# Chapter 4
# Ethical Problems of the Economy: Enron, Subprime & Co. – From Crisis to Crisis


**What Follows Why?**
The following chapter should give you an impression of current ethical problems in the economy.

**Learning Goals**
You should be able to describe the ethical problems in your own words.

## 4.1 Enron, Worldcom and Co.

Fraud used to be a rare problem for some individual companies. The series of business scandals started at the beginning of the twenty-first century. The global economy was shaken by a series of company crises in the USA. In order to improve their share prices, many companies in the USA had manipulated their records and touched up their numbers. In 2000 alone, 233 companies had to correct their accounts after coming under pressure from the SEC (Securities Exchange Commission), which incurred a corresponding drop in the share prices. For example, the second largest American telecommunications company, Worldcom, had manipulated its accounts by $7.15 billion, and the well-known copier manufacturer Xerox had falsely claimed billions in profits for 1998 and 1999, as well as pre-tax profits for 2000 that were $845 million too high. The most flagrant case was the model company Enron. The seventh largest US company was the darling of the stock analysts and the economic press for years. The press named Enron as the most innovative and admired American company and selected its board as one of the five best in 2000. Enron had increasing profits every quarter for 5 years in a row. Its profits were originally derived from gas pipelines, but it then developed into an innovative trade company. Enron dealt in everything in and around energy, especially with derivatives such as futures on weather development. From the CEO Jeff Skilling (as of 2001), who had a Harvard degree and came from the famous consulting firm Mc Kinsey, to the



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renown auditing firm Arthur Andersen, Enron had the reputation of representing the best that America's economic elite had to offer. Coming straight from Mc Kinsey, Skilling[1] in particular determined the strategic direction and the company culture at Enron. He wanted to get the very most he possibly could out of his employees. He demanded the highest level of commitment and quality in order to live up to the company slogan "The world's leading company." He implemented special incentive mechanisms, and traders were paid according to their success based on their contract volume. That wasn't enough, however. True to the Mc Kinsey motto of "Up or out," he organized employee rankings in which the bottom 20% would most likely be dismissed. In accordance with the "survival of the fittest" principle, he was always assured that his employees were performing to the top of their abilities. This incentive system was coupled with a strict hierarchical subordination; "If you didn't act like a light bulb came on pretty quick, Skilling would dismiss you" (a portfolio manager quoted in Fortune).[2] The CEO of Lehman is said to have had a similar style of leadership. His employees were to afraid to report their losses. And employees like Mike Gelband, Manager of the real estate department was made redundant because he warned about the rising risks of Lehmans real estate investments.[3]

How did the employees react? They did everything they could to make Skilling happy. The volumes of trade contracts were inflated. Supervisors were not notified of mistakes. No mistakes were allowed… at Enron. Apparently employees worked constantly and perfectly. As a whole there was an atmosphere of fear and mistrust and mutual cheating. The traders were afraid to use the restroom, because they feared that their colleagues could get information from their computer about positions that had come in, in order to bet on the market and thus devalue their positions. In the end the employees neither made Skilling happy, nor did they give him the productivity he wanted. He didn't reach them. His system of hardness and fear created the opposite of what he wanted. The productive forces of the employees were not directed in such a way that they achieved the company goals, which is why Enron was not able to be the "World's leading company."

In the end everything was exposed. Enron had claimed around $1 billion in nonexistent profits and the renowned auditor Arthur Andersen certified the manipulated balances, which not only spelled the end for both firms, but also shook the entire finance branch. How could something like that happen? How could the famous rating agencies, banks, investment banks and stock analysts all be mistaken? More precisely, why did no one notice anything? We will address this question later. First we must be aware that the balance sheets were faked, which made it very difficult for the finance market institutes to discover what Enron was up to.

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[1] Skillings was and is considered very intelligent, but arrogant as well. Just like Lay, he was charged with fraud, money laundering and conspiracy. The accusations proved difficult to prove however, since Skillings had given all instructions verbally. See Handelsblatt dated January 27/28/29 2006, p. 15.

[2] Mclean, Bethany (2001).

[3] See Der Spiegel 11/2009, pp. 43.

The honor of having uncovered the deceptions belongs to two short-sellers named Jim Chanos and Doug Millet,[4] who worked for the as yet relatively unknown company Kynikos Associates. They did not have any more information that other market participants, but they were apparently more attentive, because a lucrative short-selling business was in the air at Enron, thus the sale of borrowed Enron stocks, which creates profit from the return of stocks bought at a lower price. They pointed out that Enron's operating margin of 5% in 2000 had fallen to below 2% at the beginning of 2001, and that they still couldn't figure out how Enron really earned all its money. The cash flow seemed to have no relation to the profits recorded, being much too low. It also seemed amazing that Skilling was selling his stock at a price of $80, while he maintained publicly that they were actually worth $126. Skilling's predecessor as CEO, Kenneth Lay, also sold $70 million worth of Enron stocks in 2001, while he was busy recommending Enron employees to buy Enron stocks as a secure investment. Enron was unable to refute the accusations in public. When the stock value landed at $40, Skilling left the company and Lay became CEO again. Lay also refuted the rumors about Enron's problems, saying there were neither "accounting" nor "trading issues," nor "reserve issues." Finally Enron registered a loss of $618 million on October 16, 2001, and wrote off $1.6 billion of assets. Lay still insisted on October 23 that Enron's business was doing well. The downgrade of the invest grade from S&P caused them to declare bankruptcy, due to the repayment requirement for outsourced debts of $4 billion in the related party company.

Chanos had pointed to the related party issue as well. Enron had not consolidated its debts in the balance sheets, rather it shoveled them onto the company managed by Enron employees and booked paper profit. Only a few people knew there was a fallback clause for the credit in case Enron's rating should fall under the investment grade. The bankruptcy assets destroyed were valued at around $65 billion (maximum market value), which is somewhere around the gross domestic product of Libya or Syria, just to have an idea. In addition, there were damages from the failure of Enron as the contracting party for derivatives, which had also functioned as a security mechanism against risks for other companies.[5] From 1989 to 2001 Lay had sold Enron stocks for $300 million, mostly in stock options.[6]

In order to try and limit the loss of trust, the Business Round Table, a coalition of the CEOs from the 500 largest American stock companies wrote the following in February, 2002:

> "The United States has the best corporate governance, financial reporting, and securities market systems in the world. These systems work because of the adoption of the best practices by public companies with a framework of laws and regulations. The collapse of

[4] This is another example to show that not all information is included in the market prices, otherwise long term there would be no short sellers, or speculators. The majority of market participants can be mistake, they are only human. The market can be outperformed through better information and analyses.

[5] See Mclean, Bethany (2001), p. 53–58; Collin, Denis (2006), Fox, Loren (2006) and Markham, Jerry W. (2006).

[6] "Enron," http://en.wikipedia.org/wiki/Kenneth_Lay dated October 8, 2006.

> the Enron Corporation is a profound and troubling exception to the overall record of success."[7]

Unfortunately Enron was not an isolated case. The next large failure was Worldcom due to manipulated balance sheets. Many similar cases followed, and not just in the USA.

### *4.1.1 The Consequences of Enron, Worldcom & Co.*

Enron heads Jeff Skilling and Keneth Lay, as well as the head of Worldcom Bernie Ebbers, received prison sentences of several years for balance sheet tampering. In light of the numerous fraud scandals, the US government tightened reporting obligations and prison sentences for fraud with the Sarbane-Oxley Law. Alone Citygroup and J P Morgan Chase paid out around $9 billion in damage compensation to the victims of the Enron and Worldcom fraud. They accepted the compensation to avoid a lawsuit in which the plaintiffs could have accused them of complicity in balance sheet tampering. In addition, two managers of the US investment firm Merill Lynch were sentenced to several years in jail for complicity in Enron's fraud. They had signed a contract with Enron that served to cover up Enron's financial situation.[8]

The auditor Arthur Anderson was accused of improper accounting for the companies Sunbeam Products, Waste Management, Asia Pulp and Paper, the Baptist Foundation of Arizona and Enron. In 2002 Arthur Andersen was convicted of obstructing justice and lost their auditing license. Andersen employees had destroyed many Enron records that would have served as evidence. Arthur Andersen was then liquidated and left behind more than 100 civil claims and lawsuits.[9]

All in all the opportunity to improve the economic system out of the Enron, Worldcom & Co. scandals was missed, however. Politicians tend to react, not to act, which is why reforms were discussed after pressure from the outraged public, yet very little was implemented. Corporate liability from the top managers was quickly dropped, for example, and the public moved on. Most managers liked to see the Sarban-Oxley Act repealed already.[10] The auditing problem of off balance liabilities was not solved. Thus the next scandal had to come with the subprime crisis.

