Charles University in Prague
Faculty of Social Sciences
Institute of Economic Studies

Master Thesis

2011 Michal ŠINKA

Charles University in Prague
Faculty of Social Sciences
Institute of Economic Studies

Regulation of Hedge Funds and Private Equity in the Light of the Global Financial Crisis

Master Thesis

Author: Bc. Michal Šinka
Supervisor: PhDr. Petr Teplý Ph.D.
Academic Year: 2010/2011

Affirmation

Hereby I declare I have elaborated this thesis on my own with the help of the listed sources only.

In Prague, January 10, 2011

Michal Šinka

Acknowledgements

I would like to express my gratitude to PhDr. Petr Teplý Ph.D. for supervising my work on the diploma thesis and for many useful ideas and suggestions. I am also grateful to Messrs. Mgr. Peter Chrenko and PhDr. Jiří Król for their willingness to provide me with helpful information and data. Lastly, I would like to thank all my lecturers and colleagues for their help during my studies.

Abstract

The aim of the thesis is to analyse the non-bank regulatory framework with particular attention devoted to hedge funds and private equity funds. The thesis describes functioning of the funds, discusses their performance during the global financial crisis of 2007-present and, predominantly, describes and analyses the EU and U.S. regulatory reforms with respect to these institutions which have arisen as a response to the crisis. Based on the analysis of the measures incorporated in these reforms, the thesis outlines its own proposal of an alternative investment fund regulatory framework which, if applied, would lead to a more efficient functioning of the alternative investment industry than what is likely to be the outcome of the already adopted reforms.

The nature of the thesis is institutional; its methodology is characterized by a broad literature survey. Hedge funds and private equity funds are considered both in pre-crisis context as well as in circumstances that have been brought about by the crisis. Several hypotheses concerning systemic risk and the approach of the regulatory reforms to it are assessed. Mostly qualitative analysis is employed to evaluate the hypotheses.

Key words: AIFM Directive, alternative investment fund, Dodd-Frank Act, hedge fund, non-bank institution, private equity, regulation

Abstrakt

Cieľom tejto práce je analýza regulačného rámca nebankových inštitúcií so zvláštnou pozornosťou venovanou hedge fondom a private equity fondom. Práca popisuje činnosť fondov, rozoberá ich výkonnosť počas globálnej finančnej krízy, trvajúcej od roku 2007 až dodnes, a najmä popisuje a analyzuje reformy finančnej regulácie v EÚ i v USA týkajúce sa týchto inštitúcii, ktoré sa objavili ako odpoveď na ekonomickú krízu. Na základe analýzy opatrení, ktoré sú súčasťou prijatých reforiem, je v práci načrtnutý vlastný návrh podoby regulačného rámca pre alternatívne investičné fondy, ktorý by v prípade prijatia viedol k efektívnejšej činnosti sektoru alternatívnych investičných fondov, než aká pravdepodobne bude výsledkom prijatých reforiem.

Povaha práce je inštitucionálna, pre jej metodológiu je preto typický rozsiahly prieskum literatúry. Hedge fondy i private equity fondy sú skúmané v predkrízovom kontexte ako i v podmienkach, ktoré priniesla kríza. Práca posudzuje niekoľko hypotéz týkajúcich sa systémového rizika a prístupu novoprijatých reforiem k nemu. Hypotézy sú skúmané najmä pomocou kvalitatívnej analýzy.

Contents

List of Figures, Tables and Boxes

List of Abbreviations

ABS – Asset-Backed Security

AIF – Alternative Investment Fund

AIFM – Alternative Investment Fund Manager

AIMA – Alternative Investment Management Association

CDS – Credit Default Swap

CEBS – Committee of European Banking Supervisors

CEIOPS – Committee of European Insurance and Occupational Pension Supervisors

CESR – Committee of European Securities Regulators

CRA – Credit Rating Agency

EBA – European Banking Authority

ECB – European Central Bank

ECOFIN – Economic and Financial Affairs Council

ECON – Committee on Economic and Monetary Affairs

EIOPA – European Insurance and Occupational Pensions Authority

ESMA – European Securities and Markets Authority

ESME – European Securities Markets Expert Group

ESRB – European Systemic Risk Board

ETF – Exchange Traded Fund

EVCA – European Private Equity & Venture Capital Association

Fed – Federal Reserve System

FOHF – Fund of Hedge Funds

FSA – Financial Services Authority

FSOC - Financial Stability Oversight Council

ICFR – International Centre for Financial Regulation

IFSL – International Financial Services London

IMF – International Monetary Fund

LTCM – Long-Term Capital Management hedge fund

SEC – U.S. Securities and Exchange Commission

SME – Small or Medium-Sized Enterprise

SWF – Sovereign Wealth Fund

UCITS – Undertakings for Collective Investment in Transferable Securities

VaR – Value-at-Risk model

1. Introduction

The 2006 burst of the U.S. housing bubble, which resulted in a steep decline of real estate prices, an increase of mortgage rates and a subsequent rise of defaults on subprime mortgages, gave rise to what is known as a subprime mortgage crisis. Mortgage-backed securities widely held by financial institutions lost a lot of their value. The resulting collapse of large players in the financial market then changed the subprime mortgage crisis into a global financial crisis, believed by many to be the most severe one after the Great Depression of the 1930's.

Not only banking products and credit derivatives, but also instruments such as hedge funds or private equity funds are often believed to have played a significant role during this global financial turmoil. Allegedly, they have done it in a sense that they contributed to the extent of the crisis and increased the pace of its spread over the world. Subsequently, in the light of serious economic problems, questions arose whether regulations of these instruments were sufficient or whether the effects of the global crisis could have been smoothed, if regulation and supervision had been stricter.

Thus, as the crisis developed, many ideas of reforming the regulatory framework of the overall financial system have arisen. Among them, there have been debates over the necessity of strengthening the regulation of the non-bank sector as well. The outcomes of these debates have mostly materialized in two legal provisions – the Dodd-Frank Act in the U.S. and the AIFM Directive in the EU.

The aim of this thesis is to describe the non-bank regulatory framework in both the EU and the U.S. and to assess the aforementioned new provisions dealing with non-bank financial regulation. Further, an efficient and appropriate regulatory framework for alternative investment funds (AIFs) as a subgroup of non-bank financial institutions will be outlined. Indeed, the focus will be placed on AIFs – hedge funds and private equity funds – throughout the thesis. In addition, we will analyze the following hypotheses: (1) non-bank financial sector carries a considerable portion of systemic risk, (2) AIFM Directive will bring more costs than benefits to the system, and (3) rates of return of various hedge fund strategies are strongly correlated.

We will mostly use a qualitative analysis method to discuss the hypotheses which will be largely based on a broad survey, analysis and comparison of the available literature on the financial system regulation. The third hypothesis will be assessed using data

published by the Hedge Fund Research, Inc. and computing correlations of the rate of return indices of various hedge fund strategies.

The structure of the thesis looks as follows: Chapter 2 reviews the (non-bank) financial regulation generally, and then focuses separately on the recently updated frameworks of the EU and the U.S. followed by their comparison. Chapter 3 aims at hedge funds and private equity funds, their basic features, regulation and the recent financial crisis performance. Chapter 4 outlines a hypothetical regulatory framework for alternative investment vehicles that we consider to be the most appropriate. Finally, Chapter 5 concludes the thesis.

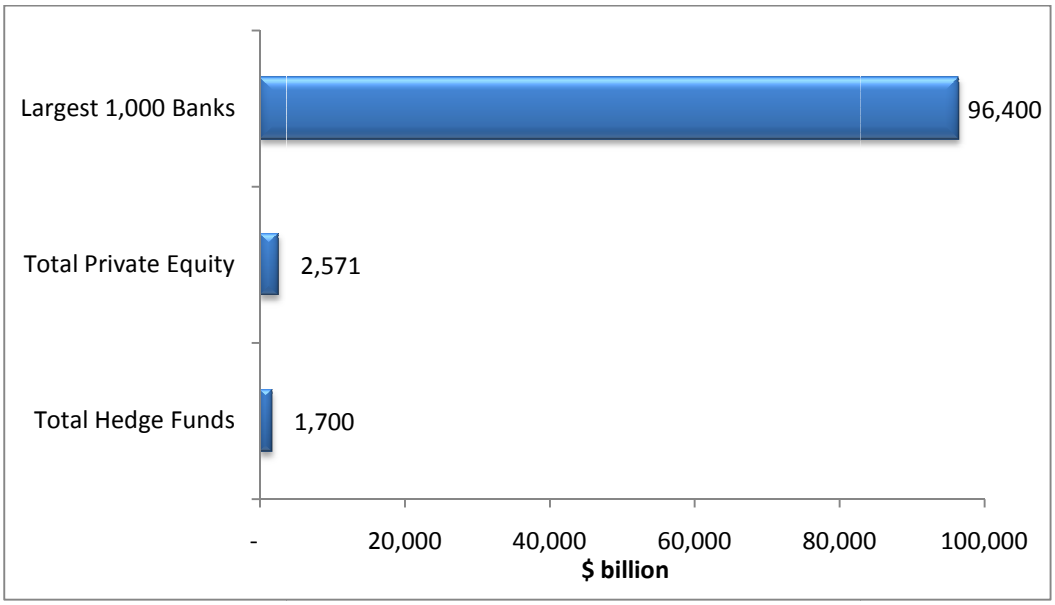
Besides the properly cited references, several parts of the following text also use ideas that were already contained in Šinka (2010) without citing them explicitly

.

2. Regulation and Supervision of the Non-Bank Sector

First of all, we would like to outline the way of thinking that features this thesis. It devotes special attention to two types of non-bank fund management institutions – hedge funds and private equity funds. When considering the appropriate form of their regulation, it is useful to think about how much money these institutions actually represent. Figure 1 illustrates what amounts of money we bear in mind when we deal with these special investment vehicles and compares them to the amount of assets of 1,000 largest banks worldwide.

Figure 1: Assets of Global Private Equity Market, Global Hedge Funds and 1,000 Largest Banks as of 2009

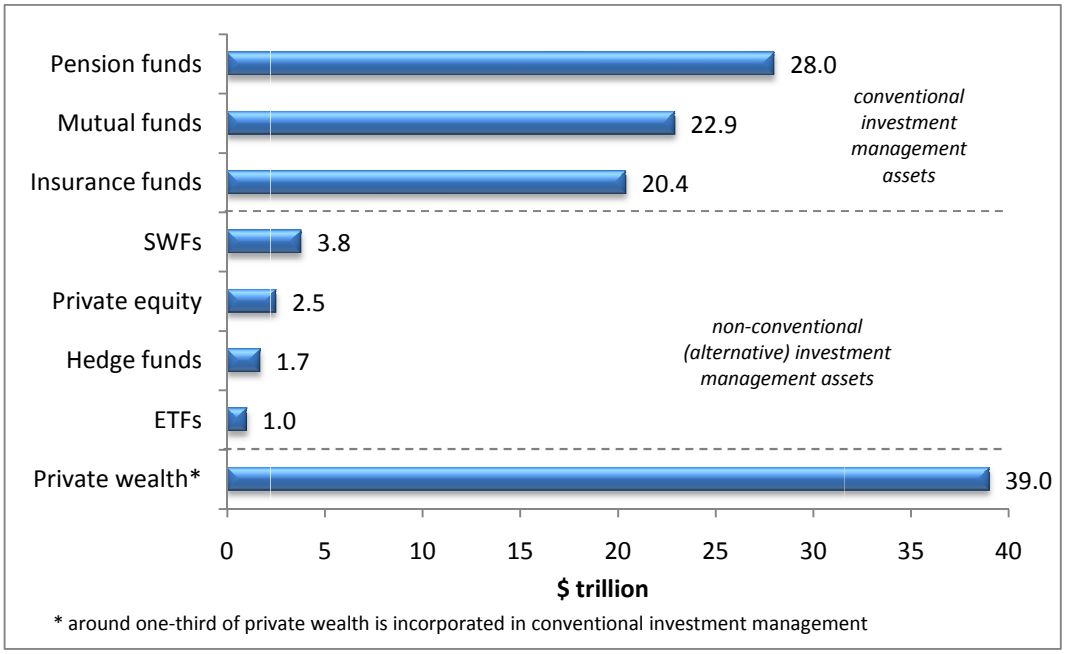


Source: TheCityUK – IFSL estimates

The disproportion is striking. Total assets of global hedge funds and global private equity market only account for 1.76% and 2.67% of total assets of 1,000 largest banks, respectively.

