The Evolution of Foreign Exchange Markets in the Context of Global Crisis

Mariana Trandafir[1], **Georgeta Dragomir**[2]

Abstract: The FX market is the world's largest financial market. The global financial system involves effective and efficient exchange of currencies. Corporations and investors participate in the market for operational needs: to reduce risk by hedging currency exposures; to convert their returns from international investments into domestic currencies and to make cross-border investments and raise finance outside home markets. Central banks participate in the market. This paper analyzes foreign exchange markets activity before and under the condition the global crisis. The method of research is the comparative analysis used on the global and European level. The research is important and actual because it reveals the changes which have defined a new paradigm for the foreign exchange markets and which contributed to the increasing of the global foreign exchange market turnover during the global crisis. The main conclusion of the paper is that the innovative developments in electronic trading technology and institutional trading arrangements are behind the evolution of the foreign exchange markets. The analysis is supported by statistical tables and uses the recent official Bank for International Settlements and European Central Bank statistic databases.

Keywords: global foreign exchange market turnover; the electronic trading revolution; foreign exchange transactions

JEL Classification: E44; G15; F31

1. Introduction

Starting in the second half of the twentieth century, the international financial markets have taken a new configuration, as effect of the dynamic interaction and mutual inter-conditioning of a number of factors, among which the most significant regard (Trandafir, 2005):

• financial globalization, involving billions of monetary signs in search of the most efficient placement, moving within an "integrated global network of markets" (Bourguinat, 1997) where "the sun never sets", with more sophisticated techniques for transmitting information which ensures the continuous operation of stock

[1]Associate Professor PhD, Danubius University of Galati, Faculty of Economic Sciences, Romania, Address: 3 Galati, Blvd, Galati, Romania, tel.: +40372 361 102, fax: +40372 361 290, Corresponding author: marianatrandafir@univ-danubius.ro.
[2] Professor PhD, Danubius University of Galati, Faculty of Economic Sciences, Romania, Address: 3 Galati, Blvd, Galati, Romania, tel.: +40372 361 102, fax: +40372 361 290, e-mail: gretadragomir@univ-danubius.ro.

AUDŒ, Vol 7, no 6, pp. 66- 79

exchanges, foreign exchange markets, derivatives markets, with costs increasingly lower, but with significant potential for triggering financial crisis of great proportions;
• extension of funding volume and of the size of financial services industry, by the emergence of emerging markets;
• remarkable progress in information technology domain, which was "on how we work, a more visible impact than anything else in the last twenty -thirty years" (Krugman, 2009);
• expansion of new products and negotiable financial instruments, with high levels of risk as a result of financial innovation in the field;
• diversification and involvement of pension funds, insurance companies, mutual fund in managing small investors' economies;
• tendency of deregulating the financial sector;
• increase of financial disintermediation and of pressure on bank intermediation, leading to the emergence of new financial instruments.

The essence of these changes, able to alter the architectural system of the world, lies in "the continuous decline of the economic importance of national political boundaries and in the unprecedented intensification of economic relations and interactions, up to a point where the difference between internal and external transactions becomes insignificant or it disappears." (Munteanu & Vâslan, 1995) Krugman (2009) estimated, for example, that in 2007 the assets American residents aboard represented 128% of GDP compared with 52% of GDP in 1996, while their liabilities abroad represented 145% of GDP in 2007 compared to 57 % as represented in 1996.

The free movement of capitals worldwide has driven the considerable increase of currency markets activity, with a profound impact on national economies, international monetary system and the ability of firms and states to move their funds across the national borders. Deepening and diversifying the interdependences at global level represented determinants factors of intensifying the international financial flows. Between 2002 and 2007, annual gross international capital flows rose from 5% to 17% of world GDP while global current account imbalances (the sum of global deficits and surpluses) doubled from 3% to 6% of world GDP (Speller, Thwaites, Wright, 2011)

Major international imbalances, the exchange rate volatility and speculative tendencies of market operators have led to the emergence of new financial tools and techniques for the protection against exchange risk, and thus enlarging foreign markets, and also the global financial crisis.

Global crisis has revealed, in fact, the failure of financial markets in fulfilling their functions essential to society, of risk management, capital allocation and mobilization of savings, while maintaining the transaction costs at a low level.

