



July 2010

AK Background Paper

Derivatives:

Definition and Need for Regulation

About us

The Federal Chamber of Labour is by law representing the interests of about 3.2 million employees and consumers in Austria. It acts for the interests of its members in fields of social-, educational-, economical-, and consumer issues both on the national and on the EU-level in Brussels. Furthermore the Austrian Federal Chamber of Labour is a part of the Austrian social partnership.

The AK EUROPA office in Brussels was established in 1991 to bring forward the interests of all its members directly vis-à-vis the European Institutions.

Organisation and Tasks of the Austrian Federal Chamber of Labour

The Austrian Federal Chamber of Labour is the umbrella organisation of the nine regional Chambers of Labour in Austria, which have together the statutory mandate to represent the interests of their members.

The Chambers of Labour provide their members a broad range of services, including for instance advice on matters of labour law, consumer rights, social insurance and educational matters.

Herbert Tumpel
President

More than three quarters of the 2 million member-consultations carried out each year concern labour-, social insurance- and insolvency law. Furthermore the Austrian Federal Chamber of Labour makes use of its vested right to state its opinion in the legislation process of the European Union and in Austria in order to shape the interests of the employees and consumers towards the legislator.

All Austrian employees are subject to compulsory membership. The member fee is determined by law and is amounting to 0.5% of the members' gross wages or salaries (up to the social security payroll tax cap maximum). 560.000 – amongst others unemployed, persons on maternity (paternity) leave, community- and military service – of the 3.2 million members are exempt from subscription payment, but are entitled to all services provided by the Austrian Federal Chambers of Labour.

Werner Muhm
Director

Executive Summary

Background

Derivatives are agreements or contracts whose own value is derived from a reference value (underlying, base value). These reference values vary greatly and reach from commodities (food products and raw materials), share indices, exchange rates, interest rates up to weather development etc. The evaluation of the derivative depends on the development of this reference values; it can, however, (for example) move in the opposite direction (e.g. by speculating on falling share indices). They are forward purchase or similar transactions. These are structured in form of forwards, futures, options, swaps and their mixed forms, but also other constructions. One also differentiates between standardized or customized derivatives for individual cases.

The original function of derivative instruments is the securing of risks ("hedging"), for example against fluctuating market prices, exchange rates etc., thus representing an important tool for the economy as a whole. In contrast, since the beginning of the nineties of the last century, the financial economy discovered derivatives among others for two functions, by which the speculative character came increasingly to the fore:

1.) as a means of portfolio management, which means taking out (if possible) all risks from one's own books in order to tie up as little equity as possible to keep as much capital as possible available for new transactions. This was (is) preferably used for investment transactions and less for lending as the former achieves higher yields. Deutsche Bank comments as follows: "Competing for yields has taken the human race forward. Yield targets of 25 % are not an expression of greed but they represent the claim to be successful".

2.) as a commodity independent of the underlying transaction: business partners dealing with derivatives do not bear a risk from an underlying transaction but trade in the hope of rising or falling prices of the derived securities. The original purpose of hedging moves to speculation. This also explains why in the years before the crisis the estimated market volumes increased so rapidly, whereby due to the lack of transparency in case of off-exchange trading ("over the counter" - OTC) an empiric estimate of the extent of the current financial crisis is hardly possible.

If derivatives are traded directly between two contractual parties outside public trading venues, or i.e. derivative exchanges, this is called "over the counter" (OTC) or off-exchange trading. Measured by the volume of the open positions this trading form meanwhile represents a major part of derivatives trading. (Compare chapter "Trading volumes of derivatives"). With regard to the respective underlying, the OTC market distinguishes between the following market segments: interest rate deriva-

tives,, foreign exchange derivatives, equity derivatives, commodity derivatives and credit default swaps.

As the (near) bankruptcy of some large financial institutes has shown, the derivative market harbours a high systemic risk. The opinion prevailing before the financial crisis assumed that an extremely discreet regulation would be sufficient (trust in self regulation) because investors themselves would be interested to minimise the “counterparty risk” and risks from the transaction has proven wrong.

Summary of results:

The specifics of OTC trading have significantly contributed to the financial crisis and the segment is still highly problematic: it is often difficult or not possible at all to express risks, which are associated with contracts, in key figures. This is, among others, the consequence of the lack of transparency in this market segment. In future, the situation of a compulsory liability for financial institutes by the public sector must be avoided because of the further risk of escalation. Pre-requisite for this is among others a greater transparency of the derivatives markets. This is also in the interest of employees, who are massively in favour of a stable public budget, whilst they benefit from speculation opportunities at the derivatives market only in exceptional cases. Therefore, it is urgently necessary to think about reorganising the market and about market regulation both in view of company and product regulation. With regard to structuring the market, the macroeconomic impact of OTC trading has to be given far greater priority than microeconomic interests.

Low standardization, “exotic” products customized for individual transactions, enormous complexity, high market concentration and a non-transparent network of mutual contract associations are some of the typical characteristics of OTC trading. The consequence of inflated trading in the derivatives sector is a high volatility of prices of important commodities (food products and commodities) as well as of exchange rates, interest rates, share prices etc. In addition, enormous trade volumes (1000s of trades per second) based on complex algorithms distort business and raw material values. Speculation can also increase the refinancing costs of governments or businesses. Any weaknesses are further aggravated by transactions with a speculative background and finding a solution for these problems becomes more difficult. This also results in a constant danger of crisis for the economy as a whole and for the public budget, because the high trading volumes on the financial markets exceed the real economic trade many times over. There adds the problem of moral hazard, when risks are “divided” and the lender does not bear the default risk himself but sells it on to a chain of counterparties, who are not able to assess the original risk and rely on the assessment of rating agencies. This gives the “judgment” of three US American rating agencies an immense importance for the global economic development.

Apart from that, the derivatives trade has also developed into a means of “dressing up the balance sheet” and of market manipulation.

The AK position in detail

1. Derivative products and their function

The common forms of contracts on the derivatives markets include

- Forwards (unconditional, non-exchange traded forward transactions): obligation to buy or sell an asset at a certain price at a certain date.
- Futures (exchange-traded forward transaction): comparable with forwards; they are traded, however, at the stock market and are standardized.
- Options (conditional forward transaction): give the right to buy or sell an asset at a certain price at a certain date.
- Swaps: an agreement between two contractual partners to swap cash flows in future. Swaps can be used to swap cash flows of almost any nature. In doing so, financial risks of a portfolio can be specifically hedged or new risks to yield optimisation can be included in a portfolio.

Characteristic for derivatives is the leverage effect, i.e. by using a fraction of the invested capital, it is possible to move significantly higher nominal amounts e.g. of shares.

Example:

If someone wants to invest 2000 Euro to speculate on the rise of shares, which currently cost 20 Euro, he can purchase 100 shares, sell them again at an increased rate (27 Euro), and make a profit of 700 Euro. As an alternative he could purchase 2000 call options (on 2000 shares, 1 Euro per call option), which grant him the right to buy this block of shares for example in September at a price of 22.50 Euro. If the price rises to 27 Euro, he makes a profit of 4.50 Euro x 2000, of which the price of the call option (2000 Euro) must be deducted, i.e. from 7000 Euro. In reverse, if the price is falling, the losses increase accordingly.

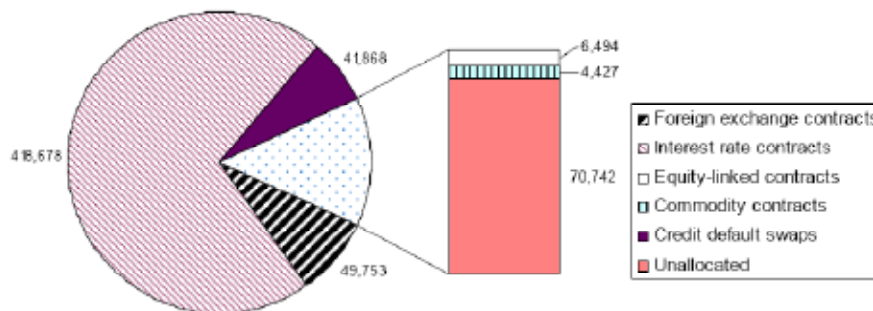
If derivatives are traded directly between two contractual parties outside public trading venues ie. derivative exchanges, this is called "over the counter" (OTC) trading. Meanwhile, this form of trading accounts for a large part of trading. The regulation plans concentrate above all on this area. In contrast to the spot market, the parties at the derivatives market normally conclude longer term contracts. Apart from the usual market risks, as for example a negative development of share prices, this

results in additional risks, such as the counterparty being unable to fulfil the contract (counterparty risk).

The bandwidth of derivatives reaches from standardized, relatively easy contracts, which have been used for decades, to highly complex and exotic structures, which are customized for individual cases and which are non-transparent for (other) market participants and the financial market regulator. The following diagram shows the share of individual types of derivatives (classified in accordance with the underlying transaction) at the entire OTC market. The following chapters describe the individual segments in more detail.