The problem of negative incentives (moral hazards) due to short-term unilateral constructed compensation schemes was not addressed. More problems became clear. With the deregulated energy market Enron was able to make money by manipulating the underlying energy price. They created an energy shortage. High-level politicians received donations for election campaigns from Enron. Politicians

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[7] See Schwarz, Gunter Christian/Holland, Björn (2002), p. 1662.

[8] See Handelsblatt dated July 11, 2005, p. 21.

[9] See "Arthur Andersen," http://en.wikipedia.org/wiki/Arthur_Andersen, dated October 8, 2006.

[10] According to 3nd. Annual Board of Directors Study, Korn/Ferry International dated February 23, 2006, http://news.onvista.de/alle.html?ID_NEWS=20584380

deregulated the energy market. And Enron employees were placed in high governmental positions. Such an indirect lobbying is still an issue in the U.S.[11]

## 4.2 The Subprime Crisis, the Biggest Financial Crisis After 1929

In 2003, Warren Buffet stated of the credit derivatives market that they were "financial weapons of mass destruction, carrying dangers that, while now latent are potentially lethal." Others also warned that credit based derivatives coupled with a lack of transparency were leading to a significant concentration of risk. Unfortunately, they were right.

Derivative products such as CDOs (Collateralized Debt Obligations) can be directly traced as being one of the major factors leading to the subprime crisis and the greatest financial crisis since the Wall Street crash of 1929. CDOs are structured financial products comprised of a variety of loans, bonds, mortgages and credit derivatives such as Credit Default Swaps or CDSs. For the most part, CDOs were put together using home mortgages and then resold as investment products by the major Wall Street investment banks. These CDOs were structured to meet the requirements of the major US rating agencies which based their risk calculations on complicated economic models and statistical analysis. Two apparently ingenious combinations of factors made it possible to create an innovative financial product with a combined calculated risk in the portfolio lesser than the sum of the individual risk associated with each element in the portfolio.

The basis for the evaluation of risk associated with these financial products as calculated by the rating agencies was based upon the historical default rate of US mortgages. As this data was not always available, it was necessary to draw upon estimates that fit within established portfolio theories and expectations and which would produce the desired reduction of risk between two comparative portfolios. Part of this process was to investigate the relationships and correlations between the individual elements of these portfolios to determine the probability that both or more elements could be eliminated from risk calculations. The complex statistical financial models used by the rating agencies were not always understood or even available to those in the market place as investors. This situation was not considered to be an issue at the time, as the capital markets had a great deal of trust and confidence in the ratings provided by the rating agencies. For decades, the ratings provided by the rating agencies concerning potential risk had been used to determine the terms for credit and loans to borrowers in the capital markets. As a consequence of the subprime crisis, the objectivity of these ratings agencies has now been called into question, most notably due to their previous relationships with the investment banks for which they provided the CDO ratings.

[11] See Ledgerwood, Shaun/Taylor, Gary (2016).

The second situation by which a portfolio rating could be improved was through the use and subordination of various "risk tranches". In the event of a default or failure of one of the elements or "tranches" in the portfolio, the most subordinated tranche (junior note) would be affected. This process would continue on up the scale to the tranches with AA to BB ratings, (mezzanine notes) and in the extreme case on up to the most senior tranches with AAA ratings.

For decades, the value of American real estate has steadily increased. After all, the USA has been a country of considerable growth both in terms of population and economic expansion. This growth has also been the basis for a historically low level of home mortgage defaults. For the most part, home values have been sufficient to cover outstanding mortgage balances in the event of a default. As a consequence, lenders were encouraged to offer ever-increasing mortgage loans based on the projected future value of homes in an ever-expanding market. As home values rose, lenders would offer homeowners access to their equity through refinancing or home equity lines of credit which would support even further consumption. Much of the mortgage financing made available to borrowers by Freddie Mac and Fannie Mae was also supported by political incentives to encourage home ownership among socially and economically disadvantaged minority groups. This initiative originated in the mid-1990s with the Clinton administration as lending criteria were relaxed[12] and continued under the Bush administration. In 2003, Congressman Ron Paul warned that this relaxed lending policy would eventually lead to individuals borrowing to buy homes that they could ill-afford and eventually require financial intervention on the part of government. In 1994, the market for subprime mortgages made up only 5% of the total mortgage market and amounted to $35 billion dollars, and by 2006 it had increased to become 20% of the mortgage market for a total of approximately $600 billion dollars. This increase in lending volume was only made possible by ever more relaxed lending standards. Borrowers were able to obtain mortgage loans without showing any proof of income or employment or assets, the so-called "ninja loans" meaning "No Income, No Job, and No Assets". This situation was further encouraged by ever-falling interest rates as initiated by the Federal Reserve under the leadership of Alan Greenspan, with short-term rates reaching a low of 1% in 2004. Subprime borrowers were also offered ARMs, or Adjustable Rate Mortgages with low, interest-only payments required, as well as "teaser loans" with initial interest rates well below market rates that would dramatically increase

[12] "… the Fannie Mae Corporation is easing the credit requirements on loans … The action … will encourage those banks to extend home mortgages to individuals whose credit is generally not good enough… Fannie Mae… has been under increasing pressure from the Clinton Administration to expand mortgage loans among low and moderate income people and felt pressure from stock holders to maintain its phenomenal growth in profits. In addition, banks, thrift institutions and mortgage companies have been pressing Fannie Mae to help them make more loans to so-called subprime borrowers whose incomes, credit ratings and savings are not good enough for conventional loans… Fannie Mae is taking on significantly more risk… the government subsidized corporation may run into trouble… prompting a government rescue… the move is intended in part to increase the number of… home owners who tend to have worse credit ratings…" September 30, 1999 New York Times.

or reset at a later date. Also available were payment option loans which made it possible for borrowers to set their own repayment schedule and thereby postpone repayment for as long as possible. Altogether, US mortgage borrowing rose from $680 billion in 1974 to $14 trillion in 2001. From a total of 8.8 million homeowners with mortgages, about 10.8% had no actual equity in their property or, in fact, owed more than their home was worth.

Average home values in the USA increased 126% from 1997 to 2006, while the relationship between home values and annual income changed from a ratio of 2.9 in 2001 to 4.6 in 2006. This dramatic change in home values, as compared with annual income, was not considered a problem as long as borrowers were able to service their debt and maintain their mortgage payments. The crisis only came about as a consequence of changing interest rates and the payment structures built into these loans.

Banks can, but in a limited manner, restructure loan intervals as needed to meet business requirements but if they require refinancing at a later date, then it will be necessary for them to draw upon their own liquidity. Therefore every banking student is taught the golden rule of lending, which is to restructure loans through refinancing at appropriate coverage intervals.

When restructuring loans, the risks associated with changing interest rates and refinancing are to be carried and collateralized by the banks themselves. These fundamental rules of finance were unfortunately ignored when it came to the issuance of CDOs by investment banks, which finally amounted to a market value of over $2 trillion dollars. Long-term mortgages were repackaged and sold by the investment banks as special purpose vehicles (conduits) and collateralized at fairly low capital ratios through the use of short-term commercial paper (CPs). In this way, the CDOs could be refinanced at lower interest rates which created more profitable margins for the banks. The CDOs in these "special purpose entities" did not surface on the bank's balance sheet. As was the case with Enron, these obligations were not listed as consolidated third party liabilities and therefore not readily apparent at first glance. On bank balance sheets these obligations were simply listed as possible liabilities in the comments section and often escaped notice. In the unlikely event that banks were unable to sell these securities on the market, they would be required to provide adequate liquidity to cover these obligations. High leveraging of stock purchases was also a reason for the financial crisis in 1929.

Deregulation further encouraged the direct and indirect use of leverage by investment banks. For example, in 2004 the SEC allowed investment banks to expand their use of leverage by lowering their capital margin requirement from 8% to 6%. By 2007, the five largest US investment banks had increased their borrowing for investment purposes to $4.1 trillion dollars, which equalled approximately 30% of the US gross domestic product. What motivated the investment banks to take on this level of risk? This was the era of the "shareholder value concept", of short-term gain and exceptional bonuses. The simplest way to increase shareholder value and therefore also stock value was to use leverage to boost returns on investment. Finally, in order for a bank to receive a rating of "excellent" from the rating agencies, they were required to show a 25% return on investment of capital and therefore a

favourable rating for future refinancing. An attractive aspect of CDOs was that it was not required that they be rated as loans, but could be rated as a security product. This classification allowed the investment banks to realize additional profits by selling them on to other investors and not hold bank funds in reserve as collateral.