Instead of doing all these things, they created the risk, poorly allocated the capital and stimulated the excessive indebtedness, and simultaneously imposing high transaction costs. At their peak in 2007, our most high financial markets absorbed 41% of the profits of the cooperative sector. (Stiglitz, 2010)

In this new global context, the foreign exchange market gained new dimensions. The new paradigm for the foreign exchange markets has transformed foreign exchange markets over the past decade. New electronic trading platforms have streamlined trade processing and settlement, reduced operational risks and lowered trading costs. (King, Osler & Rime, 2011)

2. Researches on this Topic Area

The foreign exchange market is one of the oldest financial markets, operating for over 2000 years, ever since there have been distinct national moneys. Rosenstreich (2011) highlights that foreign exchange markets have existed ever since money came into use and there was trade between regions with different money, the history of foreign exchange market being as long as the history of human civilization. The foreign exchange markets entered in a new phase in 1971 when the Bretton Woods accord, which was characterized by fixed forex trading rates, was abandoned. This led to a new forex trading system of floating rates and opened a new world in foreign exchange. For the past several decades, the large commercial banks dominated the world of global foreign exchange trading.

The foreign exchange market is not a true free market. The uncertainty associated with floating exchange rates and the negative effects on international trade and investment have often led the governments to interfere in the foreign exchange market. Governments often influence the price of their currencies by selling or buying currencies to offset shifts in supply and demand that would otherwise cause the exchange rate to change. (Hendrik Van den Berg, 2010)

The advent of technology in the early 1990's eventually seeped into the foreign exchange arena, which in large part changed the rules of the game. It ultimately allowed retail players access for the first time ever to the spot or cash foreign exchange markets. After the internet revolution, banks' foreign exchange clients began demanding transparent pricing, multiple providers, maximum efficiency and lower costs from price to settlement. (Rosenstreich, 2011) As shown in King, Osler and Rime (2011) the electronic trading revolution in FX has transformed the market's structure while improving market quality, in particular transparency and transaction costs. Before exchange rate began floating in the early 1970's, it was the telephone era, the FX markets were fairly opaque during this period, since information about FX-trades was proprietary to the two counterparties. Electronic

trading platforms first transformed the interdealer market during the late 1980's and then reached the customer market in the 1990's.

the largest financial market in the world, over 4 trillion in currencies are exchanged each working day. In today's global economy, the foreign exchange market is characterized by two specific forms of arbitrage: (i) geographic arbitrage, meaning that for each pair of currencies, the exchange rate is virtually identical in every financial center of the world and (ii) triangular arbitrage, meaning that all exchange rates are related to all others, and if the fundamental forces of supply and demand change one exchange rate, all others tend to change a well unless they are explicitly pegged or fixed; triangular arbitrage also means that in a world of n different currencies, one only needs to know the exchange rates between one currency and other n-1 currencies to know all the n(n-11) / 2 cross rates (Van den Berg, 2010)

Showing that the foreign exchange markets are one of the distinguishing characteristics of the global economy, King, Osler and Rime (2011) considered that it would be hard to overstate the importance of foreign exchange markets for the world economy. They affect output and employment through real exchange rates and affect inflation through the cost of import and commodity prices. They affect international capital flows through the risks and returns of different assets. Exchange rates are justifiably a major focus for policymakers, the public and the media. They also have a substantial long-run influence on the flows of payments between countries: determining the relative prices of products and assets across different economies, the exchange rate plays a critical role in balancing the flow of payments between countries.

Considering that that in the foreign markets the crisis came relatively late, Melvin and Taylor (2009) have marked the limits few stages in its evolution. They highlight that the crisis began in August 2007, when subprime-related turmoil in other asset classes finally spilled over into the currency market and it manifested in a major carry trade sell-off. After few months, credit restrictions, associated with a major deleveraging in financial markets forced many investment funds to liquidate positions. The peak of the crisis was considered in September 2008, when the failure of Lehman Brothers has determined the increase of volatility of the foreign exchange until unseen levels, liquidity disappeared as counterparty risk reached unprecedented levels so that the cost of trading currencies skyrocketed and it become very difficult to trade any substantial size.

Morten Bech (2011) emphasizes that foreign exchange market's activity continued to grow during the first year of the financial crisis that erupted in mid-2007, reaching a peak of just below 4,5 trillion US dollars a day in September 2008. The activity fell substantially in the aftermath of the Lehman Brothers bankruptcy, to almost as low as 3 trillion US dollars a day on April 2009, from which it recovered,

but only slowly. Even so, the foreign exchange market is, by far, the largest financial market in the world, as measured by daily turnover.