OTC derivative market segments

Notional amounts outstanding, USD trillion, December 2008



Source: BIS (2009)

Source: Ensuring efficient, safe and sound derivative markets, Communication from the Commission, COM(2009) 332 final, 2.7.2009

1a. Interest rate derivatives

Interest rate derivatives are by far the largest part of OTC derivatives. They exist for quite a long time, hence the market is regarded as mature. This market segment is dominated by interest rate swaps (about three quarters of the open nominal

amounts), followed by interest rate options (a good 10 percent) and forward interest rate contracts (slightly below 10 Percent). In spite of the immense volume of the open interest swaps, the number of transactions is smaller than the volume of the CDS market (compare the following chapter). By contrast, the number of market participants is far larger than in the CDS market.

Interest rate swaps basically serve for converting a loan with variable interest rate into one with fixed interest rate and vice versa.

For example, Microsoft could have an open loan with a fixed interest rate. Microsoft could lend this loan amount at a fixed interest rate to Intel. In return, Microsoft would get a loan from Intel at a variable interest rate. This deal is normally taking place via a financial institute. Most common is the "Plain Vanilla" interest swap, where a company commits itself to pay a cash flow at a previously determined interest rate on a notional nominal amount for a certain period. In return, it receives variable interest rates on the same notional nominal amount.

The reasons for the widespread use of interest rate swaps are stated as these swaps being "self-funded" resp. that there is no payment to be made at the start of the contract, simple price formation due to well-defined swap curves (also for long maturities) and the liquid Euribor market, which makes hedging easy for market making dealers. A deal may be initiated on the so-called direct market (bank to bank), the interdealer market or the dealer to client market. Because of the many "tailor-made" contracts, initiating a deal verbally is still dominating. The majority of deals are confirmed electronically.

The payment terms are stable and are directly linked to the interest rate, whose development is transparent. Even in the case of interest rate shocks, the payment obligation will not suddenly jump, as it is the case with the expiration of CDS. Interest derivatives are partly - in particular when they are sufficiently standardized - netted via central clearing (in particular in case of "SwapClear", 20 percent).¹

1b. Credit Default Swaps-CDS

In particular, the still relatively young Credit Default Swaps are problematic for the stability of the financial market; that is why regulatory steps are under discussion especially for these products. They serve to trade with default risks of loans, bonds or debtor names. That is why the present paper examines them in more detail. CDS in their present form were "invented" in 1997 by JPMorgan Chase & Co with the objective to transfer the credit default risk to a third party and to thereby tie up less equity, than would be required. Hence, they are used to control portfolio risks. Advantages from the point of view of the financial institutions are the separate

¹ Working document of the Commission accompanying the Commission Communication dated 3.7.2009

hedging of credit- and interest risks, no need for advance payments, as well as the change of the risk profile of the portfolios without the need to forego the relationship with the client. CDS are also increasingly used to trade loan risks.²

CDS stand for credit default insurance: one contracting party, the so-called protection buyer, pays - normally - a fee. In return, the contractual partner, the so-called protection seller, provides him with par value of the bonds or loans (called nominal amount of the CDS), if the reference entity named in the CDS contract (business or state) for example becomes insolvent and its bonds or loans lose significantly in value, i.e. the "credit event" occurs. It is also possible that a restructuring represents a credit event.

However, the protection buyer - contrary to the credit insurance - also receives the nominal amount, even if he does not occur any loss because of the default of the reference entity, as CDS can also be acquired without the buyer carrying the underlying credit risk resp. owning the relevant bonds or loans (naked CDS). In this sense, the vendor "bets" on the default of the reference entity, as in case of default a very large profit could be made.

An example: the buyer is granted the right, to sell bonds at the nominal amount of 10 million Euro in case of default, for which he pays 100 basis points (0.01 percent) per annum of the nominal amount to the seller, i.e. 100,000 Euro. Hence, the decoupling of the real risk is the main problem of CDS. Credit Default Swaps are an instrument, with which credit default risks can be traded independently of existing financial relationships and allows to "bet" on defaults resp. insolvencies.

The total amount paid per year and expressed as a percentage of the notional nominal amount default protection, is called CDS spread. The higher the probability of a default of the reference entity, the higher is the CDS spread.³ CDS spreads are used as a basis for assessing the financial strength ie. Creditworthiness of debtors. Consequently, undertakings are directly affected by the extent of these spreads, if the required interest payments refer to these spreads; the same is valid for states, because the interest rates for bonds are also influenced by the cds-spreads. The market value of CDS, i.e. the price, which has to be paid for a CDS, increases with the credit default risks perceived by the market.

CDS can also be used to form CDOs (Collateralized Debt Obligations), by means of which the CDS are layered in different risk tranches and then traded to distribute the risk to many creditors.

² Deutsche Bank, Themen international, Aktuelle Themen 477

³ Source: Hull J.C., Options, Futures and other Derivatives

Result:

The financial crisis has shown that the economic sense of CDS has been reduced to hiding the risks from the bank books in order to release as much capital as possible for other transactions resp. to continue to inflate the volume for this. Additionally, the proximity to the underlying business has been lost, which meant that a real assessment of default risks was replaced by the application of probability calculations (see also algorithms). Naked CDS are exclusively used as a separate speculation instrument to bet on future reduction of creditworthiness or event-default.

1c. Equity derivatives

This derivative group is the smallest within the OTC derivatives and represents a relatively young Instrument. The derivatives on shares are also much smaller than the underlying market itself. Standardized is negligible and the infrastructure provisions are relatively new. The market is regional, whereby the European market with the amount of nominal values in open positions of 4 billion Dollar is regarded as the largest (in the USA a larger part of trading is done via stock exchanges). The European market is highly concentrated on few professional investors. The regional structure makes standardization more difficult. That is why only 20 percent are carried out electronically. Overall, the nominal value of 10 billion has dropped to 6.5 billion Dollar between June and December 2008. One of the difficulties is that these derivatives are rarely collateralised (only 52 Percent).⁴

1d. Commodity derivatives

This derivatives market has been existing for a very long time and is extremely diversified. The market structure is determined by individual segments and reaches from high standardization with central clearing to complete OTC markets. Forwards, swaps and options are traded OTC; futures and options on exchanges. Underlying assets are gas and energy, metals, oil, food products, emissions etc. The market participants are financial institutes, international energy companies, energy suppliers, other business and government institutions and consumers.

Commodity derivatives (in particular the OTC products) are relatively little standardized and often customized for special client requirements. In addition, some are also standardized (Master Confirmation Agreements⁵). Most deals take place in verbal form, of which a large part is finalized electronically. At the same time, only 30 percent of the trade volume of derivatives on metals and energy are collateralised. The reason for this is that many non-finance undertakings participate in this

⁴ Working document of the Commission accompanying the Commission Communication dated 3.7.2009

⁵ of der International Swaps and Derivatives Association (ISDA) and other authorities

market which scarcely secure their transactions; however, they are using other forms of insurance.

In the sector of commodity derivatives there exists a number of clearinghouses, in particular if trading is effected via exchange. Central clearing has been enforced since the Enron case with regard to energy derivatives. However, due to the different legal obligations of traders and business structures, there remains big room for arbitrage, which gives cause for concern (see below, Digression under Item 5d).

Digression - Enron case

Enron employed about 22,000 members of staff. Due to continuous falsified balance sheets, it caused one of the greatest business scandals of the US economic history in 2001. The occupational pensions for the employees worth 2 billion US Dollar were lost. Share trading was suspended in January 2002. Before that, the share price fell within a short time span from its highest level of 90 US Dollar (August 2000, the Management of Enron sold its entire share portfolio at this point) to only a few Cent per share. In February 2002 it became public, that about 500 Enron Managers received high bonus payments (up to 300 million US \$) shortly before their concern collapsed. The rating agencies Standard&Poor's and Moody attested Enron an "excellent financial standing" until shortly before Enron's insolvency.

1e. Exchange rate derivatives

This large and mature derivatives sector is closely interlinked with the underlying cash market. The cash market is composed of the spot market (exchange of currencies up within 2 days) and the forward and swaps with very short maturity (about two weeks). On the derivatives market "traditional" swaps, options and forwards are traded, but also increasingly hardly or not at all standardized "exotic" products. The majority of derivatives trades take place OTC.

57 percent of the global turnover is traded in Europe, above all in London, where the major traders are active. The Continuous Linked Settlement System (CLS), which provides a continuous settlement service, is also playing an important role. It is operated by CLS Bank International in New York, which is owned by the major exchange rate traders and supervised by the Federal Reserve. The rules of the CLS Bank are governed by English law. The CLS Bank sometimes also assumes clearing tasks.

There is a great attraction to automate trade as far as possible because the profit margins are rather small and the profit opportunities are based on large trading volumes. Over the past years, this tendency has been strengthened by the in-

creased use of algorithmic trading via computer (networks). Only 36 percent of trade is secured.⁶

Digression: Algorithmic (automated) trade

This is the automatic trade of securities by computer programmes, which are used to forward orders electronically to the stock exchange. The algorithm determines the splitting and the timing of the orders by predefined parameters. These parameters commonly use both historic and current market data. Algorithmic trading is used by brokers for proprietary trading and they offer it to their customers as a service. The advantage of automated trading for the market participants lies in its immense speed, in which transactions can be placed and its enormous information processing capacity. It also incurs lower transaction costs.

