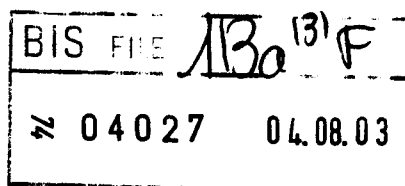


## LEHMAN BROTHERS

July 30, 2003



Basel Committee on Banking Supervision

Bank for International Settlements

CH - 4002

Basel, Switzerland

Dear Basel Committee Secretariat,

Lehman Brothers appreciates the opportunity to comment on the Third Consultative Paper on the New Basel Capital Accord. Lehman Brothers fully supports a capital adequacy framework designed to align capital adequacy assessment with an organization's risk profile and risk management capabilities. Ultimately, the New Accord will help move the financial services industry toward a more risk sensitive framework accompanied by greater transparency and market disclosure.

In particular, Lehman Brothers welcomes the Basel Committee's focus upon and adoption of policies around Operational Risk. It is the firm's belief, as it is with other risk management disciplines that formalizing an operational risk management framework is good business practice and will protect shareholder value.

Lehman Brothers has highlighted a number of both micro and macro level issues across the proposed Credit Risk and Operational Risk frameworks. The issues covered in these two sections address both Pillar One and Two aspects of the framework. In addition, we have addressed Pillar Three issues, relating to disclosure requirements, separately.

**Credit Risk**

In general, the systems and technology changes necessary to meet the Basel requirements are rather extensive and will be difficult to complete in such a short period of time, particularly since requirements are not yet finalized and in some cases greater clarity is still required. For example, if implementation is scheduled to take place by year end 2006, and firms are required to demonstrate three years of compliance by the start date in order to qualify for either of the IRB approaches, then ratings systems must be compliant by the end of this year. However, the final Accord is not scheduled to be released until the fourth

quarter of this year. Furthermore, ratings systems must be compliant with the local regulations which are themselves delayed until the Basel document is finalized.

Moreover, we believe that extensive changes will be necessary to implement the stress testing requirements (paragraphs 396 to 399) which themselves have not yet been fully specified. In fact, national regulators have been asked to provide additional guidance on this topic.

There are numerous cross-border issues as well, involving multiple regulatory jurisdictions that still need to be resolved before firms can possibly attempt to demonstrate compliance to the appropriate regulatory bodies and the concept of facilities ratings remains vague.

In what follows we have identified some of the key micro level issues, within the Credit Risk framework, that raise some concern with respect to the Standardized Approach, the IRB Approach, and the Securitization Framework, (sections 1 to 3).

## **1. Standardized Approach**

### **1.1. Static Exposure Amounts**

The given formula (paragraph 118) for exposure after mitigation,

$$[E^* = \max\{0, [E \times (1 + H_e) - X \times (1 - H_c - H_{fx})]\}]$$

is based on a static current exposure amounts, ignores potential exposure in the future and does not properly incorporate the netting of various correlated random variables.

Similarly, the formula for exposure for collateralized OTC derivatives (paragraph 157):

$$E^* = RC + \text{add-on} - Ca$$

where:

RC = the replacement cost

Add-on = potential future exposure add-on

Ca = volatility adjusted collateral value,

has a similar problem even though it attempts to address the potential future exposure issue.

## **2. IRB Approach**

### **2.1. Risk-weighted Assets**

The New Accord provides a set of complicated formulas for calculating the capital requirements for risk-weighted assets including corporates, sovereign and bank exposures (paragraph 241). We hope that the Basel Committee will provide greater clarity regarding the rationale and derivation of these formulas. The formulas appear to be based on the assumption that the current credit exposure (plus an add-on) is static and can be equated to the exposure-at-default (EAD).

An alternative approach might measure the EAD as a tail statistic on the probability distribution of potential exposure instead of a static current exposure plus an add-on. It also seems that the formulas assume a homogenous pool with common correlations and default probabilities, and are variations of the basic Vasicek formula for aggregating the loss distribution of the homogenous pool.

