

# The Solvency of Banks

Banks trade on confidence and reputation, not financial strength. Put aside for the moment the complicated and confusing Basel rules and let's apply some common sense. Put aside definitions of risk weighted assets and Tier 1 or Tier 2 capital. Look at a bank as a business. If you have 50 billion in equity and you have 2,000 billion in assets, you are basically levered 40 X. This is a mathematical fact. It says nothing about how safe or risky those assets are. All it says is that if you make a loss of 2.5% on your assets, you will have lost entirely all of your equity.

Now, consider that Basel 3 would have banks raise their minimum Tier 1 capital ratios from the current 4% to 6% by 2015. Does that mean that it will take a 6% loss on the assets in order to cause insolvency? Well, not quite. This is because the ratio is expressed as a ratio of Risk Weighted Assets. The Risk Weighted Assets of a bank is a weighted average of the assets of held by a bank. The weights are prescribed by the Bank of International Settlements under Basel 2 and now Basel 3 and basically go as follows. Cash is weighted at zero since it has no risk. Government bonds are also weighted at zero since... OK, lets not stop here in despair but lets go on. Mortgages can carry of weight of anywhere from 5% to 35%, loans to unrated corporates carry a 100% risk weight, loans to highly rated corporates and banks a 20% risk weight, AAA CDO's 7%, and equity in hedge funds and private equity up to 400%. The reduction of risk to a single number should be a red flag. So much for our departure from reality. Now back to our common sense approach.

For a bank whose only asset is cash, what is the risk of loss? Well, none. So the zero risk weight makes sense. How about a 20% risk weight on highly rated corporates? It depends on the seniority of claim. If one was to estimate the risk of these loans by looking at the secondary loan or bond markets for similar credits, what would one find? A number between 5% and 10% seems reasonable. Basel 3 would require a bank to hold a  $6\% \times 100\% = 6\%$  capital buffer against these assets. 6% lies in the interval lies within the interval, not above it, so there is a good chance that the capital will be inadequate to cover the risk of the asset.

How about hedge funds? Basel would require  $6\% \times 400\% = 24\%$  capital on a hedge fund holding. This seems reasonable. Most hedge funds have low single digit volatility so

a 24% buffer will likely be sufficient to cover the risk of investing in a hedge fund.

Sovereigns? Here is where Basel falls down. Zero X anything = zero. Since government bonds carry no capital requirement, banks often use them in times of credit stress to operate a domestic government carry trade. Lending to the private sector is risky and capital intensive so banks take advantage of yield curves where usually the short end has been anchored low by an accommodative central bank, and lend to the government at longer durations instead. The capital required to do this trade is, well, zero. This when the volatility of Italian government bonds can be as much as 15%.

So you can do this trade in pretty much any size you like until the volatility or loss on the asset (a sovereign bond) turns out to be significantly more than zero, at which time risk managers and CFOs frantically explain to their CEOs that their bank is insolvent. These CEOs generally will not turn to their regulator until it is too late. They will instead try to find a solution, such as dumping the asset, which tends to crystallize losses and push asset prices even lower thus destroying more equity capital. Only when they are comfortably well into insolvent territory might a CEO turn to the regulator. The regulator is used to dealing with slow moving quantities such as inflation. When sovereign spreads start surging and banks' solvency is in doubt, they tend to call the politicians. This is the only time the politician is made aware of the problem. While the regulator seeks direction and consultation with the government to stem a potentially damaging situation, the government will be considering the cultural, historical, social and political implications of the situation. Before long there will be dissent, opportunistic politicking, cynical self interest ending in sclerosis. Only at the edge of perdition will there be any action, and then not necessarily appropriate action.

As a simple fellow, I tend to look at how much assets a business has and how much equity it has. A bank reporting a 10% Tier 1 capital ratio means little to me because I don't know what it means. If that same bank tells me it has 2 trillion in assets, and 50 billion in equity, I know that a 2.5% variation in the assets of this bank can either double my equity or reduce it to zero. Whatever the composition of the assets, this remains true.

By this count, Deutsche can take a 2.5% asset variation, Dexia 1.7%, BNP 4.2%, JP Morgan 8.3, HSBC 6.3%, and the Singapore banks some 10% – 11%. What this metric doesn't say is what kind of assets these banks are holding