The difficulty with algorithmic trading lies in the aggregation and analysis of historic market data as well as the aggregation of real-time rates to enable trading. Apart from that, the development and testing of mathematical models is not easy and it is doubtful whether most users are able to understand and apply the underlying model. This might result in the possibility that the difficult mathematical models do not (no longer) correspond with "reality", but are nevertheless able to put their stamp on the development of the underlying assets. False market information or rumours, which find their way into the system reinforce upwards and downwards trends (self-fulfilling prophecy).

With regard to exchange rate derivatives the focus lies on the settlement risk - the settlement does not take place as expected. The reason for this is the globalisation of the market with a large number of participants in different time zones, whereby one mistake can trigger a chain reaction. The longer the maturity of the contract, the longer an additional credit risk might occur.

2. Trading volumes of derivatives

According to the Bank for International Settlements, the notional amount outstanding of OTC derivatives added up to almost 600 trillion US \$ by the end of December 2009 (that is about ten times as much as the global domestic product).

The overall gross credit exposure takes into account legally enforceable bilateral netting agreements. After netting, the enormous size of notional amount outstanding seems to fall in: In the second half of 2009 the Gross credit amounted 3,6 trillion Dollar.

Digression on the principle of gross and net factors explained by a simple example:

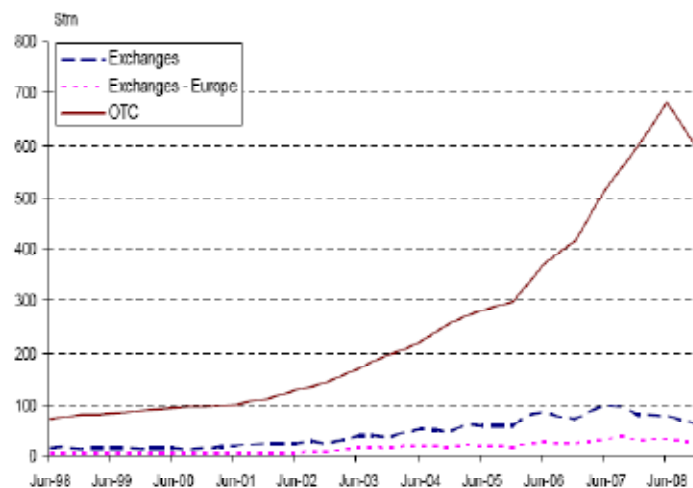
⁶ according to International Swaps and Derivatives Association

Trader B buys a credit insurance of Trader C, who in turn buys a credit insurance of Trader D (resp. hedges the open position against Trader B), whilst Trader D hedges against Trader E. The amount of the three concluded contracts forms the gross nominal value, which amounts to three times the hedged risk. The risk itself is borne by Trader E at the end of this chain. If the risks are not forwarded, the gross nominal value corresponds to the net risk position.

It is alleged that in the end only the net value is relevant to the (macroeconomic) risk. This opinion, however, is controversial, particular since in reality the intertwining is not limited to simple risk chains as in the example above but is rather similar to highly complex networks. Apart from that, it is often not clear which open positions the counterparty owns against other traders, thus rendering the assessment of counterparty risks quite difficult. In principle, this risk must be borne by the individual market participants themselves. It is highly questionable if these transfer chains do not result in a higher risk as might be the case as a sum of individual parts.

The following diagram shows the immense increase of the volumes of the derivatives markets during the past years:

The size of derivatives markets: on- and off-exchange



Note: The figure shows the notional amounts outstanding in on- vs. off-exchange market segments in USD trillions in 1998-2008. The trends show outstanding amounts worldwide, where European exchanges' market share is shown separately (no similar geographic breakdown exists in OTC data). Source: Bank for International Settlements (BIS).

Source: Communication of the Commission "Guaranteeing efficient, secure and solid derivatives markets" from 3.7.2009, KOM(2009) 332 final.

During the first six months of 2009 - hence after the outbreak of the crisis - (after a decline in the second half-year 2008) the outstanding nominal amount of OTC derivatives rose again to 605 trillion US Dollar. The outstanding nominal amount of the interest rate derivatives amounted by the end of June 2009 to immense 438 trillion Dollar, an increase of 13 percent compared to December 2008.

A slightly different tendency was displayed by the gross market value of OTC derivatives. This indicator measures the replacement value of all outstanding contracts. Its development reflects the high volatility of the market: from 11.1 trillion Dollar in June 2007, it almost doubled to 20.4 trillion Dollar in June 2008; in December 2008, it rose once again to 32.2 trillion Dollar and fell to 25.4 trillion Dollar by June 2009. Whilst the nominal value rose during the first six months of 2009, the market value fell. This is in particular attributed to developments in the interest derivatives sector.

CDS market in statistical terms:

The CDS-market has strongly increased between 2002 and 2007. The notional amount outstanding rose from 2 billion US Dollar to 60 trillion US Dollar. This is immense compared to the globally outstanding bond volume of ca. 80 trillion US Dollar. The volume of outstanding CDS contracts though has been reduced again since 2007 to 30 trillion US Dollar in 2009. One reason for the decline of outstanding nominal values of the CDS was the netting of major players. The net nominal value for CDS only amounts to a tenth of the notional amount outstanding. The reason stated is that CDS transactions would often be transit items, where the risk of another CDS transaction is hedged.⁷ In contrast to the general trend, the notional amount outstanding has risen further in case of Sovereign-CDS.⁸ This is certainly also the consequence of risks taken by the governments during the financial crisis.

The market value of CDS rose with the credit risks taken by the market. At the height of the financial crisis in 2008, the gross market value of CDS rose to 5.1 billion Dollar (2007 2 trillion Dollar) and fell in June 2009 back to about 3 trillion Dollar.⁹

3. Traders and market participants on the derivatives market

Although the market participants diverge according to derivative segment, this market is basically very concentrated. The players in the OTC derivatives market are represented by ISDA (International Swaps and Derivatives Association) resp. are organised within this organisation. They also include the mighty "leading dealing firms", such as Barclays Capital, Citigroup Global Markets, Credit Suisse, Deutsche Bank, Goldman Sachs, HSBC, JP Morgan Chase, Morgan Stanley, UBS

⁷ Deutsche Bank, Themen international, Aktuelle Themen 477

⁸ BIZ Quarterly report December 2009

⁹ BIZ, Quarterly Review, December 2009

and Nomura International. These firms do not only act as traders and market makers - i.e. they are always prepared to give a purchasing offer (at bid price) and a sales offer (at offer price), for which they normally receive a certain remuneration by the exchange or the clearinghouse; they also actively use the derivatives trade. It is estimated that up to 40 percent of the profits of the investment banks Goldman Sachs and Morgan Stanley originated from the trade with OTC derivatives. ISDA, which develops among others the model contracts for OTC trading, has 810 member institutions from 57 different countries. An argument for the hardly existing regulation of these markets was that here highly professional traders would be operating who were able to assess the associated risk. A wrong assumption, as was shown during the crisis, in particular with regard to the dramatic developments at Lehman Brothers, AIG and Bear Stearns, which were also among the big players.

Apart from the large banks, there are also hedge funds active in the market. Due to lower regulation (in comparison to investment funds) large room for the development of "sophisticated, unconventional and proprietary investment strategies"¹⁰ is open. But also other undertakings, government institutions and other end consumers¹¹ are acting as buyers and sellers in the OTC derivatives market. 94 percent of the 500 largest globally active companies are using derivatives. Most popular are foreign exchange derivatives, followed by interest rate and commodity derivatives.

The trade confirmation and the execution of transactions vary according to OTC segments; among others via Swift, Markit Wire and CLS (Continuous Linked Settlement System) in case of foreign exchange derivatives.

CDS Segment

With regard to CDS, the trader concentration is particularly high in case of those, which are exclusively traded OTC. After Lehman Brothers, Merrill Lynch and Bear Stearns had left, the concentration process continued so that the currently five largest institutes are responsible for 88 percent of traded volumes. This causes a linkage of their financial standing, as the institutes are exposed to the same external shock. There is also the concern that due to the strong linkage of the market participants the collapse of one of the major market participants could lead to serious distortions on the international financial markets.¹¹

The financial institutes, however, do not only act as CDS trader, but also - as in the case of other derivatives - as buyers and seller of CDS; on the one hand to hedge risks and on the other hand to deal in proprietary trading. Banks dominate with a share of 40 percent (33 percent trade, 7 percent hedging) the sale of CDS and with a share of 54 percent (36 percent trade, 18 percent hedging) the purchase of CDS. Apart from that, hedge funds are also active in the market, which mainly use them

¹⁰ Hull

¹¹ Deutsche Bank, Themen international, Aktuelle Themen 477

for proprietary trading (31 percent market share as seller and 28 percent as buyer) and insurance companies such as AIG that almost exclusively act as sellers.¹²

The ten largest reference debtors in the company segment are (in this order) GE Capital, Deutsche Bank, Bank of America, JP Morgan, Goldman Sachs, Morgan Stanley, Wells Fargo, Merrill Lynch, Deutsche Telekom, Royal Bank of Scotland. At least 6 of these are simultaneously active as CDS traders.

