

October 26, 2011  
011/2011-DO

## **EXTERNAL COMMUNICATION**

To: The BM&FBOVESPA (BVMF) Market Participants – BM&F Segment

Re: **IOF/Securities Levied on Financial Derivatives (Decree 7.563/2011)**  
– **Calculation Methodology**

Decree 7.563, published on September 15, 2011, included article 32-C, §8 of Decree 6.306 of December 14, 2007, governing the incidence of the Tax on Credit, Foreign Exchange and Insurance Transactions, or those with Securities (IOF/Securities) on transactions involving financial derivatives, instituted by Provisional Decree 539 of July 26, 2011.

As of the publication of the above mentioned decree, IOF/Securities is levied at a 1% rate on the purchase, sale or expiry of financial derivatives occurring in Brazil which, individually, result in an increased short currency exposure or reduced long currency exposure, with financial derivatives being considered as those that have as their underlying asset the exchange rate of a foreign currency in relation to the local currency, or interest rates associated with the foreign currency linked to the local currency.

Additionally, article 32-C, §8 of Decree 6.306/2007 determines in §8 that if it is not possible to calculate IOF/Securities in the absence of the necessary information or of access to the financial resources, the entities authorized to register financial derivatives contracts shall send the contributors, by the tenth working day of the month that follows the triggering event, the necessary information for determining the basis for calculation of the tax.

For this reason, BM&FBOVESPA, not having all of the information necessary to determine the calculation basis for IOF/Securities for the contributors, neither having access to the contributors' financial resources for ends other than those strictly related to the settlement of transactions executed

in its environments, shall, via the intermediaries and the qualified participants, make available for the contributors the reports and files containing the necessary information to determine the calculation basis for the IOF/Securities levied on transactions with financial derivative contracts, as previously set out in External Communication 032/2011-DO of October 07, 2011.

In this context, BM&FBOVESPA divulges in the Annex hereto the Calculation Methodology for Information for Determining the Calculation Basis for the IOF Levied on Transactions with Financial Derivatives, through which there will be the calculation of the information that will be made available to the contributors for determining and collecting IOF/Securities.

We highlight that the information made available by BM&FBOVESPA, in accordance with the calculation methodology:

(i) will be in U.S. Dollars (USD), which the contributor must subsequently convert into local currency (Brazilian Reals) by the closing exchange rate announced by the Central Bank of Brazil (PTAX) on the day of the determination of the basis for calculation;

(ii) will not take into consideration the adjusted, net long foreign currency exposure, but rather the net foreign currency exposure which corresponds to the difference between long and short foreign currency exposures. The addition of USD10,000,000.00 (ten million United States Dollars) to the net long foreign currency exposure, foreseen in article 1, VI of Decree 7.563/2011, must be made by the contributor during the consolidation of the information made available for all of the entities authorized to register derivatives contracts; and

(iii) will be made available to the contributors through the following participants in the markets managed by BM&FBOVESPA: Brokerage Houses, Direct Settlement Participants and Locals.

The reports and files will be made available on a daily basis, always on the first trading session following the date of the purchase, sale or expiry of financial derivatives, with the information contained in them incremented daily until the last day of the month.

BM&FBOVESPA shall first make the information available for determining IOF/Securities by December 14, 2011.

Finally, before the initial publication of information, BM&FBOVESPA will define a certification timetable in which the participants will be able to consult preliminary information and test their file search and download procedures.

Further details about the information file may be obtained from the Settlement Department by telephone at (+55-11) 2565-5145/4140 and the Risk Management Department by telephone at (+55 11) 2565-5561.

Cícero Augusto Vieira Neto  
Chief Operating Officer

Luis Otávio Saliba Furtado  
Chief Information Officer

## **Annex to Circular Letter 011/2011-DO**

### **CALCULATION METHODOLOGY INFORMATION FOR DETERMINING THE CALCULATION BASIS FOR THE IOF LEVIED ON TRANSACTIONS WITH FINANCIAL DERIVATIVES**

#### **INTRODUCTION**

This Annex contains the calculation methodology for obtaining the information that is required to determine the calculation basis for the Tax on Credit, Foreign Exchange and Insurance Transactions, or those with Securities (“IOF”) that is levied on transactions with financial derivatives contracts registered in the BM&FBOVESPA trading systems, foreseen in article 32-C of Decree 6.306, of December 14, 2007, amended by Decree 7.563, of September 15, 2011.

