Annex D. OTC derivatives according type of underlying asset

Foreign exchange contracts are divided into (i) *outright forwards*, contracts that obligate investors to deliver a specified quantity of one currency in return for an specific amount of another currency; (ii) *foreign exchange* options, contracts that give the holder the right to buy or sell a standard amount of traded currency on or before a stated date; and (iii) *currency swaps*, arrangements whereby currencies are exchanged at specified exchange rates and intervals (Levy, 2002, p. 449; Salvatore, 1995, p. 152; Madura, 2008, p. 420).

The products that belong to the category of *interest rate contracts* are: (i) *interest rate swaps*, (ii) *forward rate agreement*s and (iii) *interest rate options* (BIS, 2010, p. A121). The activity with interest rate contracts is related in its majority to *interest rate swaps*; they are defined by Hull (2007, p. 751) as an exchange of a fixed rate of interest on a certain notional principal for a floating rate of interest on the same notional principal[53]. The most common floating rate used for interest rate instruments is the London Interbank Offered Rate (LIBOR) (Spence, 1999, p. 55). In the second category formed by *forward rate agreements* (FRA), LIBOR is fixed for a single reset period and the principal amount is quoted as a fixed rate for a certain period; a single payment will be made once the floating rate is set and the difference is known[54] (Spence, 1999, p. 58). Finally *interest rate options* are written on Government bonds and provide the holder with the right, but not the obligation, to buy or sell securities at a fixed price on or before a specific date (ICAP, 2010).

The third group is formed by *equity-linked contracts* defined by Cherubini and Della Lunga (2007, p. 76) as contracts that combine the characteristics of a zero or low coupon bond or note whose return component is directly related to the performance of a single equity security, a group of equity securities or an equity index. Commonly, equity securities are used in stock baskets where the performance depends of a single-sector such as Microsoft and Apple stocks index, they are also used for transactions that based their performance on a major market

[53] According to Spence (1999, p. 55) the notional principal is the size of the underlying contract, also known as a notional amount that, will be used to calculate the periodically payments without being exchanged.

[54] FRAs are seen by Spence (1999, p. 58) as a type of single period interest rate swaps.

index or are used to provide retail investment products where the investor receives a percentage of the upside performance of a stock market (Spence, 1999, p. 62).

A fourth group is composed by *credit derivatives*, instruments that derive their value from the credit risk on an underlying bond, loan or other financial asset of a reference entity[55] (House of Lords, 2010, p. 11). *Credit default swaps*[56] (CDS) are the most common form of credit derivatives (House of Lord, 2010, p. 11). A (single name) credit default swap is defined by Chaplin, (2010, p. 57) as:

"a bilateral, off-balance-sheet agreement between two counterparties, in which one party ("the writer") offers to the other party ("the buyer") protection against a credit event by a third party ("the reference name") for a specified period of time…"

CDS lead to the buyer to pay a periodical fee[57] to the seller that allows the payment upon occurrence of a credit event[58] (Bruyère, et al., 2006, p. 36). Thus, CDS are not settled unless a credit event occurs or the CDS reaches its maturity[59] (Seemann, 2008, p. 17). CDS are catalogued as a type of insurance for credit risk[60] that help companies in their credit risk management. From this perspective, the importance of CDS lies in the ability of these instruments to transfer, synthetically, the underlying credit risk from one party to another; that is, without the true sale of the reference assets (Bruyère, et al., 2006, p. 36).

Finally, the group of commodities complete the picture of derivatives traded in OTC markets. Commodity derivatives are defined by the International Swaps and Derivatives Association[61] (ISDA, 2010d) as agreements that transfer commodity price risk from one party to the other. Although commodities derivatives are traded in a smaller proportion in comparison to other asset classes' derivatives, trades on commodities take place in the form of *forward, swaps* and *options* (House of Lords,

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[55] The House of Lords of the European Union Committee (2010, p. 11) describe the reference entity as the entity that issued the underlying asset and is not involved directly in the swap contract.

[56] See in Annex-A Figure 14. *Graphical illustration of a* CDS.

[57] Most of the times the fee is a fixed rate including a premium over the current reference swap rate on the market (Seemann, 2008, p. 17).

[58] Chaplin (2010, p. 65) identifies the key credit events that are: (i) failure to pay, (ii) bankruptcy and (iii) restructuring.

[59] Refer to Annex-A Figure 14. *Graphical illustration of a* CDS.

[60] See Section 1.4. Set of risks for OTC derivatives to obtain more details about counterparty credit risk.

[61] See www.isda.org to get more information about ISDA.

2010, p. 12). In a *commodity forward agreement* there is an exchange of an agreed quantity of a commodity on a previously arranged future date at a forward agreed price on the trade date (ISDA, 2010d). Additional to the commodity agreements forwards, there exist *commodity swaps*, which are defined as cash settled contracts that involve the agreement between two parties in the exchange of a series of cash flows based on a notional quantity. Similar to commodity swaps, *commodity options* are normally cash settled and implicate the buy or sale against a premium payment of the right but not the obligation to buy or sell an agreed quantity of commodity prior or on the specified date[62] (ISDA, 2010d). Commodity markets include but are not limited to energy, metals, transportation, freight, agricultural products, etc. (ISDA, 2010d).

[62] American options are more popular in the OTC market (ISDA, 2010d).