4. Market organisation via Clearinghouses

Concerning OTC trading, the contractual partner must negotiate any contract details (e.g. definitions of loan events and processing procedures) individually. Even if trading does not directly take place at stock exchanges, there are - apart from purely bilateral connections - also structures, where a clearinghouse is interposed between two trading partners.

4a. Economic task

Clearinghouses are created where a large number of mutual claims by different creditors and debtors exist. Instead of setting off each individual claim, the parties agree on settlements. Only the positive resp. negative balance, which exists at a certain agreed date, has to be balanced. Such settings off agreements are concluded in various forms (setting off by contract, contract about setting off. In international business and bank practice this is referred to as "netting" ("net" for Net) without differentiating whether the respective agreement - apart from its mathematical netting function also has the legal quality of a netting contract.

4b. Legal construction - Liability and Transparency

The basis for the work of the Clearinghouse is normally a netting agreement. It has the purpose of reducing several gross amounts by means of balancing to a net amount. The netting agreement has the following functions:

- a) Instrument of equity management to reduce the equity costs by establishing a net claim
- b) Reduction of loan and counterparty risk: the requirement for this function is that the agreement actually effects the repayment of the gross claim to be set off. Otherwise, for example in case of swap transactions, the bank - if the partner defaults - has to reflect the default payments of and to the swap partner. The replacement costs, which the bank incurs, are the measurement for the loan risk deriving from the swap transaction. The amount of the open position is determined by the date of the insolvency of the partner and the then valid market prices.

¹² Deutsche Bank, Themen international, Aktuelle Themen 477

c) Rationalisation effect: payment set off and netting maintain the competitiveness of the bank. They are significantly contributing to the reduction of transaction costs as instead of several payments only one claim has to be entered.

However, attention must be paid to the fact that in case of inter-bank payment transactions both terms “netting” and “clearing” are mostly used as synonyms. Legally, however, they must be strictly divided: clearing only refers to the procedure of a settlement, where data and/or documents concerning money and security transfers are submitted or swapped at one single place (the clearinghouse or netting office). Depending on the system, outstanding net positions of the individual settlement participants might be charged. The term “netting” includes a consensual set-off and thereby a legal valuation of the settlement procedure.

Clearinghouses are normally based on multilateral clearing (without set-off) or netting contracts (with set-off). In case of the latter, the contractual relationship between clearinghouse and netting partners and thereby the liability is differently structured:

- Multilateral Netting:

The function of the netting office is limited to the function of an agent for the netting participants - it is not liable for its fulfilment. In case of payment transactions, a central net instance (Clearinghouse, “Clearing House”) acts as a mediator between the associated parties, by providing them with set-off facilities and personnel and informing them about net balances.

All parties are linked by a multilateral netting agreement (settlement): it is a multilateral agreement about the mutual setting off of claims and debts between more than two persons, with the aim to either not to pay back any debts at all or to repay them by carrying out only small cash payments. The agreement of all members to the global set-off instead of cash-payment is based on the idea that all participants regard themselves as equally solvent thus rendering irrelevant who pays their claims and repays their debts. Not every settlement participant must be creditor and debtor of another settlement participant at the same time. The common purpose of the parties involved in settlement transactions is the simplification of payment settlements among each other, the avoidance of superfluous to and fro payments and the repayment function. The economic advantage is the increase of liquidity of the participating trading partners, as they do not require any equity commitment for the transactions processed by the clearinghouse.

The set-off of individual payments can take place by forming a single net balance (net-net-balance). The net-net set-off position of a participant is the sum of all transfers, which he has received at a certain time by all other participants, minus

his own transfers to all other participants. The net-net set-off positions of all participants always result in zero. Typical for this system is the delay of the set-off of all claims in the settlement procedure until a fixed settlement date. This time delay between entry and set-off of the claims is an element of uncertainty in the clearing system. The longer the period, the larger is the danger of realising the systemic risks (see below "unwind procedure")

Gross-settlement systems or real-time gross-settlement systems try to avoid this risk. Instead of the one-off set-off at the end of a certain set-off period, each payment is individually entered following the receipt of the respective payment notification on the settlement account of the respective settlement participant. A prior set-off of claims of the settlement participants does not take place. Therefore, these payment systems are clearing procedures but not netting procedures. Timely delays can only occur if in case of a lack of provision of coverage by a participant, the payment order is held in a queue or rejected until the necessary funds or the expansion of the existing credit lines and collateralisations are available.

Digression:

In case of both systems, precautions must be taken if coverage is not available:

Finality of the settlement - reverse transaction or "unwind" procedure

These procedures are devised for the case of the lack of coverage by a settlement participant for whom the netting out has resulted in a net debt. By consequence, the payment orders and services, which this participant has fed into the system during the settlement period is removed from the balance. The balancing procedure is carried out again, this time without the participation of this party. At the same time, the delay of the final payment set-off with the insolvent settlement participant involves a lending of the participants with a net credit balance and associated with it a liquidity risk. In addition, participants, who can no longer use the net claim of the default participant to balance their own net debit positions, are exposed to a high liquidity requirement. This can lead to the absorption of funds, which were actually intended to fulfil transactions in other markets or currencies.

Hence, this results in a significant cross-market risk potential. These liquidity risks are even reinforced by the fact that financial institutions have the habit of using funds to be expected from the settlement, before the appropriate balances have been entered. The calculation of unexpected debit balances associated with the necessity of a short-term raising of funds can lead to significant liquidity difficulties, including the danger of domino effects for other bank and financial market segments.

To avoid such a default risks, it can be agreed with the clearinghouse to close the account immediately. It is, however, problematic to determine that the clearing-

house is obliged to warn the other participants of imminent insolvency. Such an obligation is difficult to reconcile with the concern of protection of the bankruptcy law, as it would be equivalent to anticipated bankruptcy proceedings, which would advantage certain bankruptcy creditors (namely the netting partners).

- Improper multilateral netting

The role of the central clearinghouse is not limited to that of an agent for the participants. By contrast, it is directly involved in the netting process, due to the fact that the settlement participants assign their claims to the clearinghouse as the "central counterparty". In this case, the individual participants conclude agreements with the clearinghouse, integrating them into the contractual relationship of the original contractual partners as creditors and debtors and whereby a current net position is held for each member. The actual settlement only takes place between the clearinghouse and the respective party, i.e. in a two-person relationship. Each settlement is divided in two corresponding settlements ("matching pair") between the settlement participants. A direct mutuality is created by pairing the settlement office with an individual settlement participant. At the same time, the shareholders of the clearinghouses bear the financial standing risk of the participants, which must be absorbed by complex loss-sharing arrangements and liability constructions.

One option represents the shifting of the loss-sharing duty to the default member within the framework of a centralised settlement system (defaulter-pays model) e.g. by margin payments, a proportional division of the loss-sharing duty to the other members within the framework of a decentralised system with bilateral loan limits (survivors-pay model) or a mixed form, according to which the still existing participants have to bear the losses in accordance with a prior agreed allocation formula; the losses, however, are initially reduced by the securities deposited by the default member. Securities might be the hedging through guarantees or Insurances (compare London Chaps, New York Chips, whereby the latter is collateralised by American federal saving bonds).

4c. Transparency

In any case, the obligation to trade via clearinghouses will improve transparency. However, as not only trading volumes and trade flows are to be registered, but tax evasion is also to be avoided, one has to take the technical particularities of these authorities into account. Normally, the participants in the clearinghouse receive officially known electronic mailboxes to process international transactions. In accordance with the original foundation concept of the clearing business, only serious financial institutes are to receive mailboxes, whose numbers will be - as the bank sort code - revealed and generally known. Financial institutes can use the clearinghouse to enter booking orders worldwide, which are deposited by the clearing computers in the accounts of the receiving banks. With regard to interna-

tional monetary flow, these are central bottlenecks through which all transnational deposit money flows. This basic idea, however, was changed with increasing “portfolio management”: following the wish of financial institutes with international branch network, several mailboxes were opened for internal accounting, however, only one was made known to third parties (in order not to confuse them). The others, which remained unpublished were used for internal use. Unpublished in this context means that the accounts are only known to the opening bank and the clearing branch.

This, however, also means that the course of large monetary flows can be disguised in the system. This is added by the fact that within the scope of the shadow bank system, almost all major banks have locations in tax heavens resp. offshore, which are connected with the center via secret accounts at the Clearinghouses. Based on this construction bank accounts can change the tax law via a computer transaction, by carrying out a transfer of from the domestic account to an offshore account within the same bank resp. financial institution .