Further, let us compare hedge funds and private equity funds to conventional and some other non-conventional investment vehicles. In order to do it, we will have a look at Figure 2 which depicts the global fund management industry and assets under management of the particular institutions of the industry.

Figure 2: Global fund management industry – assets under management



Source: TheCityUK estimates

We observe another huge disproportion between hedge funds and private equity funds and institutions such as pension funds, mutual funds or insurance funds. According to TheCityUK (2010a), the global fund management industry administers approx. $105 trillion. Out of it, conventional investment vehicles manage by far the largest part. Similarly to banking institutions, they are subject to regulation. On the contrary, private equity funds manage less than one-eighth of the amount of assets under management of insurance funds (the smallest sector of the depicted conventional investment vehicles), while hedge funds administer one-twelfth of the insurance funds' assets.

Hence there is an important question to think about stemming from the above mentioned facts – does it actually make sense to regulate additional few trillions USD when we already regulate tens of trillions USD, and still the system might collapse precisely as we have seen during recent years? In this thesis we will provide our views on the regulation of hedge funds and private equity funds that we consider appropriate.

Yet, before we start to deal with non-bank institutions intensively, in the following subchapter we will briefly discuss the general characteristics of financial regulation, its economic sense but also costs it may bring to the society.

2.1.Financial Regulation Basics

Financial markets have always been very sophisticated. But still, they have always been very vulnerable to many kinds of internal as well as external shocks. Markets as such are imperfect and market failures might represent a considerable source of costs to be imposed on the market agents that cannot be adequately reflected in the price mechanism. Externalities and asymmetric information are the main examples of such market failures which produce sub-optimal results and reduce consumer welfare. These negative impacts can be local, regional or nationwide, i.e. of a systemic character (Mejstřík, Pečená & Teplý, 2008). Hence a regulatory framework has been established to prevent, or at least smooth, the negative impacts threatening the financial markets.

However, before we start to talk about regulation, it will be useful to mention the division of "goods" traded by the financial sector.[1] Basically, the "goods" traded by financial institutions are certain promises – the institutions *"promise to deliver specified payments at specified times, under specified circumstances"*.[2] These promises can be divided into three categories:

- *debt promises* – promises to pay fixed cash at fixed time in the future (deposits, bonds, treasury bills, mortgages),
- *equity promises* – claims over residual earnings of a business, with no guarantee of the size or timing of the payments, usually with voting rights (shares),
- *contingent promises* – promises to pay certain payments under specific circumstances (insurance, guarantees).

Further, bearing in mind the three categories of promises mentioned above, we can also divide financial institutions into several categories, according to the nature of their activity and, where it is possible to distinguish, to the type of promise their activity bears.

Deposit-taking institutions, such as banks, accept deposits and provide loans and provide for payment and liquidity services. Usually, their services do not exceed the range of debt-type promises.

Risk-pooling institutions, such as insurance companies, are specialized in selling contingent promises, usually divided into life and non-life insurance.

[1] The division and description of both promises and institutions is based on Carmichael & Pomerleano (2002).
[2] Carmichael & Pomerleano (2002), pp. 2

Contractual savings institutions, such as mutual funds and their variations, provide equity promises in a way that they transform individuals' investments into various debt, equity and derivative (i.e. mixed type of promise, e.g. option) promises, from which they generate profit which is then used to meet equity promises towards their clients.

Specialized sectoral financiers are financial institutions providing debt or equity-type promises to specific group of clients, taking advantage of better knowledge of the particular sector than general financial institutions.

Market makers, such as securities dealers, work as specific devices which ensure the functioning of securities markets. They make primary and secondary markets in securities, hence provide liquidity (by making markets they turn illiquid assets into liquid ones) and informational services.

Financial service providers form the remaining group of financial institutions encompassing all kinds of advisors, consultants and brokers.

The list mentioned above was originally provided by Carmichael and Pomerleano (2002) and it encompasses all usual types of institutions that appear in financial markets. However, there are also other institutions that interfere significantly in financial markets that are not treated as financial institutions in usual sense. They are the Ministries of Finance, regulatory agencies, rating agencies, etc. In other words, they are the institutions that provide rules and information on the proper and legal conduct of financial business.

According to Llewellyn (1999), there are three objectives that regulation of financial markets follows: (1) maintaining systemic stability, (2) maintaining safety and soundness of financial institutions, and (3) protecting the consumers. Regulatory authorities do so by altering the behaviour of regulated institutions either by issuing rules that must be followed, or by creating incentives, so that the desired behaviour of a particular institution is in the institution's own interest.

Persaud et at. (2009) formulate the basic purposes of regulation similarly but still a little bit differently, as they apply the reasons for regulation stated by the "traditional economic theory". So in their view, regulation serves (1) to constrain the use of monopoly power, to avoid serious distortions to competition and to maintain market integrity, (2) to protect the essential needs of ordinary people in cases where information is hard or costly to obtain and mistakes could devastate welfare, and (3) to prevent such market failures which cause social and overall costs higher than a total of private costs of the failure and the costs imposed by regulatory measures designed to prevent the failure. Persaud et al. also provide a closer explanation of the application of the above mentioned three points on

the financial market. (1) has mostly been the issue in other economic sectors and has been applied in financial markets only for a few times.[3] (2) has led to the institution of a deposit insurance, mostly up to 100%. Full deposit insurance, however, has accentuated another market failure – moral hazard. When there is a guarantee both for financial institutions as well as for their customers that in case of troubles someone else will pay for the mistakes, incentives for higher risk-taking of financial institutions are increased, as well as are increased the incentives for depositors to seek institutions offering higher return, i.e. the high-risk ones. See *inter alia* Llewellyn (1999) or Persaud et al. (2009) for more information. (3) appears to be the most important reason of why financial regulation exists at all. The systemic externalities exist because of the strong inter-connectedness of the financial system.[4] Failure of one big bank weakens other financial institutions as well as financial markets involved with the bankrupt bank, unlike other sectors of the economy, e.g. car producers, where other producers are stronger rather than weaker after one of their competitors has gone bankrupt.

Llewellyn (1999) points out an important fact about regulation, namely that neither regulatory nor supervisory services are supplied through a market process. In this way valuable information on the type and extent of regulation that consumers demand is lost. Neither we know how much the consumers, who are moreover not homogeneous, are willing to pay for regulation. Further, Llewellyn continues that by not going through the market process regulatory services might appear to be costless and, combined with risk-averse regulators, there is a danger of regulatory over-demand by consumers and over-supply by regulatory authorities. Since regulation imposes non-negligible costs upon society, there is a danger that excessive or inappropriate regulation will result in greater social costs than are the economic costs originally designed to be overcome by regulation. Hence it is crucially important to analyse carefully every additional regulatory measure that is planned to be imposed, so that an increase of social costs instead of a desirable decrease does not take place.

Taken from the other side, insufficient regulation is likely to increase social costs, too. Undoubtedly, financial regulation has its important place in the system. The economic

[3] This point might however gain in importance in the near future, as one of the effects of the latest crisis has been a reduction in competition among banks. Mostly in the U.S. but also in Japan weaker banks have been taken over by large banking institutions, leaving the market with a relatively small number of large players in the banking industry (Persaud et al., 2009).

[4] For discussion of the sources of systemic externalities see Persaud et al. (2009).

rationale for financial regulation could be summarized into seven components.[5] Firstly, it is the problem of externalities of a systemic nature. The economy stands and falls on the financial institutions, especially banks, which are subject to runs. But what is important, not only badly-performing banks are run on; the negative externality of a bank run is spread all over the system and adversely affects also solvent institutions. The effect of contagion can then cause solvent banks to become insolvent. Hence certain amount of regulation is appropriate in such situations where social costs of failure exceed private costs and where these potential social costs are not incorporated in the institution's decision making. Secondly, the existence of market failures and imperfections, such as asymmetric information, agency problems or conflicts of interests, justifies the regulatory costs. If there were no market imperfections, no regulation would be necessary. In the real world, however, the rationale for regulation is to correct for market failures or imperfections, so that the outcome of the market is not suboptimal as it would be if there were no regulation on imperfect markets. Thirdly, consumers need to monitor financial institutions which they deal with. It is much more efficient if they delegate monitoring to a regulatory agency, since duplication of the same monitoring activities by all consumers incurring excessive social costs is thus avoided and economies of scale derived via a specialist regulatory authority with the necessary expertise and efficiency. Fourthly, the concept of "market for lemons" applies. In a situation when consumers know there are good and bad firms but only can judge their quality after a contract has been agreed upon, the demand for firms' product may decline, since consumers are reluctant about buying it, as they are not willing to take the risk of choosing a bad firm. Further, good firms may suffer from a poor reputation of the industry caused by bad firms. The role of regulation is therefore to set minimum standards of quality and in this way to relieve the market of "lemons". This is closely related to the fifth component, the so-called grid lock problem, which arises when firms know how they should behave but choose hazardous strategies anyway, since these will bring them higher short-term profit and can be detected only after some time. Good firms are thus likely to be driven out of business by the bad ones or they are induced to take up hazardous strategies of the bad firms, too. As a solution, regulation can break the grid lock by imposing standards within which all firms will behave. Sixthly, moral hazard for both consumers and financial firms stemming from the safety net arrangements for financial institutions is a challenge for regulation, which is supposed to

[5] Following the economic rationale for financial regulation provided by Llewellyn (1999)

be set up in a way to decrease the probability that the moral hazard will be exploited. Finally, the seventh component of the economic rationale for financial regulation is the consumer demand for regulation. Consumers may demand regulation for any of the reasons mentioned above and it is rational for the suppliers – regulatory authorities – to satisfy this demand, since it means a gain in welfare. Hence *"the costs of regulation are not dead-weight costs"*.[6]

An obvious fact is that regulation does impose costs on market participants. Another obvious fact is, however, that costs levied upon market participants would in many cases be much higher absent regulation. Thus, "the art of regulation" lies in the ability to find the optimal solution, i.e. to determine what issue needs a regulatory measure and, on the other hand, what is already an excessive regulation that uselessly increases social costs. In this thesis, we will analyse non-bank institutions, particularly hedge funds and private equity funds, from this very perspective.

2.2.Non-Bank Financial Institutions

To start with non-bank institutions, let us discuss what they actually are and what their importance for the financial market is. Basically, a non-bank financial institution is an institution in the financial market that does not possess a full banking licence, usually is subject to less strict, if any, regulation and supervision of a regulatory authority, and provides bank-type services.

So what can we imagine under the notion of a non-bank financial institution? The term is relatively broad but for the purposes of this thesis it refers mostly to the risk pooling and contractual savings institutions described earlier in this chapter, or more broadly to the global fund management industry. Generally, the global fund management industry can be divided into three groups[7]: (1) conventional funds, which include mutual funds, pension funds and insurance companies, (2) non-conventional (alternative) funds, including hedge funds, private equity funds, sovereign wealth funds (SWFs) and exchange traded funds (ETFs), and (3) private wealth funds, which are funds managed on behalf of the high net worth individuals (TheCityUK, 2010a). However, we will focus our attention almost entirely on the second category institutions, namely hedge funds and private equity funds.