Using CDOs, investment banks were therefore able to boost their profitability on invested capital as well as their internal rate of return. Loans would be classified as CDO securities and therefore positively influence the banks balance sheet. As securities, these CDOs would appear to be without risk. In addition, the rating agencies would assign them AAA status, indicating that these "securities" were without risk. As securities, the CDOs were not subject to the strict federal regulations required for debt products nor would they have to be evaluated as debt obligations on the books of the already highly leveraged banks. Free from complying with external financial requirements and internal lending limits, investment bankers were able to secure profitable sources of revenue and therefore substantial bonuses as well. By repackaging US mortgages as investment products, bankers were able to realize approximately $23.9 billion dollars in bonus payments in 2006. In 2007, Swiss bank UBS paid out $10 billion Swiss Francs in bonus payments alone. The availability and easy access to credit for home mortgages encouraged not only dealers but also lenders who provided loans to ever less qualified borrowers. In the end, these lenders were selling these loans on to other investors and therefore did not have to contend with the risk. The relationship between the lenders issuance of credit and mortgages and the associated risk of default were distinctly separated from one another, which lead to a fundamental violation of the market (order) principles of accountability and transparency. The exceptionally complex structure of the CDOs also contributed to this lack of transparency. It only became clear later that it was all but impossible to separate the various problem loans within the CDOs from the total in the portfolio, and impossible to trace them back to the original borrowers. Also, the system of bonus payments made to bankers selling the CDOs appears to be in contradiction to principles of accountability, as their bonuses were based on short-term profitability while the potential long-term negative consequences of their actions were ignored.

The bubble in the US housing market burst in 2006. A contributing factor was the dramatic rise in short-term interest rates which made it impossible for many mortgage borrowers to maintain their payments. This rise in interest rates lead to ever greater defaults and bank repossessions and home prices fell. The consequences for the financial sector first became apparent in February 2007 as HSBC was compelled to write off loans repackaged as CDOs valued $10.5 billion dollars. While serious, the crisis seemed to be limited to the banking sector and did not pose a threat to the real economy. In November 2007, the volume of subprime mortgages was valued at $148 billion dollars. At this point, the extreme difficulty in placing an accurate value on the CDOs became all too apparent. The lack of transparency associated with the CDOs and the high level of risk they carried due to the subprime mortgages they contained made them all but impossible to sell or accurately value. The market for CDOs collapsed entirely, leading to a crisis of capital liquidity for those banks carrying them on their books. This issue lead to an unexpected reduction of liquidity at

the banks. In December, the amount of subprime debt was corrected from $200 billion to $300 billion, and then finally in March 2008 from $350 billion to $600 billion dollars.

A rating of AAA was now considered worthless and all trust in the rating agencies had been lost. Without accurate and reliable ratings from the agencies, the capital markets were crippled. It soon became obvious that the crisis was not limited to just the US. As CDOs had been sold on the international market, the risk that they carried was now also an international problem. Swiss banks such as UBS, and German banks IKB and Sachsen Landes Bank had built up considerable portfolios filled with CDOs and as a consequence experienced severe liquidity problems. In addition, these banks required ever increasing amounts of fresh capital to cover the write-offs associated with CDOs and to support lines of liquidity. The banks which had invested too much of their client's capital were in danger of going bankrupt. US investment banks and larger banks such as UBS were able to raise additional capital on their own, while banks such as Germany's IKB and Sachsen Landes Bank had to be rescued by the German federal government. British mortgage lender Northern Rock experienced a run on the bank and had to be nationalized.

The crisis continued to expand. Two basic issues became apparent: increasing suspicion and mistrust between banks and ever further write-offs due to CDOs, which served to accelerate the crisis of liquidity and available capital. Banks felt that they could no longer trust one another and therefore stopped lending to each other. Without transparency and trust between banks, no one could be sure which banks were solvent and how much remaining debt had to be written off. Ratings given to the banks by the ratings agencies could no longer be relied upon. The interbanking market collapsed. Banks without branch offices and therefore without access to investors found themselves short of liquidity. Central banks were compelled to provide infusions of capital into the marketplace and to lower interest rates. The quarterly reports by banks concerning their ever-increasing CDO related write-offs only served to further depress the already discouraged mood in the marketplace. As European banks primarily followed US-GAAP for accounting purposes as well as the internationally accepted IFRS standards, this lead to an even greater difficulty in accurately assigning a value to the CDOs. Following US accounting standards which tend to favour shareholder interests, securities and other financial products such as the CDOs must be "mark to market" to assign a current market value. In contrast to European accounting standards, the costs of acquisition are not included if a reduction in value is only temporary. Although home mortgages continued to operate for the most part unchanged, the market for CDOs had collapsed and banks were compelled to write down the market value of their CDOs by as much as 70%. This development culminated in the partial illiquidity of US investment bank Bear Stearns in March of 2008. The head of Germany's Deutsche Bank Josef Ackermann was quoted at this time as saying that "he no longer believed in the ability of the markets to self-correct and heal themselves".

Bankers called on the government to help them out of the situation. JP Morgan purchased Bear Stearns for $1.2 billion dollars after receiving a bail-out loan of $29 billion from the US Federal Reserve. After this action by the Federal Reserve

the financial markets seemed to settle down. The danger of collapse of further large financial institutions seemed to be over. At the beginning of 2007, market participants started to believe that perhaps the worst of the subprime crisis was over, only to have the crisis flare up again. But the worst of the crisis was yet to come. The crisis would continue as the banks CDOs increasingly lost value and were written down to comply with accounting regulations. Prices for homes on the US real estate market and the almost non-existent CDO market continued to fall ever further. A shortage of liquidity compelled the banks to sell additional securities which lead to a vicious cycle of price declines. The mistrust of ratings assigned by the ratings agencies and the general uncertainty in the market lead to investors selling all forms of securities and to seek refuge in government bonds and treasuries.

In September 2008 the entire financial system came close to collapse. Only through a massive intervention by national governments up to and including the nationalization of many banks could the financial crisis be contained. Many newspapers compared the current financial crisis to that of the Wall Street crash of 1929. The US mortgage lender Silver State bank and many other smaller real estate lenders had to be closed and both major mortgage lenders Fannie Mae and Freddie Mac were nationalized. The growing crisis lead to the bankruptcy of Lehman Brothers, the 4th largest investment bank in the US. The CEO of a major German bank was quoted as saying "Lehman was the downfall that lead the financial crisis to a mass panic."

US Treasury secretary Paulson wanted to make an example of Lehman Brothers. Wall Street needed to realize that things could not continue as before, with the government prepared to bail out every bank facing insolvency,… as if in keeping with the motto "Privatization of profit and nationalization of loss." This concerned the concept of "moral hazard" as versus the adage "too big to fail". The majority of Americans were against the idea of using taxpayer money to bail out bankers on Wall Street. Paulson had drastically miscalculated the situation. Mohamed El-Erian, co-manager of the market's largest bond fund PIMCO made the case that, after the fall of Lehman Brothers all sense of trust and confidence was lost in the ability of financial institutions to be extricated from the crisis in an orderly fashion. In actuality, the collapse of Wall Street's 4th largest investment bank was an event beyond comprehension. All the major players in the financial markets had expected that the adage "too big to fail" certainly applied to Lehman Brothers, and that after the rescue of Bear Stearns by the federal government that Lehman Brothers could expect the same treatment.

