

# International Organization of Securities Commissions

## Task Force on OTC Derivatives Regulation

December 2010

### Calculation of “Net Exposures to Complex Derivatives” and other “Computerized Analysis”

#### Assumption for the answers below: Complex Derivatives = OTC Derivatives

1. How would your organization or community define “net exposures do complex derivatives”?

“Complex derivatives” terminology is not used in Brazil; instead, local markets understand derivatives as:

(a) exchange-traded and

(b) OTC – registered

It is very important to mention that according to Brazilian market regulators, all OTC derivatives in Brazil (or involving Brazilian counterparts) shall be registered at a registering central authorized by Central Bank. OTC derivatives can be bilateral or guaranteed (having BMFBovespa as a central counterparty).

2. Do you calculate net exposures to complex derivatives?

Yes.

3. What data do you require to calculate net exposures to complex derivatives?

Does it depend on the derivatives instrument type? How?

BM&FBOVESPA (BVMF) allows for registration of the following OTC products:

Forwards, Swaps and Options.

The variables accepted to register are interest rates, FX currency (US Dollars, Euro and Yen), stock indexes, inflation indexes and metals.

Calculation of net exposures requires the traded rate / price and the market reference prices, which are calculated and published by BVMF. The calculation also is different by instrument type. For forwards and swaps, the customer portfolio of different contracts, the net exposure is determined by the variable and maturity.

For OTC options, netting is only calculated for bull and bear spreads of contracts with the same variable / maturity.

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

No, since the market reference prices are determined by BVMF.

5. What other analysis do you currently perform on derivatives agreements?

For all CCP Clearing OTC positions, BVMF also calculates the marked to market position and the risk exposure for margining purposes.

What kinds of analyses would you like to perform, and how could regulators and standards setters make those analyses possible?

BVMF is comfortable with the information currently available.

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

Daily, based on the end of the day positions and market prices.

7. Do you rely on a discrete set of computer-readable descriptions ("ontologies") to define and describe derivatives transactions and positions? If yes, what computer language do you use?

Yes. The language used is Natural (mainframe). We don't use data standards to communicate OTC derivatives transactions or positions to the market.

8. If you use one or more ontologies to define derivatives transactions and positions, are they proprietary or open to the public? Are they used by your counterparties and others in the derivatives industry?

It's a proprietary solution and it is used by our participants

9. How do you maintain and extend the ontologies that you use to define derivatives data to cover new financial derivative products? How frequent are new terms, concepts and definitions added?

The frequency of changes varies. It depends on market's demand or on company's strategy. In the last two years we had around 10 changes.

10. What is the scope and variety of derivatives and their positions covered by the ontologies that you use? What do they describe well, and what are their limitations?

List of products covered by our system:

a. Swaps

- ✓ Interest Rate (PRE, DI1, TR, Selic, TBF, TJLP and Anbid)
- ✓ Currency (Dollar, Euro and Yen)
- ✓ Stock Basket
- ✓ Gold
- ✓ Stock Exchange Index (Ibovespa Index and IBR-X)
- ✓ Price Index (IGP-M, IPC-A, IPC-FIPE, INPC and IGP-DI)

b. Forwards

- ✓ Non-Deliverable Foreign Exchange Forward (Dólar, Euro and Yen)
- ✓ Forward Metal (Aluminum, Lead, Copper, Tin, Nickel and Zinc)

**c. Flexible Options**

- ✓ U.S Dollar
- ✓ Ibovespa
- ✓ Spot IBrX-50
- ✓ Spot Interest Rate Index (IDI Index / SELIC rate index)
- ✓ Metal Contracts (Aluminum, Lead, Copper, Tin, Nickel e Zinc)
- ✓ iShares Ibovespa Index Fund (BOVA11)

**11. How do you think any limitations to the ontologies you use to describe derivatives can be overcome?**

**New products implementation requires system changes due to the lack of flexibility and we don't use data standards.**

**12. Are these ontologies able to describe derivatives transactions in sufficient detail to enable you to calculate net exposures to complex derivatives?**

**Yes they are.**

**13. Are these ontologies able to describe derivatives transactions in sufficient detail to enable you to perform other analysis? What types of analysis can you conduct with this data, and what additional data must be captured to perform this analysis?**

**They are sufficient for the analysis the Exchange does.**

**14. Which identifier regimes, if any, do you use to identify counterparties, financial instruments, and other entities as part of derivatives contract analysis?**

**Standards defined by the Exchange, which can be found in our website.**

**Current use of standardized computer readable descriptions for messaging of derivatives transactions:**

**15. Which computer language or message standard do you currently use to create and communicate your messages for derivatives transactions?**

**The system doesn't use message standards for OTC derivatives transactions. All participants' information can be accessed through the system front-end.**

**16. Is there a difference between the created message and the communicated message? For example, does your internally archived version of the message contain proprietary fields or data that are removed when it is communicated to counterparties or clearing houses?**

**Do not apply**

**17. Are different messaging standards used to describe different contracts, counterparties, and transactions?**

Do not apply

18. How and where are the messages stored, and do the messages captured differ from that information stored in internal systems?

Do not apply

19. What information is currently communicated, by and to whom, and for what purposes?

Our OTC system doesn't use messaging. Information is provided to market participants via text files and on the system front-end.

20. For lifecycle event messages (e.g., credit events, changes of party names or identifiers), are there extant messaging standards that can update data relating to derivatives contracts that are stored in data repositories?

We store changes in our system, as those changes are done per participant's request, they already know. There is no message or any automatic way to inform participants.