The information made available by BM&FBOVESPA through reports and files is expressed in United States Dollars (USD) and must be subsequently converted into local currency (Brazilian Reals) by the closing exchange rate published by the Central Bank of Brazil (PTAX) on the day of the determination of the calculation basis.

The contributor (or those responsible for it) is responsible for calculating the conversion, in accordance article 32-C, §8, of Decree 6.306 of December 14, 2007, amended by Decree 7.563 of September 15, 2011.

The information that will be made available in accordance with the methodology herein will not consider adjusted net long foreign currency exposure, but rather net foreign currency exposure, which corresponds to the difference between the long and short foreign currency exposures. The addition of USD 10,000,000.00 (ten million United States Dollars) to the net long foreign currency exposure, foreseen in article 1, VI of Decree 7.563/2011, must be made by the contributor during the consolidation of the information made available for all of the entities authorized to register derivatives contracts.

#### **I – ELEGIBILITY**

## **I.i – CONTRACTS**

The calculation methodology in the present document (“Calculation Methodology”) is applicable for financial derivatives contracts traded on the markets managed by BM&FBOVESPA listed in sub-item “I.i.i – Listed Derivatives”, without prejudicing eventual issues or cancellations of derivatives contracts.

### **I.i.i – LISTED DERIVATIVES**

#### **Futures**

US Dollar (DOL); Mini US Dollar (WDL and WDO); Australian Dollar (AUD); Canadian Dollar (CAD); New Zealand Dollar (NZD); Euro (EBR and EUR); Mini Euro (WEU); Swiss Franc (CHF); Japanese Yen (JPY); Chinese Yuan (CNY); Pound Sterling (GBP); Turkish Lira (TRY); Chilean Peso (CLP); Mexican Peso (MXN); South African Rand (ZAR); ID x US Dollar Spread (DDI); ID x US Dollar Swap with reset (SCC).

#### **Options**

US Dollar (DOL); Futures-Style Option on US Dollar (DLA); Option on US Dollar Futures (DOL).

#### **Structured Transactions**

FRA on ID x US Dollar Spread (FRA), US Dollar Forward Points (FRP0 and FRP1), US Dollar Rollover (DR1), Option on US Dollar Volatility (VTC); US Dollar Volatility with Futures-Style Option (VCA).

### **I.i.ii – OTC Derivatives**

#### **Options**

Flexible on BRL/USD Exchange Rate.

#### **Swaps**

US Dollar x PRE (SCP); US Dollar x ID1 (SDC); US Dollar x TR (SCT); US Dollar x SELIC (SSC); US Dollar x TBF (SBC); US Dollar x ANBID Rate

(SCA); US Dollar x Ibovespa (SCN); US Dollar x TJLP (SCJ); US Dollar x Stock Basket (SCB); US Dollar x IGP-M (SCM); US Dollar x IGP-DI (SCI); US Dollar x IPC (SFC); US Dollar x INPC (SCX); US Dollar x IPCA (SCL); US Dollar x IBrX-50 (SCR).

Euro x PRE (SEP); Euro x ID1 (SDE); Euro x TR (STE); Euro x SELIC (SSE); Euro x TBF (SBE); Euro x ANBID Rate (SAE); Euro x Ibovespa (SNE); Euro x TJLP (SJE); Euro x Stock Basket (SEB); Euro x IGP-M (SME); Euro x IGP-DI (SEI); Euro x IPC (SEF); Euro x INPC (SXE); Euro x IPCA (SLE); Euro x IBrX-50 (SER).