[6] Llewellyn (1999), pp. 32
[7] See also Figure 2

According to Carmichael and Pomerleano (2002), there is strong evidence suggesting that financial development as well as financial depth and diversity add to economic growth and development. In considering whether the non-bank institutions are also necessary for this growth and development or not, the authors provide the following reasoning.

As has been already mentioned, there are three types of promises traded by several types of financial institutions. Technically, all these promises could well be traded by a single financial institution. In other words, a bank could well provide all types of financial products. However, the problem is that this would be extremely inefficient. A bank provides certain services that are core with respect to the nature of the institution, such as provision of payment and liquidity services. Since these services must be low-risk, the bank is limited in what type and amount of assets it can include in its balance sheet. Hence a constraint is imposed on what additional services to its core ones the bank can provide so that their performance remains efficient (Carmichael & Pomerleano, 2002). For this reason, banks usually provide only certain types of services, leaving the remaining ones for other financial institutions. This is the area where non-bank institutions gain their importance. Insurance companies, contractual savers, securities dealers, and many others, specialize in services that banks do not provide or provide only to a minor extent.

Non-bank institutions are nowadays often referred to as the *shadow banking system* (Krugman, 2008). This is because they perform activities that are bank-like without being a bank formally, hence escaping the regulatory net imposed on the banking sector. The name comes from the fact that while conventional banks which take deposits *"operate more or less in the sunlight, with open books and regulators looking over their shoulders"*[8], non-bank institutions – non-depository institutions yet "banks" in the nature of the services they provide – stay somehow in the shadow from the lights of regulatory authorities.

Traditionally, the focus of the financial market regulation and supervision has been mainly on the banking sector, as it has been believed to carry the largest portion of systemic risk. It is of no wonder, since, as Tucker (2010) notes, banks are the very centre of the monetary and payment system, as well as of the credit system. Due to their nature, they are very fragile, and their fragility and linkages to other parts of the financial system threaten the economy as a whole. Hence a "*social contract with the authorities*"[9] has been developed over time to protect the society from shocks it might suffer due to the financial

[8] Krugman (2008), pp. 160
[9] Tucker (2010): Shadow Banking, Financing Markets and Financial Stability, pp. 2

system fragility. The "social contract" involves issues such as deposit insurance, prudential regulation and supervision and liquidity insurance from central banks. Such a regulatory policy within a banking sector is necessary, since the motivation for market participants including banks is "*to protect themselves but not the system as a whole… No firm … has an incentive to limit its risk-taking in order to reduce the danger of contagion for other firms*."[10] Hence, without regulation, externalities imposed by the systemic risk of the banking sector would not be internalized (Schwarcz, 2008). But what about the non-bank sector? Is it necessary to regulate it, too? If so, to what extent?

The answer to these questions is not straightforward. On one hand, the contractual savings sector, a part of the non-bank sector on which we will focus the most, depends fundamentally on the level of trust. Investors need to believe that their investments are safe and that there is a potential to earn profit on the investments, rather than a risk of losing of their money, so that they are willing to give up their resources for a long period of time, since the funds are usually locked in the institution for certain time periods. Such a market confidence is usually encouraged strongly by different regulatory measures. On the other hand, repressive regulation can impede the growth and the development of contractual savings institutions, hence of the whole financial sector in consequence (Carmichael and Pomerleano, 2002). There are arguments against regulation specifically concerning sophisticated financial institutions that pursue innovations thanks to the fact that they are not excessively regulated, such as hedge funds.

We have already mentioned why non-bank institutions exist at all. Let us review that it is a matter of specialization. Some non-bank institutions perform activities that banks usually do not do or do not do in a large scale (e.g. insurance companies) for reasons that were mentioned above. Yet, there is another reason for the existence of non-banks besides the specialization issue. It stems from the above mentioned fact about the lack of incentives to protect the system as a whole. As Tucker (2010) points out, the banking regulatory framework pursues health and safety of the banking system; however, it pursues them more than banks and their shareholders would themselves. These are worse off than they would be absent regulation, since many of the strategies they would like to employ in order to increase their profits are simply prohibited by the authorities. In this way, incentives arise to place some business activities of banks outside the banking system and

[10] U.S. President Working Group on Financial Markets (1999): Hedge Funds, Leverage, and the Lessons of Long-Term Capital Management, pp. 31

thus escape the coverage of the "social contract" – regulation by the financial authorities. At this point, the non-bank financial intermediation originates.

Non-bank institutions founded on the grounds of the second reason are of particular interest of this thesis. It is because of the fact that they de facto perform banking activities without being regulated nor supervised in a way the banks are, or being regulated much lighter. They are therefore free to employ strategies according to their will, regarding only the risk they might impose on the particular institution itself, however caring less about the risk their activities might represent for the financial system in general. Moreover, many non-banks often compete with banks themselves. It is not rare that banks invest in non-banks. Because of these interlinks non-bank institutions are often alleged to be a source of systemic risk, too.

To illustrate the danger of unregulated non-bank financial institutions (which are, however, far from being as sophisticated institutions as hedge funds or private equity funds), we will depict the situation in Slovakia at the end of 1990's and at the beginning of the 21st century in Box 1. The failed Slovak non-bank institutions were not of a systemic importance. However, because they focused on retail clients, many investors lost their investments due to the lack of regulation after the institutions had gone bankrupt.

Box 1: Frauds and failures of non-bank financial institutions in Slovakia

Frauds and Failures of Non-Bank Financial Institutions in Slovakia

During the 1990's, there was a boom of setting up businesses in non-bank subjects in Slovakia. More than 60 such deposit institutions were created. Out of these, only 13 are still active nowadays, 22 went bankrupt and the rest is investigated by the police. It is because fraud was the most common way of operating non-banks during the period. Though not possessing a banking license, the institutions collected huge amounts of money in deposits from small investors – ordinary people – while promising them very high rates of return. Those managers, whose intentions were not clear, used the Ponzi scheme (pyramidal game) and actually did pay returns to the investors for some time. However, this could only work until the institutions accepted more money in deposits than they had to pay out. Once the situation reversed, both managers and money usually fled abroad.

The most publicly discussed case of such fraudulent practices was the case of Horizont Slovakia and its affiliated company BMG Invest, which jointly collected almost 63 billion SKK during the period of 1997-2002. After they went bankrupt in 2002, just 53 billion were paid to the investors. Although the authorities had constantly alerted the public that these institutions were not subject to bank regulation nor were they secured by the Deposit Protection Fund and that investing in them was very risky, 170,000 people were hurt by the failure, not having been paid back their deposits.

Ever since the fall of the companies, there have been discussions whether the investors hurt by the failures do have a title to be compensated by the government for their lost investments or not. Some say investors invested in the non-bank companies on their own behalf, knowing that they were exempt from banking regulation and supervision and despite the fact that it had been obvious that promised returns were very unrealistic and highly suspicious. Still, others claim that the state supervisory authorities failed their duty to ensure safety of investments within the financial sector and thus the government has to compensate the hurt investors. This issue has even become a part of election programmes of several political parties which promise to compensate those who lost in non-banks. No compensation, however, has taken place yet.

Source of data and information:
http://hnonline.sk/slovensko/c1-21270710-chronologia-pripadu-bmg-invest-a-horizont-slovakia
http://openiazoch.zoznam.sk/produkty/ni/ukladani.asp

2.2.1. Systemic Risk in the Shadows

It is obvious that s*ystemic risk* will be a crucial notion in our further discussion; hence it is important to define it properly at this moment. In doing so, we will make use of the analysis of systemic risk by Schwarcz (2008). He distinguishes the *institutional systemic risk* (failure of many institutions, bank or non-bank, which deprives society of capital and increases its costs, e.g. bank run) and the *market systemic risk* (risk affecting the market as a whole that cannot be cancelled out by portfolio diversification). One of these aspects or both of them jointly might then cause a chain of negative economic events occurring in a domino effect and affecting substantial part of the society. Schwarcz therefore defines the systemic risk as "*the risk that an economic shock such as market or institutional failure triggers (through a panic or otherwise) either the failure of a chain of markets or institutions, or a chain of significant losses to financial institutions, resulting in*

increases in the cost of capital or decreases in its availability, often evidenced by substantial financial-market price volatility".[11]

In his analysis, Schwarcz further notes that, regarding systemic risk, the nature of business of a given institution is much less important than whether it is a critical player in the market or not. If it were critical one, its failure (or subsequent chain of failures of other institutions) would significantly affect the cost and availability of capital, while if it were not, it could only have similar consequences if the player in troubles were large enough to affect the capital markets viability. To illustrate Schwarcz's concern, let us consider a failure of an institution that is not crucial for funding of the companies (e.g. hedge fund). Whether this failure will have extensive consequences affecting large parts of markets does not depend on the fact that the institution is a hedge fund (or a bank, insurance company, etc.) and that such a type of institutions features such and such risks, but on the likelihood that failure of this particular institution will negatively affect viability of capital markets.

Therefore, when analyzing the potential of any institution for being a source of systemic risk, one must consider whether the particular institution is significant enough and interconnected enough with other important market players in such a way, that the run of investors to close-out their position due to its failure would also affect other market participants, hence leading to heavily increased market uncertainty about future price moves. If this is the case, many credit and interest rate markets would have to compensate for the high uncertainty by means of raising their risk premiums. Finally, this would result in an increased cost of capital and its decreased availability which is the most important direct consequence of systemic risk (McDonough, 1998).[12]

So, is there any systemic risk stemming from the shadow banking system? We will employ a qualitative analysis to consider the hypothesis.

- **Hypothesis 1:** *Non-bank sector of financial markets carries a considerable portion of systemic risk.*

Krugman (2008) notes that *"until the crisis hit, few people seem to have appreciated just how important the shadow banking system had become"*.[13] He argues that risks taken (and implicitly also imposed) by institutions that had never been regulated were the core of

[11] Schwarcz (2008): Systemic Risk, pp. 204

[12] In fact, McDonough (1998) summed up potential consequences of the failure of the particular institution – the Long-Term Capital Management hedge fund was close to bankrupt during the second half of the 1990's. The case will be discussed later on.

[13] Krugman (2008), pp. 160

what caused the latest crisis. Since unregulated shadow banking institutions had been expanding heavily to even overtake the conventional banking sector in importance, a situation very similar to the pre-Great Depression times was gradually created, when financial system became extremely vulnerable to any kind of misconduct or undesirable market development. Krugman refers to the failure of extending the regulatory net over shadow banking institutions as the "*malign neglect"* and adds a rule according to which *"anything that does what a bank does, anything that has to be rescued in crises the way banks are, should be regulated like a bank"*.[14]

However, Krugman's view does not reflect reality accurately. The nature of the latest crisis was bank-like more than anything else. The role of non-bank institutions, out of which hedge funds are most often blamed for being in the very centre of the crisis, was limited to increasing the price volatility in capital markets due to their need to deleverage.[15] Although there were many hedge fund closures after the crisis broke out, there was no major failure that would have imposed any substantial threat on the system. Many closures were voluntary and did not cause any losses to the investors (Król, 2010). As Petajisto (2010) says, the latest crisis accounted for a period of real-life "stress testing" which should have exposed all the fragilities of the system but still hedge funds did relatively well. To prevent the adverse effects of runs, many funds suspended redemptions after the crisis began. Moreover, levels of leverage were much lower than they were in times of the LTCM.

Another argument against major systemic importance of AIFs has already been mentioned in the beginning of the thesis – the size of assets under management of particular institutions. In Figure 1 we have seen that global hedge funds only account for approx. $1.7 trillion of assets. Such a low number, compared to the amount of assets of banks, can hardly be systemically relevant, even if we take the counterparty risk into account.