Result - Clearing:

Each settlement system harbours the inherent danger of a legal interest collision in case of the default of a participating member of the system. Taking out a settlement participant in case of imminent insolvency is the legal mirror image of the relevant systemic risk in the settlement procedure. At the same time, it is the correlate of the accessory obligation to make payments easier between the settlement participants without taking into account what the balancing payments are for and if achieving their purpose might be at risk. Therefore, the clearinghouse does not fulfil the function of market supervision.

When selecting the contractual construction of a clearinghouse it is a decisive factor whether the risk of multilateral set-off should be absorbed by involving the clearinghouse or whether their function is limited to the purely organisational support of the multilateral settlement.

In order to avoid forum shopping and the risks of net payment systems, the “real-time” gross payment system might be a solution, where each payment is individually entered and finally credited if coverage has been obtained or a credit line exists. Here the liquidity and loan risk does not exist, provided the clearinghouse is entitled to reject payment orders, which exceed the balance or the credit line of the principal (financial institute) or to transfer them to a queue. The settlement is postponed until coverage has been obtained or the credit line has been increased, whereby this again creates a credit/liquidity risk, if relevant limits (caps) inherent to the system are not introduced. However, greater security incurs greater costs, as a settlement prior to depositing the payment and cost savings associated with it do not apply.

In order to achieve transparency and to avoid tax evasion via the clearinghouse only financial institutes with real business activities should be allowed to open accounts with the clearinghouse and not letterbox banks and "off-shore" tax oasis subsidiaries. Unpublished accounts must be banned and consequent clearing system supervision must be introduced to impose sanctions on financial tricks.

Overall, the newly created clearinghouses - in contrast to the already existing such as Swift, Euroclear, Clearstream - must be subject to the control of a supervisory authority. An obvious choice would be the supervision by the newly created European Security and Markets Authority.

5. Crisis relevance of the derivatives

The impact of the derivatives trade is mainly judged from a microeconomic point of view, for example which impact products have on the risk position of a financial undertaking. Non-financial undertakings only refer to costs of hedging transactions. This approach, however, is not adequate as the organisation of the derivatives market concerns the entire economy. Employees are not only asked to pay in crises. Even without a current crisis is the impact of OTC trading by no means restricted to the financial market. From a macroeconomic point of view, one can identify the following problems:

5a. Risks

As described above, the parties enter into long-term contracts at the derivatives market. Apart from the common market risks, for example a negative development of share prices and other risks, they cause also further risks. In particular the default risk (credit risk), as borrowers and their counterparties (insurers) in derivative transactions might not be able to fulfil their payment obligations. The counterparty risk concerns the financial standing of the counterparty resp. its probability of a default. The systemic risk describes the circumstance that certain developments - such as the collapse of real estate prices - could create difficulties for several market participants at the same time. In the case of the collapse of Lehman Brothers, it was for example difficult to number the default risks of transactions of Lehman Brothers acting as a loan insurer or issuer of various financial papers.

The depiction of the risks in key figures resp. the question how high the equity commitment should be is currently being discussed. One of the difficulties is that the risks cannot be clearly shown because of the lack of transparency.

5b. Transparency and Standardization

The serious lack of transparency of OTC trading is a problem by itself as large volumes flow via this sector. The less standardized and the more complex the financial instruments are, the more difficult it is to understand the associated risks and to determine the value of the contracts. Although aggregated data on traded derivative types exist (for example with the Bank for International Settlements, BIZ), there is hardly any clarity how large the volumes of the open positions of individual financial institutions are, so that counterparty risk is difficult to estimate both for the market participants and for the supervisory body. Current prices of OTC derivatives can be obtained from traders, whereas it is more difficult to find out post-trade evaluations of derivatives. With regard to trade, in case of OTC derivatives - in contrast to "normal" securities - investment companies are not obliged to forward any transaction reports to supervisory bodies. The EU Commission recognizes a general information advantage of the major financial institutions.

This problem does also apply to the CDS market: other OTC derivatives are dependent of variables where all market participants have the same access to information, such as exchange rates, share indices, commodity prices, etc. In case of CDS, information about the financial standing of the reference debtor is not generally available; however, those institutions, which have business relations with the debtor, have an information advantage. This information asymmetry does not only contribute to the high volatility of CDS spreads, it played also a fatal role in the financial crisis. Because there was also too little information about the various risk positions, the assessment and control of the counterparty risks became increasingly more difficult or even impossible. During the crisis, this led to the complete drying up of the market resp. to a bank run on affected institutes.¹³ This lack of transparency also contributed to the wrong assessment of the American authorities who claimed Lehmann Brothers would not be a systemically important bank.

5c. Complexity of the products and cross-linkage

A fundamental difficulty also results from the multi-layered interconnections of individual institutions via derivative relations. If difficulties occur in a segment of the system (for example with credit default derivatives), these can rapidly spread to other undertakings and even the entire financial market. Apart from other reasons, the Insurance Group AIG had to be rescued because it had concluded derivative contracts with many financial market players outside its insurance core business. Therefore, a company, which was not an investment bank, held a key position in the global financial system. AIG insolvency would therefore have been (also in combination with the consequences of the Lehmann insolvency) a kind of "Super-GAU" in the international financial sector.

¹³ Deutsche Bank, Themen International, Aktuelle Themen 477

Based on the grey area of the trade, away from the public, and the very high complexity, there are also incentives to use the derivatives trade for tax advantages or for “dressing up the balance sheet”.¹⁴ In particular, in markets with only a few participants, one cannot exclude market manipulation. Fundamentally, the macroeconomic use of the high complexity of various products, is highly questionable.

5d. Volatility of prices, bond interest rates, exchange rates, CDS spreads

Real economic prices of food products or commodities, in particular oil, are influenced by the derivatives trade. High prices in these sectors have a negative effect on distributive justice, high volatility makes planning more difficult.

Digression:

- **Commodity derivatives:**

In its World Trade Report 2008¹⁵ UNCTAD states that a part of price increases of commodities are the result of the greater presence of financial investors in markets for agricultural commodities. In 2008, with the exception of tropical beverages, commodity prices were historically high. The EU Commission also reaches the same conclusion.¹⁶

According to UNCTAD, in 2007 the trade with commodity papers (index funds, futures and options) increased by 32 percent.¹⁷ At the same time, between June 2005 and June 2007 the value of commodity futures, which were traded outside the stock exchange, rose by 160 percent.¹⁸ The number of outstanding futures and options rose three-fold from 2002 - 2008. At the same time, the notional price for OTC commodity derivatives rose 14-fold.¹⁹ The number of contracts between October 2007 and the end of March 2008 at the Chicago Commodity Exchange rose by 65 percent without real agricultural production being increased. The US supervisory body for the Trade with Commodity futures (CFTC) stated in September 2008 “that the commodity markets caused price distortions or possibly even a speculative bubble”.²⁰

¹⁴ Die Zeit 17.12.2009, “Die Wall Street siegt”

¹⁵ Unctad, World Trade Report 2008:6

¹⁶ Mitteilung der EU Commission KOM (821) vom 9.12.2008

¹⁷ Peter Wahl, 2010: Eine rhetorische Schwalbe macht noch keinen Reformfrühling. Hintergrundpapier zu EcoFair-Trade-Konferenz, 2010

¹⁸ s. FN 17

¹⁹ Unctad, World Trade Report 2008:55

²⁰ CFTC, 2008: Remarks of Commodity Futures Trading Commission in: Peter Wahl, 2010: Eine rhetorische Schwalbe macht noch keinen Reformfrühling. Hintergrundpapier zu EcoFair-Trade-Konferenz, 2010

The example US wheat²¹:

The "Permanent Subcommittee on investigations" in the USA has looked into excessive speculations on the US wheat market. It stated in its report (2009) that the speculative investments in commodity indices had increased 10-fold during the past five years, of estimated 15 billion US Dollar (2003) to about 200 billion US Dollar (mid 2008). Wheat shows similar increases. At the Chicago Mercantile Exchange the contracts on average rose from 30,000/day to ca. 220,000 contracts/day by mid 2008; in December 2008 they fell again to about 150,000 contracts/day. 35-50 percent of these involved index speculators. Until then wheat had only been traded by means of cash transactions.

The USA disposes of three exchanges trading wheat: Chicago, Kansas and Minneapolis. In the past four years, the difference between the exercise price and the "future price" rose ten-fold: the difference between exercise price and "future price" in 2005 was at 13 Cent/bushel wheat²², in 2006 at 34 Cent, in 2007 at 60 Cent and in 2008 at \$ 1.53/bushel wheat. During the same period, the Chicago Mercantile Exchange observed an extremely strong presence of "future traders" in the wheat market; they held up to 50% of the outstanding contracts. This high demand and the shorter supply resulted in a further increase of wheat prices.

This development is also shown with regard to international agricultural commodity prices, which increased extremely in 2007 and 2008 and then fell again.