Kahn and Roberds (2000) consider the market for foreign exchange is also exceptional in other respects, compared to most securities markets, it is loosely organized, with the bulk of trading occurring in the descentralized "interdealer" market. Unlike most developed financial markets, it has no centralized mechanism for settling trades.

3. Foreign Exchange Markets and the Global Crisis

3.1. The New Paradigm for the Foreign Exchange Market

The foreign exchange market is one of the most important and the largest financial market in the world, the sum total of physical goods traded globally in one year's time can be equivalent to a few days' transactions in the foreign exchange market even if is combines the stock markets of Tokyo and New York. It facilitates trade, investments and risk-sharing across borders.

The important events, which affected the other global financial markets, have sent shock waves on the foreign exchange markets. Even if it came relative late in the foreign exchange markets, the global financial crisis which began in 2007 affected the foreign exchange markets too, but not to the extend that the other financial markets were affected, because of, especially, the factors which were defining a new paradigm for the foreign exchange markets before the actual global crisis (Barker, 2007):

- *changing technology*, which shifted the interbank dealing arrangements – the phone-based network of direct relationships of the interbank market from the mid- 1990's– to the electronic protocols; by the late 1990's, Reuters Dealing and Electronic Broking Services introduced electronic interbank trading platforms, which came to dominate interbank trading flows; unlike the phone-based model of direct dealing, these platforms have some distinctive features: (i) bank participating on these platforms are not obliged to provide two-sided price quotes to other banks on demand; (ii) the minimum deal size allowed on these portals is much smaller than the standard wholesale amount used in the traditional direct-dealing relationships between banks; (iii) provide a live price stream that aggregates all bids and offers posted on the system, this interbank price being visible at all times to all participating dealers;
- *the opening of access to the market to a broader range of participants*, consequence of the changing technology, which reduced trading costs and has created new opportunities and new challenges, too: (i) the ability to transact in relatively small amounts on fully transparent prices on these global electronic

dealing platforms had led to fundamental changes in the operations of the interbank market; (ii) heightened competition between dealers and the much greater degree of price transparency; (iii) many of the market-making banks that previously dominated the market have been forced to reexamine their business model, the banks with the size and large global distribution networks implemented the new technological innovation and provided competitive and profitable price quoted; the result has been consolidation in the foreign exchange market, with the largest banks accounting for a growing percentage of the overall global trading volume; (iv) as a result of the consolidation in the foreign exchange market, the role of second-tier dealers has been evolving to the prime brokerage, a institutional dealing arrangements, which allows to smaller dealers the access to the interbank market by using the credit relationships of a top-tier bank, while the larger banks act as an intermediary, providing the smaller banks better pricing than it could obtain on its own; (v) prime brokerage has created new trading opportunities for market participants outside the banking sector; (vi) the efficiency of electronic price delivery has allowed to develop the electronic dealing portals cater to households, small corporations , asset managers, trading firms;

- *the automation of trading functions,* many trading functions once performed exclusively by traders are now performed by specialized computer programs.

In fact, since the 1990s, trading of the major currency pairs has moved on to electronic platforms, which are also thought to have contributed to the surge in liquidity, by broadening participation in the markets by non-banks, and especially mutual funds, money market funds, insurance companies, pension funds, hedge funds and even retail investors and traders. (Hobson, 2011)

3.2. Evolution and Trends in the Foreign Exchange Market

The globalization of financial markets has led to the formation of a global financial network, which, as it expands, it strengthens the competition between major financial centers worldwide. The market for foreign exchange is the market which “never sleeps”. There are only three hours of every twenty – four that Tokyo, London and New York, the main pillars of the financial world are all shut down. During these three hours, trading continues in a number of minor centers. According to the statistical data published by Bank for International Settlements, the foreign exchange recorded in nominal terms since 2001, an upward tendency, even if growth was slower than in earlier years, consistent with a slowdown in the underlying demand for foreign exchange owing to the impact of the global financial crisis on international trade and investment. The most intense activity was recorded in 2010, totaling the daily average of 5 056 billion U.S. dollars, exceeding the daily average in 2007 to 18 %, the a situation shown in table 1.