All in all, hedge funds seem to have taken their lessons from the events of the past. To blame them for being reliable for the crisis is thus not wise. However, not to be misunderstood, we do not claim there is absolutely no systemic risk stemming from the non-bank sector. The risk of a failure is always present and it depends on circumstances what its potential consequences might be. This is especially true for conventional

[14] Krugman (2008), pp. 163

[15] For the needs of this subchapter, we will concentrate on alternative investment funds as representatives of the non-bank sector, since they are the sector's "hottest" topic regarding the causes of the crisis.

investment funds which cumulatively account for approx. $71 trillion of assets (Figure 2). They are, however, subject to regulation. The issue of AIFs is thus of higher interest.

As we will see in Chapter 3.1.3.3, there is some correlation between rates of return of various hedge fund strategies. Hence returns of different strategies react jointly to some extent to the development in the market. Therefore, in case of a significant market drop many hedge funds might find themselves in a loss or even fall. This has actually been the reality during the latest crisis. In theory, such an adverse development in the hedge fund sector could expose its major institutional investors to danger of losing amounts of money so large that they could end up in failure themselves, which could set up a chain of failures endangering the system as a whole. In reality, however, we have seen no such systemic chain of failures due to a failure of a non-bank institution during the latest crisis. One of the reasons is definitely the aforementioned small size of the AIF sector. Hence, we believe it is not necessary to impose additional strict regulation on it.

To conclude, there is some (theoretical) systemic risk stemming from the non-bank sector, however it is minor and it has not been the cause of the latest financial crisis.

- **Hypothesis 1:** *Non-bank sector of financial markets carries a considerable portion of systemic risk.*

  Based on the discussion above we *reject* the hypothesis. Systemic risk present in the non-bank sector is only minor.

2.3. Credit Rating Agencies

Another important issue with respect to both bank and non-bank sector is the role of credit rating agencies (CRAs). In today's globalised financial markets, their ratings are crucial for further conduct of a particular institution being rated as well as they are important for many other market players, mainly the institution's creditors. Indeed, by providing information on the rated security credit ratings reduce information asymmetries, and thus reduce investors' costs to research the creditworthiness of the rated asset. Hence, ratings of Standard & Poor's, Moody's or Fitch, but also of other rating agencies, have evolved into an essential part of day-to-day conduct in financial markets.

More importantly, however, credit ratings have evolved into a regulatory instrument, since many regulators have incorporated them into their regulatory requirements. According to Katz, Salinas & Stephanou (2009), by making credit ratings a cornerstone of

regulations the regulators have effectively outsourced many regulatory functions to CRAs which thus play a critical role of "capital market gatekeepers". The authors are certainly correct to consider the situation paradoxical, since although regulation is heavily based on credit ratings, the CRAs has been subject to only a limited oversight which has resulted in a critical lack of liability.

After the global crisis broke out in 2007, the CRAs have come under strong criticism. They have been believed by many to have underestimated the credit default risk of instruments collateralised by subprime mortgages. Further, they decreased the credit risk perception by assigning AAA ratings to structured financial products that did not deserve such a level of rating which is usually given to standard government and corporate bonds, since they contained elements with much worse rating. Due to regulation rules that require specific investors to only invest in products with AAA rating, demand for these structured assets increased (De Larosière, 2009).

Another source of criticism of the CRAs has long been the fact that they do not downgrade the ratings promptly enough. Katz, Salinas & Stephanou (2009) provide the Latin American debt crises and the 2001 collapse of Argentina or the cases of Enron, Worldcom or Lehman Brothers as examples of such slow reactions.[16] Hence investors, among which non-bank institutions such as hedge funds are not unusual, invest into products that are riskier than they seem to be at the time of purchase. Credit risk of the investors' portfolio is thus increased. In response, systemic risk potential increases, too.

The core of the problem seems to lie within the fact that under the current credit rating framework the CRAs are entirely financed by the issuers of securities that are rated. It is argued by many that in this way a conflict of interests arises (see e.g. Andrlíková (2010) or De Larosière (2009)). Instead, De Larosière suggests the European Union switch from the "issuer pays" to an "investor pays" model of CRAs.

The problem is obvious. When selling new securities, the issuer wants to sell them at as good a price as possible. Naturally, assets with higher rating are traded at higher prices. Hence, at the time the rating for particular asset is to be determined, there is a strong incentive for the issuer to "negotiate" a more desirable outcome of the rating decision process. Certainly, he is in a position to do so, since it is him who pays for the rating agency services. Transparency of ratings is thereby rather distorted. Further, a CRA has an incentive to determine higher ratings for certain class of issuers to attract more businesses

[16] Actually, the three major CRAs assigned an investment-grade rating to Lehman Brothers up to the day of its bankruptcy.

in this class (Andrlíková, 2010). Low transparency of ratings is adversely affected also by not providing sufficient information by CRAs on their methodologies and assumptions. According to Andrlíková (2010), low transparency together with high complexity of structured financial products being rated could have led to "rating shopping", i.e. a situation when the issuer pays several CRAs to determine the future rating of his issue and chooses the one that offers the most favourable rating.

Moreover, the credit rating industry is to a large extent an oligopolistic market structure.[17] Three major CRAs – Standard & Poor's, Moody's, Fitch – cover more than 97% of the market share (see Table 1). High concentration of the credit rating market is a result of high barriers to entry stemming from reputational capital as well as from the wide coverage that has been built by major rating agencies over time. The major CRAs were in consensus about the evolution of the subprime market and *"and did not anticipate in their ratings the scale of the deterioration that ultimately transpired and led to the crisis of confidence in their ratings"*.[18] Incentives for a conservative approach were reduced by the fact that cutting the ratings down would have decrease the inflow of new structural finance ratings and associated revenues. The lack of competition could have therefore negatively affected the development of the subprime crisis in a way that higher competition among CRAs would have been likely to identify the near crisis sooner, more coherently and with a better communication of the information to the market (ESME, 2008).

Hence some correction of the credit rating framework seems to be necessary. De Larosière's suggestion of implementing the "investor pays" model appears to be a reasonable idea. No more would the issuer have the power to influence the performance of the rating agency under such a framework, since this would be paid for by the buyer of the asset. It is the buyer who is the end-user of the information contained in the rating; hence there is an economic sense to charge him for the access to the information. But it is necessary to admit that the "investor pays" model is very likely to increase administrative and transaction costs of trading. The cost of rating would have to take form of a subscription fee payable with the intermediary such as stock exchange, broker, etc. An investor will probably not be willing to pay a fee to learn the rating in order to generate

[17] According to Andrlíková (2010), the Herfindahl-Hirschmann Index (HHI) measuring the concentration of firms in a market is 3,347 in the case of the CRAs market, which corresponds to an oligopolistic structure with three large players.
[18] ESME (2008), pp. 11

comparable revenue on the investment. Hence, much fewer issues will be assigned ratings as a result and information asymmetries will rise.

Alternatively, Katz, Salinas & Stephanou (2009) propose a hybrid solution in a form of a rating determined by an existing rating agency and paid for by the issuer who will, however, be required to seek also a second rating from a "subscriber fee" rating agency.

Table 1: Number of credit ratings and market shares of CRAs in the U.S. in 2008

	Financial Institutions	Insurance Companies	Corporate Issuers	Asset-Backed Securities	Government, Municipal & Sovereign	Total Ratings	Market Share
A.M. Best	3	6,009	2,710	54	0	**8,776**	0.28%
DBRS	18,040	110	7,080	7,470	10,560	**43,260**	1.38%
EJR	62	46	803	14	9	**934**	0.03%
Fitch	83,649	4,797	14,757	77,480	491,264	**671,947**	21.51%
JCR	155	31	544	71	71	**872**	0.03%
LACE	18,000	100	2,000	0	300	**20,400**	0.65%
Moody's	84,773	6,277	31,126	109,261	880,880	**1,112,317**	35.61%
R&I	100	32	600	210	100	**1,042**	0.03%
Realpoint	0	0	0	9,200	0	**9,200**	0.29%
S&P	47,300	6,600	26,900	198,200	976,000	**1,255,000**	40.18%
Total	**252,082**	**24,002**	**86,520**	**401,960**	**2,359,184**	**3,123,748**	100.00%
HHI	2,686	2,467	2,636	3,550	3,539	**3,347**	—

Source: Andrlíková (2010)

In the U.S., the July 2010 adoption of the Dodd-Frank Act changes rules of the game for CRAs.[19] Since CRAs have been recognized by the U.S. government as systemically important and their "inaccurate" ratings have been alleged to contribute to the risk mismanagement of large financial institutions and investors (Dechert, 2010), the agencies will be regulated more strictly. They will be subject to more intensive internal controls and stronger transparency requirements. See Dechert (2010) for a broader discussion of the influence of the Act on CRAs.

[19] The Dodd-Frank Act will be discussed extensively in Chapter 2.4.3.1.

2.4. European Union vs. United States

2.4.1. The G-20 Agenda

After the latest crisis struck financial markets, debates have arisen whether regulatory frameworks are appropriate and sufficient and whether they might have carried some part of guilt on the global turmoil. Namely, regulatory and supervisory frameworks of the European Union and of the United States seem to be of the highest concern.

The debates resulted in actions on both sides of the Atlantic. However, the actions have not been negotiated in isolation. Instead, the G-20 promoted an international coordination of the regulatory responses to the crisis.[20] The G-20 agenda aims at improving macroeconomic cooperation and strengthening of international financial institutions, and concentrates on finding coordinated regulatory solutions on the following key issues:

- *Macro-prudential supervision* – to establish framework to deal with macro-prudential risks and develop tools
- *Complex financial institutions* – to improve oversight framework
- *Systemic risks* – international guidelines for definition of systemic importance, and avoidance of regulatory arbitrage
- *Prudential regulation* – to strengthen prudential regulatory standards, improve quantity and quality of bank capital, discourage excessive leverage, strengthened liquidity requirements, adopt Basel capital framework
- *Bank resolution* – to address cross-border resolution
- *Comprehensive data* – to ensure gathering relevant information and international consistency
- *Hedge funds* – registration and conduct-of-business requirements
- *Derivatives* – to improve OTC derivative markets, promote standardisation and resilience of credit derivative markets, and establish central clearing counterparties
- *Credit rating agencies* – registration and oversight rules[21]

[20] *The Group of Twenty (G-20) Finance Ministers and Central Bank Governors* was established in 1999 to bring together systemically important industrialized and developing economies to discuss key issues in the global economy. The inaugural meeting of the G-20 took place in Berlin, on December 15-16, 1999, hosted by German and Canadian finance ministers. (www.g20.org)

[21] Taken from Deutsche Bank Research (2010), pp. 17

In the following two subchapters, regulatory frameworks of the EU and the U.S. with focus on non-bank institutions as well as the regulatory responses to the crisis will be described. Then, a subchapter comparing the EU with the U.S. approach in light of the G-20 agenda will follow.

2.4.2. European Union

The pre-crisis process of the development of a financial regulation legislature within the EU was called the Lamfalussy Process and it encompassed four levels, each focusing on a specific stage of the legislative implementation. Level 1 embraced creation of legislature to be incorporated in the framework (Council of the European Union, European Parliament, and European Commission). Level 2 comprised special committees of national ministries of finance which worked out details of the legislature. Level 3 consisted of the supervisory institutions, promoting the cooperation among national supervisory authorities. They were the Committee of European Banking Supervisors (CEBS), Committee of European Securities Regulators (CESR), and Committee of European Insurance and Occupational Pension Supervisors (CEIOPS). However, their decisions were not legally binding. Finally, Level 4 embodied the enforcement of the regulatory legislature which was the responsibility of the European Commission.[22] Obviously, the Lamfalussy structure was rather complicated. No wonder that CNB (2009) considered it to be one of the fundamental problems of the European integrated market, alongside with the fragmentation of the European supervisory authorities.