For example, the wheat price of \$ 3/bushel rose to over \$ 11/bushel by mid 2008; by the end of 2008 it had fallen again to \$ 3/bushel. Europe experienced similar price changes. In January 2005 the price for bread wheat at the Rouen stock exchange stood at 104 €/t, in January 2008 at 267 €/t and in January 2009 at 165 €/t, in March 2010 at 115 €/t.²³

These findings were also confirmed by the OECD.²⁴ It traces these back to various reasons: lower commodity stores, but in particular the integration of the agricultural market into the energy market, in especially because agricultural commodities are used for utilizing bio energy. According to the OECD, other factors were also responsible for these price increases: low interest rates and low results bring non-commercial investors to the agricultural markets. For example institutionalised investment funds, which trade on "long-term commodity indices" instead of specific markets. The OECD assumes that this might have played a role with regard to the high prices for futures, even though hardly any empirically proven data exist.

²¹ US Senate Permanent Subcommittee on Investigations, 2009: Excessive Speculation in the wheat market

²² 1 bushel Wheat = 27,2 kg Wheat

²³ Vgl www.ama.at, source: European Commission

²⁴ vgl: OECD Group on Commodity Markets - Working Party on Agricultural Policies and Markets: Price Volatility and Price Transmission, 29-30 März 2010

Conclusion - Will price volatility rise in future?

Agricultural production depends on energy and is increasingly used as feeding stuff and for generating energy. Commodity prices are more and more linked to the oil price and the volatility of energy prices will have an impact on agricultural commodity prices. Another new element is the presence of major institutional investors in the futures markets, thus increasing the potential for speculations, which could influence food product prices within a short time. Finally, turning away from stability policy and reduced grain stocks have created an environment for greater price volatility.

- **Futures and energy prices**

The subcommittee²⁵ concludes that the hedge fund Amaranth-Futures had destroyed the US prices for “natural” gas-futures contracts because of its major purchases at the New York Mercantile Exchange (NYMEX) and by “swap contracts” at the unregulated Intercontinental Exchange (ICE).

Gas futures are traded at the NYMEX and gas swaps at the ICE. Data shows that the prices of one exchange influence the prices of another. The difference in the regulation between NYMEX and ICE results from the “Enron loophole” in the “Commodity Change Act”. This releases the electronic energy market (ICE) from CFTC supervision and regulation, which means “no limits” and no governmental supervision for the trade at the ICE.

The facts:

A single hedge fund, Amaranth Advisors LLC, dominated the US gas market in 2006. It is one of the largest hedge funds in the US gas market and accumulated an extremely high number of gas holdings at both NYMEX and ICE between 2006 and 2010. At the same time, this hedge fund accumulated such a volume of gas in 2006 at both NYMEX and ICE that this had a direct impact on US gas prices, which increased the price volatility in the US gas market. Amaranth’s position in the gas market caused excessive distortions.

The “Commodity Future Trading Commission” (CFTC) defines a “major trader” as a trader, who holds at least 200 contracts. NYMEX examines traders, who exceed more than 12,000 contracts in one month. Amaranth held 100,000 “natural” gas contracts in one month, which meant 5% of the annual US gas consumption. At certain times, Amaranth controlled 40% of all outstanding NYMEX gas contracts and about 75% of all outstanding contracts during the winter season. Amaranth’s excellent position as trader caused significant price movements at key gas futures

²⁵ Permanent Subcommittee on Investigations - US Senate, 2007: Excessive Speculation in the natural gas market

and price relations. For example, Amaranth's selling of contracts for supplying gas during the winter months in combination with Amaranth's selling of gas contracts for supplying gas during the summer months increased the prices for "winter gas" compared to those of "summer gas". In 2006, this price margin between the winter price and the summer price was much higher than in previous years - until the collapse of Amaranth, as a result of which the price margin returned to its normal level.

The regulatory system had not been able to prevent the excessive speculations of Amaranth in the gas market. The current law demands that NYMEX monitors trader positions to establish whether these are too big. When a trader exceeds a certain "extent of liability", the Securities and Exchange Commission (SEC) can ask the trader to reduce the position.

The Amaranth case shows two critical flaws in the laws of the US Securities and Exchange Commission:

- 1) NYMEX has no routine access to ICE information. As a result, NYMEX in its current position is not able to determine whether a trader position is too big or not.
- 2) If NYMEX orders a trader to reduce his positions to NYMEX, the trader can transfer them simply to ICE where no limits exist. And this is exactly what Amaranth did when NYMEX ordered it in August 2006 to reduce its gas contracts - they were simply transferred to ICE. That way, Amaranth held the same number of gas contracts as before, with the difference that it traded a smaller part at a controlled market (NYMEX) and a larger part at an uncontrolled market (ICE).

The parties, who were disadvantaged by the increased gas prices, were schools, hospitals and industries, which obtained gas at excessive prices. Many of their costs were passed on to consumers.

The following recommendations of the subcommittee are a result of these mistakes:

- 1.) Congress must remove the "Enron loophole"
- 2.) CFTC shall supervise the aggregated positions at NYMEX and ICE. CFTC should strengthen its monitoring system to prevent excessive speculations
- 3.) Congress should increase the CFTC budget and consider imposing a CFTC levy on traders to cover the additional costs.

• Futures markets and oil price

A common argument of economists concerning the volatile oil price is first that the increase of the oil price in the past years could be explained by the rising demand, in particular in Asia. Secondly, speculations could not influence the oil price because they neither produce nor consume oil. This argument is based on the assump-

tion that a clear division exists between the prices on physical spot markets („wet barrels“) and the prices on futures markets („paper barrels“). The practice on the oil markets, however, is quite different: spot prices are agreed long before an oil tanker unloads its cargo. That means that normally prices are agreed ca. three weeks prior to a delivery. Generally, they represent formula prices, oriented on „paper barrel“ prices. Hence, the spot price is influenced by the futures market and not vice versa.

Following the oil price boom in 2008, several institutions addressed the question regarding the influence of speculative factors on the oil price. The fact that the oil price had significantly risen since the beginning of 2009, although this price increase is in diametrical contradiction to fundamental data (falling consumption at constant supply) strengthened those critics, who regarded the „paper barrels“ as the main force for the increasing oil price. Even the International Energy Agency, which in the past acted always very cautious concerning this question, does now concede that speculative forces artificially inflate the futures market and are therefore able to also control the physical spot market. Statistical analyses confirm this image of increasing entanglement of spot and futures markets. This entanglement is above all explained by the market entry of index investors, swap dealers and hedge funds.

In the end, the close entanglement of „wet barrels“ and „paper barrels“ results in the fact that the purchase of futures contracts has the same impact on the oil price level as the purchase of a physical delivery. That way, fair prices, i.e. prices, which are based on fundamental data, are distorted. This market uncertainty about the fair price of oil leads to increased price volatility, which in turn provides an ideal investment environment for speculators who are prepared to take risks.

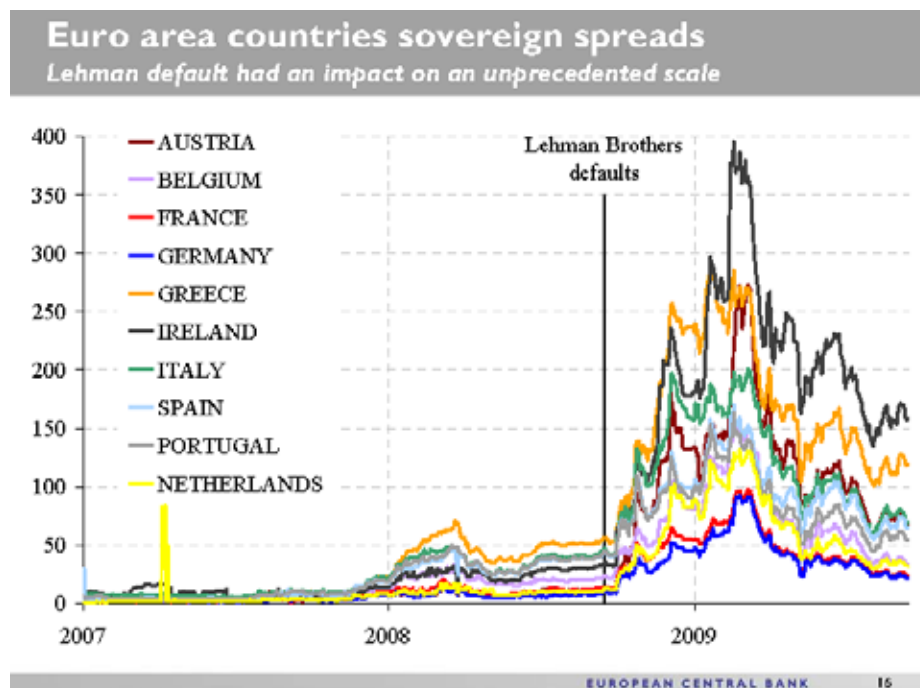
Conclusion:

To identify the speculation share of the oil price seems to be difficult. Scientific analyses of institutions or authorities (e.g. IEA, CFTC, Deutsche Bank) increasingly confirm that speculations do influence oil price increases; normally, however, the share is not put into concrete forms. This speculation share was only rarely specified. The last attempt was made by Steffen Bukold (EnergyComment), who estimated the current „speculation premium“ (April 2010) at circa 30 \$/b; hence he stated a speculation share on the oil price of 35-40 percent.

