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Office of Thrift Supervision
Regulation Comments
Chief Counsel's Office
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Ladies and Gentlemen,

Thank you for the opportunity to comment on the Advanced Notice of Proposed Rulemaking for *Risk-Based Capital Guidelines; Implementation of New Basel Capital Accord*.

We are writing on behalf of ERisk, a risk management consulting and software firm. Our mission is to deliver products and services that enhance quantitative risk management capabilities across a broad range of financial institutions from the largest and most complex to smaller, simpler banking organizations. We deliver a range of solutions from custom-built, leading-edge risk models, to cost-effective, enterprise-wide risk and capital management software. We are strong advocates of better risk and capital management in banking, both as a matter of safety and soundness, and as a key management science competence integral to superior financial performance. Unlike many of the respondents to this request for comment, we are not a financial institution and therefore have no direct stake in the absolute level of required capital or the individual profitability of a participant in the banking system. As such, these comments are driven by sound financial theory and our practical experience delivering solutions to our broad client base.

We believe that the proposed New Basel Capital Accord is a major step forward in the framework for regulating bank capital levels in accordance with risk. In particular, the "three pillar" approach emphasized in the initial proposals was a breakthrough in theoretically-sound regulation: (1) minimum capital rules that would not be constraining for most well-managed financial institutions; (2) supervisory review of target capital levels determined by banks' comprehensive internal analyses of their risk and capital

profiles; and (3) disclosure that would harness market discipline to augment supervisors' examination of the analyses and parameters that the first two pillars depend upon.

Further, we believe that the New Accord's objective of making the minimum capital rules more sensitive to risk is an important recognition of the "best practices" that have emerged from the banking industry. While reasonable people might disagree about specific rules and the degree to which such rules reflect relative levels of risk, the broad body of the proposed rules is unquestionably more risk-sensitive than the current 1988 Basel Accord.

However, the proposed implementation of the New Basel Capital Accord described in the ANPR falls well short of the New Accord's potential benefits on two key fronts:

- 1) Non-implementation of Pillar 2
- 2) Dangerous Two-tiered System

These two issues are explored in detail below.

The third and fourth sections of this comment address issues not specifically related to the implementation details in the ANPR, but which ERisk believes are nonetheless significant to the discussion:

- 3) The Pro-cyclicality Red Herring
- 4) CAMELS Outside The A-IRB Tent

1. NON-IMPLEMENTATION OF PILLAR 2

While the proposed New Accord's first consultative package in 1999 strongly emphasized all three pillars, subsequent debate and revisions have focused mostly on the minimum capital rules in Pillar 1. The ANPR continues this trend by providing only brief comments on Pillar 2 (less than one page out of 178) that decline to propose specific regulations or guidance for Pillar 2 implementation. The stated grounds for giving Pillar 2 such short shrift are that the existing U.S. regulatory framework already allows supervisors to require banks to hold more capital on the basis of their risk profile.

While it is theoretically possible that the existing framework could serve the same functions provided for in Pillar 2, in practice the framework is far more rigid and less objective than envisioned in Pillar 2. For example, the statutory basic standard of 10% of risk-weighted assets for "well-capitalized" is simply a fixed ratio of 125% to the 8% minimum capital requirement. When supervisors negotiate target capital levels with banks, their assessment of risk typically appears to be rather subjective, or based on peer ratio comparisons, and stated in terms of risk-weighted assets. The result is again effectively a simple multiple of 8% minimum capital requirement.

In contrast, Pillar 2 proposes a more objective, economic approach to assessing target capital levels, without any link to minimum capital requirements. Banks would perform their own comprehensive internal analyses of their risk profiles and link them quantitatively to their target capital levels – in other words, an "Economic Capital" approach. The implicit compact with supervisors is that they would review the banks'

risk modeling techniques, parameters, and inputs to ensure that the risk assessment is comprehensive and accurate, but they would not subjectively override the outputs of those models in negotiating target capital levels.

