

A STUDY ON FINANCIAL DERIVATIVE WORLDWIDE TRANSACTIONS – FUTURES CONTRACTS

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Financial products and financial derivatives transactions are on front page in the profile publications, because they have generated huge gains for a small part of market participants, and losses as well, sometimes followed by collapse even on the international financial institutions. Very common we can find in specialized media the hypothesis that the global instability was caused by derivative contracts and by the magnitude of these transactions, from the years preceding the crisis. Since they appeared in order to protect investors against various risks, we believe that the approach must have via derivative products is the ethical one. It is true that derivatives trades have grown very rapidly and have expanded from the commercial field (commodity derivatives) to the capital market, but this was because the demand for such products was very high. Basically, the demand for financial derivatives products has validated their existence in the market.

Derivative financial products are used by traders of financial intermediation companies, dealers, brokers, individual investors and corporations or governments. Precisely because of this large spectrum of users of financial derivatives, we can ask whether they should be used only by specialists in derivatives trading. Taken literally, the term derivative refers to a new product resulting from the modification of an existing product, but has different properties from the original product and from which it was derived (Business Dictionary 2012). But financially speaking, a derivative is a financial contract between two or more parts that comes from the future value of a reference asset (Reuters 2001, 17). Of course, in literature there are many definitions of the concept of financial derivative. If we were to build our own simple definition, we define financial derivatives as financial contracts based on an underlying asset whose price on the spot market determines its price. This is a very simple statement, but true.

Regarding the main categories of derivatives market, the literature (Popa 1994, 62) (Bako 2006, 65) refers to four such categories: forward markets, futures markets, options market and swap markets. We chose as a subject for this article the futures market, worldwide. The latest data available at this time refer to 2010 statistics; in this area the data for 2011 are not available yet.

Keywords: futures, commodity futures contracts, currency futures contracts, interest rate futures contracts, stock index futures.

JEL Clasification

G12 - Trading volume

G15 - International Financial Markets

Futures market has suffered constant changes since the 1980s, both in Europe and especially in the United States. The stock exchange markets that offer derivatives for trading, namely futures products have diversified its range, there underlying assets are the most various traded futures. The most traded future contracts worldwide have as an underlying asset currencies, interest rates or indexes. Traditional futures markets, commodities markets have declined in the last 20 years due to extremely rapid development of markets where futures are traded mainly with the underlying financial assets.

1. Commodity future contracts and energy products

Commodity futures contracts are among the oldest derivatives and are the base for financial futures development. The goods most traded on the Chicago Stock Exchange are:

- Cereals and oilseeds: corn, wheat, soybean, soybean oil, crude palm oil, oats, rough rice.
- Livestock: live cattle, lean hogs.
- Frequently consumed products: Milk category 3 and 4, milk powder, whey, butter.
- Wood products: variable length timber, resin (cellulose).
- Other agricultural products: Cocoa, Coffee, Cotton.
- Precious metals: Gold, Silver, Platinum.
- Ferrous metals: Steel.
- Other metals: Copper, Uranium.

From the category of energy products traded on the Chicago Stock Exchange, we can mention: coal, refined products: heating oil, gasoline (various types), marine oil, electricity, natural gas, ethanol, light sweet oil, brent oil (name of two different types of oil extraction due to their area of extraction).

Worldwide, the volume of derivatives traded with the goods underlying asset, in 2010, can be presented as follows:

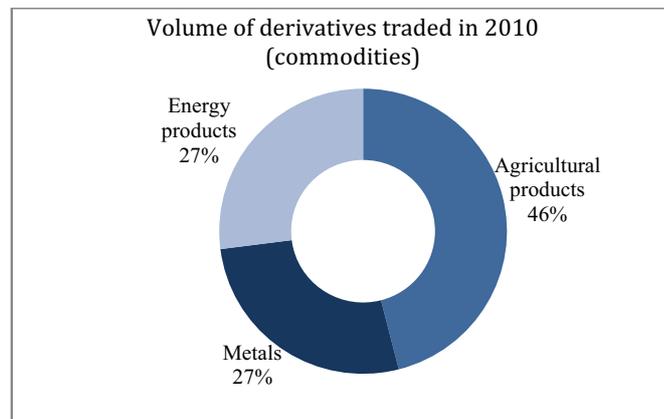


Figure no 1. Volume of derivatives traded in 2010 (commodities)

Source: made by author by data provided by the World Federation of Exchanges.

