

Corroborating Minimum Capital Rules with Accounting Rules for Financial Institutions

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Abstract

Through a lack of corroboration between the SOP 03-3 USGAAP rules and the FDIC-given impairment levels for banking portfolios available for sale, US banks are seeking P&L elsewhere from holding the loans to maturity, thus the rate of real estate foreclosures may be increasing. In addition, the incentive for bank mergers or buying impaired banking assets no longer exists leading to artificially depressed bank valuations and possibly stoking the continuation of the real estate crisis. This paper also argues that in declining asset value environments, a relaxation of capital rules is necessary to stimulate purchases of impaired banking assets.

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1.1 Introduction

Federal Deposit Insurance Corporation (FDIC) has handled more than 450 US bank closures that have occurred since the beginning of 2008 as a result of the housing market's bust and ensuing recession. Of all those closures, the banks were deemed to have fallen below minimum capital requirements and in some cases, the depositors had started runs on banks, being compensated by the FDIC. Overall, FDIC is attempting to break even on the bank closures from the sale of their assets, and even hold the upside since it is requiring buyers to hold optionality warrants in case the credit quality of the assets improves faster.

The optionality warrants are in essence long call options with the strike price the fair market value of the loans.

1.2. Historical context

Running a P&L on depositors' insurance² is not the norm in the history of banking, since the depositors insurance scheme is bank funded and any usage of funds should be replaced by the remaining banks. Of course this is hard to achieve in the midst of the existing liquidity crisis so it is intuitive that the regulator would seek ways to self-fund itself rather than create an immediate budget deficit and recognize future receivables from the banks which are furthermore uncertain given that this uncertainty provides an added incentive for lax regulation and relaxing the capital requirements in order to realize those receivables.

However, given that any impairment reversals in the

expected loss impairment model are being paid out to the regulator as part of the warrant terms, banks no longer have an incentive to hold the loans to maturity and may want to exit out of the warrants by selling foreclosed assets, thus increasing the foreclosure rate all else equal. This conflict of interest situation is compounded by the requirements of SOP 03-3 accounting rules which requires historical trend default levels to be included into the expected loss impairment models' discount factor when recognizing the maximum profit that can be accreted over the life of the loans³, thus hypothetical fast trend reversals in the housing or the GDP picture would not be able to be recognized by financial institutions.

Using the past 5 years credit crisis default levels into the expected loss impairment model is likely to reduce significantly the fair market value of the loans by increasing the discount factor thus force the financial institutions to have a close to zero profit and reduce its future accretion levels as well, making in this context the US banks an undesirable asset class from an investment allocation perspective, without them being necessarily one.

1.3. Proposed calibration

The solution could be to use an integer, a multiple of the notional value of the loans as the maximum profit that can be accreted over the life of the loan and to use an accelerated or decelerated recognition methodology similar to the amortization from an accounting sense based on the recession vs. boom environment instead of increasing the dis-

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1 - *Wall St Journal 11/14/2012.*

2 - *Asli Demirguc-Kunt, Baybars Karacaovali, Luc Laeven, "Deposit Insurance Around the World: A Comprehensive Database", World Bank Policy Research Working Paper 3628, June 2005.*

3 - *SOP 03-3 "Accounting for Certain Loans or Debt Securities", Financial Accounting Standards Board, December 2003.*

count factor to the highest impairment level per SOP 03-3.

Obviously grouping the loans per logical vials such as duration buckets and using different multiples based on simulating stress default levels into same duration buckets would be key to an exact calibration of the multiple. This would resolve the previously described moral hazard occurring during severe depressions. The severe impairment cases could be resolved by reducing the notional value of the loans to the fair market value of the first liens in the property for banking assets available for sale when acquired, with the difference to the notional value to be granted as a P&L upside to the purchaser over a determined period of time. The multiple comes to mind as a L mortgage loan for a fixed year term at a positive real interest rate, (this allows for ignoring the fixed or variable rate feature as long as the real interest rate is positive) which gets a discounted total repayment at time zero net of defaults of kL where $k > 1$. A mathematical representation of such a banking portfolio would be $M1 (L1, L2, \dots, Lk) + \dots + MD (L1, L2, \dots, Ln)$

where the M is the matrix of loans of longest duration D and highest impairment level n where the impairment levels get broken into statistically-significant intervals from a realized and possibly anticipated cash flow perspective.