It is worth noting that the Federal Reserve has already issued supervisory guidance (SR99-18) embodying many of the principles of Pillar 2, to be applied to “Large Banking Organizations” and others with complex risk profiles. However, more than four years have passed since its issuance, and our conversations with financial institutions to which this guidance would apply suggest that enforcement has not been consistent or comprehensive. Even if fully enforced, SR99-18 only addresses Pillar 2 principles for a small number of banks relative to the banking industry overall.

We believe that a strong target capital regime that is logically distinct from minimum capital rules is a critical feature of the proposed New Accord. Rules-based capital requirements inevitably fail to reflect banking’s complex economic realities, no matter how intricate the design of the rules. The consequences of these imperfections are distortions of behavior and inefficiency in the banking system overall. Such rules-based capital requirements have a natural role as a safety net, operating far beneath target capital levels. Most banks would not intentionally operate anywhere near minimum capital levels. So long as the rules don’t interfere with economically rational capital levels, there should be no incentive to undertake “regulatory capital arbitrage” strategies. Indeed, the amount of effort and debate that has gone into crafting intricate Pillar 1 rules is a clear sign that these rules are commercially significant to the banking industry. This in turn implies the absence of an effective principles-based target capital regime as envisioned under Pillar 2.

By declining to implement new guidance in respect of Pillar 2, the ANPR cements the economically distortive aspects of the minimum capital rules, laying the system open to new forms of “regulatory capital arbitrage” yet to be discovered.

The potentially distortive effects of minimum capital rules are exacerbated by a fundamental flaw in the Pillar 1 minimum capital framework. The original 1988 Accord tried to cover all risks – credit and otherwise – with a ratio applied to balances. While this may have resulted in roughly the right overall amount of capital on average, loan balances which reflect mostly credit risk ended up bearing a disproportionate amount of regulatory capital requirements, frequently more than the economically rational level. The proposed New Accord partially undoes this flaw by creating a separate charge for operational risk, but many significant risks – interest rate risk from asset/liability mismatch, business risks arising from volume or pricing margin fluctuations, etc. – are still not explicitly measured. In order to remain capital-neutral overall with respect to the 1988 Accord, credit risk continues to bear a disproportionate burden to cover other risks.

Mechanically, other non-credit, non-operational risks are reflected in a curious juxtaposition of the Advanced Internal-Ratings Based framework’s economically-derived risk-weight function with overly-conservative and seemingly arbitrary input parameters. For example, the embedded “confidence interval” of 99.9% exceeds the *target* solvency

standards of many banks, to say nothing of appropriate industry-wide *minimum* solvency standards. Similarly, the correlation parameters seem to be higher than suggested by empirical studies for all but the riskiest loans (where the PD-based correlation function falls to more realistic levels). The perception that these parameters are arbitrarily high does much harm to the A-IRB formula's credibility as an objective, "scientific" approach. But worse, it raises the possibility that minimum capital requirements exceed economically rational capital levels and distort behavior.

Figure 1.