Table 1. Geographical distribution of global foreign exchange market turnover, 1998-2010 (daily averages in billions of US dollars)

Instrument	1998		2001		2004		2007		2010	
	Bln USD	%	Bln USD	%	Bln USD	%	Bln USD	%	Bln USD	%
United Kingdom	685	32,6	542	31,8	835	32,1	1483	34,6	1854	36,7
United States	383	18,2	273	16,0	499	19,1	745	17,4	904	17,9
Japan	146	6,9	153	9,0	207	7,9	250	5,8	312	6,17
Singapore	145	6,9	104	6,1	134	5,1	242	5,6	266	5,26
Switzerland	92	4,4	76	4,5	85	3,3	254	5,9	263	5,20
Hong Kong SAR	80	3,8	68	4,0	108	4,1	181	4,2	238	4,71
Australia	48	2,3	54	3,2	107	4,1	176	4,1	192	3,8
France	77	3,7	50	2,9	67	2,6	127	3,0	152	3,01
Denmark	28	1,3	24	1,4	42	1,6	88	2,1	120	2,38
Germany	100	4,8	91	5,3	120	4,6	101	2,4	109	2,16
Czech Republic	5	0,2	2	0,1	2	0,08	5	0,12	5	0,1
Poland	4	0,2	2	0,1	2	0,08	4	0,09	4	0,08
Romania	...	-	...	-	...	-	3	0,07	3	0,06
Total	**2099**	**100**	**1705**	**100**	**2608**	**100**	**4281**	**100**	**5056**	100

Source: Own calculations based on the data of Bank for International Settlements (2010) Triennial Central Bank Survey - Report on global foreign exchange market activity in 2010, Monetary and Economic Department, December 2010.

The United Kingdom remains the largest market by location, accounting for 36,7 % of global turnover, followed by the United States (17,9%), Japan (6,17%). Singapore (5,26%) and Switzerland (5,20).

In terms of value, compared with with 2007, the greatest increases in trading activity in 2010 were in the United Kingdom (371 billion US dollars), the United States (159 billion US dollars), Japan (62 billion US dollars) and Hong Kong SAR (57 billion US dollars) FX turnover is several times larger than the total output of the economy.The FX turnover/GDP ratio is smallest for the largest economies. In United States and Japan the FX turnover is more 14 times GDP. The global crisis didn't mitigate the activity of foreign exchange market from the former communist economies, such as Czech Republic, Poland and Romania.

London is a major financial center of the world, concentrating the largest volume of foreign exchanges, bank loans, derivative transactions, issuance of Eurobonds, denominated mostly in US dollars and euros. The foreign exchange market was more concentrated in 2010 than 2007, the combined market share of the ten institutions with the highest turnover increased from 70% to 77%, while the number of firms accounting for more than 1% of total turnover fell from 21 in 2007 to 19 in 2010.

Daily, amounts equivalent to billions of dollars are traded on financial markets, the foreign exchange market being the most liquid market in the world. During the crisis, growth was slower than in earlier years, consistent with a slowdown in the underlying demand for foreign exchange owing to the impact of the global financial crisis on international trade and investment. According to the Report on global foreign exchange market activity in 2010 of Bank for International Settlements, the global foreign exchange market turnover was 20 % higher in April 2010 than in April 2007, with average daily turnover of 4,0 trillion US dollars compared with 3,3 trillion US dollars, the same trend being registered on the euro area. Even if the rate of increase is lower than in the period from 2004 to 2007, average daily turnover in euro area foreign exchange activity rose to 430 billion US dollars in 2010 from 402 billion US dollars in 2007, (table 2), an increase of only 7 %. (ECB, 2011)

Table 2. Global and euro area foreign exchange market turnover, 2004-2010
(daily averages in April 2004, April 2007 and April 2010, USD billions)

Instrument	2004		2007		2010		2007/2004		2010/2007	
	globally out of which:	euro area	globally out of which:	euro area	globally out of which:	euro area	globally out of which: %	euro area %	globally out of which: %	euro area %
Spot transactions	631	85	1005	99	1490	102	60	16	48	3
Outright forwards	209	25	362	51	475	40	73	104	31	- 22
Foreign exchange swaps	954	185	1714	233	1765	267	80	26	3	15
Currency swap	21	2	31	4	43	8	48	100	39	100
Options and other FX instruments	119	12	212	14	207	13	78	17	-0.3	-0.7
Total FX turnover	**1934**	**309**	**3324**	**402**	**3981**	**430**	**72**	**30**	**20**	**7**

