Comments on: Acceptance of Public Submissions on a Study Mandated by the Dodd-Frank Wall Street Reform and Consumer Protection Act, Section 719(b)

Calculation of "Net Exposures to Complex Derivatives" and other "Computerized Analysis"*:*

1. How would your organization or community define "net exposures to complex derivatives?"

Most of our clients define complex derivatives as those derivatives that are not exchange traded, allowing for a wide variety of deal specific attributes that do not allow for generic nomenclature that is sufficiently descriptive. These derivatives often these cannot be priced using a closed form solution, i.e., a formula and must be priced using mathematical techniques that estimates the price using a non formula methodology (e.g., Monte Carlo simulation). It is likely to be very difficult to come up with an "algorithm" for exotics but 'plain vanilla' should be easier to describe.

Net exposure can be measured on several different levels – individual transactions, specific counterparties, by any categorical aggregation (e.g., specific industry or geographical area) and in total. For credit risk at the transaction level, net exposure is calculated as the present value of the expected receipts (as defined by the deal specifications) minus the present value of the expected payments (as defined by the deal specifications). This value is then offset by the value of collateral held against the transaction. If, at the transaction level for credit risk, the net exposure is positive, that value is the net exposure. If the calculation yields a negative number, the exposure is set to zero.

At the specific counterparty level, the net exposure is the aggregate of the absolute number obtained across all deals (including the value of the offsetting collateral) or zero if the aggregate number is negative. At the highest level, the net exposure is the aggregated absolute number across all deals (offset by collateral) or zero if the number is negative.

While net exposure is calculated on a total portfolio basis, our clients also calculate net exposure on a sub portfolio basis, e.g., by currency, by commodity, etc.

For market risk, the net exposure is calculated in the same manner as described above. The value of hedge positions offsetting the underlying positions is netted against this.

2. Do you calculate net exposures to complex derivatives?

Most of our clients perform the calculations described in (2) on at least a weekly basis, with most calculating net exposure more frequently.

3. What data do you require to calculate net exposures to complex derivatives? Does it depend on the derivatives instrument type? How?

The specific data needed for individual transactions varies from contract to contract. While most complex derivatives do not need all the data categories, the categories routinely needed to do calculations are as follows:

- Spot and forward interest rates
- Spot and forward credit spreads
- Spot and forward FX rates
- Spot and forward commodity prices
- Derived (calculated) data including
    - Spot and forward volatilities
    - Correlation coefficients
    - Expected default and recovery rates
- Client data
    - Credit rating
    - Financial data
    - Legal data
    - Corporate structure – parent/child
- Collateral information
    - Price history
    - Valuation
    - Risk assessment (derived data)
    - Legal analysis of attachability (not a data point)
    - Liquidity assessment (not a data point)
- Contract data
    - General attributes
    - Triggering events that alter required actions
- Economic data (as it affects default and recovery rates or actionable events)
    - Demographic
    - Macroeconomic
    - Industry and microeconomic data

4. Are there any difficulties associated with your ability to gather the data needed to calculate net exposures to complex derivatives? What are they?

Evaluating and pricing complex derivatives often involves data points and series which are unpublished or illiquid and therefore need to be derived. Often the complete data series simply does not exist (some securities do not trade all the time and sometimes one or both sides of the market disappear). Further, for some complex options, key contract specifications specify events that may trigger a security-specific event that is not, in and of itself, a data point (e.g., a series of prices that occurs, a price above the average for the last 10 days, etc.).

For internally stored and retrieved data, often there is a great deal of disagreement regarding the validity of the data itself. Derived data is, by definition, calculated utilizing data that may be less than 100% accurate and requires a host of assumptions that not everyone may agree with. This leads to a 'decision' as to which data (and data creation

methodology) to use, creating further uncertainty as to the validity of any process utilizing the data (i.e., pricing, risk measurement and audit verification).

As a result, some of the data utilized in pricing and risk measurement is 'created' and so the results are dependent on the assumptions and methodologies used. Change the assumptions and you get different results.

5. What other analyses do you currently perform on derivatives agreements? What kinds of analyses would you like to perform, and how could regulators and standards setters make those analyses possible?

Analyses on agreements fall into three categories. The first are attributes of the contract that determine specific actions to be performed by each of the involved parties. The second are event triggers that alter the actions required by the involved parties. The third are conditions or events that cause the contracts to be void or voidable. These events must be monitored constantly to ensure compliance with the contract as well as to ensure that risk management activities are monitoring these conditions and events to avoid financial surprises.

We also utilize these events as described in our pricing models (these events and conditions affect the price of the derivative) and in our risk measurement methodologies (these attributes change the potential price behavior of the derivative over time and so change the risk measurement numbers.

It is often very difficult to monitor these conditions as the wording in contracts is subject to wide variation from user to user, even when referring to the same (literally) event. Setting standards for descriptions of events would allow much easier evaluation of terms and conditions in contracts.

6. How often do you perform net exposure calculations at the level of your organization? Is it continuous and real time, only for periodic external reporting, or some frequency in between?

Most of our clients perform these calculations on a daily basis. Some perform them weekly. Very few perform them on a less frequent basis.