It should be noted, however, that these formulas for calculating the risk-weight of a portfolio have not accounted for the diversification benefits resulting from the aggregation of the risk weights of many portfolios into a bank's total portfolio. Instead, it seems as though the Committee is proposing to apply simple addition in aggregating capital charges.

In addition, in cases where banks have not been able to justify the diversification benefits under Pillar I, it appears the possible incremental charge has no cap which we believe is not realistic.

### **2.2. Risk Components**

The IRB Advanced Approach allows banks to estimate CCF for non-derivative off-balance sheet transactions. We recommend that the framework include a provision that would allow banks to adopt either of the IRB approaches, with their choice of proprietary potential exposure systems for EAC calculations, once local regulators have certified the in-house models being employed.

The effective maturity (paragraphs 290 to 292) will be estimated as:

$$M = \frac{\sum_t t \cdot CF_t}{\sum_t CF_t}$$

For most instruments, future cash flows are uncertain and random. Thus, the effective maturity formula may not be appropriate to employ for random cash flows. Instead, an alternative definition of effective maturity might incorporate the option-adjusted duration of

the instrument and the maturity of a risk-free bond (government bond) which has the same duration. Then the maturity of the risk-free bond will be the effective maturity.

In fact, an additional requirement of Effective Maturity (paragraph 290) stipulates that the notional amounts of derivative transactions be used to weight the maturity. Since the notional amount does not impact the duration of a derivative transaction, it may not be appropriate to employ it as a weighting factor.

### **2.3. Risk Components for Equity**

The risk weight for equity (paragraph 321) assumes a LGD of 90% and a risk weight for equity of 1250%. The combination of LGD of 90% and 1250% risk weights is overly conservative since a risk weight of 1250% implies a capital charge of 100% of the holding value of the equity.

### **2.4. Minimum Requirements**

The minimum requirements for the IRB rating system (paragraphs 356 to 383) stipulate that there must be two dimensions to the rating. The first oriented to borrower default and the second oriented to transaction specific factors labeled as facility ratings.

The facility ratings dimension (paragraphs 358 to 362) is rather vaguely defined. The Accord requires (paragraph 361) that for banks following the Advanced Approach, the facility ratings “must exclusively reflect LGD.” However, it is not clear what role the facility rating plays for banks following the Foundation Approach, given that LGD levels are already defined (45% to 75%).

Since the Advanced Approach requires diversification across facility ratings, firms following this approach may be penalized for a lack of diversification across the facility rating scale even if the bank is well diversified across the borrower scale.

Moreover, greater clarity is required as to the criteria for classifying the myriad of present and future transaction-specific features into a set of rating classes. This becomes particularly critical, as highly structured transactions have become increasingly prevalent. More often than not, the economics of such structures have to be examined on a one-off basis. Trying to rate the transactions by some generic features could produce very misleading results.

In addition, the Accord requires that banks on the Advanced Approach (paragraphs 409 to 462) estimate an appropriate long-run default-weighted average LGD for each of its facilities, and also the long-run default-weighted average EAD for each of its facilities. Estimates must be grounded in historical experience, not subjective judgment.

There is also a practical difficulty to estimating the long-run average LGD and EAD for facilities related to structured transactions, especially within the derivatives business. Since each structure is tailored and there are not necessarily enough “long-run” observations or samples, if any, the computed results could produce unreliable statistics.

In addition, the Accord also stipulates that the estimates of PD (paragraphs 409 to 462) be based on a historical observation period of at least 5 years. Estimates of LDG and EAD must be based on a minimum observation period of at least 7 years and must cover at least one economic cycle.

The length of observation period will constrain new business development and innovative transaction types. In many cases, even for the more generic exposures and transaction types, such long historical data series simply do not exist.

Furthermore, (paragraphs 463 to 468) there is a requirement that banks regularly compare realized default rates with estimated PD for each grade and be able to demonstrate that the realized default rates are within the expected range. Banks using the Advanced IRB Approach must also complete such an analysis for their estimates of LGD and EAD.