21. What other standards (i.e., FpML, FIX, etc.) related to derivatives transactions does your organization or community use, and for what purposes? Has your implementation of these standards had any effect on the way your business is conducted ~ does it reduce misunderstanding of contract terms, has it increased the frequency or ease of trades?

Currently there are no message standards for OTC. FIX and FIXML is currently used for exchanging trading information of standard derivatives, XML is used for allocation and financial settlement. Flat file format is used to exchange several types of information. This helped us to improve STP (Straight Through Processing) and avoid operational errors.

22. Is the data represented by this/these messaging standard(s) complete enough to calculate net exposures to complex derivatives? What additional information would need to be represented?

Yes

23. In general, to what extent are XML-based languages able to describe a derivatives contract for further analysis? To what extent is other technology needed to provide a full description?

FpML over FIXML message specification is going to meet all the Exchange needs for OTC derivatives.

24. What other analysis can be conducted with this data? What additional information should be captured?

Market Surveillance can be conducted using this data, especially when in conjunction with data coming from our trading systems for standard derivatives

**25. Do you have plans to change your messaging schemes/formats in the near future?**

We plan to use message standards such as FIX and FIXML for OTC in the future.

**26. Are there identifier regimes widely used in the derivatives market for identifying counterparties, financial instruments, and other entities in messaging?**

We are always open to standard and best practices, therefore in the course of the project that will implement message standards for OTC derivatives we certainly will look for using international standards for this matter.

**The need for standardized computer descriptions of derivatives:**

**27. Would there be a benefit to standardizing computerreadable descriptions of financial derivatives? What about standardization for a certain class/type of financial derivatives (i.e., COS versus interest rate, or plain vanilla versus complex)?**

This improves the capability of the systems to handle OTC derivatives with as little changes as possible. This also helps to improve transparency and efficiency in the market.

**28. What would be the issues ,costs and concerns associated with standardizing computer readable descriptions of financial derivatives? Are there existing standards that could or should be expanded (i.e., FpML, FIX, etc.)? Do the existing standards in this area have materially different costs or issues?**

We'll develop a new standard for our market based on FpML over FIXML. We see this as an opportunity to lower TCO, a way facilitate integrations and increase the number of software solutions available for market participants.

**29. What would be an ideal ontology for you in terms of design, implementation, and maintenance of the data sets and applications needed for your business?**

In terms of message standards FpML over FIXML and in terms of computer language JAVA over Linux.

**30. How would a standardized computer readable description of financial derivatives be developed and maintained (i.e., a government-sponsored initiative, a public-private partnership, standard-setting by a collaborative process, etc.)? Are there current models that should be considered?**

The Exchange encourages the use of standards because this facilitates the mutual understanding, avoids errors and speeds up the adoption process. In this matter we

believe that the market regulates itself and moves towards solutions that are cost-effective and that are easy to use.

**31. What is the importance of ontologies for the representation of derivatives data now and in the future?**

Every time the market finds a way to standardize a process or a message system, this improves competition and lowers costs for customers. This also improves transparency and efficiency.

**Implementation:**

**32. Have you ever implemented a transition to a new data ontology, data messaging standard, or internal data standard?**

We implemented new message specification for our standard derivatives market a couple of times.

**33. If yes, how did the perceived and actual benefits compare to estimated and actual costs over the short- and long-run?**

Whenever we deploy a new message specification we do it because of market needs or because the Exchange is getting ready for new challenges that are upon us, therefore there is always added value in these changes.

**34. What were the main difficulties that you experienced during a transitional implementation of new data standards? What could the organization developing and maintaining the standards do (or avoid) to help alleviate these difficulties?**

The main difficulty is the transition period, where you have to maintain both the old and the new message specifications. It's never possible to deploy a "turn-key" type of solution, so it's very important for us to test the system with both realities at the same time and make available to the market a non-productive environment where clients will be able to experience this scenario. Sometimes, when the change is considerably big, we make the use of this environment mandatory.

**35. Would it be useful to use a standardized, computer readable description for financial derivatives instruments? How would it be useful? Would such a standard be useful for communicating transactions, storing position information, both, or other purposes? What would be the costs involved?**

It's certainly useful for the market to have standards for OTC derivatives, this creates an environment more attractive to competition due to the increase of transparency and decrease of costs. It's also important to mention that this facilitates market surveillance and regulation.

**36. How should regulators and standard setter implement description standards in the derivatives market?**

**They should base themselves on established market standards such as FpML, FIXML, FIX, ISO 15022 and ISO 20022.**

**Making computer descriptions binding:**

**37. Are there currently aspects of financial derivatives messaged in a computer readable format that have a legally-binding effect?**

**Message based trading and registration systems are legally binding because we use reliable technologies to authenticate and authorize market participants when they are accessing our systems.**

**38. What information, if any, is not captured that would be required to make the computer descriptions themselves, without reference to other materials, legally binding?**

**None**

**39. What information would need to be captured for a legally binding contract that would not need to be captured for analyzing the contract? Is there a substantial cost differential between the processes needed to capture one set of information versus another?**

**Do not respond**

**40. Would there be a benefit to making the computer readable descriptions of financial derivatives legally binding? Would there be drawbacks? What are they?**

**There are benefits because using computer readable descriptions creates an environment that is less susceptible to operational errors, decreases the total cost of ownership and helps to bring transparency and efficiency to the system.**

**Other:**

**41. Is there other information not called for by these questions that we should consider?**

**Do not respond**