The profit potential $k-1$ would be recognized each year by the following formula, which resembles an accelerated amortization accounting methodology:

$k-1 = \sum_D ((D-p)/(1+2+\dots+D))$ where D is the duration of the loans and $0 <= p < D$ non-consecutive and calibrated based on the intensity of default level in the given year.

1.4. Existing horizon

Let's use numerical examples:

Case 1: Bank A has 10 million assets and 13 million liabilities. Because the liabilities are higher than the assets, the bank is subject to closure by the regulators as long as the maturity of the liabilities is skewed toward short-term. In theory the only chance of the bank surviving is attracting increased deposits and having higher rates on investments than the liabilities' rates. In a declining real estate environment this is not possible. The regulators may bear a cost of reimbursing depositors which cannot be recouped. If the bank is not closed by the regulators, it can file for bankruptcy relief asking that some of its liabilities be extended.

In this case having liquid assets is only postponing the unfavorable outcome.

Case 2: Bank B has 10 million assets and 10 million liabilities. The liabilities are due sooner than the maturity

of its invested assets. If the bank complies with economic capital rules such as Basel 2 or 3 and has liquid assets, it may survive if the regulators allow for some grace time to replenish its liquid capital. If the regulators think that it is not possible to save the bank, or if there are any contributing factors such as the depositors leaving in large numbers and creating a bank run, they can put the assets up for sale to be taken over by other banks together with the corresponding liabilities.

1.5. Moral hazard

It is this case in which the application of the SOP 03-3 expected loss impairment model creates valuation problems, as it requires the 10 million to be discounted to potentially less than Fair Market Value given a historical and prospective quantitative estimate for defaults. If the credit curves going forward are showing increasing discount factors, the acquiring bank has to have a solid surplus in order to take on an unrealized loss or to have an asset-liability management structure tilted heavily towards longer term liabilities. In a declining asset values environment, such a merger is not possible. Given the international positive correlations of the capital markets of the past decade, even international acquisitions look doubtful.

Let's suppose the discount factor is 20% in which case the acquiring bank is taking on 8 million in assets versus 10 million liabilities but hopes for a fast asset recovery. The bank registers an 8 million Fair Market Value and a 2 million dollars negative goodwill and per SOP 03-3 is allowed to accrete uniformly to the expiration of the assets the remaining 2 million, without any acceleration possibility. This is likely to create additional artificial economic capital requirements on the acquiring bank, which may or may not be accommodated. All else equal, one would expect a relaxation of the capital rules as an incentive to acquire impaired banking assets.

In this case the bank has a higher incentive to seek opportunistic ways to break out of the Asset-Liability structure in a favorable way, namely to foreclose any homes as soon as possible and attempt to resell it fast to get liquid assets.

Furthermore, the accretion of the recovery potential should be done to the overall historical realized average maturity of mortgage loans of 12 years⁴ taking into account prepayments and not to the static mortgage expiration length of 30 years, in order to make the P&L more realistic and thus entice vitality movements on the banking scene.

4 - Andra C. Ghent, "Residential Mortgage Renegotiation During the Great Depression", Baruch College – City University of New York 2010.

5 - Federal Housing Finance Agency – "Key releases and statistics" 2012.

1.6. Conclusion

Given the existing combined capital and accounting rules and the moral hazard issues described thereof, 98% of impaired banking portfolio acquisitions during 2008-2012 in the US have been made by private equity funds⁵, not by other banking institutions, which are likely to act as banking intermediaries and resell these banking assets after the impairment reversal is clear, as they have not requested banking licenses and are unlikely to continue to operate as banks. Subsequent purchases by banks at the large markups historically required by private equity firms is not going to consolidate the acquiring banks' P&L through organic internal growth either.

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