Source: Own calculations based on the data of Bank for International Settlements (2010) Triennial Central Bank Survey - Report on global foreign exchange market activity in 2010, Monetary and Economic Department, December 2010; European Central Bank – BIS triennial survey 2010 – euro area data, June 2011

The foreign exchange markets analysis reveals the structural changes occurred in the recent years, in the foreign exchange composition. The foreign exchange market instruments are traded in a multitude of ways, ranging from the voice brokers to electronic platforms (Morten Bech 2011). The configuration exchange markets was always adapted to respond to risks from the exchange rate variations. The attempt to limit these risks has meant, in fact, the emergence of new markets - forward and futures - and also the blast techniques such as *swaps* or options. We may notice in this respect, the decline in the activity's rhythm in the sphere of traditional market transactions, i.e. spot transactions, forward transactions and

swap arrangements. In comparative terms, the global foreign exchange market turnover increased by 20 % over the three years to 2010, following a 72 % increase over the previous three years. In the euro area foreign exchange market turnover increased by 7% only over the three years to 2010, 30% of the Following Increase over the previous year Three. This evolution is a Consequence of (Trandafir, 2005):

• elimination of foreign exchange within the euro area, the impact is felt only at the changeover to the single currency, by the European Union countries, with different intensities; at global level, the dollar maintains its dominance as the most traded currency, 85% of the volume of global transactions are denominated in U.S. dollars, while the euro is the currency denominated for 39% of total international volume of the transactions. Considering as a landmark in 1998, the frequency of the use of main currency in foreign currency transactions is shown in Table 3.

Table 3. Currency distribution of global foreign exchange market turnover, 1998-2010
(daily averages in April 2004, April 2007 and April 2010, USD billions)

Currency	1998	2001	2004	2007	2010
US dollar	86,8	89,9	88,0	85,6	84,9
Euro	…	37,9	37,4	37,0	39,1
Japanese yen	21,7	23,5	20,5	17,2	19,0
Pound sterling	11,0	13,0	16,5	14,9	12,9
Australian dollar	3,0	4,3	6,0	6,6	7,8
Swiss franc	7,1	6,0	6,0	6,8	6,4
Canadian dollar	3,5	4,5	4,2	4,3	5,3
Hong Kong dollar	1,0	2,2	1,8	2,7	2,4
Swedish krona	0,3	2,5	2,2	2,7	2,2
New Zeeland dollar	0,2	0,6	1,1	1,9	1,6

Source: Bank for International Settlements (2010) Triennial Central Bank Survey - Report on global foreign exchange market activity in 2010, Monetary and Economic Department, December

• expansion of the transfer electronic system of funds;

• high degree of concentration of activity on the banking market, through mergers and acquisitions of banks with a strong impact on the volume of transactions between banks and their financial and non-financial customers.

The significant impact of the crisis on international trade and cross-border investment flows contributed to growth in foreign exchange turnover slowing from the rapid pace seen prior to 2007, particularly in the foreign exchange swap market. An exception is the continued strong growth in spot turnover, which has been

driven by growth in relatively new market segments – such as high-frequency trading – associated with the ongoing development of new technologies. (Nightingale, Ossolinski & Zurawsk, 2011) Global spot transactions increased by 48 % over the three years to 2010, following a 60 per cent increase over the previous three years, while in euro area spot turnover decreased by 3% from 16% in 2007.

In addition, turnover was influenced by new technology or changes in the trading behaviour of the market participants. Over the past three years, both economic and structural factors have been at play in driving developments in turnover. Global trade is an important driver of spot and forward turnover, especially for non-financial institutions such as importers and exporters, because for most transactions at least one party must exchange its domestic currency for the invoice currency. (Nightingale, Ossolinski & Zurawsk, 2011)

In terms of relationship, the categories of market participants, the foreign exchange market is dominated by three major trading activities: cross-border transactions facilitation, reporting dealers and central bank activity, and speculative trading. The increased turnover is driven by: (i) greater activity of high-frequency traders; (ii) more trading by smaller banks that are increasingly becoming clients of the top dealers for the major currency pairs; (iii) the emergence of retail investors. (King & Rime, 2010)

Table 4. Global foreign exchange market turnover by counterparty, 1998-2010 (daily averages in billions of US dollars and per cent)