World Federation of Exchanges has made in 2011 a study conducted on the world market of derivatives of all types, and classified the exchanges that trade derivatives according to the volume traded in 2010 in comparison with the volume traded in 2009.

On the first position as increased trading volumes in 2010 compared to 2009 we find EUREX (337%). EUREX is one of the most representative markets for derivatives worldwide. This was the first market where investors could trade derivatives on gas emission allowances with greenhouse effect (CO₂). The great advantage of this market, managed by Deutsche Bourse AG and SIX Swiss Exchange, has been buying ISE (International Securities Exchange) in 2007, this system offers a wide variety of electronic trading platforms and access to many international stock exchanges. Volume traded with derivatives increased on average by 34% in all markets.

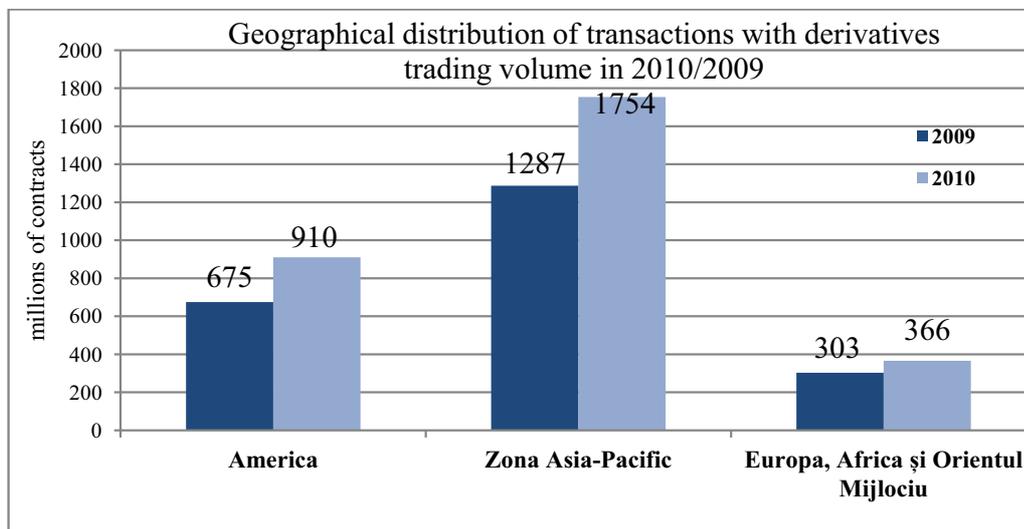


Figure no 2. Geographical distribution of transactions with derivatives trading volume in 2010/2009

Source: made by author by data provided by the World Federation of Exchanges.

As shown in figure number 2 above, the most commercial derivatives were traded in the Asia-Pacific. Stock exchanges in this area increased in trading volumes (36% higher in 2010 compared to 2009), given that 87% of total volume traded in this region of the world has been determined by China. The volume of commodities derivatives traded at Shanghai Stock Exchange in 2010 increased by 43% compared to 2009, while on the stock market in Zhengzhou were traded with 118% more transactions in 2010 compared to 2009.

Chicago Stock Exchange (CME Group) dominates the trading with commodities derivatives in America, across all segments, as follows: agricultural products, energy products and metals. The number of derivative contracts traded in 2010 was 35% higher than traded during 2009. This because of the possibility created by stock exchanges for investors to trade using trading platforms such as CME, CBOT and NYMEX.

2.Currency future contracts

Currency futures contracts require standardization of most elements (Ciobanu 1997, 204), the margin that has to be submitted is very small, hence the possibility of employment in high value transactions. However, a small margin for the transactions engaged, can bring huge profits, but this mechanism can generate losses as well. Most times, transactions with the future contracts with underlying asset on currencies, are made for speculative purposes or for a foreign exchange risk coverage.