Japanese Yen x PRE (SYP); Japanese Yen x ID1 (SDY); Japanese Yen x TR (STY); Japanese Yen x SELIC (SSY); Japanese Yen x TBF (SBY); Japanese Yen x ANBID Rate (SAY); Japanese Yen x Ibovespa (SNY); Japanese Yen x TJLP (SJY); Japanese Yen x Stock Basket (SYB); Japanese Yen x IGP-M (SMY); Japanese Yen x IGP-DI (SIY); Japanese Yen x IPC (SFY); Japanese Yen x INPC (SXY); Japanese Yen x IPCA (SLY); Japanese Yen x IBrX-50 (SYR).

### **Forward**

US Dollar (DOL T1 and T2); Euro (REU T1 and T2); Japanese Yen (JPY T1 and T2).

### **I.ii – DETERMINATION DATE**

The information necessary to determine the IOF calculation basis will be processed on days there is trading on the markets managed by BM&FBOVESPA in the BM&F Segment (“Trading Days”).

### **II – PROVISION OF INFORMATION**

The information that is necessary to determine the IOF calculation basis will be made available to the contributors via the following Participants in the markets managed by BM&FBOVESPA: Brokerage Houses, Direct Settlement Participants and Locals, in reports and files developed to this end and both of which having the same content.

The RL/ST/S005/01 Summary Report on Foreign Currency Exposure – Daily, will be made available in PDF format, with separate pages for Clearing Member, Participant and Customer, being accessible via TR system. The RL/ST/S005/01 Summary Report on Foreign Currency Exposure – Daily file, for its part, will be made available in TXT format via the TA system. The file layout is detailed in the Annex to External Communication 032-2011-DO of October 07, 2011.

The reports and files will be made available on a daily basis, always on the first trading day after the date of purchase, sale or expiry of the financial derivatives, with the information contained in them incremented daily until the last day of the month.

### **III – MEASUREMENTS**

#### **III.i – Adjusted Notional Value (VNA)**

$$VNA_t = \text{Reference Value} \cdot \text{Delta value}_t \cdot \text{Reference Rate}_t$$

#### **III.i.i – Reference Value (VR)**

The value relative to Contract Size in the case of listed derivatives and the traded Contract Size in the case of OTC derivatives. These values vary from contract to contract and will be pegged to the currency of the transaction's underlying asset.

#### **III.i.ii –Delta Value ( $\Delta$ )**

The Delta Value will be calculated from the numerical variation of the value of the contract in question, originating from a change to the relevant exchange rate, in accordance with the formula below:

$$\Delta_t = \text{abs} \left( \frac{P_t(S_2, \theta_t) - P_t(S_1, \theta_t)}{2\delta} \right)$$

In which

- P is the function that defines the value of the contract on the date “t”, for an exchange rate S and a vector of other parameters  $\Theta$  determined on the same date. These vary from contract to contract and will be described in the CONTRACTS section of this Annex;
- $S_2 = S_t + \delta$  ,  $S_1 = S_t - \delta$  e  $\delta = S_t \cdot 0.005\%$ ;

- $S_t$  is the Exchange rate in BRL in relation to the foreign currency on date “t”.

### General Notes

- A relative shock is used in the Exchange rates due to their different magnitudes;
- On the opening date for the position in a derivatives contract, the Delta Value of T+0 shall be used;
- On the Fixing date of the derivatives contract, that is, upon the determination of its reference Exchange rate, the Delta Value of T-1 shall be used;
- On the expiration date of the contract, the Delta Value shall be zero;
- On the date of the full or partial early settlement of the derivative, the Delta Value of T+0 shall be used, valid for both of the parties;
- On the assignment date for the derivatives contract, the Delta Value of T+0 shall be used, valid for both of the parties;
- Any exceptions to the above shall be dealt with in the Contracts Section of this Annex.

### III.i.iii – Reference Rate (TB)

As established in Decree 6.306/2007, exposures must be determined in USD. Thus:

$$ReferenceRate_t \begin{cases} USD/ME_t & \text{if } VR \text{ is not determined in USD} \\ 1 & \text{if } VR \text{ is determined in USD} \end{cases}$$

in which

- $USD/ME_t$  is the Exchange Rate of USD to the Foreign Currency determined in the “t” database.