As a response to the crisis, a special group chaired by Jacques de Larosière was formed by the European Commission in October 2008 to work out plans for restructuring the European financial regulatory and supervisory framework. Results of the work of the De Larosière Group were published in a report in February 2009. Few months later, in April 2009, draft proposal of a new directive on improvement of the regulatory and supervisory framework of alternative investment vehicles was issued by the European institutions. Both documents provide variety of suggestions on improvements of the framework in order to prevent excess volatility and turmoil in the markets. Meanwhile, the third important document dealing with the post-crisis regulatory system adjustment referred to as the Turner Review was published by the FSA in March 2009. We devote the next three subchapters to a brief description of these documents.

[22] Based on the information available on the ECB website.

2.4.2.1. De Larosière Report

In their report delivered in February 2009, members of the De Larosière Group (2009)[23] deal with the characteristics of the pre-crisis regulatory and supervisory framework. In light of the global crisis, they list numerous recommendations on how the European regulatory and supervisory framework should be improved in order to prevent the crisis to repeat. Among other issues concerning banking sector, they also express their view of the role and future regulation and supervision of the "parallel banking system" (non-bank financial institutions) and institutions such as CRAs.

According to the Group, the primary cause of the recent crisis was the excess liquidity and low interest rates. They also note that the consequences of these two factors were amplified and accelerated by financial innovation in the markets. What can we imagine under the notion of financial innovation? Basically, it is the variety of loan instruments that were used extensively by many financial institutions, such as securitization of loans by means of mortgage or asset backed securities that were traded globally, expanding the leverage within the financial system. In addition, non-bank institutions are also involved in the Group's notion of financial innovation.

According to Trpčevski (2010), the De Larosière Report has become a basis for the European Commission's plans of restructuring the EU regulatory and supervisory system. The Group's recommendations were transformed into proposals of establishing new institutions such as the European Systemic Risk Board (ESRB), and transformation of the Level 3 Committees (CEBS, CEIOPS and CESR) into the European Banking Authority (EBA), the European Insurance and Occupational Pensions Authority (EIOPA) and the European Securities and Markets Authority (ESMA).[24] This will be discussed later on.

Of course, the report of the De Larosière Group has not raised only positive reactions but also much critique. One of the most comprehensive pieces of critique has been the report of the Czech National Bank (CNB, 2009). CNB criticises the De Larosière Report for not taking into consideration the necessity of creating a broad supervision across all sectors of the financial market and for burdening the supervisory structure with excessive number of national supervisory authorities instead. The CNB report contains opinions on all of the thirty-one recommendations of the Group. While CNB accepts many of the Group's findings, it also strongly opposes those issues where its sovereignty would be

[23] Further referred to as „the Group"
[24] See Trpčevski (2010), pp. 56-57, for a list of proposals stemming from the De Larosière Report.

weakened (Trpčevski, 2010) or where persisting fragmentation of the supervisory structure would even be intensified.

2.4.2.2. AIFM Directive

At the end of April 2009, the European Commission published a draft of the Directive on Alternative Investment Fund Managers[25] (the "AIFM Directive") in a response to the demand for improved regulation and supervision that had been raised on the G-20 summit few weeks earlier.[26] In November 2010, it passed the European Parliament and came into force in early 2011. The Directive seeks to provide a framework for all AIFs other than those regulated by the UCITS Directive.[27] It deals extensively with hedge funds, as well as with other types of funds, such as private equity funds, sovereign wealth funds, etc., and their managers. Each manager running a fund within the EU has to be authorized by the national regulatory authority of the country where he is established. Once such an authorization has been granted, he can operate throughout the whole EU, a principle similar to UCITS funds.[28] The "EU passport" will be granted also to third-country fund managers under the condition that the third country's legal system is in line with the Directive.

The AIFM Directive sets rules for authorisation, ongoing operation and transparency of managers. Every EU-domiciled manager managing more than €100 million of assets in an AIF will be subject to authorization requirement. In order to obtain authorization, the Directive requires managers to provide detailed information on their business activities, characteristics of the alternative funds they manage and their governance systems. Further, it defines exemptions from its force for managers who manage unleveraged funds and provide their investors for redemption rights no more often than once in five years. In such a case, a threshold of €500 million applies (Ossendorf & Jekl, 2010). Other measures

[25] Proposal for a Directive of the European Parliament and of the Council on Alternative Investment Fund Managers and amending Directives 2004/39/EC and 2009/65/EC published on 30 April 2009 as COM (2009) 207 final

[26] The original draft Directive proposed by the Commission was subsequently amended by ECON and ECOFIN which both voted on their respective proposals in May 2010 which were different in certain points. See ICFR (2010) for a comparison of the three drafts.

[27] Directive 2009/65/EC of the European Parliament and of the Council of 13 July 2009 on the coordination of laws, regulations and administrative provisions relating to undertakings for collective investment in transferable securities (UCITS)

[28] UCITS fund – an investment fund that has been established in accordance with the UCITS Directive, see http://ec.europa.eu/internal_market/investment/index_en.htm

contained in the AIFM Directive include regulation of short-selling, obligations to appoint an independent valuator and a depositary, limits on use of leverage, etc.

- **Hypothesis 2:** *The AIFM Directive will bring more costs than benefits.*

Immediately after the draft Directive was published, it raised intensive reactions of both positive and negative nature. For example, Persson of the OpenEurope (2009) sees the benefits of the Directive in increasing the transparency and disclosure of the investments and in potential enhancement of the Single Market by the possibility of the manager to market his fund throughout the whole EU once he has been authorised. On the other hand, Persson also expects additional costs to the industry, investors and economy as a whole to offset the benefits of the Directive. He notes that the managers might stop entirely marketing their funds in the EU due to many restrictions and prohibitive costs imposed by the Directive. This would lead to decreased investments in Europe, thus leaving the whole EU less competitive. The opponents of the Directive further raise complaints about its protectionist nature which might cause similar counter-measures in the non-EU countries. Non-EU funds or EU funds managed by non-EU managers will need to satisfy various far-from-easy conditions in order to be authorized by the EU authorities and to be granted the "EU passport". In this area, powers of ESMA will be substantially increased by the Directive, empowering it, given certain conditions are satisfied, to intervene in the marketing of EU funds managed by non-EU managers if it assumes there is a meaningful concentration of market risk or counterparty risk to a systemically important institution stemming from the fund's activities (Ashurst, 2010). Similarly, ESMA may impose limits on a fund's leverage if it concludes that the current level of leverage imposes a substantial risk on the health and stability of the financial system. Another source of concerns of the critics of the Directive stems from its "one-size-fits-all" approach not distinguishing between systemically important and "other" funds.

However, there are also keen supporters of the AIFM Directive. One of the most well-known is the Party of European Socialists. Its president Poul Nyrup Rasmussen suggests even stricter rules to be implemented into the Directive, such as regulation to be imposed not only on managers but on funds themselves as well, non-EU funds to be covered by the European regulation, strict limits to be imposed on the level of leverage and penalties to be outlined for improper conduct (Rasmussen, 2010). In his view, hedge funds' activities were one of the major causes of the latest financial crisis through "*their*

extensive use of risky, so-called 'innovative' products, their level of leverage, their pro-cyclical conduct and, generally speaking, their role as part of the 'shadow banking system' ".[29]

There is a nice assessment of the AIFM Directive in the AIMA position paper (AIMA, 2009).[30] It summarizes all the profound changes that the Directive brings to the regulatory framework and divides them into aspects that are welcomed and aspects that raise AIMA's concern.[31] The welcomed aspects or aspects welcomed with reservations are the following: (1) registration of hedge fund managers following the UK model, (2) disclosure of systemically relevant data to regulators, (3) enhanced transparency by improved provision of information to counterparties and investors, (4) "EU passport", and (5) attempts at the development of global harmonised short selling regime. On the other hand, there are important issues in the Directive that AIMA disagrees with: (1) the protectionist nature of the Directive decreasing the attractiveness of Europe among investors, (2) reduction in investor choice due to provisions on the third country marketing that are likely to make many non-EU funds unavailable to EU investors, (3) third country marketing conditions making non-EU fund managers highly unlikely to be able to comply, (4) provisions regarding the delegation of certain functions of an alternative investment fund manager (AIFM) to third parties which require such a third party also be authorised by the regulatory authority and which are likely to prevent investors from the expertise of non-EU experts, (5) restrictions on leverage, and (6) the requirement that the hedge fund depositaries be an EU credit institution strictly liable for its own failures, which would substantially increase fees that would be subsequently passed to end investors. Further, other general concerns about the AIFM Directive are that in many cases it provides for a higher level of protection for professional investors than for retail investors (set by the UCITS framework) and, similarly to the FSA, the "one-size-fits-all" approach applied on AIFs by the Directive.

According to Ossendorf & Jekl (2010), the AIFM Directive took over a wide range of measures from the UCITS Directive, such as the extensive information obligations towards supervisory authorities as well as towards investors. However, the UCITS

[29] Rasmussen (2010): On EU Regulation of Hedge Funds and Private Equity – Making the Right Choice, pp.1

[30] Alternative Investment Management Association (AIMA) is the not-for-profit trade association which represents the global hedge fund industry.

31 The assessment is worked out mostly from the hedge fund point of view, nevertheless, at this place we will use it as a summary of changes brought about by the AIFM Directive. See also Table 2.

Directive applies to investment funds that are offered to the public while AIFs are mostly directed at qualified investors. Hence, copying of provisions from the UCITS Directive is not a step in the right direction. This is the meeting point of virtually all critics of the AIFM Directive. Moreover, the Ossendorf & Jekl criticise the fact that regulation only applies to AIFs and not to other investment banking institutions such as banks or investment firms.

In Table 2 we provide a comparison of the opinions of the CNB represented by Ossendorf & Jekl (2010) and the AIMA (2009) over the AIFM Directive with additional comments where necessary. The CNB assessment represents the point of view of the EU member state national regulatory and supervisory authority, while the AIMA assessment stands for the opinion of a representative of the global hedge fund industry. In the rightmost column, the author of this thesis expresses his own opinion on the main AIFM Directive provisions which appear to be a compromise of the CNB and AIMA positions.

It took more than a year and a half from the release of the first draft to the final adoption of the AIFM Directive by the European Parliament. Nevertheless, many of its provisions seem not to have been thought over thoroughly and they are likely to do more harm than benefit. On one hand, the European Single Market might well be improved by the introduction of the "EU passport" and regulators might better oversee EU financial markets due to improved provision of systemically important information. But on the other hand, some of the AIFM Directive provisions will have significant adverse effects, such as its protectionist nature and the related decrease of investment options for investors which might result in a decline of competitiveness of the EU, and in similar counter-measures being adopted by non-EU countries. We believe that it would be more efficient to focus on regulation of institutional investors with systemic potential engaging in investments in AIFs rather than on imposing regulatory rules on the alternative funds themselves.

- **Hypothesis 2:** *The AIFM Directive will bring more costs than benefits.*
  Based on the qualitative analysis above the hypothesis *cannot be rejected*.

