EUROPEAN CENTRAL BANK

EUROSYSTEM

Foreign Exchange Contact Group

Frankfurt, Wednesday 23 May 2007

SUMMARY OF THE DISCUSSION

1. Review of market developments

The Group reviewed and discussed the latest trends in financial markets, particularly in FX markets.

2. Algorithmic / black box / high frequency trading

Three presentations on the topic of Algorithmic / black box / high frequency trading have been made, each with a different focus.

- Execution, trading and broad implication for market liquidity.

Jean-Marc Orlando, Head of E-commerce trading at BNP Paribas, emphasized that the growth in FX turnover is mainly attributed to electronic trading. Technology developments and latency enhancements have contributed to increased electronic trading, routed through algorithms. Three main types of "algorithmic" can be distinguished: i) pure algorithmic execution which provides a gateway to electronic markets; ii) algorithmic trading as a mean to support and substitute traders functions, such as auto-hedging and automatic market making; iii) algorithmic proprietary trading, built using artificial intelligence and based on models to generate trading revenue. The main applications of these models automate and process market signals, recognise trading patterns etc. The challenge is to program computers with complex rules, thus requiring sophisticated quantitative techniques.

The technology barriers tend to disappear, giving access to more players such as hedge funds and retail investors. However all the categories of clients seem to shift towards electronic markets and the impact on market liquidity is rather substantial. The widespread algorithmic trading activity based on mean-reversion patterns has certainly contributed to dampen market volatility in the currency pairs that trade the most electronically.

Technology and latency have become the drivers of competition, but the cost to remain competitive is high (algorithmic maintenance, technology updates, new IT skills, infrastructure, network, security, compliance, STP protocols,…) as algorithmic trading needs constant refinements. In this environment, banks strive to keep up to date in order to remain in the business.

There are also some risks related to algorithmic trading that are induced by the low human intervention and the high reliance on server, networks, hardware, data feeds, latencies. Security, controls, limit breaches need to be emphasised.

- Comparison with equity markets and lessons that FX, as a product, can learn.

Jeremy Smart, Global Head of FX E-sales at Morgan Stanley looked at a comparison between algorithmic trading in equities and in foreign exchange markets. Indeed, in equity markets algorithmic trading started in the early 1990's and this experience could shed some light on the current developments in foreign exchange markets. In contrast to equities, one of the peculiarities in FX markets is that not all participants are driven by profits. Corporate hedgers, global equity or fixed income investors trade FX as the result of other investment decisions. The comparison of the market structure shows that FX markets are dominated by the bilateral OTC market, as opposed to exchange based trading in equity markets. FX markets also trade 24-hours with less price and volume transparency. Algorithmic execution capabilities are very critical to the competitiveness and have become a critical component of the overall service package. It is noted in equity markets that the leading banks in algorithmic execution have kept a long term competitive advantage. In FX markets,

algorithmic execution is still fairly rudimentary and the market is best described as embryonic. As the drive for best price execution increases, algorithmic trading will develop, although the development is likely to be slow because of the complexities of the market micro structure.
Equities experience suggests that algorithmic trading is a permanent change that may continue to co-exist with traditional bank activities, thus leaving some market fragmentation. Market fragmentation tends to strengthen the position of banks, as markets would continue to need the type of liquidity they provide. Technology has shifted from being a "necessary" focused on cost reduction and efficiency to a key competitive driver. Skills required in the front office are also changing. Traditional traders become focused on risk taking as opposed to pricing or pure position management. Sales must become focused on adding value with derivatives, research, trade ideas.

- Business model, possible scenarios for the FX markets future

Toby Cole (FXCG, Credit Suisse) described the factors that may drive new business models in FX markets, such as technology, new trading platforms and on-going innovations. Banks compete to reduce latency. One of the consequences is that the pre-deal credit checking increasingly dropped. Pricing engines are often required in different locations. The decision to deal with a particular e-client becomes an IT decision rather than a trading decision. The exchange model prospers as statistical traders require multi-lateral trading markets. The traditional trading and sales execution headcount tend to be replaced by quant teams that are developing auto-hedging models and IT teams that are building fast links. For algorithmic execution, technology is used to work out the placement of trades. In such an environment, flows have become even more confidential as they cannot be observed by either the sales or trading staff and clients pay a transparent commission for this.

3. Other business

a.) The OMG secretary, Annemieke Bax, reported about the global conference that was hosted by the ECB on 23-24 April 2007 in Frankfurt. She informed that OMG received some banks candidacy to become member of the group. This will be considered when carrying out the next composition review.

b.) The secretary presented the tentative agenda of the next meeting and the work programme for the rest of 2007. For the next meeting a presentation by UBS on retail FX margin trading is planned. In addition, a review of the option market and the outlook for e-commerce is foreseen. Both agenda topics will be followed by a discussion.

c.) The next meeting will take place on 4 September 2007 at the ECB premises.

Annex 1 **LIST OF PARTICIPANTS**

Participant's organization	**Name of participant**	
ABN AMRO	Mr Claes von Holten Lindholm	
Bank of Tokyo-Mitsubishi UFJ	Mr Kazuki Fukunaga	
BBVA	Mr Lawrence Watkins	
BHF-Bank	Mr Joerg Isselmann	
BNP Paribas	Mr Patrick Mauberque	
CECA	Mr Luis Soutullo	
Citigroup	Mr Holger Achnitz	
Credit Suisse	Mr Toby Cole	
Deutsche Bank AG	Mr Stefan Bender	
Dexia-Bil	Mr Joseph Hensen	
Nordea AB	Mr Morten Tysnes	
Morgan Stanley	Mr Paul Blain	
Royal Bank of Scotland	Mr Roger Hawes	
State Street Global Markets	Mr Michael Kahn	
The Bank of Nova Scotia	Mr Barry Wainstein	
Société Générale	Mr Serge Topolanski	
UBS	Mr Reto Stadelmann	
European Central Bank	Mr Francesco Papadia - Chairman	
European Central Bank	Mr Werner Studener	
European Central Bank	Mr Etienne Port - Secretary	
Banque Nationale de Belgique	Mr Joris Bernagie	Teleconference
Deutsche Bundesbank	Mr Peter Griep	
Banco de España	Ms Marta Sainz	
Banque de France	Mr Philippe Mongars	Teleconference
Bank of Greece	Mr Panagiotis Pliatsikas	
Central Bank and Financial Services Authority of Ireland	Mr William Molloy	
Banca d'Italia	Mr Antonio Marras	
Banco de Portugal	Mr Jorge Alves	
Banque centrale du Luxembourg	Mr Francois Zenner	Teleconference
De Nederlandsche Bank	Mr Kees van Paddenburg	
Oesterreichische Nationalbank	Mr Wolfgang Hengelmüller	Teleconference
Banka Slovenije	Mr Matevz Zbasnik	Teleconference
Suomen Pankki	Mr Harri Lahdenperä	Teleconference

Guest speakers	Mr Jean-Marc Orlando, BNP Paribas
	Mr Jeremy Smart, Morgan Stanley
	Mr John Noyce, Citigroup