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Response to BCBS Consultative Document of July 2011

Nicholas Beale 25th August 2011

We suggest that the FSB should move over time to a multi-model approach that gives appropriate systemic incentives and encourages the efficient use of capital.

We note that '*a model-based approach which uses quantitative models to estimate individual banks' contributions towards systemic risk*' was considered, but that '*models for measuring systemic importance of banks are at a very early stage of development and there remain concerns about the robustness of the results*'. Nevertheless we believe that quantitative systemic models have an important role to play as the methodology evolves over the next few years. These will also help give more attention to the important, and related, issues of herding and efficient use of capital.

a. **Step functions in regulation are dangerous**. They tend to create herding on the 'edge' of the step. The problem with regulating only through constraints is that banks push against them. By contrast, if the CET1 requirement varies continuously in an essentially predictable way then Chief Risk Officers can use these capital implications to encourage decisions which reduce risk. But if there are simply risk buckets then each practical business decision may tend to increase risk within the constraints of the bucket. Although in the interests of transparency and implementation step functions may be a reasonable first iteration, progressive refinement is necessary to avoid another systemic global financial crisis.

b. **Multi-model approaches are preferred for such complex systems**. Any individual model can be gamed (especially if based on market data) and is also subject to model risk. It is a general scientific result from the study of complex networked stochastic systems that they are best controlled with a multi-model approach. The FSB can then combine judgement/indicator based approaches with suitable models which capture different drivers of systemic risk. As confidence in the models develops the weights they carry can be increased.

c. **Systemic incentives are needed to encourage banks to take decisions which lead to a more resilient system**. We are concerned that the prospect of moving up or down a tier in the capital surcharges will not provide sufficient incentive for banks to adjust their risk profiles to make the system safer. Changes in risk exposure are in practice the sum of a large number of (relatively) small decisions. Banks must know how their overall capital requirements will change as a function of these decisions for the incentive to exist. A suitably calibrated dynamic mechanism, possibly using 'systemic risk weighted exposures' would differentiate firms and equip the regulator with a tool to steer the banks into a safer configuration. Note

d. **Herding is still a problem**. Although correlation and interconnectedness can mask the effects of herding, the fact remains that herded financial systems are highly fragile. The banks which didn't fail in the recent crisis had a significantly different overall risk exposure from those that did. Therefore a model that has anti-herding properties (such as Sciteb's Efficient Systemic Capital) should be included in the mix as soon as practicable.

e. **Efficiency of Systemic Capital matters**. Though the disadvantages of having too much capital tied up in the banking system may be exaggerated, for a given overall level of systemic capital it remains preferable to deploy it in a way which gives something close to the optimal outcome for systemic resilience. Our research suggests that focusing on Efficient Systemic Capital can also provide suitable incentives against herding and contagion.

Sciteb are cooperating with regulators (including the FSA and Bank of England), academics, and selected G-SIBs in the US and UK to pilot some of the proposals that are emerging from our work. The first formal scientific publication: 'Individual versus systemic risk and the Regulators Dilemma' has just been published in PNAS, and we have also given seminars at the Fed, the BIS and the CBRC. We are keen to share our results to help develop a more resilient global financial system.