Discussion of "The Unreliability of Credit-to-GDP Ratio Gaps in Real Time: Implications for Countercyclical Capital Buffers"

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1.   Introduction

In response to calls for banking system reforms in the wake of the global financial crisis, in 2010 the Basel Committee on Banking Supervision (BCBS) published a consultative document (BCBS 2010a) and operational guidelines (BCBS 2010b) for regulators on countercyclical capital buffers. The central feature of their proposal is the use of cyclical movements in the credit/GDP ratio to trigger increases in the reserves required to be held by banks. This in turn reflects the claim by Drehmann et al. (2010) that measured cycles in this ratio provide a useful, if imperfect, leading indicator of banking crises.

Edge and Meisenzahl (this issue) is therefore a timely analysis of a new and important change in international banking regulation, and although they consider only U.S. data, they have produced a carefully crafted empirical study. I have no substantive issues regarding the size of the revisions that they calculate, the role they find that data revision plays, or their selection of detrending methods. Their counterfactual estimates of the implied reductions in bank lending for a given change in capital requirements also seem plausible and transparent to me. I'll therefore concentrate my remarks on what I think their analysis implies for the BCBS countercyclical capital buffer framework: nothing (or almost nothing). To understand why, we should consider the analytical framework that they use as well as how the case that they examine compares to the operational guidelines in BCBS (2010b).

2.   Framework

2.1   *Measuring Outcomes and False Alarms*

To understand the risks that credit ratio gaps will cause costly false alarms, Edge and Meisenzahl apply the methodology of Orphanides and van Norden (2002), which measures the degree to which a policymaker's measures of gaps are revised ex post. Their logic for doing so is as follows:[1]

(i) BCBS (2010a) associates excessive credit growth with increased systemic risk.

(ii) BCBS (2010a) argues that excessive credit growth can be well captured by deviations from trend.

(iii) The best measures of deviations from trend are ex post.

However, the "trends" defined in point (ii) are not ones best measured ex post, as claimed in point (iii). Rather, BCBS (2010b) and Drehmann et al. (2010) simply argue that "ex ante" or one-sided deviations from trend can be useful leading indicators of systemwide risk. (More precisely, BCBS 2010b, p. 3, states that "buffer decisions should be guided by the objectives to be achieved by the buffer, namely to protect the banking system against potential future losses when *excess credit growth is associated with an increase in system-wide risk* [italics added]." It further states [p. 3] that "the credit/GDP guide is a useful common reference point in taking buffer decisions. . . . [g]iven the guide's close links to the objectives of the buffer and its demonstrated usefulness in many jurisdictions as an indicator of the build up of system-wide risk in a financial system in the past.") They show no interest in ex post measures of "credit gaps," preferring to use episodes of banking crises or serious distress identified in earlier research by a variety of authors as their target.

Furthermore, the analysis presented in Drehmann et al. (2010) seems to show that, on average, ex ante credit-gap estimates usefully identify periods of increased systemic financial risk. Edge and Meisenzahl do not dispute this claim, not even in the specific case

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[1]See Edge and Meisenzahl (this issue), second-to-last paragraph in their Introduction.

of the United States. There is no evidence that ex post measures of
the credit/GDP gap are better predictors of systemwide risk than
the one-sided measures. For these reasons, I do not understand why
Edge and Meisenzahl feel that *the revision of the gap* is a good
indicator of false alarms. At the very least, they could compare its
results to the data on false alarms provided by BCBS (2010b) and
Drehmann et al. (2010). Drehmann et al. (2010, esp. pp. 15–18) have
an extensive discussion of the degree of type I (missed crises) and
type II (false alarms) errors across various potential indicators and
look to minimize the degree of type II error subject to a maximum
limit on type I errors. They also argue that the costs of type I errors
are likely to be higher than those of type II, and that many type II
errors are classed as such only because the signal for the crisis was
received too early!

The extent to which Edge and Meisenzahl improve on the analy-
sis of one-sided gaps is slight; they examine the role of data revisions
for one country and conclude that it has no significant effect. At the
margin, I think this supports rather than undermines the use of the
proposed Basel framework.

3.   Operational Guidelines

While the credit ratio may help to predict periods of systemic finan-
cial risk, there is no question that it is an imperfect predictor. BCBS
(2010b, p. 3) notes that the ratio serves only as a guide, and "the
guide does not always work well in all jurisdictions at all times.
Judgment coupled with proper communications is thus an integral
part of the regime."

The BCBS further emphasizes that the threshold at which to
increase the capital buffer and the amount of the increase need to
be tailored to each country's particular experience.[2] However, Edge
and Meisenzahl make no attempt to determine which threshold val-
ues work well; they simply assume that once the gap reaches the 90th
percentile of its historical distribution, capital requirements are dis-
cretely increased by between 0.5 percent and 2 percent. We have no

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[2]They go much farther than this, noting that countries may also choose to
develop additional indicators.

information on whether other settings of credit-gap threshold could reduce costs (or costs relative to benefits), but such analysis would seem to be part of the judgment that is expected in the deployment of the countercyclical capital buffer.

It should also be noted that BCBS (2010b) proposes a different "default" approach to the deployment of the buffer.[3] It suggests that authorities define two trigger levels $\{L, H\}$, $L < H$. L defines the level of the gap at which the buffer begins to be deployed, while H defines the level above which the buffer is set at its maximum (2.0 or 2.5 percent).[4] In between, the amount of reserves to be kept as a buffer should increase linearly with the gap. This means, for example, that during the 2001 and 2003 episodes studied by Edge and Meisenzahl, the increase in reserves is likely to be smaller than it would be during more severe episodes such as the 2006–08 period. If true, this implies that their calculations overstate the degree to which bank lending would be constrained during the two periods they examine.[5]

To understand the likely costs of the capital buffers proposal, I found Edge and Meisenzahl's citation of Hanson, Kashyap, and Stein (2011) to be particularly interesting. The latter argue that during most periods of systemic financial strain, markets are willing to fund only the most heavily capitalized banks, thereby forcing increases in bank capital requirements that may exceed the maximum size of the proposed countercyclical capital buffers.[6] This suggests that if (i) the countercyclical buffer framework generates more correct deployments than false alarms, and (ii) its operation avoids even

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[3]See BCBS (2010b, pp. 13–14).

[4]The BCBS suggests using $L = 2\%$ and $H = 10\%$ as a benchmark.

[5]Using the BCBS's benchmark values of $\{L, H\}$ would also imply that the buffer would have begun deployment several years before the 2001 recession and remained in place until the most recent crisis. This would probably further attenuate the degree to which bank lending would have been constrained during the downturn.

[6]In an earlier draft of their paper, Edge and Meisenzahl showed that capital ratios among the largest banks increased by roughly 400 basis points in the wake of the 1991 credit crunch and by roughly another 300 basis points in the wake of the 2008 crisis. The BCBS (2010b) framework does not contemplate changes beyond 250 basis points.

larger credit contractions caused by market crises, then the benefits
of its deployment could outweigh its costs.[7]

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[7]An important question in this regard is whether the relaxation of the buffers
in the midst of a crisis would lead to any new lending if the market requires
capital ratios in excess of the regulatory requirements.