Derivative transactions with underlying asset on currencies saw a remarkable increase in 2010 in their volume compared to 2009. Worldwide, the increase was 142% for stock exchange markets taken in the analysis of World Federation of Exchanges. Thus, in the top of stock exchanges with the highest growth of derivatives trading volumes on currency futures, there is Osaka Securities Exchange with a volume increase of 684% in 2010 compared to 2009, MCX-SX (MCX Stock Exchange Ltd India) with an increase of 294% or National Stock Exchange of India with an increase of 218%. At CME Group, the volume of transactions increased by 45%.

The volume of transactions with derivative contracts with underlying asset on currencies declined by 11% in 2010 at NYSE Liffe, compared to 2009.

As shown in the figure number 3, most currencies derivatives were traded in Asia-Pacific. The stock exchanges in this area recorded increases in trading volumes on average 216% higher in 2010 compared to 2009. Volume traded on currency derivatives on Osaka Exchange, has

increased 684% in 2010 compared to 2009, while on the MCX – SX stock exchanged were traded with 294% more transactions in 2010 compared in 2009.

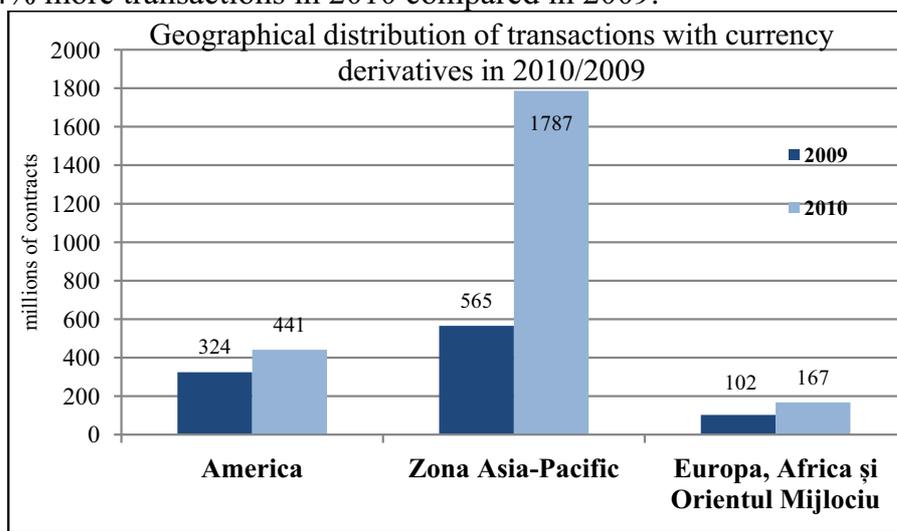


Figure no 3. Geographical distribution of transactions with currency derivatives in 2010/2009
Source: made by author by data provided by the World Federation of Exchanges.

3. Interest rate future contracts

Interest rate futures are commitments to deliver or to receive at a fixed maturity, a financial asset with an interest fixed at the start of operation (Ciobanu 1997, 206). The purpose of the futures contract in this case is the interest produced by the asset, the buyer will actually buy the interest that the asset will produce in the future. This interest will have a fixed rate at the signing of the contract.

Regarding trading derivative products with underlying asset on interest rates, there has been an increase on their volume by 29% in 2010 compared to 2009, worldwide after two consecutive years of decline. Since 2009, trading interest rate derivatives has evolved in the context of the practice of monetary policy interest of almost 0% by several major central banks around the world. But from 2011 the European Central Bank changed its interest rate and increased it from 1% to 1.25% in April 2011, the same action have been adopted by other specialized banks, the perspective of gains for investors using derivatives on interest rates, was almost obvious. Thus, the first months of 2011 have brought increased trading volumes on these instruments.

Regarding the distribution of derivative transactions on interest rates, in 2010, 40% of them have been concluded with futures contracts based on short-term interest rates (STIR futures), 39% with futures based on long term interest rates (LTIR futures), 16% with options contracts based on short-term interest rates (STIR options) and 5% were concluded with options contracts based on long-term interest rates (LTIR options).