Table 2: Comparison of the CNB, AIMA and author's opinions on selected aspects of the AIFM Directive

AIFM Directive Regulatory Provision	CNB	AIMA	Author
"EU Passport" for AIF managers	+	+	+
Leverage limits	-	-	-
Disclosure of information to the supervisory authority	- According to the CNB, the set of information demanded by the Directive is much larger than the one currently demanded by the Czech law. The use of information for the purposes of prudential regulation is debatable, since AIFs are focused mostly on sophisticated investors. Moreover, the Directive should not attempt at limiting risks at all, since higher risks are the way of obtaining higher returns.	+ AIMA supports the provision of data to supervisors but only those of systemic importance and only in reasonable volumes in order not to overwhelm supervisors with huge volumes of worthless data from small AIFs which cannot be considered systemically relevant.	+ Disclosure of systemically important data to regulators is important but the threshold should be set at a relatively high level in order to prevent regulators from being overloaded by data from smaller funds. AIMA's suggestion of a threshold of €1 billion seems reasonable.
Disclosure of information to investors in order to improve transparency	- The CNB considers the information obligation towards investors surprising, since the AIFs are intended primarily for professional investors.	+ AIMA supports the enhanced information provision for counterparties and investors even though the AIF investor base consists primarily of sophisticated investors. Nevertheless, they suggest the information rules to be set at reasonable levels.	- Sophisticated investors investing in AIFs perform their own risk assessment and are likely to be influential enough to obtain all the information they need. Hence the increased compliance costs due to this AIFM Directive provision will be higher than its value added.

2.4.2.3. Turner Review

Naturally, neither the FSA remained reluctant to the development in the financial sector after 2007. In March 2009, it published the Turner Review (FSA, 2009), named after its chairman Lord Turner, a document dealing with the question of the financial crisis response in the UK as well as elsewhere in the world and with suggestions of the post-crisis financial system improvements that would ensure higher stability of the system and

prevent similar economic breakdowns from happening as the world has witnessed since 2007.

Before giving recommendations, the Turner Review analyzes causes of the crisis, i.e. explains factors that led to the significant downturn in recent years. Five key features are identified:

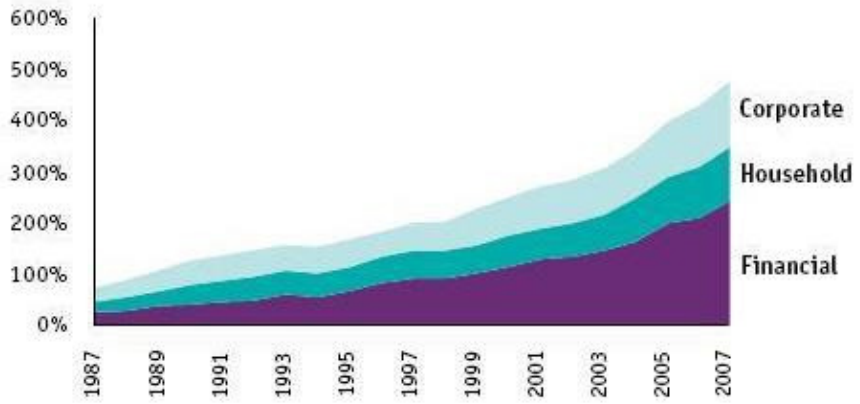
(i) The growth of the financial sector
(ii) Increasing leverage
(iii) Changing forms of maturity transformation
(iv) A misplaced reliance on sophisticated maths
(v) Hard-wired pro-cyclicality

To explain each of them briefly, (i) refers to the remarkable growth of the financial sector over the last twenty years which has featured the development of the securitised credit model, which *"increased the potential impact of financial system instability on the real economy"*.[32] This is documented in Figure 3 on the case of the UK via the evolution of debt as a percentage of GDP by borrower type. (ii) reflects the increasing leverage accompanying the rise of the financial sector supported by a rise of highly leveraged off-balance sheet items (such as Structured Investment Vehicles) and by a creation of products *"which had very high and imperfectly understood embedded leverage"*.[33] Thus obtained overall leverage helped to create vulnerabilities that have subsequently deepened the crisis. (iii) refers to the rise of the shadow banking sector and the growing proportion of maturity transformation function performed by institutions within this sector based on the belief that long-term assets financed by short-term liabilities may be sold quickly in liquid markets if needed. This belief turned out to be invalid after the crisis broke out. For illustration, the rise of the shadow banking is documented on the case of the U.S. in Figure 4. (iv) follows the evolution of sophisticated mathematical techniques for risk measurement that was believed to match the increasing complexity of the securitised credit market, especially the concept of *Value-at-Risk*[34](VaR), which had become a standard within the industry as well as among regulators. But the use of this risk measurement has been questioned and accused of pro-cyclicality when based on short-term historical data. This relates to (v), namely to the factors that helped to built the pro-cyclicality in the system. Among them, there were

[32] FSA (2009), pp. 18
[33] *Idem*, pp. 20
[34] A technique used to estimate the probability of portfolio losses based on the statistical analysis of historical price trends and volatilities. (www.investopedia.com)

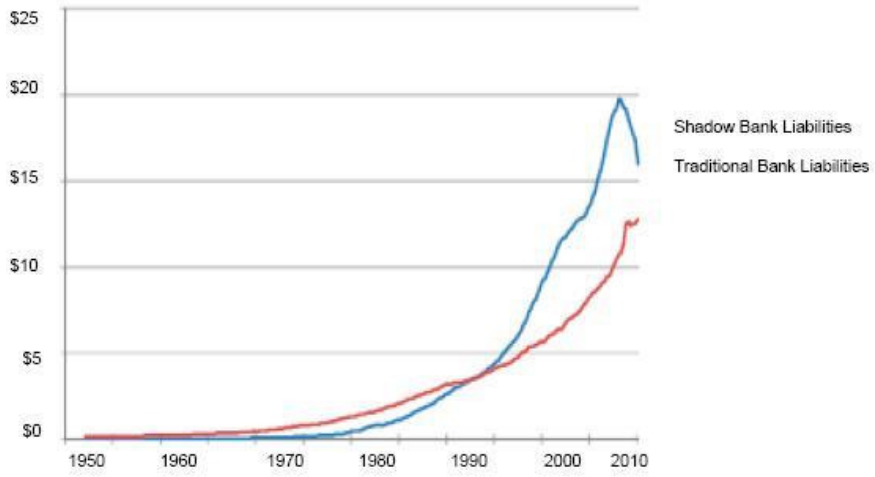
especially credit ratings and other arrangements that related credit ratings and VaR outcomes to various forms of triggers, margins or haircuts that behaved rather pro-cyclically from the systemic point of view.

Figure 3: UK debt as a % GDP by borrower type (1987-2007), Debt Liabilities on B/S



Source: FSA (2009)

Figure 4: Growth of Non-Bank Financial Institutions in the United States (in $ trillions)



Source: IMF (2010)
Note: Shadow banking liabilities include commercial paper, medium-term notes, asset-backed commercial paper, asset-backed securities, repurchase agreements, total return swaps, hybrid and repo/TRS conduits, ABS CDOs, ABS CDO-squareds, bonds, capital notes, and 1$ NAV shares (shadow bank "deposits").

Turner Review lists 28 recommendations on the system improvement in total. The variety of their objectives is very wide and they are divided in the following categories:[35]

- capital adequacy, accounting and liquidity (*inter alia* a call for a significant increase of the minimum regulatory capital requirements above existing Basel rules)

[35] For a complete list of recommendations see FSA (2009), pp. 7-9.

- institutional and geographic coverage of regulation (*inter alia* a call for the authorities to be empowered to gather information on all significant unregulated financial institutions to allow assessment of system-wide risks)
- deposit insurance
- UK bank resolution
- credit rating agencies (*inter alia* a call for registration and supervision of CRAs)
- remuneration (a call for policies to be designed to avoid excessive risk taking)
- CDS market infrastructure
- macro-prudential analysis
- FSA supervisory approach
- firm risk management and governance
- utility banking versus investment banking (a call for capital and liquidity requirements to be designed to limit the role of commercial banks in proprietary trading activities)
- global cross-border banks
- European cross-border banks (*inter alia* a call for a new independent European regulatory authority that would replace the Lamfalussy committees)

2.4.2.4. The Resulting EU Regulatory Response to the Crisis

Although the initial intentions of the EU authorities were to deal with the supervisory problems via the existing framework, new approach gradually emerged. It is mainly the credit of the De Larosière Report and recommendations it brought. In May 2009, the European Commission announced that the recommendations would be widely accepted (Trpčevski, 2010), which led to the legislative proposals on the creation of the ESRB and on the creation of EBA, EIOPA and ESMA in September 2009. In 2010, the proposals were adopted.

The ESRB was established in January 2011. It is responsible for the macro-prudential oversight of the EU financial system that is about to actively monitor sources of risks to financial stability of the EU (Constâncio, 2010). The EBA, EIOPA and ESMA replaced the Level 3 Committees and started their operation in January 2011, too. These bodies are empowered to intervene in the affairs of individual countries if the EU members conclude that the domestic regulatory authorities fail to exercise their duties properly. Thus, the EU supervisory authorities *"complement the existing oversight system in the*

member states by specifically addressing cross-border and system issues as well as inconsistencies in regulation and supervision among the member states".[36] There had been significant opposition against the proposals before their adoption from the side of national supervisors of member states who saw a loss of sovereignty in them (see the already discussed CNB (2009)), however, as Trpčevski (2010) states, by the opposition national regulators only agreed to cosmetic changes which were important but still not sufficient.

As for the alternative investment vehicles regulatory framework, it will be largely reformed by the AIFM Directive. The Directive covers registration, disclosure and transparency requirements, conduct-of-business rules, rules for marketing of third country funds and other provisions for all AIFs about a critical size (Deutsche Bank Research, 2010). However, as has already been mentioned, it is questionable whether all these measures are necessary in such an extent. Similar recommendations were included also in the De Larosière Report but were wisely opposed by CNB (2009).

We have depicted only few features of the new EU regulatory framework which we consider the most important from our point of view. The EU regulatory response to the crisis follows the objectives of the G-20 agenda but also goes beyond. According to the Deutsche Bank Research (2010), examples of provisions beyond the G-20 agenda that the EU considers are the following:

- *financial transaction tax* – a proposal of some EU member states to levy a tax on financial transactions that was disapproved at the G-20 summit but that is likely to be proposed at the EU level
- *bank levy* – a proposal to establish *ex ante* resolution funds financed by levy imposed on banks that would be used for resolution of failed banks
- *short selling* – a proposal of a draft Regulation on short selling, under which ESMA would be given the power to prohibit in emergency short selling in shares, sovereign bonds and related derivatives, and credit default swaps linked to government bonds

At the time of writing these lines, neither the financial transaction tax nor the bank levy have been agreed upon by the finance ministers of the EU member countries. The Proposed Regulation on short selling is being considered by the European Parliament and the Council of Ministers these days and it is not expected it will come into force before July 2012.

[36] Deutsche Bank Research (2010), pp. 19

2.4.3. United States

Unlike in most of the European Union countries, in the U.S. the financial regulatory framework is not integrated into one or two institutions but rather fragmented among many entities. This is particularly true for the U.S. bank regulation – banks are subject to rules set by many authorities, both on the federal and state level. However, securities regulation, which is important for us, is exercised on both federal and state level by few governmental entities only, mostly by the Securities and Exchange Commission (SEC).