That Paulson allowed the collapse of Lehman Brothers shook the financial world to its core. Nothing more seemed to be certain, and there was no longer any relying on a bail out. The danger for the financial system was that Lehman Brothers was one of the largest traders of derivatives and so its collapse would have profound consequences. The sword of Damocles, as wielded by George Soros in the form of billions of dollars of derivatives contracts, fell. After the bursting of the internet bubble banks discovered derivatives as the next major source of almost unlimited revenue potential. Derivatives are a form of obligation with their value tied to the occurrence of specific events in the financial markets. Options, for example, give the investor or

speculator the right to buy or sell a specific security at specific price during a pre-determined period of time. Options, however, do not belong to the classic form of derivative. A derivative is normally used to cover an exposure to risk as a hedge. For example, the owner of a share of stock would use a sell option (Put-option) to sell his shares at a pre-determined price, or for speculation. The attraction of options derivatives is that with relatively little money an investor can speculate on the movement of a stock price with greater leverage, and also greater risk, than if he had to actually buy and own the underlying stock. Especially risky were a fairly new form of financial innovation known as Credit Default Swaps or CDSs. They also were developed in the US at the start of the 1990s as a form of hedge against loan risk. If a bank, for example, desires to reduce the risk of default for a loan that it has with a borrower, it can hedge the risk of default by buying a CDS from a third party. With a CDS it was possible for banks to increase their rates of return on capital while avoiding the use of their own capital to cover loans. In contrast, those providing the risk coverage were not bound by any specific regulations. They were not required to put up any capital of their own, so the actual risk of default was not covered. Investment banks and highly leveraged hedge funds[13] were also partly involved in these transactions as contrarian speculators. In 2001, the nominal value of outstanding CDS contracts reached approximately $1 trillion dollars, and in 2005 it amounted to $10 trillion dollars. For the most part, this increase in CDS volume was due to speculation on the part of contrarian investors and not from actual transactions to hedge loan risk. The bankruptcy of auto parts supplier Delphi stands as a good case in point, whereby $5.2 billion dollars in loans and bonds were hedged by $28 billion dollars in CDS contracts. In 2008, the total value of all outstanding CDS contracts was approximately $62 trillion dollars. The degree of counter-party risk had become impossible to ignore.

After the collapse of Lehman Brothers complete panic broke out. The domino effect was enormous. It was not only that the banks no longer trusted each other or their level of solvency, but rather the entire financial system was called into question leading to worst case scenario. The capital markets collapsed. The banks could no longer refinance or restructure the portfolios effectively. In addition, subprime securities such as corporate bonds were no longer marketable, or could only be sold at greatly reduced value. The consequences for the real economy were immediately apparent.

Lehman Brothers certificates had been sold to investors around the world. Now they were worthless. The media took advantage of the negative publicity by running dramatic headlines leading to widespread fear and uncertainty. In this way they helped to spread the panic. Everyone became convinced of a pending catastrophe and recession, and so reduced their investment and consumption. This became a self-fulfilling prophesy. People became fearful of potentially losing their jobs and stopped spending. As a consequence of reduced liquidity and a shortage of available

[13] In 2000, warnings were issued as to the threat posed to the financial system due to the lack of regulation on Hedge Funds as counter-parties to derivative transactions. See Conrad, Christian/Stahl, Markus (2000).

capital, banks stopped making loans. The "credit crunch" had arrived. The greater economy became fearful of declining sales and liquidity problems and stopped investing. Due to the negative sentiments it came to the classical Keynesian case of underinvestment together with the liquidity-trap. Savers lost faith in banks and withdrew their deposits, which further exacerbated liquidity problems at the banks. In order to generate liquidity, the banks sold shares. Falling market prices lead to even further price declines as risk limits triggered computerized trading and stock sales at many hedge funds. Investment bank Merrill Lynch was taken over by the Bank of America. The US government set up a special fund of $700 billion dollars to buy up the bank's portfolios of non-performing loans. In a form of reverse auction process, banks were permitted to sell their portfolios of non-performing securities to federal funds offering the highest percentage of face value for the securities. The two remaining US investment banks, Goldman Sachs and Morgan Stanley had to give up their previous business model so as to be considered as universal banks and gain access to refinancing funds from the US Federal Reserve. Further access to capital was given to suffering banks by the federal authorities. The world's largest insurer AIG was in-part nationalized through this process. AIG had been speculating as a counter-party to billions of dollars in obligations using CDSs and CDOs following a trading strategy based on the mathematical-statistical model of Yale Professor Gary Gordon. The probability of default as calculated by Gordon proved to be mistaken, however. Further banks were forced into bankruptcy or taken over. Hypo Real Estate in Germany was saved by a combination of private banks and the German federal government. Banks in England and elsewhere had to be nationalized to prevent the collapse of the financial system. Governments came to the rescue of banks through the use of bail-out funds from taxpayers. By this time the world's stock markets had fallen from a peak in August 2007 by more than 50% and set the world on the path to recession. Between March 1st and June 18th 2008, the FBI arrested 406 individuals for loan and mortgage fraud, ranging from small mortgage brokers to bank presidents who were later charged with having deceived investors as to the risks of the subprime market.[14]

As with Enron, Merrill Lynch was insolvent. With approximately $9 billion dollars in losses, Merrill's CEO O'Neal was responsible for the worst financial results at the bank in its 93 year history. And in 2008, there were an additional $15 billion dollars in write-offs. Similar to Skillings at Enron, O'Neal was also possessed of an unusually overbearing management style and obsession with profit results. The consequences would soon become all too apparent. By taking on more risk, O'Neal could produce better profit results while the top management at Merrill cashed in on huge bonuses. At Citigroup, CEO Prince was also facing more than $20 billion dollars in write-offs. Here as well, in 2008 it was necessary to write off huge sums. Both Prince and O'Neal were not only responsible for billions in write-offs, but as senior management received exceptionally handsome compensation packages

[14] See Mayr, Brigitte (2007); Handelsblatt 23.10.08 and 10.1.08, p. 30; Süddeutsche Zeitung 17.11.08, p. 22, Neue Zuricher Zeitung 7.02.08; Zeit Online, 26/2008, p. 24, Der Spiegel, No. 47 (2008), p. 46–79 and Conrad, Christian A. (2010), p. 21.

(Prince received $26 million dollars and O'Neal $48 million dollars in 2006), and a severance package in the $100 million range. O'Neal received about $160 million in cash and stock options while Prince received approximately $100 million.[15] The losses would be assumed by others, namely the shareholders who lost a portion of their investment in the banks while many employees lost their jobs. In other words, not only did the agents of disaster gamble away their investor's money but they were well-rewarded for it. With this disconnect between risk and compensation it's easy to understand why so many bankers took on such huge risks which lead us to today's subprime crisis.[16]

With the crises described above, the general question arises as to what went wrong? What economic dysfunctions are responsible for this huge resource destruction?

## 4.3 Some Causes of the Financial Crisis

### *4.3.1 Technical Mistakes*

The first serious debate as to the infallibility of the capitalistic economic system arose in 2000 within the framework of the Enron crisis. By 2007, it was obvious that the world economy was in a fundamental crisis with the emergence of the subprime crisis. The subprime crisis was seen as the epitome of the ethical failure of our modern economy. Everything came together and many saw in the crisis the final act of "turbo capitalism",[17] the limitless enrichment of the few at the expense of society, which almost lead to a total collapse of the financial system. The lack of regulation and belief in the self-correcting power of the market was used by a few to take advantage of the situation. Considered historically, financial crises have increased significantly in recent years. This is not the result of simple coincidence, but rather much more an indication of a massive weakness in the present economic system. The market economy has always placed the individual at the forefront for the economic creation of value, which provided him with an ever-growing range of opportunity. Through the pursuit of individual interests, it was believed that this motivation would also create the most beneficial results for society and the greater good. This appears to not be the case. The absence of rules and the belief in the self-healing forces of the markets were exploited by individual to their advantage.

[15] This income was exceeded by Goldman Sachs CEO Henry Paulson, who earned a bonus of $18.7 million along with realizing proceeds from the sale of $480 million in stock by exercising options issued prior to his becoming US secretary of the treasury. See Der Spiegel No. 8 (2009), p. 62.

[16] See also Shiller, Robert (2007); Gold, Gerry/Feldmann, Paul (2007); Muolo, Paul/Padilla, Matthew (2008) and Woods, Thomas E. (2009).

[17] See Dahrendorf, Ralf, (2009).

Could the worst financial crisis since 1929 have been prevented? Naturally, in hindsight it would be easy to answer the question with a "yes", given what we know now about the causes and course of the crisis. Above all, the crisis can be traced back to a violation of market order principles through political intervention. Let's start with the inappropriate involvement of the US government in the financial markets. The crisis started in the early 1990's as a consequence of a misguided social program on the part of politicians. In 1995, Fannie Mae and Freddie Mack received a mandate from the office of Housing and Urban Development (HUD) to lend to subprime borrowers using funds to be provided by HUD at below market interest rates. These funds were to provide mortgages to subprime borrowers in what were considered to be economically disadvantaged social groups, so that they could buy homes that they normally could not afford. The volume of loans and the regulations concerning the classification of subprime loans were increasingly expanded. These cheap loans made it possible for both Fannie Mae and Freddie Mac to boost their profit margins. Executives at Freddie Mac reciprocated with illegal campaign contributions while mortgage lender Connie Wide offered low-interest loans to influential politicians in Washington. One could say the basis for the subprime bubble can be traced back to the US government. It's also worth mentioning that the low interest rate policies of Alan Greenspan played an important role. By making cheap money readily available and supporting deregulation, the Fed created fertile ground for the bubble to grow.[18] One can also blame the US government for an exceptional lack of financial oversight. US financial regulators were aware of the growing problem but chose not to act, so as not to influence competition in the markets.