### III.ii – Exchange Rate Sales and Purchases

*Sales (VD)* – “variable to be made available by BM&FBOVESPA”

$$VD_t = \sum_{i=1}^N (Q_{t,i} \cdot VNA_{t,i}) \cdot IndV_i$$

in which

- $N$  is the total number of eligible derivatives contracts traded, in accordance with item I of this Annex;
- $Q_{t,i}$  is the volume of derivatives “i” traded on the date “t”;
- $IndV_i$  is a Variable Indicator that is worth 1 if ownership of the financial derivatives contract “i”, whose value is affected by the BRL/ME Exchange rate variation, results in gains when the local currency appreciates against the foreign currency or in losses when it depreciates. Otherwise, the variable is worth zero.

**Purchases (CD)** – “variable to be made available by BM&FBOVESPA”

$$CD_t = \sum_{i=1}^N (Q_{t,i} \cdot VNA_{t,i}) \cdot IndC_i$$

in which

- $IndC_i$  is a Variable Indicator that is worth 1 if ownership of the financial derivatives “i”, whose value is affected by the BRL/ME Exchange rate variation, results in losses when the local currency appreciates against the foreign currency or in gains when it depreciates. Otherwise, the variable is worth zero.

**General Notes:**

- Contracts with a different trading date to when the appreciation of the spread rate leg initiates, will generate the registration of a transaction to open a position only as of the latter date;
- Partial or full early settlement of the derivatives contract will generate the registration of an offsetting transaction for the buyer and seller of the original position;
- On the Fixing date for the derivatives contract, the open positions shall generate the automatic registration of an offsetting transaction for the same volume of contracts;

- On the contract's expiration date there will be no transaction registration;
- The assignment of the derivatives contract will generate an offsetting transaction for the buyer and seller of the original position;
- Any exceptions to the above shall be dealt with in the CONTRACTS section of this Annex.

### III.iii – Net Foreign Exchange Exposure

#### *Short Foreign Exchange Exposure (EV)*

$$EV_t = \sum_{i=1}^N (QA_{t,i} \cdot VNA_{t,i}) \cdot IndV_i$$

in which

- $QA_{t,i}$  is the volume of derivatives contract “i” at the end of the day on date “t”;

#### *Long Foreign Exchange Exposure (EC)*

$$EC_t = \sum_{i=1}^N (QA_{t,i} \cdot VNA_{t,i}) \cdot IndC_i$$

*Net Foreign Exchange Exposure (EL) – “variable to be made available by BM&FBOVESPA”*

$$EL_t = EC_t - EV_t.$$

### III.iv – Variation to the Net Foreign Exchange Exposure not resulting from purchases, sales or expiries of derivatives contracts (Liability)

#### *Short Foreign Exchange Liability Exposure (EVP)*

$$EVP_t = \sum_{i=1}^N (QA_{t-1,i} \cdot VNA_{t,i}) \cdot IndV_i$$

***Long Foreign Exchange Liability Exposure (ECP)***

$$ECP_t = \sum_{i=1}^N (QA_{t-1,i} \cdot VNA_{t,i}) \cdot IndC_i.$$

***Net Foreign Exchange Liability Exposure (ELP)***

$$ELP_t = ECP_t - EVP_t.$$

***Variation to the Foreign Exchange Liability Exposure ( $\Delta ELP$ )*** – “variable to be made available by BM&FBOVESPA”

$$\Delta ELP_t = ELP_t - EL_{t-1}.$$

**IV – CONTRACTS<sup>1</sup>****IV.i – Currency Futures**

- ***Reference Value*** – Contract size adjusted to the Settlement Price quotation, e.g.: US Dollar Futures is 50 USD, Mexican Peso Futures is 75 MXN;
- ***Delta Value*<sup>2</sup>** – Function: Settlement Price. For the Purchase/Sale Date and the Assignment Date, the Delta Value is T+0, for the Expiration Date it is T-1;
- ***Purchase/Sale Date*** – The date the position is opened. In the case of FRP0 and FRP1 contracts, the generation of the purchase/sale registration will be respectively on T+0 and T+1 from the opening of the position;
- ***Early Settlement Date*** – Does not apply;
- ***Expiration Date*** – The contract’s Fixing date. On this date the open positions will generate the automatic registration of an offsetting transaction;
- ***Fixing Date*** – The last Trading Day for the Contract;

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<sup>1</sup>The concepts in this section adopt the terminology used in the Decree, but the definitions may change according to the instruments to which they refer. An example is the expiration date, which for the ends of the Decree may vary from the original date of the Contract.