The pre-Dodd-Frank framework for the U.S. securities regulation was laid down in several important acts.[37] The Investment Company Act of 1940 deals with regulation of investment companies. By the Act an "investment company" is defined as any issuer which:

- is or holds itself out as being engaged primarily, or proposes to engage primarily, in the business of investing, reinvesting, or trading in securities;
- is engaged or proposes to engage in the business of issuing face-amount certificates of the instalment type, or has been engaged in such business and has any such certificate outstanding;
- is engaged or proposes to engage in the business of investing, reinvesting, owning, holding, or trading in securities, and owns or proposes to acquire investment securities having a value exceeding 40 per centum of the value of such issuer's total assets (exclusive of Government securities and cash items) on an unconsolidated basis.[38]

Hence the Investment Company Act regulates companies whose primary objective is dealing with investing, reinvesting and trading in securities and whose own securities are offered to the public, including non-bank institutions, such as mutual funds. On the other hand, banks, insurance companies, brokers, underwriters, etc., are excluded from the force of the Act (Bullard, 2008). Mutual funds, one of the most popular investment options in the U.S., are subject to various restrictions under the Act, such as limits on leverage or percentage restrictions on investments into other mutual funds or hedge funds. Further, they must register their securities and must provide daily redemptions, hence they need to

[37] Securities Act of 1933, Securities Exchange Act of 1934, Public Utility Holding Company Act of 1935, Trust Indenture Act of 1939, Investment Company Act of 1940, Investment Advisers Act of 1940, Securities Investor Protection Act of 1970, Insider Trading Sanctions Act of 1984, Insider Trading and Securities Fraud Enforcement Act of 1988, Sarbanes-Oxley Act of 2002

[38] Investment Company Act of 1940, Section 3(a)1

be ready to satisfy investors' demands for withdrawals by maintaining certain amount of cash available at all times. The Investment Company Act provides for several exemptions for the companies not to be considered investment companies under the Act which are not therefore subject to strict regulation that the Act imposes. We will discuss these exemptions further in Chapter 3.1.3.1.

Under the Securities Act of 1933, every offer to sell securities must be registered with the SEC, unless it qualifies for an exemption from the Act. Conditions that are needed to be fulfilled in order to qualify for an exemption are set by so-called Regulation D.[39] Once an institution fulfils the conditions, it can sell its securities without having to register with the SEC. There are three exemptions from the Act given by Regulation D. The first one exempts offers and sales of securities of up to $1,000,000 in value within twelve months to accredited investors only.[40] The second exemption applies for offers and sales of securities of up to $5,000,000 in value within twelve months to an unlimited amount of accredited investors and up to 35 investors who are not accredited.[41] There are further conditions imposed within this exemption. The securities sold are restricted in a way that the buyer cannot resell them for six months or longer without registering the transaction. Finally, the third exemption refers to offers and sales of securities of an unlimited amount to an unlimited number of accredited investors and up to 35 investors that are not accredited.[42] However, under this exemption, the non-accredited investors must be "sophisticated", too, i.e. *"they must have sufficient knowledge and experience in financial and business matters to make them capable of evaluating the merits and risks of the prospective investment"*.[43] The securities sold are restricted; the buyers cannot resell them for at least a year without registering them. Under all three exemptions, the issuers are not allowed to solicit or advertise the securities to the public.

2.4.3.1. Fundamental Regulatory Change – the Dodd-Frank Act

In July 2010, a significant legal act was passed as a regulatory response to the latest crisis. It was the adoption of the Dodd-Frank Wall Street Reform and Consumer Protection Act by the Congress which was subsequently signed into law by the President. The Act reforms the U.S. regulatory framework quite radically. It addresses four areas of financial

[39] 17 C.F.R. §230.501 *et seq.*
[40] Rule 504 of Regulation D
[41] Rule 505 of Regulation D
[42] Rule 506 of Regulation D
[43] The SEC explanation of the Rule 506, available at: www.sec.gov/answers/rule506.htm

regulation: the institutional framework of regulation and oversight, the prudential regulation of banks and other financial institutions, rules on the protection of investors, rules on the protection of consumers (Deutsche Bank Research, 2010).

Among the major changes that the Act brings there are the creation of a macro-prudential supervisory body – Financial Stability Oversight Council (FSOC) – charged with identifying risks to the financial system and stability, the reform of the Fed which is about to be granted a central position in the regulatory and supervisory system of the U.S., the reform of banking supervision and the ending of the too-big-to-fail doctrine. The latter one consists of creation of the Orderly Liquidation Authority designed to provide a framework for distressed companies of systemic importance such that would discourage bailouts and moral hazard stemming from it. According to Deutsche Bank Research (2010), the approach towards too-big-to-fail institutions severely complicated the rescue attempts in the critical period of 2008. Similarly, new regulatory and supervisory institutions are to be created and some are to be discontinued as a consequence of the Act adoption.

The Act devotes particular attention also to derivatives markets. Specifically, it imposes comprehensive regulation on swaps, including credit default swaps or securities-based swaps.[44] Since non-bank institutions such as hedge funds engage in derivatives trading, these regulatory provisions have a potential to indirectly affect them, too.

The Dodd-Frank Act comprehends a strong regulatory provision – the Volcker Rule – aiming at lending practices and leverage ratios of many banks, since these have generally been considered as key risks making the financial system more and more complex. Volcker Rule attempts at limiting those activities of banks that are considered particularly risky, such as proprietary trading and hedge fund and private equity fund management. A bank is prohibited from proprietary trading in any form by the Act, with few exemptions, such as an investment in the U.S. government, state or municipal debt, etc.[45] A bank's investment into hedge funds or private equity funds are heavily limited. Moreover, it is prohibited completely from acquiring or retaining equity, partnership or ownership interests in hedge funds and private equity funds. Provisions of the Volcker Rule are supposed to become effective within two years.

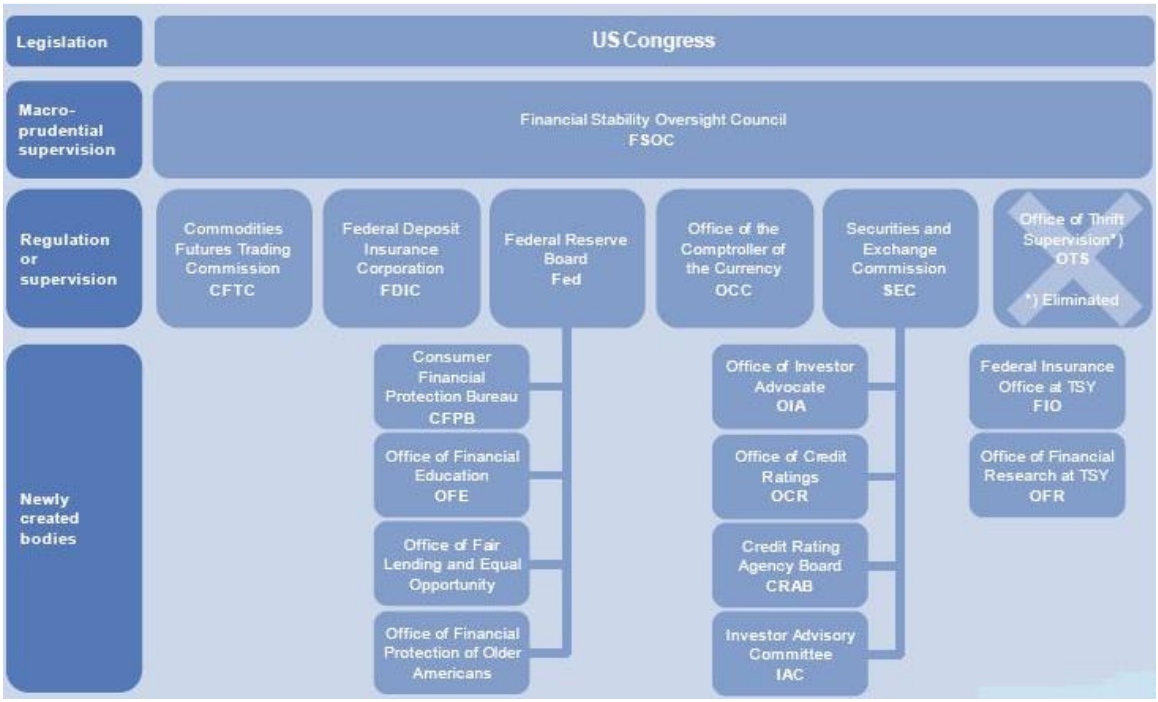
[44] According to Deutsche Bank Research (2010), the most important regulatory provisions of the Dodd-Frank Act concerning derivatives are mandatory clearing of derivatives transactions through regulated central clearing institutions and mandatory trading through either regulated exchanges or swap execution facilities.

[45] See Deutsche Bank Review (2010), pp. 5, for details on the Volcker Rule.

Besides the Volcker Rule, the Dodd-Frank Act enhances capital requirements and leverage standards for systemically important institutions. In order for a bank to be considered adequately capitalised, it will need to hold 4% Tier 1 capital, 8% total capital and a minimum of 4% leverage ratio (Deutsche Bank Research, 2010).

There are also other issues covered by the Act concerning comprehensive regulation of derivatives markets and consumer protection regulation primarily focused on the mortgage sector. The structure of the U.S. regulatory and supervisory system as it is outlined by the Dodd-Frank Act is depicted in Figure 5.

Figure 5: New U.S. regulatory and supervisory system brought about by the Dodd-Frank Act



Source: Deutsche Bank Research (2010)

The adoption of the Dodd-Frank Act opens up new opportunities for non-bank financial institutions. Since the reform package is oriented heavily towards banking sector, no other part of the financial market will face such a regulatory burden as banks will. Hence the non-banks are left with a structural competitive advantage. This will be discussed further in the next chapter on hedge funds and private equity funds.

The Dodd-Frank Act is a comprehensive regulatory reform package that addresses the G-20 agenda priorities narrowly. However, according to Deutsche Bank Research (2010), in certain respects the Act deviates from the G-20 consensus, or goes beyond. The shiniest example is the Volcker Rule which is a proposal that was not

embodied directly in the G-20 agenda and which represents a precedence opening up possibilities for other G-20 members to adopt comparably strict rules.

For the needs of Table 3 in the next subchapter, we provide an overview of contents of the Dodd-Frank Act in Box 2.

Box 2: The structure of the Dodd-Frank Act

The Dodd-Frank Act – Overview of the contents

Title I	Financial Stability
Title II	Orderly Liquidation Authority
Title III	Transfer of Powers to the OCC, the Corporation, and the Board of Governors
Title IV	Regulation of Advisers to Hedge Funds and Others
Title V	Insurance
Title VI	Improvements to Regulation of Bank and Savings Association, Holding Companies and Depository Institutions
Title VII	Wall Street Transparency and Accountability
Title VIII	Payment, Clearing, and Settlement Supervision
Title IX	Investor Protections and Improvements
Title X	Bureau of Consumer Financial Protection
Title XI	Federal Reserve System Provisions
Title XII	Improving Access to Mainstream Financial Institutions
Title XIII	Pay It Back Act
Title XIV	Mortgage Reform and Anti-Predatory Lending Act
Title XV	Miscellaneous Provisions
Title XVI	Section 1256 Contracts

Source: Deutsche Bank Research (2010)

2.4.4. EU vs. U.S. Comparison

As we have seen, the EU and the U.S. approaches to regulatory response to the crisis within the G-20 agenda are different in a sense that while in the U.S. the G-20 objectives have been addressed within one comprehensive legal act that will be implemented over the next few years, in the EU many individual legislative proposals reflecting the G-20 objectives have been issued and negotiated separately. But there are further differences.

One of them is the way of improving the institutional framework. While in the U.S. the reforms focus on improving the existing structures by giving more powers to the Fed, establishing the FSOC and reducing overlaps in competences, the EU engages in a systematic overhaul of the institutional framework by creation of the ESRB and the sector supervisory bodies EBA, ESMA and EIOPA (Deutsche Bank Research, 2010). These authorities represent a supervisory structure at the EU level which complements the regulatory frameworks of individual member states.

Another difference, for us very relevant, lies in the attitude towards alternative investment vehicles. EU rules for hedge funds and private equity funds in their final form are stricter than the rules set by the Dodd-Frank Act in the U.S. The AIFM Directive covers a wide range of AIFs and deals with a broad scale of regulatory issues, among which there are macro and micro-prudential risks, market efficiency, investor protection and corporate governance (Deutsche Bank Research, 2010).