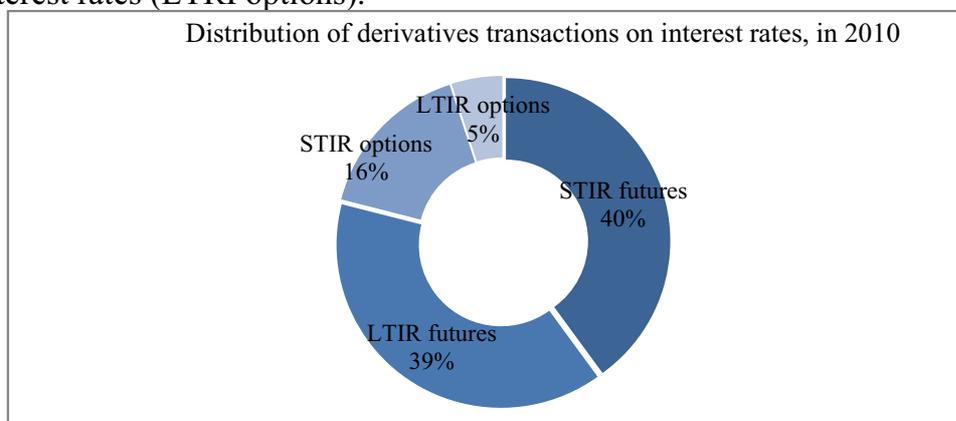


Figure no 4. Distribution of derivatives transactions on interest rates, in 2010
Source: made by author by data provided by the World Federation of Exchanges.

From the regional point of view, the most futures and options on short-term interest rates were traded in America (about 1170 million contracts in 2010) while in Europe, Africa and in the Middle East was traded a number of 578 million such contracts in 2010. The fewer contracts based on short-term interest rates have been traded in the Asia-Pacific (24 million contracts in 2010). Most futures contracts and options on long-term interest rates have been traded throughout the Americas (696 million contracts in 2010), while in Europe, Africa and Middle East were traded 612 million contracts. In contrast stands the Asia-Pacific zone, with a volume of 99 million contracts.

In the category of interest rate derivatives and offered for trading by EUREX (Eurex 2010, 110), we can mention:

- Futures on fixed interest rates: they are debt securities issued by Germany, Italy and Switzerland, whose value / contract is 100.000 euro or 100.000 Swiss francs.
- Contracts for fixed interest rate options.
- EONIA futures (Euro Over Night Index Average): These are futures contracts based on the average effective overnight reference rate for the euro. This rate is calculated by the European Central Bank for a period of one calendar month. The contract is 3 million euro.
- EURIBOR Futures: are future contracts that are based on EURIBOR for 3 months deposits. The value of such a contract is 1 million euro.
- Options on Futures EURIBOR futures.