This rule could discriminate against smaller banks and securities firms whose credit portfolios are more structured, less standardized in terms of transaction types, and also have fewer counterparty exposures. Such firms will not have enough observations of realized defaults to achieve any statistical accuracy. This rule may apply only to large banks with large credit portfolios of standardized types, so that there are adequate historical observations.

### **3. Securitization Framework**

The Accord also outlines a set of complex formulas (paragraph 589) for the computation of capital charges on a securitized pool of credits. The Committee will need to provide greater clarity regarding the rationale, assumptions and derivation of these formulas. In some cases, the risk weightings for certain tranches exaggerate the level of risk actually transferred. Moreover, the rather onerous operational requirements for both cash and synthetic securitizations may discourage firms from selling protection.

## **Operational Risk**

Operational Risk has come to the forefront as a critical aspect of Risk Management, arising as firms deal with issues surrounding the increased complexity of internal processes and increased exposure to external events. While operational risk management has always been core to sound risk management in general, the quantification of potential loss due to future operational risk is certainly still in development. The Committee must recognize that in order to be effective, the New Accord must be capable of evolving tangentially with emerging methodologies.

Nonetheless, Lehman believes that since the approaches and methodologies are still in development and there is a lack of sufficient operational loss data, it would be premature to impose explicit capital charges as measured by a statistical model for operational risk. We believe it would be more appropriate to take a Pillar Two approach to operational risk

management at this time and to consider implementing actual charges based on statistical models at some point in the future, once more complete loss data have been collected.

## **1. Measurement Methodologies**

The Accord allows banks to choose amongst three methodologies for calculating operational risk capital charges: the Basic Indicator Approach; the Standardized Approach; and the Advanced Measurement Approach. The most recent Consultative Document also introduced The Alternative Standardized Approach, although its application is extremely limited in nature.

### **1.1. The Basic Indicator Approach**

In the case of the Basic Indicator, the alpha of 15% appears to be somewhat arbitrary and seems to contradict some of the results of QIS3. The average operational risk capital requirement under the Standardized Approach was between 8% and 10% for the Group 1 banks and was between 12% and 15% for the Group 2 banks. The banks in other countries outside Groups 1 and 2 experienced an average increase of 11%. An alternative approach might be to set the alpha at a level more representative of the group average, rather than at the highest level experienced by any one bank in the survey.

In addition, the results clearly demonstrated that due to the fact that the operational risk capital calculation uses Gross Income as a proxy for the scale of the business operation, banks that have high revenues will be penalized and will experience substantial increases in operational risk charges without any necessary benefit to the soundness of the system. High revenue does not necessarily correlate to a lack of risk controls and to higher operational risk exposure. The composition of the revenue is a more important indicator of potential losses due to operational risk. For example, high revenue associated with advisory services would be less correlated with a high degree of operational risk than, for example, high revenue associated with sales commissions from a retail brokerage business.

### **1.2. The Standardized Approach**

As in the case of the Basic Indicator Approach, the betas in the Standardized Approach also appear to be somewhat arbitrary. Under this approach the Basic Indicator has been expanded to separate a bank's activities into eight business lines, with each business line assigned a separate factor, denoted as beta. Once again, there is no empirical evidence to support the established beta levels.

In traditional bank business lines, such as Retail Banking, there may be more extensive data to support the established beta. In Corporate Finance or Trading & Sales, however, there are no available data to support the established betas. Moreover, betas would differ across firms reflecting differing levels of internal controls. Since the betas for Corporate Finance or

Trading and Sales are significantly higher than other betas, firms with significant operations in these business lines will experience substantial increases in operational risk capital charges again, without necessarily adding to the soundness of the system.

Instead, the Committee may wish to consider implementing a framework whereby the beta coefficients are correlated to a firm's core and non-core businesses. In this way, a firm's core businesses for which it has more extensive operational risk monitoring, measuring and control systems in place, would be permitted to use a lower, core business beta coefficient. Firms' non-core businesses would then be assigned beta factors at the higher end of the range.