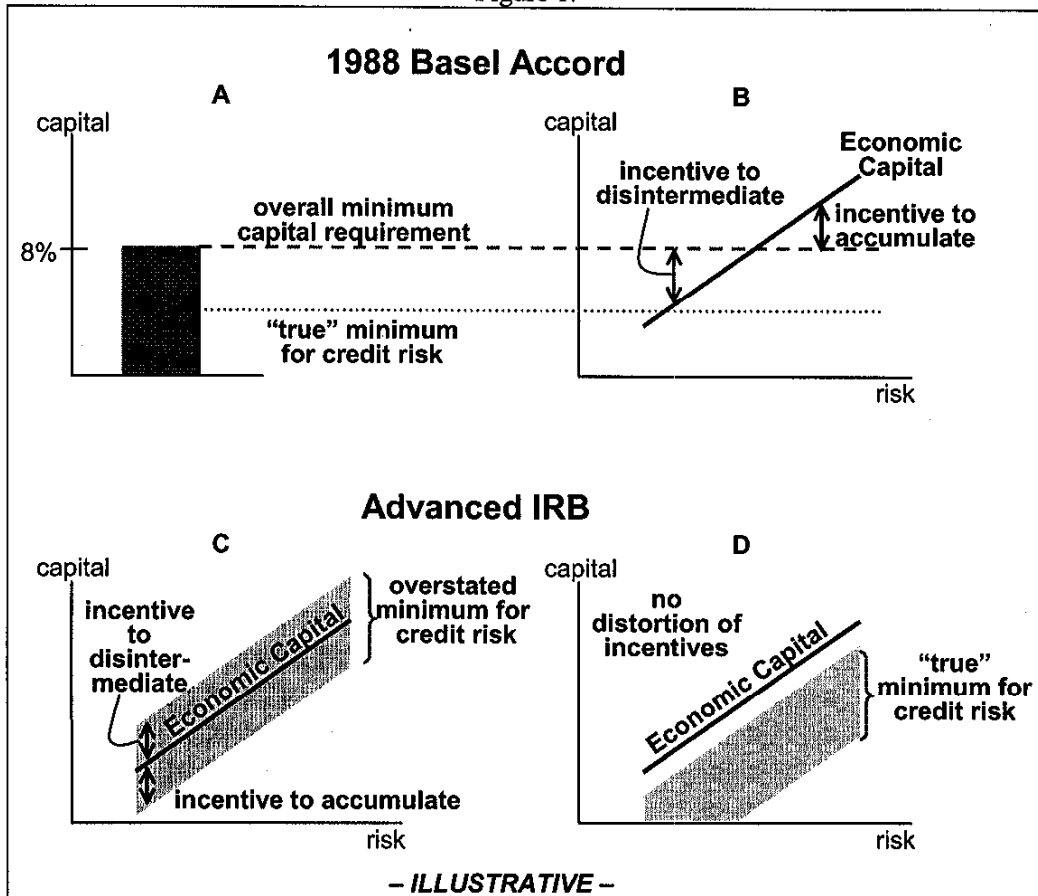


Figure 1 above illustrates the economic distortions of the 1988 Basel Accord and the potential economic distortions of the proposed Advanced-IRB risk requirements. As shown in part (A), the 1988 Basel Accord included capital requirements that were a flat 8% of risk-weighted assets, irrespective of risk, and broadly higher than the "true" average credit risk of loans. Part (B) illustrates the effect of this high, constant capital requirement: non-bank competitors, operating without such capital constraints, were advantaged in making low-risk loans; simultaneously, banks were given incentive to accumulate high-risk loans. A-IRB partially addresses this problem by creating more risk-sensitive capital requirements as illustrated in part (C). However, to the extent that

A-IRB capital requirements are in some instances higher than Economic Capital, there will still be distortions of incentives. Such adverse incentives could be completely removed if, as is illustrated in part (D), minimum capital requirements were set to be broadly less than Economic Capital.

In addition to avoiding distortions of economically rational behavior, a principles-based target capital regime facilitates more effective supervision than a rules-based minimum capital regime. With an objective framework for target capital, supervisors can apply earlier, less drastic corrective action – for example, mild increases in deposit insurance assessments. The consequences of breaching minimum capital requirements (or minimum-like targets) tend to be too severe and come too late to result in actual correction; they are more likely to just tip a deteriorating situation into a failure.

2. DANGEROUS TWO-TIERED SYSTEM

Many of the problems with the 1988 Accord are attributed to its lack of sufficient sensitivity to relative risk levels within asset classes. While this opened up a host of opportunities for “regulatory capital arbitrage”, it was at least a level playing field amongst banks. The problems with an economically distortive rules-based capital regulation framework are likely to be many times worse under the ANPR’s two-tiered system wherein the A-IRB rules will apply only to a small number of the very largest banks.

For the first time, two banks contemplating the same loan could face significantly different capital requirements. Small banks operating under the 1988 Accord will be competitively disadvantaged in making high-quality loans, where their A-IRB competitors will face a much lower capital requirement. Conversely, these small banks will find they have gained a capital advantage in making riskier loans – for example, subprime, below-investment grade corporates, high-volatility commercial real estate, and long-maturity commercial loans. Differences in regulatory capital requirements effectively amount to a tax or subsidy for one competitor relative to another.