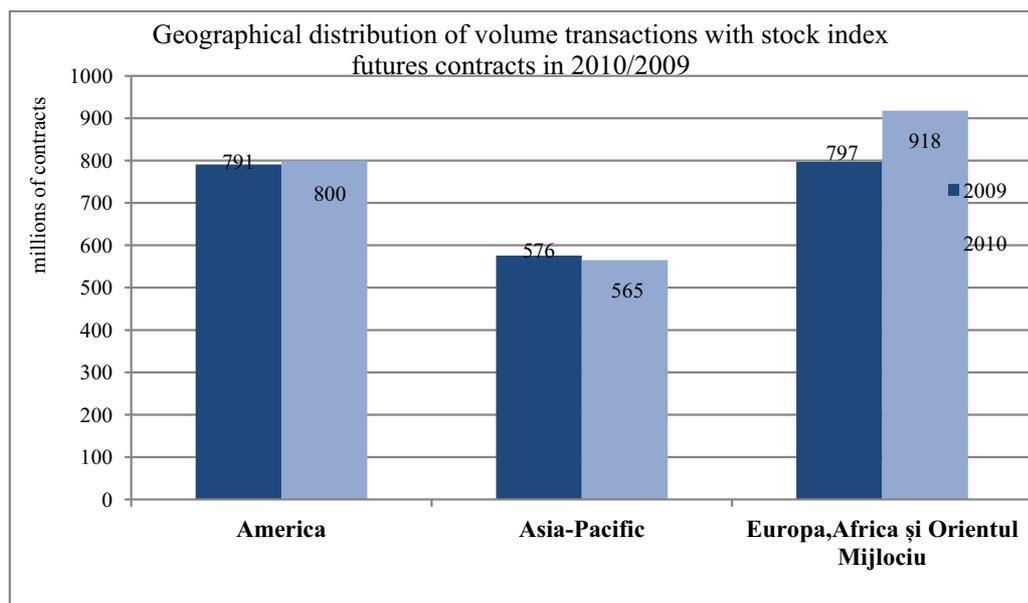


Figure no 5. Geographical distribution of volume transactions with stock index future contracts in 2010/2009.

Source: made by author by data provided by the World Federation of Exchanges.

In Asia we can find five stock exchanges in a ranking of the highest trading volume in stock index futures contracts as follows: Hong Kong Exchange, Korea Exchange, National Stock Exchange of India, Osaka SE and Singapore Exchange.

In the Europe, Africa and the Middle East we can distinguish tree stock exchanges in trading such instruments: EUREX, RTS and NYSE Liffe. In fact, this area records also the highest growth on the volumes traded in 2010, with 15.18% higher than in 2009.

4. Conclusions

Derivatives traded volumes has grown globally in an impressive mode, especially in the last 12 years when their volume was approximately 10 times higher than 1998-2000. The period of the financial derivatives transactions boom was situated between 2003 and 2007 when most of the capital markets were increasing. During this period the growth of derivative products traded was higher than the volume traded on spot markets, worldwide. The years 2008 and 2009 brought with the crisis a decline in volumes of traded derivative products, globally. However, 2010 was noteworthy, the increase was 25% compared to 2009. With this increase of trading volume it returned to pre-crisis level. The major reasons for this increase relates to better market conditions in 2010, trading infrastructure development, etc.

If we analyze the derivative contracts traded by different regions, there is an impressive increase in trading volumes in the Asia-Pacific (+36%), especially in the KOSPI (Korea Composite Stock Price Index) on the options. In the America, traded volumes of such products in 2010 increased by approximately 35% in 2010 compared to 2009, and in the Europe, Africa and the Middle East, the increase was about 21%.

The main attribute of increased derivatives trading volumes on the one hand is the increasing of global liquidity and on the other hand it ensures a fair distribution of risk between the various participants at the transaction. We could say that much of the derivatives market participant expectations palette was satisfied with the financial instruments provided, but certainly there is enough space remained for new products and new innovations in this field.

Bibliography:

Books:

1. Bako, Dana. Integrarea piețelor financiare. Cluj-Napoca: Editura Alma Mater, 2006.
2. Bernstein, Jacob. Piața contractelor futures. București: Editura Hrema, 2000.
3. Ciobanu, Gheorghe. Bursele de Valori și Tranzacțiile la Bursă. București: Editura Economică, 1997.
4. Drakoln, N. (2002). Futures for Small Speculators. Craiova: Editura Agora.
5. Eurex. (2010). Products 2010. Eurex Frankfurt.
6. Reuters. Introducere în studiul produselor financiare derivate. București: Editura Economică, 2001.

Articles:

1. International Option Market Association. 2010. "Derivative trading: trends since 1998", accessed in march 2012.
2. World Federation of Exchanges. 2011. "Focus : Derivative markets from Chicogo to Mumbai", accessed in march 2012.
3. World Federation of Exchanges. 2011. "Focus: Inside the new market structure" , accessed in march 2012..
4. World Federation of Exchanges 2011. "IOMA/IOCA Derivatives Market Survey 2010", accessed in march 2012.

Web sites :

1. Business Dictionary. 2012. www.businessdictionary.com, accessed in march 2012.
2. World Federation of Exchanges. 2012. www.world-exchanges.org , accessed in march 2012.
3. Chicago Board of Trade. 2012. www.cmegroup.com, accessed in march 2012.