Rather than acting to regulate and control the mortgage markets, they put their faith in the ability of the market to correct itself and deregulated. This concept had been promoted by Milton Freedman after the Enron crisis. Without regulators, it was possible for companies to hide the risk inherent in these loans from appearing on their balance sheets. Greenspan refused to act to control these new and innovative financial products. Despite the LTCM crisis,[19] Greenspan and the US government remained unconvinced that unregulated speculation by the hedge funds posed as serious threat to the financial system. Many governments, including the German government had been pushing for more regulation. Belief in the markets and the influence of financial lobbyists was more powerful, however. At no point during this phase of the crisis did financial regulators seem to be aware of the combined risk posed by CDOs and how it was spread among the banks.[20] With their complex

[18] See the film "Inside Job" of 2010 by Charles Ferguson (Sony Pictures) and Conrad, Christian, A./ Stahl, Markus (2002).

[19] In 1998 this hedge fund named Long Term Capital Management (LTCM) then lost the investors around 90% of the $4 billion invested, which threatened to trigger a chain reaction on the international finance markets. The issue here is not just the credit taken by LTCM, but also the derivative positions of LTCM as contracting party, with which other finance market actors had protected themselves. Only when the then US central bank president Alan Greenspan intervened personally and pulled together an emergency package of billions from several large banks could the capital market crisis be averted. See Conrad, Christian A. (2005).

[20] "What we have found over the years in the marketplace is that derivatives have been an extraordinarily useful vehicle to transfer risk from those who shouldn't be taking it to those who are

mathematical models and AAA ratings, these deceptively secure financial innovations and the risk that they posed were able to escape the attention of over-worked federal regulators. National regulators, in the case of those in the US were divided and under-manned. At the federal level in the USA there were four uncoordinated regulating authorities and at the state level additional independent authorities. The most powerful authority, the SEC was considerably weakened and unable to deal with the problem due to massive reductions in personnel in their department for risk control and regulation.[21] These cuts in personnel occurred during a time in which a former head of Goldman Sachs acted as the head of the Office for Management and Budget, and while Henry Paulson, the future head of the Treasury department was CEO at Goldman Sachs. Later, the head of the German banking regulatory authority admitted that his office was unable to come to terms with and regulate the rapid developments of these new financial products. Although they were aware of the problems posed by these unregulated financial products, they chose to not intervene. The banks had complete independence of action. Motivated by short-term profits and handsome bonuses, banking managers took on ever greater levels of risk using ever greater amounts of leverage. Many wanted to just get rich quick and gave little thought to the consequences of their actions. This actions lead as well to criminal activity. The most dangerous risk was kept off the balance sheets or allocated to unregulated, hidden off-shore accounts. Also, the level of risk to counter-parties through the use of these innovative financial products seemed to be unknown to the regulating authorities. Due to the excessive use of leverage, many of the hedge funds had also taken on considerable risk. Nonetheless, the hedge funds remained unsupervised.

Paulson seemed to be unaware that the collapse of Lehman Brothers would lead to an unstoppable chain reaction. With the bankruptcy of Lehman, US policy regarding the issue became unpredictable. For the financial markets, it seemed that the Fed was willing to allow for the collapse of some banks, and that an intervention to save those in crisis should not be expected. Market participants completely lost their trust and confidence. Permitting the collapse of Lehman was one of two major mistakes made by Paulson. The other was the failure to change financial accounting requirements for the balance sheet in a timely manner. The mark-to-market regulations concerning CDOs as securities was the main reason for the ongoing write-offs, along with continuous reductions in the value of CDOs due to an almost non-existent market for them. On-going earnings warnings and loss reports strained not only the existing capital of the bank, but also awakened in the mind of the public the perception that a huge, uncontrollable and uncontainable financial catastrophe was occurring. Unfortunately, we will never know how many mortgage loans could have

willing to and are capable of doing so." "We think that it would be a mistake" to more regulate the contracts. Greenspan in front of the Banking Committee in 2003. New York Times, 20.10.2008.

[21] The chief controller of the SEC later spoke at a conference when questioned about "the systematic elimination of personnel from the regulatory office,… so that became impossible for the office to perform any regulation whatsoever." Der Spiegel, No. 47 (2008), p. 78.

been saved from default by quick government intervention, as the opportunity was missed to act quickly to prevent the financial crisis from spreading to the real economy. At least it's certain that if the banks had been permitted to balance the value of their CDO portfolios, taking into account the portion of the securities not affected by bad mortgage loans, the write offs could have been greatly reduced. In consideration of this remaining base value, the banks could apply to the Fed as a "lender of last resort" for refinancing with the CDOs acting as collateral. This funding conversion and extension of debt servicing could have been implemented at the beginning of the crisis, already in the middle of 2007 and not at the end of 2008. The banks and the US administration must have had great interest in keeping mortgage borrowers facing foreclosure in their homes. This could have kept the pressure off of the housing market and home prices. As this did not happen, many borrowers lost their homes and some even ended up living on the streets as the homeless, which raises the question of moral and economic responsibility. Many vacant houses were neglected and others were vandalized.

The banks' trading departments responsible for internal and external credit supervision withdrew their risky long-term loans and refinanced them as short-term securities. Any bank would realize that this was a violation of the golden rule of lending and would have significant consequences. This lack of control, the failure to implement responsible business practices and immoral behaviour deserves critical review. It is beyond comprehension how bankers could be so misled by their statistical and mathematical models, as well as how many could have such unlimited trust in the rating agencies and their recommendations. Despite the ratings assigned by the rating agencies, we can expect senior management planning an investment of billions of dollars to perform at least some degree of due diligence to gain an understanding of the rating agency's procedures. To rely so completely on the judgement of what may be a biased third party is completely irresponsible. In the USA, the dramatic increase in home prices had become impossible to ignore and the easy access to subprime loans was often criticized. Warnings were sounded as to the impending bursting of the real estate and derivatives bubble.

The central problem of derivatives is that the leverage of the invested capital distorts the risk distribution between the speculator and the financial system. If the speculator is wrong he will lose only a portion of what is at stake for the system. The loan derivatives CDS did not have to be funded with equity, so banks earned much more than was appropriate on a risk adjusted basis in the good years. When the bad years came there was no capital to cover the losses so society had to bail out the speculators because they were too big to fail. Bonus payments had been made in the good years and there were no repayments in the bad years, when the bill was presented.

Speculators normally do not speculate against each other, but with each other. A slogan says "the trend is your friend". Only a stable trend facilitates speculation with nearly no risk. The biggest danger of derivatives is the leverage. If futures are used for speculative purposes for instance, the leverage multiplies artificially the

effects of the derivatives on prices (via arbitrage and expectations)[22] and does not reflect an underlying real demand or supply. Therefore derivatives can distort the fundamental market functions. As a consequence, the price develops differently as it would normally to cover the needs of demand and supply. The price signals become distorted, which leads to wrong resource allocation. For instance, if prices of commodities like oil become too high because from derivative speculation, it increases the costs for the producing economy and for the consumers. Because of the high commodity prices the commodity sector invests to increase its capacities. The missing demand causes the speculation bubble to burst sooner or later. The new capacities are overcapacities and the commodity sector is in trouble.[23]

The economy worked well without derivatives. Either the risks of derivatives can be controlled or the use of derivatives should be restricted to a mere hedge against risks, their original purpose. An underlying transaction should be compulsory. At least the leverage of the derivatives should be reduced significantly and credit derivatives should be treated like credits so they have to be funded with equity. Otherwise the next financial crisis might be too big for the governments to bail out. The argument that regulations on financial markets cannot be implemented because the world is too divided might be true. Also, the incentive not to regulate is strong, since the free rider position is the most profitable.[24] But also the losses of a possible crisis are too big for each single state. An unregulated financial market is a risk for all other countries. This loss risk has to be paid for to avoid distortion. A tax on financial deals of individual states with unregulated institutions would be the right solution to avoid a free-rider behaviour and it could be implemented by each state individually.