Figure 2

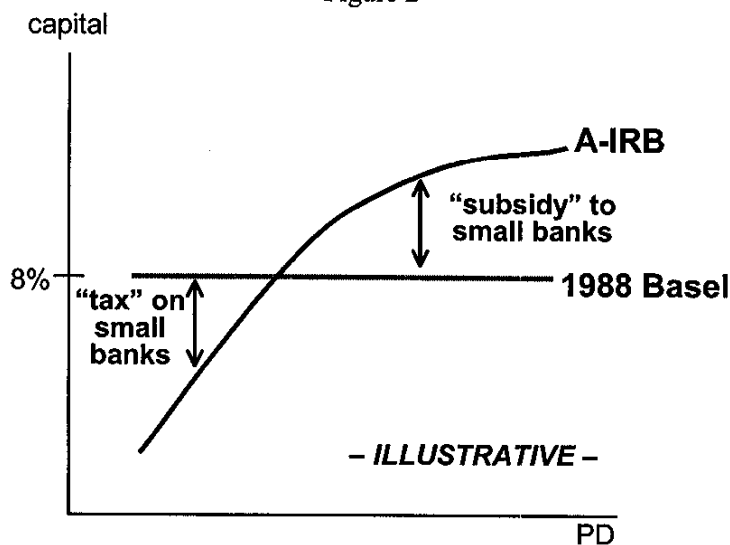


Figure 2 above illustrates the potential competitive impact of exempting small banks from the proposed A-IRB. Since small banks' capital requirements would still be competing under the 1988 Basel rules, where capital requirements are insensitive to Probability of Default (PD), they will have higher capital requirements than A-IRB competitors for loans with PD less than the crossover point. The effective "regulatory capital tax" on small banks arising from the difference between A-IRB and 1988 Basel capital requirements increases as credit quality improves (i.e. PD decreases). The reverse will be true for loans with PD greater than the crossover point: the small banks' "regulatory capital subsidy" grows as credit quality worsens (i.e. PD increases).

The competitive impact of this distortion can be gauged by considering the impact of differences in cost of capital on loan spreads. Cost of capital is one of the most significant economic costs in banking: for example, a bank with 10% capital and a 25% pretax (15% after-tax) equity return requirement needs to make a 250bp Net Interest Margin just to cover the cost of capital, an expense of similar magnitude to all other non-interest expenses combined. To measure this effective tax or subsidy in terms of loans spreads, the difference between A-IRB capital requirements and 1988 Accord minimum capital requirements can be multiplied by the pre-tax equity return requirement. The tables below perform this calculation for a range of Probabilities of Default in each of the IRB asset classes. Within each table, the columns at the left show the A-IRB minimum capital requirements, and the columns at the right show the effective tax (positive number) or subsidy (negative number) for banks still operating under 1988 Accord minimum capital requirements.

Corporate								
PD	A-IRB capital				Small Bank Reg. Cap. Tax (Subsidy)			
	Large		Smallest		Large		Smallest	
	1 year	5 years	1 year	5 years	1 year	5 years	1 year	5 years
0.01%	0.26%	0.20%	1.24%	0.98%	1.94%	1.95%	1.69%	1.76%
0.05%	0.92%	0.73%	2.74%	2.16%	1.77%	1.82%	1.32%	1.46%
0.10%	1.54%	1.22%	3.88%	3.07%	1.62%	1.70%	1.03%	1.23%
0.25%	2.89%	2.30%	5.99%	4.77%	1.28%	1.43%	0.50%	0.81%
0.50%	4.40%	3.52%	8.03%	6.42%	0.90%	1.12%	-0.01%	0.39%
1.00%	6.31%	5.05%	10.27%	8.21%	0.42%	0.74%	-0.57%	-0.05%
1.50%	7.58%	6.05%	11.59%	9.25%	0.10%	0.49%	-0.90%	-0.31%
2.00%	8.56%	6.81%	12.56%	9.99%	-0.14%	0.30%	-1.14%	-0.50%
2.50%	9.39%	7.45%	13.36%	10.60%	-0.35%	0.14%	-1.34%	-0.65%
3.00%	10.14%	8.03%	14.08%	11.15%	-0.53%	-0.01%	-1.52%	-0.79%
4.00%	11.51%	9.11%	15.42%	12.20%	-0.88%	-0.28%	-1.85%	-1.05%
5.00%	12.80%	10.16%	16.69%	13.24%	-1.20%	-0.54%	-2.17%	-1.31%