Although the trade with derivatives shall hedge against volatility, the increasing significance of the derivative market caused an increasingly unstable development of the underlying assets themselves, i.e. of interest rates, exchange rates, prices, indices etc. Similar to food product and commodity prices one can assume that the derivatives market contributes to volatility, in particular where the trade of derived securities with underlying transactions falls apart.

Credit insurance: Since the collapse of Lehman Brothers, one can observe the following connection between CDS spreads of banks and states: a part of the banking risks has been transferred to states and the CDS spreads of the states react strongly to those of the banks. With the increase of risks for the countries themselves, however, the risks of the banks do also increase again, in particular if they become "too big to safe". Apart from that, banks sell CDS referring to states in which they have their own base (and which are bailed out by governments in emergencies).

The diagram depicts the drastic increase of the volatility of CDS spreads of Sovereign CDS since the collapse of Lehman Brothers:



Source: Slides „Sovereign Credit Default Swaps: Functions, Importance and Information Content“ of David Zochowski, presented at an event on the subject of CDS of OeNB on 28.9.2009

5e. Refinancing and default risk

The refinancing costs of businesses and states are dependent on the development of the OTC market in general and on the CDS market resp. the depicted development of CDS spreads in particular. The problem: during a boom, CDS spreads are generally undervalued, during a downturn, however, they might be overvalued. This has an impact on the cost of outside capital, which increases in difficult situations. In extreme cases, loan insurances trigger insolvency themselves.²⁶

²⁶ EU Commission, Working Paper 3.7.2009

This applies in particular to “naked CDS”. The occurrence of the credit event resp. the default of the reference entities are here in the economic interest of a counterparty. Hence, CDS spreads do not only always increase when the financial strength of the reference entity is actually decreasing. They can also rise if traders assume that they can sell the CDS at a higher price to other investors (mechanism of bubble formation).

Digression: CDS and Greece

Greece is an example for the negative impact of the CDS Trade: according to a report of Barclay Capital, the interest of Greek government bonds would be significantly lower if investors on the CDS market had not speculated on increasing risk premiums. At the end of January, the volume of CDS contracts tripled in just one week and strongly fell again at the beginning of February. Speculators had betted that the CDS spreads would rise after a certain time.

If the reference entity (debtor of the underlying transaction) and the counterparty (protection seller) default at the same time, this default risk increases dramatically (jump risks), which can render the credit insurance worthless for the protection buyer worthless. Due to the frequent double role of the “big player” as reference entity and as a counterparty it is also highly probable that intensive reciprocal effects will develop between credit and counterparty risk.

Finally, by hedging with CDS the interest in the financial strength of the reference entity will fade resp. the incentive of the creditor to monitor the granted credit will decrease (moral hazard). There is a special problem if as a result the risk is transferred to the public sector, which has to step in in the event of loss to prevent any further escalation. It can also happen that lenders are over insured with regard to a certain transaction, whereby they even benefit from the insolvency of the debtor (“empty creditor”). The sellers of CDS generally assume that the insured credit event - which they often do not know - will not occur. In this sense, CDS have developed from a hedging instrument to an instrument for generating an income.

Example AIG: in the second quarter of 2008, the insurance company sold CDS at nominal amounts totalling 307 billion Dollar. During the financial crisis it incurred relevant losses of 30 billion Dollar, whilst the income during the first six months of 2008 was only 157 million Dollar.

5g. Problematic trade practice - Short sales

The seller sells securities he does not own in the intention to purchase them cheaper at a later moment and to profit from the difference between sales and purchase price. The short sale is not decisively measured by ownership resp. the ownership of the (short) sold value at the time of the contract conclusion, but whether under consideration of the current position in the share the short sale causes

an open value-variable obligation in the share. This is the “short position”. From this transaction results the participation of the seller in changes in the value of the security.

Based on the value-variable price of the product on the seller side, the contract includes a strongly speculative element, which resembles a bet on the seller side. This is added by the fact that none of the two contractual parties investigates whether the subject matter of the sales contract is at all available on the market. Hence, more securities resp. derivatives can be sold than actually exist, which might incur compensation claims of the buyer against the seller (because of non-fulfilment) and extremely damage the stability of the financial market.

The short seller makes a profit if he succeeds to obtain securities at the market, which he had previously sold (short) at a higher price. The maximum profit of the short sale is limited to the market value of the sold shares. If the price increases, contrary to the expectations of the short seller, he might incur an unlimited loss.

The short seller uses the period between sales contract and fulfilment to stock up:

- a) by purchase: after entering into the value-variable obligation, he makes a purchase to obtain the securities due.
- b) by security lending, i.e. a non-cash loan. He uses the lent securities, which were transferred to him, to fulfil the claim from a short sale. Only at the later due date for returning the loan, the empty seller is obliged to purchase the relevant securities on the market. Security lending systems are offered by central depositories and major banks. The banks process short sale and security lending in the shortest of time (reflex like working processes).

Short sales can be carried out as a spot deal or as a forward transaction. Short sales are not regulated by the capital market.

Forms

- a) Naked short sale (uncovered short sale): at contract conclusion, the seller does not own the securities. The seller must in accordance with the Terms and Conditions of the stock exchange use the period of maximum two working days after conclusion date to obtain the securities owed or carry out a short sale in connection with a securities loan, which exceeds this period.
- b) Covered short sale: if at contract conclusion the seller owns the securities either through purchase or from a security lending, he assigns these for fulfilling his obligation.

Risks of short selling

Naked short sales can trigger strong price movements, which put the stability of the financial system at risk - apart from the interests of shareholders, undertakings

and stakeholders.²⁷ It is also assumed that naked short sales with shares of the affected companies cause or intensify liquidity bottlenecks, by making borrowing more difficult or preventing it altogether. Apart from that, one fears a manipulation of the market by spreading rumours. Naked short sales are in particular problematic because more securities resp. derivatives may be sold than exist resp. are available on the market. Furthermore, naked short selling particularly occurs where the backing via security lending, mainly because of bottlenecks - is difficult, i.e. when the short sale cannot be fulfilled or only at high costs.

The extent of the financial crisis suggests that businesses have systematically undertaken short sales concerning securities resp. derivatives without a real intention to sell in order to influence their price negatively, by flooding the market (apparently) with securities, which resulted in the insolvency of the affected undertaking. In daily business life, this so-called "abusive naked short selling" is difficult to distinguish from "serious" short selling, which fails because of the inability to perform (because no relevant securities can be obtained). Both cases can only be distinguished by the subjective characteristic of the lack of intention to perform, which in practice can only be conclusively derived from the behaviour of the market participant.

5h. Specific risks of individual market segments

Interest rate derivatives: even if the market is apparently less precarious, one should, due to its immense volumes, put greater focus on it. The great fluctuations of gross market values - also in contrast to the development of the volumes - require a closer look. The impact of the trade with interest rate derivatives on the real interest rate and the real economy have to be examined.

The developments in Greece demonstrate the paramount importance of increased transparency, whereby it seems probable that other governments have also used this instrument (e.g. Italy).

Digression: Interest derivatives and Greece

The Greek budget was beautified by means of Cross Currency Swaps (CCS - a combination of interest rate and currency swap) to gain entry into the Eurozone. The intention was to exchange government debts in foreign currency (Dollar and Yen) of ca. ten billion Euro for a certain period in Euro and then back again. What was unusual: notional exchange rates were used, as a result of which Greece received a far greater sum in Euro for her foreign currency amount than corresponded with the actual exchange rate. Therefore, Greece received an additional loan of 1 billion Euro, which, however, was not shown in the balance sheet.

²⁷ Due to these price movements, The Federal Financial Supervisory Authority (BaFin) has banned since 19.9.2008, extended to 31.1.2010 uncovered short sales of shares of elf-Dax resp. M-Dax listed credit and financial institutes, stock exchange operators and insurance companies, which, because of their macroeconomic significance appeared to be worth of protection.

Equity derivatives: due to its volume, this is probably a smaller market. Nevertheless, there are problematic characteristics, such as high concentration, low standardization and low collateralisation.

Commodity derivatives: here too one must focus on the non-standardized part of the market. The Commission announced that a proposal was developed for supervising the energy and gas market. It also wants to examine whether the market for emission certificates is sufficiently protected against insider dealing or market manipulation (see also item 5d). A comprehensive transaction position report to the financial authorities is also considered for the agricultural sector.²⁸

Foreign exchange derivatives: this market must be closer looked at not least because of strong exchange rate fluctuations.

6. Regulation plans

The European Commission has published an initiative with first proposals on the subject of derivatives in a Communication²⁹ whose most important elements are a central counterparty - also for a better assessment of the counterparty risk - and a certain standardization of the contracts, as well as an increased transparency.

Apart from that, it examines the role derivatives have played during the financial crisis, the advantages and disadvantages of the derivatives markets and how risks can be reduced.

