification and structure causes perfectly sound loans to be rejected during recessions. Procycliality is the result of changing attitudes and perceptions with inadequate formal review of credits.

The revolution in credit risk management is quantification and structure and its promise is that management can choose the risk it wants to take, based on more or less formal analysis rather than the surprises it seems to get today. It is that promise on which Basel II rests.

Presuming the promise will deliver, will the result be procyclical? Well, I think there is every reason to think capital *requirements* under Basel II *will* be procyclical because we are still going to make mistakes about evaluating the future. Will it be more or less procyclical than we have today? *That* is the pertinent question and I believe it will be less procyclical. Quantification and management of risk should result in far less variability in loan policies over the cycle. Facts, drawing formally on historical relationships, and quantification can, I think, greatly reduce such swings. Relative to what we have today, Basel II should produce a reduction in cyclical reserving and write-offs that traditionally has come with the late recognition of excess risk taken earlier. We also should not lose sight of the supplement to market pressures through Pillar 2 for banks to build capital considerably over minimum levels in expansions so that there is a buffer that can be drawn down in adversity and still maintain capital above minimum levels.

Capital buffers are where I began and it seems a good place to start. Ayuso, Perez, and Saurina make a real contribution by making us focus on it. Their evidence, sadly, does not, however, let us conclude very much about the behavior of the capital buffer under Basel II.

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