At least the current reforms on banking regulation go in the wrong direction as they increase the equity requirements to cover the systemic risk instead of decreasing the risks of derivatives.[25]

[22] Empirical studies show that the spot prices follow the future prices. See Deutsche Bundesbank (2006), pp. 59.

[23] For the discussion of the effects of food and commodity speculation see *Conrad, Christian A.* (2014).

[24] Governments find themselves internationally in a dilemma, since the best outcome for a single state is if all other sates regulate their financial market and it is therefore with its unregulated market the most attractive location for financial institutions (Free-rider position). The worst result for the individual state is if it regulates its financial market while the others do not. Since everyone is subject to this situation of insecurity, everyone decides to behave uncooperatively, which provides the worst results for everyone, national and international not regulated financial markets. Such a dilemma is called in the Public Choice Theory "prisoner's dilemma". For the expression "prisoner's dilemma" see *Brennan, G./ Buchanan, James* (1985), p. 3.

[25] See *Conrad, Christian A.* (2014).

### *4.3.2 Exaggerated Belief in Figures*

During her visit of the London School of Economics in November 2008 the British Queen asked: "Why did no one see it coming?"[26]

As the Classic-Neoclassic theory after the Great Depression of 1929, today's economic theory has explanation and justification problems. Neither of the statistical models foresaw the crisis nor are they now able to explain it. Moreover, the econometric models based on historical figures pretended there was a safety where there wasn't one, which was itself one reason for the crisis. Nassim Nicholas Taleb wrote about the delusions of control and reliability held by Wall Street and many other businesses. He pointed at the dangers of trusting the "bell-curve" models used by many financial institutions to mitigate risks. He questions the reliance on past historical information and brings the example of the black swan, that nobody expected until its discovery in Australia, or the example of the turkey who spends a thousand days being well-fed before being killed on the thousand-and-first day.[27] Justin Fox also criticises the belief in models and especially the belief in efficient markets – a belief that was qualified by Robert Shiller as the "most remarkable error in the history of economic theory."[28]

Derivative products such as Collateralized Debt Obligations (CDOs) can be directly traced as being one of the major factors leading to today's subprime crisis and the greatest financial crisis since the Wall Street crash of 1929. The calculation of risk and value or price for derivatives on the basis of historical time periods was celebrated as a major breakthrough. This advance in financial mathematics was only made possible through the use of the ever more powerful calculating capacity of computers. This made it possible to create many new financial products. It later became apparent that these calculations were in error, and that it was only due to the confidence people had in the ability to calculate them that made these products possible. For example, it was determined that the risk and therefore the price for credit derivatives (Credit Default Swaps) as calculated by Yale Professor Gary Gorton was inaccurate. The confidence and faith in his calculations almost cost AIG its existence and the US government several billion dollars, as it was bailed out to save the financial system in October 2008 and in-part nationalized. Gordon blamed the problem on the use of non-conforming data from the current marketplace and unprecedented developments which deviated from his forecasts based on historical data. But the future is never like the past.

With the model-based statistics, called econometrics in economic science, many connections can be calculated with a great degree of effort and make a grand impression, depending on the sample with its respective probability. It does not matter if there is no real economic sense from these calculations. The senselessness is

[26] See The Financial Times,November 25th 2008. https://www.ft.com/content/50007754-ca35-11dd-93e5-000077b07658

[27] See Taleb, Nassim Nicholas (2007) and Taleb, Nassim Nicholas (2001).

[28] See Fox, Justin (2009) und Conrad, Christian A. (2010), p. 56.

sometimes apparent: "the level of beauty in high schools has an effect on criminal propensity 7–8 years later."[29] In 1929, Yule found a correlation of 0.95 between the ratio of marriages in the Church of England to all marriages and the death rate for the years 1866 to 1911. Henry developed was he later jokingly referred to as a new theory of inflation in 1980, in which he showed the correlation between rainfall in the UK and development of price levels.[30]

The obviously false conclusions of these models are much more dangerous, however. They can originate in a sequence of numbers that lead to false correlations, incorrect model assumptions or unrealistic model constructions, or just forgotten factors of influence. These weaknesses can also have mathematical model constructions. Here is one example from the German economic newspaper Handelsblatt about economic models.[31]

> "Economists show with a theoretical model that it can make sense for a company owner to do without strict controls on managers. When a manager is constantly kept under watch his risk of losing his job increases. He must also give up some of his authority. In compensation he demands more money and is tempted to manipulate his information to the supervisory board." [Authors of the model: Benjamin Hermalin (University of California) and Michael Weisbach (University of Illinois)[32]]

Let us discuss the logical content of this model. Too strict of controls (whatever that means) is not possible unless the company owners follow a manager's every move. Controls per se have nothing to do with a manager's risk of losing his position unless the manager is bent on cheating the company. The authors of this model also assume that managers are bad people in principle. Why else would they assume that managers would react to controls by manipulating information? Manipulation of company information in such a case is not created by the controls, it is made more difficult. Why should the "bad" managers demand the maximum salary independent of their authority? It is more likely that managers find it easier to obtain advantages (salary and other benefits) when they are controlled less.

In addition, the results can be influenced not only in the selection of assumptions, but also through the construction of the models, but this is not obvious to non-statisticians, such as journalists.[33] Other researchers have simply miscalculated. Results may be considered scientifically proven for years if other researchers do not decide to follow the calculations in detail, which would otherwise have made the errors known. Harvard professor Martin Feldstein showed in 1974 in the renowned "Journal of Political Economy" that the increases in social benefits in the USA since 1937 had displaced the tendency to save money in private persons. Six years later

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[29] See Mocan, Naci/Tekin, Erdal (2006) and Fedako, Jim (2007), Correlating nonsense, **February 18, 2007,** http://antipositivist.blogspot.com

[30] See Zorita, E. (2006).

[31] Handelsblatt dated 04/03/06, p. 11, translated into English.

[32] See Hermalin, Benjamin E./Weisbach, Michael p. (2007), pp. 1–26.

[33] Anyone who would like to see an example of this can take a look at the website http://timlambert.org/2003/09/0910/. Here the author of a statistical model proving that broad ownership of guns leads to less crime is accused of manipulation.

Dean Leimer and Selig Lesnoy showed that Feldstein had miscalculated.[34] The thesis from Levitt and Donohue from 2001 suffered a similar fate. They had said that the main reason for a drop in criminality rates in USA since the early 1990s was the legalization of abortion in 1973. They maintained that unwanted children are raised in conditions that increase the probability that they will become criminals. Four years after the publication in the renowned Quarterly Journal of Economics, in 2005, two economists of the Federal Reserve Bank of Boston discovered their mistaken calculations.[35]

The worst thing about mathematics is that it almost always provides exact and clear results, thus proof, based on the model assumptions and design. Business science seems to have given in to the same temptation as economic science with the increasing popularity of financial mathematics. Numbers are facts. This is not economic reality however, since people make up the economy. People do not always act rationally; they are in fact often emotional and sometimes wrong. "Figures are facts, but people are not." Economic science cannot be an exact, deterministic natural science, but a social science. Including irrational behavior in model does not change the incalculable nature. There is a good reason why the economists often argue in public over the best method, which encourages some people to participate even if they have no background in economics. The progress made in academics through economic science and progress applicable in practice has been very slight in comparison to the natural sciences. It is very difficult to objectively evaluate the value of research contributions in a social science. Alfred Nobel most likely considered economic science as part of the social sciences, and therefore did not make a separate prize for it. The prize often called the Nobel Prize for Economics, awarded at the same time as the Nobel Prize, is from the Swedish National Bank. The attempt by economics to conduct experiments like those in the natural sciences at great expense have failed through their lack of comparability between situations, and the interchangeability of actors. Let us remember that the innumerable environmental influences that are constantly changing and the incalculable factor of humans only allow the identification of economic development trends. Hayek recognized this, and said that only pattern predictions can be seriously considered.[36] The future us never like the past. National economies and companies are not calculable. In the best case central factors such as money, and conditions such as state and competition can be observed and regulated, but the rest happens of its own accord through the human productive forces. We don't need so many calculations for this, it is sufficient to train and educate the humans so that they can work within the framework (economic

[34] "This paper uses an extended life-cycle model to analyse the impact of social security on the individual's simultaneous decision about retirement and saving Economic evidence, using an estimated time series of "social security wealth," indicates that social security depresses personal savings by 30–50%." Feldstein, Martin (1974), p. 90.