<sup>2</sup> References for details of the functions necessary for the calculation of the Delta Value are described in the MARKET INFORMATION section of this Annex.

- **Assignment Date** – The date on which position transfer occurs. On this date there will be the generation of an offsetting transaction for the transferor and transferee.

#### IV.ii – DDI/SCC Futures

- **Reference Value** – Contract Size adjusted to the US Dollar value of each point, e.g.: DDI Futures Contract is 0.5 USD, SCC is 1 USD;
- **Delta Value** – Function: Settlement price. For the Purchase/Sale Date and the Assignment Date the Delta Value is T+0, for the Expiration Date it is T-1;
- **Purchase/Sale Date** – The date the position is opened. In the case of an SCC contract, the generation of the purchase/sale registration will only occur when the appreciation of the spread rate leg initiates;
- **Early settlement Date** – Does not apply;
- **Expiration Date** – The contract's Fixing date. On this date the open positions will generate an automatic offsetting transaction;
- **Fixing date** – The last Trading Day for the Contract;
- **Assignment Date** – The date on which position transfer occurs. On this date there will be the generation of an offsetting transaction for the transferor and transferee.

#### IV.iii – Exchange Traded Options

- **Reference Value** – Contract size adjusted to the Reference Premium, e.g.: Option on Spot US Dollar is 50 USD;
- **Delta Value** – Function: Reference Premium. For the Purchase/Sale Date and the Assignment Date the Delta Value is T+0, and for the Expiration Date it is T-1;
- **Purchase/Sale Date** – The date the position is opened;
- **Early settlement Date** – Does not apply;
- **Expiration Date** – The contract's Fixing date. On this date the open positions will generate an automatic offsetting transaction;
- **Fixing date** – The last Trading Day for the Contract;
- **Assignment Date** – The date on which position transfer occurs. On this date there will be the generation of an offsetting transaction for the transferor and transferee.

#### IV.iv – OTC Options

- **Reference Value** – The Size of the Traded Contract;
- **Delta Value** – Function: Per Unit Option Premium. For the Purchase/Sale Date and the Assignment Date the Delta Value is T+0, and for the Expiration Date it is T-1;
- **Purchase/Sale Date** – The date the position is opened. If the Option contract has a Knock-In Barrier, the transaction registration shall be generated on the date that the position is opened and not on the date that the Barrier is activated;
- **Early Settlement Date** – Date of the partial or total early settlement. If the Option contract has a Knock-Out barrier, generation of the early settlement registration will be on the date that the Barrier is activated. In the case of an American-style Option contract, generation of the early settlement registration will be on the exercise date, if the exercise is executed before the expiration date agreed between the parties;
- **Expiration Date** – The contract's Fixing date. On this date the open positions will generate an automatic offsetting transaction;
- **Fixing Date** – Day before the expiration date agreed between the parties;
- **Assignment Date** – The date on which position transfer occurs. On this date there will be the generation of an offsetting transaction for the transferor and transferee.

#### IV.v – Swaps

- **Reference Value** – The Size of the Traded Contract;
- **Delta Value** – Function: Mark-to-Market (MtM) value per swap contract. For the Purchase/Sale Date, Early Settlement Date and Assignment Date the Delta Value is T+0, and for the Expiration Date it is T-1;
- **Purchase/Sale Date** – The date the position is opened. In the case of a Swap contract with distinct dates for when spread rate leg appreciation initiates and when the position is opened, the generation of the purchase/sale registration shall be on the former date;
- **Early Settlement Date** – Date of the partial or total early settlement;
- **Expiration Date** – The contract's Fixing date. On this date the open positions will generate an automatic offsetting transaction;
- **Fixing Date** – Day before the expiration date agreed between the parties;

- **Assignment Date** – The date on which position transfer occurs. On this date there will be the generation of an offsetting transaction for the transferor and transferee.