Instrument/ counterparty	1998		2001		2004		2007		2010	
	Bln USD	%	Bln USD	%	Bln USD	%	Bln USD	%	Bln USD	%
with reporting dealers	961	63	719	37	1018	53	1392	42	1548	39
with other financial institutions	299	20	346	18	634	33	1339	40	1900	48
with nonfinancial customers	266	17	174	9	276	14	593	18	533	13
Total	1537	100	1239	64	1934	100	3324	100	3981	100
local	698	46	525	42	743	38	1274	38	1395	35
Cross-border	828	54	713	58	1185	61	2051	62	2586	65

Source: Bank for International Settlements (2010) Triennial Central Bank Survey - Report on global foreign exchange market activity in 2010, Monetary and Economic Department, December 2010

At global level, trading activity of other financial institutions – including non-reporting banks, hedge funds, pension funds, mutual funds, insurance companies and central banks – represented 48 per cent from total turnover, surpassing, for the first time in 2010, transactions between reporting dealers (39 per cent).

Transactions between reporting dealers – large commercial amd investment banks and securities houses that are actively buying and selling currency - in the interbank market grew to 1,5 trillion US dollars in 2010 from 1,4 trillion US dollars in 2007, because of, especially, the increased concentration of the banking sector and the spread of electronic broking platforms.

Within the euro area, the most foreign exchange transactions were conducted between reporting dealers represented 64 % of turnover (table 4), much higher than the 39%, reported at the global level.

Table 5. Euro area foreign exchange market turnover by counterparty, 1998-2010 (daily averages in billions of US dollars and per cent)

Instrument/ counterparty	2004		2007		2010	
	Bln USD	%	**Bln USD**	%	**Bln USD**	%
with reporting dealers	198	64	259	64	273	64
with other financial institutions	80	26	94	23	19	28
with nonfinancial customers	32	10	48	12	38	9
Total	309	100	402	100	430	100

Source: European Central Bank – BIS triennial survey 2010 – euro area data, June 2011

The electronic trading has created a complex adaptive system in which banks and non-banks are using electronic platforms to execute foreign exchange transactions with banks. (Hobson, 2011).

In the context of the current global crisis, the international experience, combined with the analyzes of the central bank experts and analysts, they have imposed to focus strategies on objectives regarding (i) improving infrastructure that would ensure an active presence on a larger geographical area, as imposed by the quality of services offered to customers, many banks implementing their own electronic transaction systems based on the “business to customer” relation; (ii) reducing risk by speeding access to information enabling the decision-making; (iii) perfecting consulting services that provide customers relevant, strategic and profitable information, likely to retain a lasting relationship; in this regard, it is estimated that, in the confrontation on the market with the small banks, the large banks are able to dominate without having the need to resort to additional human and material resources, without assuming higher risks compared with previous periods, while small banks, less informed, are becoming more cautious in taking risks involved in transactions with customers; (iv) an operating trading system based on the orders of sales or purchase of currency, a practice less aggressive, but, although extending

the execution time, it becomes more efficient in terms of price borne by the customer, than the request of simultaneous quota of buying and selling currency; in this context, it is worth mentioning the American practice, especially the mutual funds, known as the "*prime brokerage*" (arrangements by which customers negotiate with a single counterparty, the transaction being achieved with a third party, represented by a bank which acts on behalf of the counterparty); (v) minimize the transaction costs.

4. Conclusion

Unlike other markets, foreign exchange market didn't break down during the crisis. Changing technology, the opening of access to the market to a broader range of participants and the automation of trading functions were the main factors behind a new paradigm for the foreign exchange markets. In this new context, even if the foreign exchange markets was affected by the global crisis, the global foreign exchange market turnover was 20 % higher in April 2010 than in April 2007, with average daily turnover of 4,0 trillion US dollars compared with 3,3 trillion US dollars, the same trend being registered on the euro area.