[35] "We offer evidence that legalized abortion has contributed significantly to recent crime reductions" Donohue, John J./Levitt, Steven D. (2001), p. 379 see also Handelsblatt dated 04/30/07, p. 9.

[36] See Hayek, Friedrich August von (1974).

order) with the right incentives, and to structure the framework so that the human productive forces can develop for the good of the community.

It is difficult to understand why such an over-confidence in these calculations endured for so long, finally resulting in the subprime crisis, although the LTCM crisis had already illustrated the dangers and weaknesses of these financial calculations. In 2005 there were already warnings against using models for financial calculations based on historical figures.[37] The best example for the incalculability of the economy are the formulas for option prices (Black & Schools-Formel) which were responsible for the LTCM-crisis. Robert Merton, Myron Scholes and Fischer Black received the Nobel Prize in 1997 for groundbreaking work in Option Pricing Theory. Based on the volatilities of the past, the formulas were developed to calculate prices for rights to sell or buy assets in the future (options). This is apparently an instrument to calculate the future. A hedge fund named Long Term Capital Management (LTCM) wanted to use for speculation, and he hired Robert Merton as a consultant. In 1998 LTCM then lost the investors around 90% of the $4 billion invested, which threatened to trigger a chain reaction on the international finance markets. The issue here is not just the credit taken by LTCM, but also the derivative positions of LTCM as contracting party, with which other finance market actors had protected themselves. Only when the then US central bank president Alan Greenspan intervened personally and pulled together an emergency package of billions from several large banks could the capital market crisis be averted. The second of the hedge funds Merton consulted, named IFC Continuum, closed in 2006. The future was in fact not predictable.[38]

The flaw in the option price theory or risk values such as "value of risk" which were determined on the basis of historical volatility was that future relationships between demand and supply could not fundamentally be accurately depicted. This is how in 2008 Porsche could raise its stake in VW to 74% through the purchase of VW call options, at a much reduced price than if it had bought the shares on the open market. The option price for VW shares did not reflect the actual shortage of shares, which had been calculated on the basis of past price volatility. This miscalculation lead to the share prices being set much too low. The excessive demand for VW shares eventually lead to a short squeeze.

The use of the same seemingly correct risk models led also to a similar investing behavior of the market participants. If the models were wrong all investors came to the same wrong risk assessment, what worsened the subprime crisis. Also the rating agencies used the wrong models to calculate their CDO-ratings. Based on these wrong ratings the investors underestimated the risks substantially and decided all to invest. Therefore the risk models increased the systemic risk and did not decrease it.

Abstract and isolated models of thought are fine in principle. They make it possible to take the complex economy apart into separate connections and thus to allow discoveries about economic processes. Econometrics is thus a valuable ancillary

[37] "The method of calculation is based upon historic volatility and does not take into account irrational human behaviour, such as panic,…."Conrad, Christian A. (2005), p. 398.

[38] See Conrad, Christian (2005) and Welt-Kompakt dated 08/22/06, p. 15.

science for economics. There is also nothing to be said against using mathematics, as long as the effort remains proportional to the usefulness of knowledge gained. The models have unfortunately become so complex however, that they are no longer useful for teaching purposes. The effort required to learn them is greater than the knowledge gained. It is problematic when econometrics, thus the statistics applied to the economy with economic mathematics, are taught as exclusive representation of the only true economics. Without order theory and order politics of order there can be no understanding of the state and economics.

Derivatives as the so called Collateral Dept Obligations were the trigger and the main reason for the subprime crisis. They are based on complex economic modelling and statistics. Basically we can say that the image of the economy is distorted when only determinist models are applied. More thinking and less calculating would have been much more appropriate. So can the subprime crisis can also be traced back to developments in the economic sciences.

Be that as it may, econometrics, statistics and mathematics have contributed significantly to the continued development of economic science. They deserve recognition, no doubt, but this is no reason for economic science to consist solely of these subjects. At the end of the scientific chain there must be somebody to explain the science of practice and weigh the various theories and approaches against one another on the basis of practical considerations in order to make statements relevant to practices in a comprehensive economic overview. To make statements relevant for practical application the theories and models must be related to the respective practical situation. Only then is it possible to decide what parts of the respective models of thought can be applied. In this highest of disciplines, the relation exists both in theory and in practice, at least within economic science. This requires an analytic, combining intelligence. The considerations must be logically deductive and verbal, since there is no calculability of the economy as a whole. In economic science as a social science mathematic abilities are less important, and the creative approaches to explanation gain importance.

### *4.3.3 Missing Moral Values*

The enrichment of managers at the expense of their company and the society was criticized long before the subprime crisis. A scandal is really nothing more than immoral conduct in the eyes of society. Whether we look at top managers just trying to get the most out of the company they have been entrusted with, or manipulating the balance sheets to get rich with stock options or bonus payments at the expense of clueless stockholders, or employees lower down in the hierarchy who try to cheat their colleagues or the market, we are looking at proof that across the globe the economy has to wrest with massive ethical problems. It is worth noting that even model companies, such as Enron, are affected by moral lapses. There are many US companies, as well as internationally known investment banks such as Merrill Lynch, Morgan Stanley and Credit Swiss First Boston in the USA and Goldman

Sachs, Morgan Stanley and Deutsche Bank in Germany, who have all been accused of stock analyses advocating sales.[39]

The largest bank in the world and the American branch leader Citigroup seems to have had ethical problems as well. The Citygroup head Charles Price addressed his employees with these words: "No one may damage our long-term interests for short-term advantages." He said he would check into "unnecessary risks and unethical behavior" personally if necessary.[40] He prescribed ethics seminars for his employees and had a behavioral code drawn up, and established a department where the employees could anonymously inform the company of unethical behavior. What happened? His predecessor Sandy Weill had set the employees a growth rate target of 15% and seems to have implemented it absolutely. The pressure was apparently so great that the employees, voluntarily or involuntarily, turned to illegal methods to reach the targets. The bank was then only able to avoid lawsuits and the subsequent damage to its image by agreeing to pay out settlements, connected with damage compensation. In .2002 it paid $400 million because Citi analysts portrayed stocks too positively, which Citi investment banking wanted to sell. In 2004 the Citigroup paid $2.65 billion for Worldcom and $70 million to the US Federal Reserve after being accused of lending usury credit and giving credit only in connection with the sale of superfluous insurance. Another accusation was that the bank did not pass on rebates to the customers of their investment funds. In 2004 Citygroup lost their license for private banking in Japan because of abuses of the law against money laundering and market manipulation. In 2005 the US bank supervision forbid Citigroup from any new takeovers until internal rules of ethics had been implemented. In 2005 there were also settlements paid for involvement in the bankruptcies of Global Crossing ($75 million) and Enron ($2 billion). There was also a 4 million British Pound settlement and returned profits of 9.96 million British Pounds for manipulated prices on the London bond market. These are of course just the ethical missteps that were brought to light.[41]

It seems conspicuous that those firms which for years seemed to be among the most financially stable would wind up in a state of collapse. This is valid for Enron and other firms as well as for Citigroup and the investment banks involved in the subprime crisis. But this is true only in the short term. Long term these firms had financial problems.

The subprime crisis can be considered the epitome of the ethical failure of our modern economy. Everything came together, and many saw in the crisis the final act of our "turbo capitalism", the limitless enrichment of the few at the expense of society, which almost lead to a total collapse of the financial system.[42] The lack of regulation and belief in the self-correcting power of the market was used by a few to take advantage of the situation. The victims were, above all, the socially and economically disadvantaged who were convinced by predatory lenders to buy homes that

[39] See Chediak, Felipe/Escudero, Silvio (2004), p. 79 and Ogger, Günther (2001), pp. 103.

[40] Quoted from Capital, 18/2005, p. 54.

[41] See Wirtschaftswoche dated September, 01, 2005, p. 52–58 and Capital, No. 18, 2005, p. 54–56.