#### IV.vi – Foreign Exchange Forward

- **Reference Value** – The Size of the Traded Contract;
- **Delta Value** – Function: Mark-to-Market (MtM) value per forward contract. For the Purchase/Sale Date, Early Settlement Date and Assignment Date, the Delta Value is T+0, and for the Expiration Date it is T-1;
- **Purchase/Sale Date** – The date the position is opened;
- **Early Settlement Date** – Date of the partial or total early settlement;
- **Expiration Date** – The contract’s Fixing date. On this date the open positions will generate an automatic offsetting transaction;
- **Fixing Date** – Day before the expiration date agreed between the parties;
- **Assignment Date** – The date on which position transfer occurs. On this date there will be the generation of an offsetting transaction for the transferor and transferee.

The procedures to be adopted in the cases of any specifications to the contracts that are not covered by what has been described above may be consulted directly with BM&FBOVESPA.

#### V – MARKET INFORMATION

This Calculation Methodology uses market information such as prices, rates, curves and volatility surfaces, which are currently utilized in the calculation routines for settlement prices and reference premiums for exchange traded contracts and for the market values in the case of OTC contracts.

The calculation methodology for the settlement prices and reference prices of the exchange traded contracts is available, in Portuguese, on the BM&FBOVESPA home page on the World Wide Web [Home/Mercados – Mercadorias e Futuros/Boletim/Indicadores/Metodologia] or at the address below:

<http://www.bmfbovespa.com.br/Sumario2TopoPequeno.aspx?menu=6&sitemap=16&idioma=pt-br>

The calculation methodology for the market value of OTC contracts may be found in the following documents, which are also available on the BM&FBOVESPA home page on the World Wide Web:

- i) Annex II of Circular Letter 022/2011-DP, of May 2, 2011, for Flexible Options;
- ii) Annex I of Circular Letter 005-2010-DP, of January 15, 2010, for Foreign Exchange forward contracts, and;
- iii) Annexes I and II of Circular Letter 073-2009-DP, of November 13, 2009, for Swaps.

The information that is necessary for determining the settlement prices and reference premiums on the exchange traded contracts and the market values in the case of OTC contracts can be obtained on the BM&FBOVESPA home page on the World Wide Web [Home/Markets – Commodities and Futures/Historical Data/File Download] or at the address below:

<http://www.bmfbovespa.com.br/shared/iframe.aspx?altura=1600&idioma=pt-br&url=www.bmf.com.br/bmfbovespa/pages/arquivos1/index.asp>

The information for each of the derivatives contracts described in this Calculation Methodology will be included in the files described in the table below.

CONTRACT	VARIABLE	FILE
Foreign Exchange Future	Settlement Price	Derivatives Market – Exchange Market Trades – Settlement Prices
DDI/SCC Future	Settlement Price	Derivatives Market – Exchange Market Trades – Settlement Prices
Exchange Traded Option	Underlying Asset	Derivatives Market – Economic and Agricultural Indicators – Final
Exchange Traded Option	Curves	Derivatives Market – Swap Market Rates
Exchange Traded Option	Volatility	Derivatives Market – Standardized Option Deltas*
OTC Option	Underlying Asset	Derivatives Market – Economic and Agricultural Indicators – Final
OTC Option	Curves	Derivatives Market – Swap Market Rates
OTC Option	Volatility	OTC Market – Volatility Surface by Delta
Forward	Underlying Asset	Derivatives Market – Economic and Agricultural Indicators – Final
Forward	Curves	Derivatives Market – Swap Market Rates
Swap	Underlying Asset	Derivatives Market – Economic and Agricultural Indicators – Final
Swap	Curves	Derivatives Market – Swap Market Rates

\*Consult T+1 file

In relation to the Reference Rate, BM&FBOVESPA will use the exchange rates of 4:00 p.m., obtained from the market data provider.