assumes LGD of 45%

"large" assumes no size adjustment to correlations; "smallest" assumes maximum adjustment

regulatory capital tax = (1988 Basel Capital minus A-IRB capital) times 25% pre-tax cost of equity capital

shaded rows indicate PDs consistent with below-investment grade ratings

High-Volatility Commercial Real Estate				
PD	A-IRB capital		Small Bank Reg. Cap. Tax (Subsidy)	
	1 year	5 years	1 year	5 years
	0.01%	0.31%	1.49%	1.92%
0.05%	1.10%	3.28%	1.72%	1.18%
0.10%	1.82%	4.59%	1.54%	0.85%
0.25%	3.33%	6.91%	1.17%	0.27%
0.50%	4.90%	8.95%	0.77%	-0.24%
1.00%	6.69%	10.89%	0.33%	-0.72%
1.50%	7.75%	11.84%	0.06%	-0.96%
2.00%	8.49%	12.46%	-0.12%	-1.12%
2.50%	9.10%	12.95%	-0.28%	-1.24%
3.00%	9.64%	13.40%	-0.41%	-1.35%
4.00%	10.66%	14.28%	-0.67%	-1.57%
5.00%	11.66%	15.21%	-0.92%	-1.80%

assumes LGD of 40%

regulatory capital tax = (1988 Basel Capital minus A-IRB capital) times 25% pre-tax cost of equity capital

Retail - Mortgage			Retail - Credit Card			Retail - Other		
PD	A-IRB capital	Small Bank Reg. Cap. Tax (Subsidy)	PD	A-IRB capital	Small Bank Reg. Cap. Tax (Subsidy)	PD	A-IRB capital	Small Bank Reg. Cap. Tax (Subsidy)
0.1%	0.40%	0.90%	0.2%	1.71%	1.57%	0.2%	2.92%	1.27%
0.2%	0.68%	0.83%	0.3%	2.24%	1.44%	0.3%	3.83%	1.04%
0.3%	0.93%	0.77%	0.6%	3.38%	1.15%	0.6%	5.81%	0.55%
0.5%	1.35%	0.66%	1.0%	4.33%	0.92%	1.0%	7.52%	0.12%
0.7%	1.72%	0.57%	1.6%	5.17%	0.71%	1.6%	9.12%	-0.28%
1.0%	2.21%	0.45%	2.6%	5.90%	0.52%	2.6%	10.63%	-0.66%
1.5%	2.91%	0.27%	4.2%	6.65%	0.34%	4.2%	12.02%	-1.01%
2.0%	3.53%	0.12%	6.2%	7.63%	0.09%	6.2%	13.47%	-1.37%
2.5%	4.08%	-0.02%	9.0%	9.27%	-0.32%	9.0%	15.82%	-1.95%
3.0%	4.58%	-0.15%	12.0%	11.10%	-0.77%	12.0%	18.81%	-2.70%
4.0%	5.46%	-0.37%	16.0%	13.34%	-1.34%	16.0%	23.10%	-3.77%
5.0%	6.27%	-0.57%	21.5%	15.98%	-2.00%	21.5%	28.91%	-5.23%

assumes LGD of 20% for mortgages, 80% for credit cards and other
regulatory capital tax = (1988 Basel Capital minus A-IRB capital) times 25% pre-tax cost of equity capital
shaded rows have PDs consistent with "subprime" definition

Notice that there is an almost perfect overlap between the "riskiest" (subprime or below investment grade) loans and the loans for which small banks get a capital "subsidy" (negative numbers in the rightmost column). If banks pursue these incentives, the riskiest loans will be driven to the smallest banks – surely not a desired outcome of the proposed regulation.