With regard to OTC contracts, the Commission suggests the use of standardized contracts, as well as electronic order confirmations, central data storage and automatic payments in order to improve the stability of the financial market. Apart from that a central clearinghouse is planned in particular for loan derivatives. According to this system, derivatives would be processed via an agent, instead of being swapped privately. The aim is to reduce costs and risk and at the same time increase security. The financial industry is invited to set up one or more of such clearinghouses in Europe by the end of July 2009.

Apart from that, the Commission has published two working papers: the analysis of the OTC derivatives markets³⁰ and a consultation document in form of a detailed questionnaire³¹. Following a public hearing (end of September 2009) on the results of the consultation, law initiatives or other measures can be expected by mid / end of 2010.

²⁸ Communication of the Commission dated 20.10.2009

²⁹ COM(2009)563

³⁰ SEC (2009) 905

³¹ Position Paper of AK from 31.8.2009

7. Demands from the point of view of the Chamber of Labour

7a. General objectives of the regulation

The basis of the considerations for structuring the derivatives market must be the question, which macroeconomic benefit results from this market segment and which macroeconomic dangers are associated with it. The question: "How can individual companies maximise their yield or reduce their costs?" cannot be the fundamental concern for using a certain organisational structure. The question must be: *"How can we organise the economy so that as many people as possible can have a high standard of living in a stable environment."*

With regard to the second question, it is extremely doubtful whether the speedy development of the trading volumes at the OTC market has to be regarded as positive, considering all the accompanying symptoms such as lack of transparency, volatility, complexity and market concentration. There is cause for concern that the actual function of derivatives, i.e. hedging against risks of real economic transactions is more and more pushed to the background and that speculation and the aim to achieve maximum yields become the top priority at the derivatives market.

There is also no justification for the high degree of lack of transparency. What is the positive macroeconomic effect if immense volumes are traded apart from the public?

Which advantages do non-transparent networks have, which are hardly accessible by the public, which must nevertheless live with the results of enormous transactions within these networks - be it in form of increasing commodity prices or CDS spreads?

The continuation of such "secret associations" on the financial market should be rejected, in particular as the default liability must be borne by the "uninformed" public.

The basic function of derivatives, i.e. hedging against risks, must be guaranteed. Companies should also consider whether a transparent market, where prices can be compared, does not meet their interests more than hedging via exotic tailor-made derivatives. From an economic-scientific point of view, asymmetric information is regarded as a significant source of market failure. Trading outside exchanges must therefore be rejected also from a traditional economic point of view.

Therefore, trading derivatives via stock exchanges must be the target. This does not only create transparency, but also enables better risk assessment. Although the central clearing aimed at by the EU Commission preferable to the current situation, it can only be an intermediary step. The regulation authority must also be

given intervening as well as product control competences (Finance MOT, in German "Finanz-TÜV").

One must also question the practice of dividing risks, followed by difficult efforts to show these risk parts as indicators. It is doubtful whether this mutual complexity of products and key figures increases the stability of the system or only disguises the true extent of the risk.

7b. Concrete need for regulation

From the point of view of the Chamber of Labour, the analysis above results in the following focal points in order to prevent a financial crisis in future:

1.) Which products are economically necessary and useful?

Only those derivatives, which apart from a speculation element also have financing and hedging elements can be considered to be looked at in more detail. This is particularly relevant to CDS and commodity derivatives.

The financial world claims that the market participants had in any case started a number of initiatives, which target an increase in transparency and a reduction of systemic risks, e.g. reduction of counterparty risks and processing of new transactions via central counterparties.

However, these measures are not sufficient to solve the problems associated with derivatives adequately. This requires further steps:

1.1 The ownership of a CDS must be linked to the participation of an underlying transaction. Only an actually taken risk may be hedged. Should this not be possible for technical reasons, for example if the same bonds bundle is used several times as proof for the assumed risk or because it is a complex CDO-CDS or an index-CDS, a ban of these derivative form should be aimed at. In this case the negative economic incentives resp. the serious macroeconomic consequences of speculation are prevailing as well as the instability of the economy as a whole triggered by it.

1.3 Customized OTC derivatives should be judged critically as they are to be processed in accordance with the current plans of the EU Commission via a central clearinghouse without standardization. However, the derivatives which are most difficult to assess with regard to their risk, will be continued to be traded OTC. Such a distinction must be rejected.

2.) Which trade forms are sensible for the economy and serve for financing resp. the investment requirements of the real economy?

2.1 Trade, which results in an artificial inflation of the financial market by purchase or sale of non-owners of securities (short sale) may be useful for the real economy in exceptional business constructions, for the overall market, however, they can be replaced by other business constructions, which have a less damaging impact on the overall market. Therefore, the short sale of shares and derivatives has to be rejected.

2.2 In order to gain control again of the speculative element of trading with commodities, the number of contracts per person should be limited. Following the example of the Chicago Exchange, one could provide for a limit of 5,000 to 6,000 contracts per trader. Position limits, which require an upper limit for the position with a derivative, should go in the same direction.

2.3 Only persons, who are actually involved in agricultural commodities, farmers, farm workers etc. may deal with commodity contracts following the appropriate admission procedure.

2.4 OTC trading

The increasing OTC trade - about four fifth of the derivative market - has resulted in the fact that the open positions of the trading partner as well as the associated risks got completely out of control and that their rating could no longer be seriously assessed (see statements on the collapse of Lehman Brothers). Therefore, OTC trading with derivatives must be rejected and the entire derivatives trade must be processed via a central clearinghouse. There is no argument for the fact that such highly sensible positions, which have an impact on entire economies, are processed outside public view and control. That this can work well is demonstrated by the Leipzig Energy Exchange.

2.3 Central Clearinghouse (CCP)

The advantages of centrally traded derivatives lie in increased transparency and liquidity. There is much to be said in favour of carrying out not only the processing but also the trading via exchanges resp. relevant platforms so that it is possible for everyone to compare the products. In particular, non-financial transactions would benefit from the created competition and could select the best suitable product. At the same time, the clearinghouse should set up a central data collection point. The collected trade information would make processing and mutual balancing resp. settlement easier. This would increase the transparency for supervision and market participants. The information duties towards this collection point would have to be so comprehensive that detailed insight into the traded volumes and outstan-

ding risk positions both in aggregate as well as with respect to individual traders would be possible.

2.3.1 Privately organised clearinghouses (Swift, Chips, Chaps etc) are already existing. They are little or not at all linked and subject to different legal systems. Apart from that, they are not always subject to official supervision and fulfil different tasks (pure clearinghouse or central counterparty). Concerning Europe, the entire derivatives trade should be controlled by a central clearinghouse.

2.3.2 Open derivatives positions can be processed via a central counterparty, which either guarantees the balancing or the fulfilment of outstanding contracts. If the central counterparty assumes the risk of non-performance, it must examine the default risks carefully and supervise them constantly. In both cases (set off and/or assuming liability), the central clearinghouse becomes itself relevant for the system. It must therefore provide sufficient capitalisation and security of the members (in case of set-off) or of the shareholders (in case of assuming liability), who must step in if one of the members defaults; i.e. the default risk resp. the liability will be transferred to the shareholders of the counterparty resp. the clearinghouse.

It is therefore necessary to determine European resp. international standards for CCP at a high level to avoid regulation arbitrage - for example in form of too small trade margins and an undercapitalisation of the clearinghouse. In order to guarantee systemic stability it must be avoided that competition between individual clearing providers is based on lower security requirements (compare item 5d, Amaranth case) which would be at the expense of system stability. Clearing providers must be subject to the same rules. Finally, the question has to be clarified, how many clearinghouses will be registered, which jurisdiction they will come under and whether interoperability between them should be guaranteed.

Digression - Transition phase

From bilateral clearing to central clearing

Should obligatory handling via CCPs not (yet) be implemented, bilateral clearing must be linked to such high equity requirements that even extreme stress phases resp. crises cannot put the contractual partner at risk. It is the aim to steer all processes via a central counterparty.

3.) Regulation - Supervision

3.1 Supervision of the clearinghouses

The public supervision of the central clearinghouse should be carried out by the newly European Securities Regulator (CESR) planned to be established.

3.2 Tasks of the clearing regulator

Supervision

Its main task will be the continuing control of the conduct of the clearinghouse. This includes among others the allocation of accounts only to serious financial institutes in accordance with statutory guidelines. Secret accounts must be banned immediately. The use of algorithmic trade should be examined regularly for its economic impact and if required - if market distortion is detected - be banned.

Product control

Basically, only those derivatives should be processed via the central clearinghouse (CCP), which a) have been rated as tradable b) were certified. The claim that certain derivatives are not suitable for central clearing must be examined in detail in individual cases. This could take place within the scope of a general admission procedure, where also the economic usefulness and the risk are examined. The use must be completely banned if negative incentive effects or too high risks are determined.

With regard to "non-standardized" products, the relevant extra effort for the CCP must be reflected in higher fees.

Should certain trade forms (short sales) or derivative products turn out to be damaging to the economy, the regulator has to ban or suspend this deal.

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