Moreover, if the goal of the Accord is for an individual bank to maintain a total minimum capital ratio of at least 8% and for the overall capital in the system not to increase significantly, then the beta factors should be more aligned with these overall goals. In addition, the betas must be flexible, so that as firms collect more representative data, future recalibration of betas can be implemented.

#### **1.2.1. Gross Income**

The definition of Gross Income within the Accord requires greater clarification and guidance on the interpretation of the definition. Certainly, variations of interpretation across different jurisdictions will result in an inconsistent implementation and a lack of consistency.

### **1.3. The Advanced Measurement Approach**

The Advanced Measurement Approach is clearly the most flexible and risk sensitive approach towards measuring operational risk capital charges, amongst the alternatives presented.

#### **1.3.1. Qualitative & Quantitative Standards**

The qualitative standards outlined, while extremely stringent are appropriate and necessary. The quantitative standards however, while providing some flexibility, also raise numerous concerns.

The proposed requirement of a confidence interval, comparable to that of the internal ratings based approach for credit risk, is premature given the state of development of various operational risk models and lack of statistically significant data. As the Committee recognized, a lack of sufficient historical internal loss data will not allow for credible estimates of potential losses at this point in time.

### **1.3.2. Detailed Criteria**

Loss Event types classifications will undoubtedly require adjustment and some sort of transition period. As additional data and instances arise, classifications may need to be updated and or revised. For example, two recent major events in the marketplace, September 11<sup>th</sup> and SARS, may not have actually caused “Damage to Physical Assets,” but many firms did experience operational losses as a result of those events.

The Committee’s proposed acceptance of a firm’s internal correlation assumptions is certainly welcomed. The requirements, however, for acceptance of such correlations are so stringent that it will render their use almost prohibitive. In order to maximize firms’ incentives for assessing correlations, the requirements need to be more flexible.

### **1.3.3. Internal Data**

The extensive technology and systems development required for the collection of internal loss data will make the collection of three years of historical data by the time the Accord is implemented quite onerous. In addition, the proper mapping of loss data to the appropriate business line as outlined is difficult, given that certain losses overlap more than one business line and allocation across businesses may not be pragmatic or meaningful.

The gross loss threshold for internal loss data collection must be determined by each firm individually. In addition, the firms will need to have different thresholds within the organization, as different business lines may warrant different thresholds.

### **1.3.4. External Data**

The Committee should consider amending the requirements regarding the utilization of external data to be more flexible and more optional. At this point in time, the pool of available and relevant industry data is inadequate and frequently does not specify actual loss amounts. Moreover, for some businesses, the data are almost non-existent. For example, the available pool of data on retail loan losses, are much more extensive than the data available for certain operational loss categories associated with Trading & Sales or Corporate Finance. If the data are not really relevant then its application within models will be misleading.

### **1.3.5. Risk Mitigation**

The Committee’s recognition of risk mitigating factors such as insurance mitigation is certainly appreciated. The structure, however, regarding the application of haircuts reflecting the declining residual term of a policy requires much greater clarification.



Firms will need to know more precisely, the schedule for applying haircuts as well as the haircut amounts required for other factors such as notice periods and non-renewal.

## **Disclosure Requirements**

The qualitative and quantitative disclosure requirements outlined in Pillar Three would place an extremely onerous and expensive burden on the financial services industry. Moreover, given that some or all of the information required by supervisors can be made publicly available, the resultant disclosure could involve the release of proprietary and confidential information.

The Committee should also be mindful of the fact that the level of disclosure required will inundate the marketplace with highly technical and complicated information that may not be fully understood and may be misinterpreted.

Thank you again for the opportunity to share our views on the Third Consultative Paper. We believe the implementation of the Accord will continue to move the industry forward toward consistency and transparency and thus, lead to a more safe and sound banking system.

Sincerely,



Madelyn Antoncic  
Managing Director  
Global Head, Risk Management

