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## Comments on "The macroeconomic impact of bank capital requirements in emerging economies: Past evidence to assess the future"

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This paper addresses the concerns of many that the proposed BIS capital reforms (so-called BIS II) may well induce a capital shortage or crunch among banks who may react by restricting their supply of lending – especially in emerging markets. Indeed, as noted by the authors some have attributed the recession of 1989–91 in the US to have (in part) been caused by the phasing in of capital requirements under BIS I over the 1988–92 period.

While some dispute this finding, there is no doubt that for "emerged" market countries the 1988–92 accord did require many banks to increase significantly their capital reserves. While figures are unavailable for emerging market countries there seems to be a consensus that implementation of BIS I has also led to increases in required capital.<sup>1</sup>

The concern of this paper is that BIS II, to the extent that it increases required capital, will induce banks to cut back on their lending.

First, let me say that it is entirely possible that BIS II will *reduce* capital not increase it. For example, take the US where it is estimated that more than half of major bank portfolios are currently below BBB (i.e., below investment grade), rough estimates suggest that under either the new proposed standardized model or the internal ratings based approach that capital required for credit risk will fall below 8%. <sup>2</sup> Of course, arguably the vast majority of loans in emerging market countries are below

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<sup>&</sup>lt;sup>1</sup> BIS I has now been implemented in over 100 countries, although not all countries have adopted 8% of risk-adjusted assets as the appropriate minimum capital requirement.

<sup>&</sup>lt;sup>2</sup> Although an additional capital requirement for operational risk has been added.

investment grade (especially those that have been recently subjected to macroshocks). Thus, it does seem reasonable to expect that BIS II will, on average increase capital requirements for these countries and in many cases significantly so.

Using a simple budget or accounting constraint model based on earlier work by Peek and Rosengren, in which a bank chooses between loans and bonds on the asset-side of the balance-sheet and between capital and deposits on the liability-side, and where bonds (investments) are fixed and the bank liability manages its deposits (i.e., deposits are endogenously controlled by the bank and thus not subject to runs) – it is shown that increasing capital requirements is likely to induce the bank to cut back on its loans, i.e., an increase in capital results in a decline in bank loans.

However, there is a competing model; lets call it "the risk-shifting model" that I would like to outline which goes something like as follows. Emerging market banks are capital constrained with little or no access to capital markets. As capital requirements rise, these banks (given their limited liability) risk-shift, i.e., *increase* their investments in high expected earning assets such as loans. If these loans pay-off, banks meet their higher capital requirements from loan profits, if they do not pay-off, the banks are either closed or more likely (in many emerging market countries) bailed out or given forbearance. <sup>3</sup> In the risk-shifting model under capital market constraints, higher capital requirements are met with *more* not less lending. Thus, even if BIS II does result in higher capital requirements in these countries there is no reason to expect this to lead to a lending (supply-side) credit crunch.

Indeed, I might interpret certain of the results and coefficients in the authors tables as supporting the risk-shifting hypothesis. For example, in Table 9 there appears to be a positive relationship between the future loan to asset ratio and current changes in the capital – assets ratio in crisis countries – although it is not statistically significant. For non-crisis countries in Table 10 the relationship between capital ratio changes and contemporaneous loan ratio changes is positive and statistically significant. Also Tables 5 and 6 show a number of cases where loans increased in the two years following enhanced supervisory enforcement of regulations. Unless I am missing something, one can interpret these results as offering support for the risk-shifting (loan increasing) hypothesis rather than the capital constraint (loan decreasing) hypothesis of the authors.

Moreover, casual reading of newspapers and other reports suggests that many emerging market banks, due to connected and other lending relationships, have been reluctant to cut back lending. In particular, pressure to maintain lending rises in times of crises when capital markets are either closed or are illiquid and international borrowing channels are cut off.

Overall then, I am less convinced that BIS II will result in a lending crunch. Instead, my major concern is that to the extent that it results in higher overall capital

<sup>&</sup>lt;sup>3</sup> Risk-shifting incentives are also increased when the safety-net and/or insurance are not "priced" to reflect risk-taking exposure of banks.

requirements, it may induce a significant increase in risk-shifting and higher systemic risk with higher implied closure or bailout costs for emerging market central banks and governments.