Based in the conducted investigations, we estimate the concerted and gradual orientation, in the foreseeable future, of the currency markets by an "exchange currency model", which corresponds to the general tendency of increasing efficiency of activity, shaped under the impact of the essence developments generated by: (i) expanding the role of electronic trading systems; although they are prevalent in the area of spot transactions, the electronic systems have failed to impose on other market segments; solving technical and legal issues, the implementation of these systems, associated with the high degree of concentration and success that the Internet system enjoys, it creates the premises of the generalization of electronic transactions; (ii) the introduction of *Continuous Linked Settlement* (CLS), a system designated to carry out transactions between member banks, registered in the CLS Bank records, according to the payment principle – counter-payment.[1] Functional since September 2002, the bank was designed to minimize the involved risks and ensure in real-time the transfer of funds between member banks involved in international currency exchanges, reducing the liquidity needs for payments, compared to traditional market practices. According to Euromoney (2010), today, CLS is still the only means by which settlement risk can be eliminated with finlity. Having established a robust settlement platform, CLS's core constituency , accounts for a failing share of volume as transactions between

[1] The fee payment mechanism conditions the final transfer of one currency from of final transfer of the counterparty involved in that payment relation. There were initially considered eligible for this system seven currencies - U.S. dollar, euro, Japanese yen, British pound, Swiss franc, AUD, CAD - belonging to 65 players holding major positions in the global market of foreign exchange.

banks and other institutions such as hedge funds, algorithmic traders, asset managers and other new market participants experience continued growth; (iii) dinamica actuală a evoluţiilor pietei valutară, care indică menţinerea tendinţei de consolidare, pe termen lung, a industriei bancare. Among the top 13 foreign exchange centres (covering 90% of global turnover), a decrease in the number of banks accounting for 75 % of the turnover was reported between 2007 and 2010 in most centres. (BIS, 2010).

5. Acknowledgement

The work of Mariana Trandafir was supported by the project "Post-Doctoral Studies in Economics: training program for elite researchers - SPODE" co-funded from the European Social Fund through the Development of Human Resources Operational Programme 2007-2013, contract no. POSDRU/89/1.5/S/61755.

6 References

Barker, William (2007). *The global foreign exchange market: grows and transformation*. Financial Markets Department, Bank of Canada.

Bourguinat, Henri (1997). *Finance internationale/International Finance*. Paris: PUF.

Bech, Morten (2011). FX volume during the financial crisis and now. *BIS Quarterly Review*, March.

Hobson, Dominic (2011*). Why foreign exchange is not a market,* http://www.thomasmurray.com/.

Kahn, Charles & William, Roberds (2000). The CLS Bank: A Solution to the Risks of International Payments Settlement. *Working Paper 2000-15*, September 2000, Federal Reserve of Atlanta.

King, Michael; Carol, Osler & Dagfinn, Rime (2011). Foreign exchange market structure, players and evolution. *Working Paper 2011/10*, Research Department, Norges Bank.

King, Michael & Dagfinn Rime (2010). The $ 4 trillion question: what explains FX growth since the 2007 survey?. *BIS Quarterly Review*, December.

Krugman, Paul (2009). *The Return of Depression on Economics and The Crisis of 2008*. Bucharest: Publica.

Melvin Michael & Mark, Taylor (2009). The crisis in the foreign exchange market. *CEPR Discussion Paper* 7472, December.

Munteanu, Costea & Călin, Vâslan (1995). *Investiţii internationale*/International Investments. Bucharest: Oscar Print.

Nightingale, Samual; Crystal, Ossolinski & Andrew Zurawski (2011). *Activity in Global Foreign Exchange Markets.* Reserve Bank of Australia

Rosenstreich, Peter (2011). *The evolution of the FX Markets.* HIG International Group.

Speller, William; Gregory, Thwaites & Michelle Wright (2011). *The future of international capital flows*. *Financial Stability Paper no 12*, Bank of England.

Stiglitz Joseph E. (2010). *Freefull: America, Free Markets, and the Sinking of the World Economy*. Bucharest: Publica.

Trandafir, Mariana (2005). *Pieţe monetar-valutare în România/ Monetary and foreign exchange markets in Romania*. Bucharest: Ed. Didactică şi pedagogică.

Van den Berg, Hendrik (2010). *International Finance and Open – Economy Macroeconomics*. USA: University of Nebraska-Lincoln.

***(2010). Bank for International Settlements -Triennial Central Bank Survey - *Report on global foreign exchange market activity in 2010,* Monetary and Economic Department, December 2010.

***(2010). European Central Bank – BIS triennial survey 2010 – euro area data, June 2011.

***(2010) Euromoney – Best practice in foreign exchange markets 2010 http://www.euromoney.com/Article/2483661/Category/16/ChannelPage/200807/Best-practice-in-foreign-exchange-markets-2010.html.