[42] See Dahrendorf, Ralf, (2009).

they could ill-afford and which would lead them to personal bankruptcy, or at worst, homelessness and a life on the streets. This was truly the creation of social misery. Mortgage lenders had to be aware of this, as they were directly involved in working with the subprime borrowers most at risk of default, which should be considered the height of moral irresponsibility. These lenders only gave thought to their personal profit without any consideration for the fate of borrowers. In the end, they were rewarded on the basis of their success in issuing loans. The difficulties that these borrowers would have in repaying these loans were of no consequence to them. For the most part, these borrowers did not have the education or the capacity to understand the nuances of how their mortgages were structured, and lacked the protection of appropriate consumer agencies or law enforcement. All those who knowingly took part in this deception and intentionally inflicted this suffering on unsuspecting borrowers are morally culpable. The Clinton and Bush administrations who encouraged lending to subprime borrowers through Fannie Mae and Freddie Mac as part of an ill-conceived social program are also in-part responsible. Also culpable are those who knowingly encouraged this process and profited from the housing and mortgage bubble while helping to finance the ensuing social misery. Noteworthy here are also those bank managers who knowingly gambled with the long-term viability of their banks and the financial system so that they could maximize their profits and bonuses over the short-term. The moral responsibility lies with the financial regulating authorities who tolerated the creation and growth of the real estate bubble and the spread of subprime mortgage products that made it possible. They permitted the creation of a new, unregulated credit market without intervening. In the USA, there were wide-spread and timely warnings concerning the dangers of a bubble in the real estate, the subprime mortgages and financial innovations that made it all possible.

In light of the business crises, it is no wonder that societal recognition for managers has dropped to the current low, which the manager's guild should be taking to heart. In a Wall Street Journal survey in 2003, 64% of those questioned said that they do not trust managers. This result was only trumped by one other profession. Only 16% of those questioned trusted politicians, and 84% expressed distrust.[43] Other studies determined that managers in the USA and Germany to have a very utilitarian attitude on ethical and moral questions, in particularly among young managers and American economic students. Typical statements included "One has to look after one's own interests," "Morality is just a matter of feelings," or "Sometimes small injustices are necessary in order to reach greater goals."[44] According to a survey among Swiss managers, 75% assume that the market forces automatically provide for an ethically and morally justifiable behavior.[45] It is interesting to note that many managers do not seem to feel comfortable with immoral,

[43] See Ergenzinger, Rudolf/Krulis-Randa, Jan S. (2004), p. 4.

[44] See Noll, Bernd (2002), p. 168.

[45] See Ulrich, Peter (1993), pp. 1173 and Ulrich, Peter (1993), pp. 1172.

unethical conditions. Studies have shown that meanwhile the majority of managers go to work with more or less consciously felt fear.[46]

Studies had already established a very egoistic attitude among American business students in the late 1980s. The behavior is purposeful and opportunistic. Moral reflexivity is severely restricted. Success and continuity are unconditionally the first priority. Typical words are "winning is everything".[47] According to a survey among Swiss executives, 75% of managers assume that the market forces automatically provide ethically and morally justified behavior. Another survey among German executives comes to a similar conclusion, inasmuch as 50% assume that their company automatically contributes to the common good through its activities.[48]

According to a survey by GFK market research from 2008, 61% of Germans asked were of the opinion – that sincerity and honesty does not pay – the world is dishonest and people expect to be lied to. And 38% consider it appropriate to lie if it will advance their career.[49]

Ethical problems are increasingly making things more difficult for companies as an internal problem of loyalty. In a study conducted by the German personnel consultation firm Kienbaum, Human Resources managers complain about a generation of applicants with little inclination to fully engage themselves. Nearly every other Head of Human Resources bemoans a lack of social competence. Young people increasingly act to maximize their own benefits. This means, for example, that when they have a question to answer, they consider what answer will be the most advantageous. This generation of streamlined opportunists does not please personnel, because they neither provide the necessary creative input, nor can their supervisors trust them. "The question of what one actually wants to do in five years can hardly be answered. Personnel employees know that employees and companies no longer enter a bond for life. But enthusiasm for a task and the desire of the applicant to do something special is still important to the companies."[50] According to Walter Jachmann, Manager of Human Resources consulting at German Kienbaum, applicants lack backbone and personality:

> "Exactly at the time of crisis the company leaders do not get the information they need. No one discusses or contradicts, because everyone just nods and follows the managers"[51]

The internal and external selection process are also criticized, however. Assessment centers make Human Resources' job easier when evaluating a large number of applicants according to objective criteria in a relatively short amount of time. The tests can be prepared for in advance though, and in order to be successful

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[46] See Noll, Bernd (2002), p. 168.

[47] See Löhr, A. (1997), p. 198.

[48] See Ulrich, Peter (1993), pp. 1172.

[49] See Rheinische Post, 04/18/08 and http://de.statista.com/statistik/daten/studie/292/umfrage

[50] Walter Jachmann, Manager of Personnel Consultants Kienbaum, quoted from Handelsblatt dated October 20/21/22 2006, p. 1.

[51] Stefan Tilk, Member of Management at the Bertelsmann subsidiary Arvato Direct Services, quoted from Handelsblatt dated October 20/21/22 2006, p. 1, translated into English.

the candidates must optimize their answers according to predetermined criteria. In these mass tests there is no room for the rough edges of a creative personality. The internal selection processes often reward conformity, making contradiction an unattractive option.[52]

Against the backdrop of corporate crises, it is not surprising that the social recognition of managers has declined considerably in recent years. In a Wall Street Journal survey in 2003, 64% of respondents said they would not trust managers. This result was only surpassed by a profession. Politicians only 16% of the interviewees, 84% expressed their mistrust.[53] In the US, in a survey, only 13% of respondents said they trusted the managers of large corporations.[54]

In the meantime, the notion that honesty is stupidity has apparently prevailed not only in the economy, but also across society. It is often said that "morality must be able to be afforded." Everyone is his own best friend. Communion and sacrifice are replaced by ruthless utility maximization. According to a survey of CSF market research conducted in 2008, 61% of the Germans surveyed felt that sincerity did not pay off - the world was finally lied to. And 38% thought it would be justifiable to lie if it served their own career.[55]

It is interesting that many managers in immoral unethical conditions do not seem to be able to lie. Studies show that the majority of executives now have more or less consciously felt anxiety at work. The fear of job loss, the fear of making mistakes and the fear of misinformation are dominant here.[56] Fear at the workplace, exaggerated performance pressure and interpersonal competition pressure play an important role in mental illness.[57]

The behavior of bankers did not change significantly after the financial crisis. In 2013, only 36% of Wall Street employees surveyed believed their industry had changed for the better. On the other hand, 52% were convinced that the competition was involved in "illegal or unethical" actions. This information was answered by nearly a quarter of respondents in the "own house experienced" or "first hand" experienced. However, 29% considered unethical or illegal tricks "to be successful," an increase of 17% over 2012 when the study was first conducted. Particularly in the case of younger employees, an ethical attitude seems to be lacking. 36% of young bankers with less than 10 years of experience advocated windy tricks, versus 18% of Wall Street veterans with more than 20 professional years. A quarter would be ready for insider trading "if they could earn at least ten million dollars." In the case of the younger colleague, this share even rises to 38%. 17% are convinced "that their bosses look away if they suspect a top performer of insider trading." This is justified by the fact that the income is too low: 26% think that the remuneration

[52] See Handelsblatt dated October 20/21/22 2006, p. 1.

[53] See Ergenzinger, Rudolf/Krulis-Randa, Jan p. (2004), p. 4.

[54] See Brown, M. E./Treviño, L. K. (2006), p. 608.

[55] See Rheinische Post, 04/18/08 and http://de.statista.com/statistik/daten/studie/292/umfrage (01/22/2010).

[56] See Volk, Hartmut (2000), p. 57.

[57] See Volk, Hartmut (2006).

plans or bonus structures of their companies are an incentive to betray ethical norms or break the law. This is the case for the younger 31% and the older 21%.[58]

The managers are thus not fulfilling their role model function. The internal company contract for the distribution of work, stress and income is turned upside down, which is rightly felt to be unfair, thus has negative effects on the other employees.

## 4.4 Summary

As we have seen unmoral aspiration for enrichment of managers was common in all crisis. People are influenced in their behavior by their view of the world. Ideas and attitudes, or moral values, must be shown by example and included in education.

Bad examples can ruin common decency as much as it can be dangerous to continually preach thinking in models and maximizing benefit as the only reasonable, rational behavior. The consequence will be that people orient themselves on these behavioral maxims and repress their positive human characteristics such as sympathy, helpfulness, general willingness to sacrifice and selflessness. Management education in particular must ask itself if it did not indirectly create monster managers; business ethics receives too little attention.

**Comprehension Questions**

1. Name some causes of the Enron crisis.
2. Name some causes of the financial crisis.
3. What are the common moral causes of economic crisis.
4. Can you imagine some reasons for the unethical atitude of the managers.

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[58] See Sucharow, Labaton (2013).

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