Because the small number of banks to which the A-IRB will apply represents such a large portion of the industry's lending capacity (approximately two-thirds of domestic consolidated assets, according to Federal Reserve Vice Chairman Roger Ferguson's speech June 17, 2003), the migration of portfolio mix that might be driven by this regulatory capital tax or subsidy could result in dramatic concentrations of the riskiest loans in the balance sheets of the remaining non-IRB portion of the industry. For example, if the subsidized riskiest loans represent 15% of all loans, and the non-IRB banks represent 30% of lending capacity, incentive-maximizing behavior would tend to result in non-IRB banks holding portfolios with a weight of 50% in the riskiest loan categories.

Changes in portfolio mix motivated by the regulatory capital regime are not new; the 1988 Accord created such imbalances between banks and non-bank finance companies (resulting in some fairly significant shifts of better-quality asset classes away from the banking industry). But given the magnitude of non-IRB banks' lending capacity, the sheer number of non-IRB banks, and safety and soundness implications of concentrating riskier assets in smaller banks, the effect of the ANPR's two-tiered system could be profound. To the extent that the Agencies' supervisory manpower and expertise are focused more towards large banks (e.g. Federal Reserve SR02-1), the configuration of supervisory resources could be severely misaligned and broadly insufficient to safeguard such a system.

Implementing Pillar 2 consistently across all banks would solve this problem as well. If banks were allowed to use internal capital models to set target capital levels, regulators could proceed with comfort in simplifying the rules-based minimum capital requirements

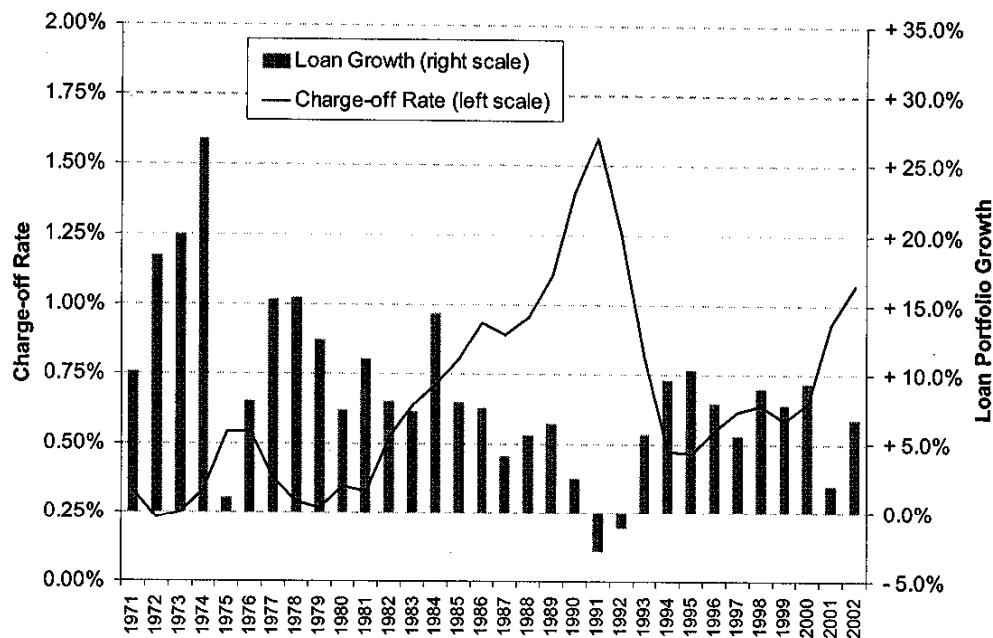
under Pillar 1 so that it could be applied universally. Many smaller banks (less than \$5 billion in assets) are already adopting state-of-the-art internal capital models in an effort to “run their businesses better”. It seems reasonable to expect that other banks could adopt these models in response to a Pillar 2 based capital requirement. Further, the Agencies could develop a simple Pillar 2 model to apply to those banks that do not have their own model; the model could be parameterized very conservatively so as to provide additional incentives for banks to improve their risk management and quantification discipline.

3. THE PRO-CYCLICALITY RED HERRING

Much has been made of the threat of “pro-cyclicality” – the potential that capital requirements tied to historical loss experience will tend to rise during economic downturns, which would decrease lending capacity and thereby potentially exacerbate the economic cycle– caused by the proposed New Accord. ERisk does not believe that this is actually relevant, though there may be some merit in supervisors developing a cycle-neutral capital adequacy metric for surveillance.

