## Short introduction on the work of the Johnson-group Eloy Lindeijer, De Nederlandsche Bank

Following the liquidity crisis of autumn 1998 the Committee on the Global Financial System formed a working group to examine the events surrounding the market stresses that evolved during that period. Special focus was given to the suddenness of liquidity deterioration and mechanisms that contributed towards the widespread withdrawal of risk taking. The group, which was chaired by Karen Johnson of the Federal Reserve Board, included representatives of central banks and monetary authorities from G-10 countries and emerging markets. Market participants were interviewed in financial centres in Europe, Asia and the Americas to get a global perspective and the group assembled a large data set on key financial indicators to compare the events of end-1998 with previous episodes of market turbulence.

With regard to the run up to the liquidity crisis the Johnson-group noted that risk spreads and volatilities in G10 markets were on the low side of experience, particularly given the market turbulence in Asia during 1997 and 1998. One explanation put forward was the scale of resources devoted to risk arbitrage, driven by widespread emulation of relative value strategies pioneered by firms such as LTCM and the perception of risk free bets. This had helped reinforce linkages across markets, narrowing spreads and reducing volatilities in a way that reinforced macro-economic trends, such as declining capital market interest rates. This 'overextention' led to a severe market reaction, for which Russia's de facto default served as a trigger.

Market dislocation reached a peak during the recapitalisation of LTCM as worries about mass sales, risk concentration and above all systemic risk led to widespread risk withdrawal. Indicative of the severe hedging pressures related to the unwinding of so-called carry trades was the 9% move in usd-japanese yen on October 7-8. In some niche products (such as Danish mortgage backed securities) arbitrageurs had built positions that amounted to multiples of typical daily market turnover, thus making it difficult to unwind positions without substantial market impact. In fixed-come markets this phenomenon led to an explosion of swap and credit spreads. 1998 also produced some of the largest stock market declines for the decade, in some case just falling short of the 1987 crash. Volatility of bond and credit spreads, however, generally remained below the peaks experienced in 1991 and 1994.

Compared with earlier episodes of market turbulence the Johnson-group concluded the autumn of 1998 was an unusual, but not an extremely rare event. It demonstrated that the 'abnormal' returns earned by relative value arbitrage players were in fact not risk free when viewed over a longer time span. Policy makers concluded that some of the mechanisms that produce contagion and amplify market turbulence can be addressed by better risk management, capital and disclosure. Interestingly, some commentators argue the opposite case: that the response of policy makers may actually contribute towards greater herd behaviour in the future (triggered by disclosure of market sensitive data) and has already resulted in more permanent reduction of market liquidity in the main markets, as market makers and speculators have withdrawn risk bearing capital. My personal inclination is to argue that liquidity has not deteriorated in global financial markets, but has returned to more sustainable levels subsequent to processes of deleveraging. With regard to herding it is important that policy makers create an environment that makes it less likely that such flows create systemic concerns. I would argue that disclosure and transparency increases the resilience of the financial system through greater market discipline.

A second important but not unrelated issue concerns the impact of technology on the functioning of markets. The emergence of the e-commerce is impacting market liquidity today in ways that are not very well understood. Competing electronic trading platforms may be contributing to a fragmentation of liquidity in previously centralised markets. Alternatively new smart order routing systems may be providing a single portal to all available pools of liquidity, effectively re-creating one central market place. The current state of liquidity of global financial markets may be an interesting issue for further discussion today, time permitting.

Let me conclude with one of the remaining imprints of the Johnson-study for my work as a central banker. Understanding the structure and functioning of markets is important, both form a monetary policy and systemic risk perspective. End-1998 some of the most visible manifestations of market stress occurred in markets not always directly followed by central banks. As more risks become priced

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in a world that is marked to market, central banks have realised the need to build up expertise outside the traditional realm of money and forex markets. Developments in swap, credit and equity markets and the impact of e-commerce have become important and are therefore monitored on an on-going basis. The work programme of the CGFS is a good example of this.

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