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Stress-Testing at the Portfolio Level

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Stress-testing has hit the headlines recently, with the Treasury now using it as a screening device for deciding whether an institution requires additional capital. However, it's only being applied to the very largest banks – those with more than \$100 billion in assets. So that does mean small banks can ignore it?

No, for a couple of reasons. First, new requirements tend to percolate down over time from the top end of the market. The lessons learned from this lending crisis will translate into new regulatory requirements in anticipation of the next one. Whether this means a formal requirement for stress-testing across the loan portfolio remains to be seen. At a minimum, it's clearly an issue examiners will be scrutinizing more closely. We've already had a recent push in this direction with the inclusion of stress-testing as one of the risk management practices that regulators are looking for from institutions with high concentrations of commercial real estate (CRE), as specified in the December, 2006, Interagency Guidance Statement on the subject.

Second, and more importantly, there are sound reasons for performing stress tests. In fact, banks have – or should have – long been performing stress-testing at the loan level. Underwriting requirements on term facilities will typically include an assessment of a new borrower's ability to withstand stress from higher rates and from selected, more specific sources such as declines in operating cash flow (i.e., DCRs) or valuation (i.e., LTVs).

What's come to receive greater attention over the past decade or so – and in Treasury's recent initiative – is stress-testing at the portfolio level. While this could be done loan by loan, then rolled up, that's a cumbersome approach. What is needed instead is a way to allow a common stress to be applied across a portfolio of loans. Specialized software is certainly available. But for a smaller bank, the required tool could simply be a spreadsheet set-up.

We're talking about a 2-stage exercise: first, identifying the appropriate target variable and how much to stress it, and second, modeling the impact. The Treasury program takes key macroeconomic variables such as GDP and unemployment, as well as housing prices, and identifies a 2009-10 downside scenario for the economy. Of course, translating those shocks into the impact on the bank's borrower base and its debt-servicing capacity is hardly a straightforward task, particularly at an aggregated level.

But there may be easier shocks to work with. Rate shocks, for example. These could be as simple as (parallel) yield curve shifts of 100, 200, etc. basis points. Alternatively, they could be customized to reflect where we are in the cycle, what history has shown, and the reasonable worst-case from here over an agreed time horizon. Rate shocks directly test debt-servicing (i.e., an increase in interest expense), but they indirectly correspond to a state of the economy. They should be matched with a shock to revenues, as a bank's business customer base experiences weakness in both pricing and volumes, and perhaps to key (non-interest) cost items and collateral values as well.

CRE gets special attention as a small bank mainstay and as a typically highly cyclical part of the loan book. For these clients, at least for investor properties, revenue weakness refers to

shocks to vacancy rates and rental rates and from there to net operating income (NOI). Shocks to property values (i.e., the secondary source of repayment) are also critical. The two trickier parts of this exercise are 1) getting the requisite loan-level information, as current as possible, into a spreadsheet for applying these stresses, column by column, and 2) accessing the historical, local market data on vacancy and rental rates and on valuations to determine appropriate stress levels.

When thinking about the set-up, investor CRE is clearly distinct from owner-occupied CRE, from residential mortgage lending, from construction, from C&I, from auto loans, and so on. This suggests doing two things. First, grouping these loans accordingly, and setting them up in separate worksheets. Second, devising shocks that are specific to each group but which are also internally consistent in the sense that they correspond to a downside shock of roughly comparable likelihood or severity.

Once the external (i.e., market) data sources have been identified and the internal (i.e., portfolio) data has been collected and organized - while daunting to the uninitiated - the modeling challenges aren't in fact all that severe. But for some smaller institutions, even if they recognize the need to start down this road, it may still be more than they have time or resources to undertake, particularly at a time of so many competing claims. For those in this boat, there is another option in the form of specialist providers (such as WIB-endorsed VIP Inmatrix) which allows you to take your portfolio data and run it through some standard stress scenarios. Doing this provides a level of hands-on familiarity and control that's eventually going to be needed and you gain an understanding of the output, how it varies across the portfolio, how it changes over time, how to make use of it for credit portfolio management. It's an important step in the direction of recognizing that you can miss a loan here or a loan there, but it's correlated credit shocks (i.e., defaults and losses occurring broadly across the portfolio) that really can...bring down the bank.

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