Pro-cyclicality of lending is a natural feature of the existing banking system, regardless of regulatory capital rules. As Figure 3 below demonstrates, the banking industry’s loan growth has been highly correlated to charge-off levels in past economic downturns. It is not clear whether the cause of these fluctuations is mechanical, as losses erode capital through lower earnings, psychological, as lenders may grow more risk averse during economic downturns, or related to fluctuations in demand for loans. Neither is it clear that capital requirements co-fluctuating with credit loss rates would (or could) exacerbate these already substantial fluctuations in loan volumes.

Figure 3



Source: FDIC Historical Statistics on Banking – national aggregate for commercial banks

The past 30 years of history suggest the economy is fairly resilient to pro-cyclical loan volumes. Nonetheless, even if we assume a policy objective of non-cyclic or counter-cyclic lending capacity, capital requirements are a blunt and inefficient mechanism for achieving this objective. It would be more efficient and more transparent to establish a formal policy of cyclic subsidies (for example, through tax incentives or loan guarantees) to stimulate lending during economic downturns, if desired.

However, a stable capital adequacy metric could improve supervision. Under the current and proposed schemes, capital adequacy is likely to vary systematically across the industry according to the macroeconomic cycle. These industry-wide fluctuations are likely to dwarf the deviations of individual banks, making it very difficult to identify banks that have deteriorating financial or management conditions during periods of good or moderate economic conditions. A cycle-neutral capital adequacy metric could facilitate early detection and milder corrective action, ultimately reducing both the number and magnitude of bank failures. However, there is no need to make this cycle-neutral metric part of the minimum or target capital adequacy requirements.

4. CAMELS OUTSIDE THE A-IRB TENT

One of the oddest features of the capital regulation regime of the proposed New Accord and the ANPR is the stark contrast of the A-IRB principles with the supervisory agencies'

own bank rating system, CAMELS. If the supervisory agencies were banks, their supervisors could point out that CAMELS falls short of the A-IRB criteria on several dimensions:

- **Rating Structure** – there are only 4 “pass” grades (a CAMELS score of 5 being equivalent to a default). There is an excessive concentration of banks in the highest two CAMELS ratings.
- **Use of Internal Ratings** – CAMELS ratings are not meaningfully relied upon for pricing (e.g., deposit insurance assessments), executive compensation, or capital adequacy (e.g., the target level of the Bank Insurance Fund)
- **Risk Quantification** – CAMELS ratings are not calibrated to historical failure rates
- **Disclosure** – CAMELS ratings are not revealed to the public and therefore cannot be subject to any sort of market discipline

The supervisory agencies themselves obviously are not included in the scope of the New Accord, and, with the exception of the FDIC, they are not themselves directly exposed to the risk of bank failures. Even so, it seems reasonable to expect that supervisors, acting on behalf of the FDIC, depositors and taxpayers who bear the risks of bank failure, would at least adopt relevant portions of the A-IRB framework that represent “best practice”. Adopting A-IRB principles in the CAMELS system would not only enhance the agencies credibility in applying the guidelines proposed in the ANPR, it could also lead to more effective supervision and lower costs of bank failures. The obvious tool for bringing more quantitative discipline and granularity to supervisors’ bank ratings would be the same comprehensive risk profile and capital adequacy analysis, i.e. Economic Capital, proposed under Pillar 2... another argument in favor of implementing specific guidelines for Pillar 2 in the U.S. implementation of the New Accord.

CONCLUSION

While there are several problems with the current approach outlined in this response, there is one way to solve them all: implement Pillar 2. More specifically, we propose several guidelines for implementing Pillar 2:

- Implement Pillar 2 at the same time as Pillar 1
- Apply Pillar 2 equally to all banks
- Apply Pillar 2 consistently across regulatory agencies
- Align CAMELS with the principles of Pillar 2
- Simplify Pillar 1 (if necessary) in concert with adoption of Pillar 2.

We believe that this approach is both consistent with the original intent of Basel II and provides the best chance for the regulation to move the banking industry in the direction

of less distortion of economic behavior, improved business practice, and greater safety and soundness.

Sincerely yours,



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