Further, the two measures differ in the compensation issues. While the Dodd-Frank Act sets broad principles for balancing risks and rewards and involves shareholders more in the decision-making process on compensation schemes, the negotiated EU regulatory proposals are much more detailed with respect to compensation schemes (Deutsche Bank Research, 2010).

Moreover, differences in the EU and U.S. approaches are likely to widen even further, since both the EU and the U.S. inquire into provisions beyond the G-20 agenda. Generally, this development is, however, not appreciated due to the high degree of economic interdependence and mutual political objectives of the EU and the U.S. which would benefit more from joint economic and regulatory solutions (Deutsche Bank Research, 2010).

In Table 3, we provide an illustrative comparison of provisions undertaken by both the EU and the U.S. addressing the objectives of the G-20 agenda. The difference between the approaches mentioned in the first paragraph of this subchapter is obvious.

Table 3: Implementing the G20 agenda – US and EU in comparison (passages in italics denote EU measures already adopted, U.S. legislation items refer to the Dodd-Frank Act, see Box 2)

G-20 commitment	EU legislation		US legislation
	Measure	Adoption	
Macroprudential risks and financial oversight	COM(2009) 499 – European Systemic Risk Board	2010	Title I
	COM(2009) 501 – European Banking Authority	2010	Title III
	COM(2009) 502 – European Insurance and Occupational Pensions Authority	2010	
	COM(2009) 503 – European Securities and Markets Authority	2010	
	COM(2009) 576 – Omnibus Directive	2010	
Basel capital framework	*CRD II – Liquidity buffers*	*2009*	Title VI
	CRD III – Trading book and securitisation	*2010*	
	CRD IV – Bank capital, leverage ratio, liquidity buffers, counter-cyclicality	End-2010	
Accounting standards	*IAS Regulation 1126/2008 – Adoption of International Accounting Standards*	*2008*	Title VI
	Endorsement of IASB Standards	Ongoing	
Compensation	*Recommendations on remuneration of Directors and financial services – sound principles*	*2009*	Title VI
	CRD III	*2009*	
	AIFM	End-2010	
	Solvency II, Level 2	2011	
	Un-specified measures on non-banking financial services	2011	
Bank risk management and internal controls	*CRD II – liquidity risk, large exposures*	*2009*	Title VI
	CRD III – securitisation, due diligence, retention	*2010*	
	CRD IV – counterparty risk	End-2010	
Insurance	Level 2 – governance, internal control, risk management	2011	Title V
Corporate governance	Green paper	2010	
OTC derivatives	EMIR – mandatory clearing	2011	Title VIII
	CRD IV – capital requirements from non-CCP transactions	End-2010	
	MiFID review	2011	
	MAD review	End-2010	
Bank resolution	Unspecified measure based on forthcoming FSB recommendations	2011	Title II
Deposit insurance	*Immediate changes to Deposit Guarantee Directive 94/19/EC*	*2009*	Title VI
	Overhaul of Deposit Guarantee Directive 94/19/EC	2011-2012	Title VII
	Overhaul of Investor Compensation Scheme Directive (97/9/EC)	2011-2012	Title IX
	White Paper on Insurance Guarantee Schemes	2011-2012	Title XII
			Title XIV
HF, PE	AIFM	2011	Title IV
Credit rating agencies	*CRA Regulation 1060/2009*	*2009*	Title IX
	Amendment of CRA Regulation	2011	

Source: Deutsche Bank Research (2010)

3. Hedge Funds and Private Equity During the Global Crisis

In our further discussion, we will consider two types of alternative investment vehicles that are very hot issues nowadays. They are the hedge funds and the private equity funds. These two types of investment vehicles have become very much interconnected over time. Private equity groups own many hedge funds or invest in long-term investments in hedge funds. Similarly, hedge funds often join private equity groups to undertake large buyouts hoping that they can boost their performance in this way (O'Brien, 2008).[46]

Before discussing the role of hedge funds and private equity funds in the latest global crisis, first let us define them and sum up their basic features, purposes and functioning. In the first subchapter, the basic characteristics of hedge funds are discussed, in the second subchapter the same will be done for the private equity funds. Further in this chapter, the regulatory issues will be analyzed and lastly, we will discuss the performance of both types of funds in the latest financial crisis.

3.1.Hedge Funds

Hedge funds belong to the group of contractual savings institutions and are treated as a special type of a mutual fund. Institutions of this type pool funds from investors which are then managed by professional fund managers.[47] An important characteristic of such entities is that the risk of loss from unfavourable price movements is borne by the investors themselves (Carmichael and Pomerleano, 2002). For our purposes, however, the general definition of contractual savings institutions is not enough, so we will try to find a more appropriate one concerning hedge funds specifically.

Unfortunately, there is no uniform generally accepted definition of what a hedge fund is. For example, the U.S. President Working Group on Financial Markets (1999) defined a hedge fund as "*any pooled investment vehicle that is privately organized, administered by professional investment managers, and not widely available to the public*".[48] This definition differentiates hedge funds from public investment companies;

[46] O'Brien (2008) also mentions a risk for hedge funds stemming from investing in private equity, since they usually invest short-term, while private equity investment is long-term and illiquid, thus posing risk for hedge funds in case their investors decide to withdraw money.
[47] In American literature, fund managers are often referred to as "advisers" to a fund.
[48] U.S. President Working Group on Financial Markets (1999), pp. 1

however, it does not encompass the typical features of hedge funds that make them different from other alternative investment vehicles (ECB, 2005).[49] It is merely a definition appropriate for more possibilities, among others for private equity funds which we will discuss later on.

More appropriate is the definition by the ECB (2009) which recognises a hedge fund as "*any collective investment undertaking, regardless of its legal structure under national laws, which applies relatively unconstrained investment strategies to achieve positive absolute returns, and whose managers, in addition to management fees, are remunerated in relation to the fund's performance*".[50] This definition already captures the distinctive features of hedge funds, especially the wide scope of investment strategies and instruments they can use in their trading and the general incentive scheme of the managers.

ECB (2005) further lists several other features describing hedge funds, some of them directly or indirectly mentioned in either of the previous definitions.

- *accredited investors*

  There are rules on who can invest in the fund, since it gathers investments from a relatively small number of big investors. These must be accredited by the fund. The accreditation is given to a high net worth investor, individual or institutional, whose planned investment reaches certain minimum requirement. The logic behind the restrictions imposed upon the investors is that "*wealthy individuals and large institutions are sophisticated enough to understand the risks involved with the investments that the hedge fund is undertaking, and that they would not be devastated by large losses*".[51] Fund managers often invest a substantial amount of their own money as a personal stake into the fund in order to gain credibility in the eyes of investors.

- *managerial and performance fees*

  Managers charge managerial and performances fees, the former one, also known as the asset-based fee, being a percentage of the fund's net asset value, while the latter one being a percentage of the fund's profit. The latter one, often referred to as "carried interest", is another defining feature of a hedge fund.

[49] For other possible definitions of hedge funds see Vaughan (2003).
[50] ECB (2009), pp. 8
[51] Prabhu (2001), pp. 4

- *infrequent redemptions*

  Hedge fund managers predefine dates when investors only may withdraw their money. Usually, there are no redemption periods during the first year; investors are locked-in over the first year of their investment. Nevertheless, the lock-in periods are still very short relatively to e.g. private equity funds. A short lock-in acts as a substitute for the ability of the fund's investors to resell their interests in the fund, since such resale is prohibited by the Regulation D's Rule 506 (Oesterle, 2006). These infrequent redemption periods might, however, be further postponed under exceptional circumstances in order to protect funds from runs.

- *lack of regulation*

  Most importantly, hedge funds are not subject to as strict a regulation by the financial supervisory authorities as other financial institutions. Their managers are not usually obliged to be registered with the appropriate regulatory authority. The funds are either virtually unregulated due to their offshore domicile or regulated very lightly in case they are onshore institutions.

- *leverage*

  The more money to invest, the higher the returns – hence hedge funds do not only invest money they have from the investors but they are usually also heavily leveraged. The debt/equity ratio tends to be rather high, relatively to other types of financial institutions, since hedge funds are less restricted in the use of leverage by very loose regulation that applies to them.

- *variety of investment strategies*

  The lack of regulation facilitates the broad range of investment strategies and possibilities for the hedge fund's manager to choose from, which is one of the most typical features of this institution.[52] They often include the use of hedging techniques. Moreover, there are no rules about portfolio diversification concerning hedge funds, unlike e.g. mutual funds. Hence

[52] For the list of hedge fund strategies and their definitions see e.g. IMF (2004) or https://hedgefundresearch.com/index.php?fuse=indices-new&1291562720. See also Chapter 3.1.3.3.

hedge fund managers are free to invest huge amounts in one direction only, boosting the bet even more via employing the leverage.

The use of hedging techniques is the very feature that gave hedge funds their name. Usually, they consist of combining long and short positions when dealing with commodities or stocks, so that the funds' bets on the price moves are hedged. A general strategy of the funds is thus to generate returns regardless of whether the market rises or falls (Financial Times, 2005).

But nowadays it is not only about hedging techniques anymore. Hedge fund managers typically look for market inefficiencies which they could exploit in order to generate returns, and hence invest not only in stocks or commodities but also in bonds, options, currencies, derivatives, arbitrage, real estate or in different combinations of the above (White, 2005), or in even more unconventional investments such as aircraft leasing or direct lending (Cantrell, 2005). According to Oesterle (2006), a significant part of the hedge funds' recent success can be attributed to their freedom from regulations on formation, organization and trading practices. However, hedge funds sometimes invest large amounts of money in one single position only, unlike mutual funds for example, whose portfolios are usually very diversified (Chandler, 2006).

Nevertheless, since recently there has been a trend in the hedge fund industry of setting up hedge funds in line with the EU law on regulation of the UCITS funds (so-called "UCITS hedge funds"). It mostly applies to European funds, since the law requires a UCITS fund to be domiciled in the EU, but also U.S. funds are joining the trend. The advantage of restructuring a fund operation according to the UCITS structure is the possibility to access retail investors and institutional investors who cannot afford investing in a traditional hedge fund. According to Jones (2010), UCITS hedge funds now account for approx. 7% of the total hedge fund industry. The UCITS disadvantages consist in the requirements of high liquidity, transparency and portfolio diversification and in limits on investments in particular instruments.

Besides hedge fund themselves, so-called "funds of hedge funds" (FOHFs) are not uncommon among financial institutions. They are a special type of hedge funds that distribute investments of their investors over a diversified portfolio of other hedge funds, usually five to fifty of them (Pozen, 2006). FOHFs usually require much lower minimum investments than ordinary hedge funds (tens of thousands of USD vs. millions of USD) and in the U.S. most of their managers are registered with the SEC.

In the above mentioned list of hedge fund features there are several ones that deserve closer attention. To begin, it is the manager remuneration issue. As we have already mentioned, a manager's income from running a hedge fund comprises two components – a managerial fee and a performance fee (carried interest). Managerial fee is a percentage of the net asset value of the investments in the fund, usually up to 2%. Performance fee is a percentage of the fund's annual profit, usually around 20%. However, after the debacle hedge fund performance in 2008, fee structure has been pushed down. This is especially true for smaller funds which manage up to $100 million with not very excellent record, since these funds have largely used the strategy of decreasing the remuneration fees in order to compensate their clients for problems experienced since 2008, such as suspended redemptions, low returns, etc. (The Economist, 2009).[53] In this point of view, FOHFs account for a specific issue. They have typically charged fees under the 1/10 structure on top of fees levied by individual funds in the portfolio. But after 2008 there has been a steep downshift. The Economist (2010) reports the 10% average FOHF performance fee in 2007 to shift to an average of 6.5% in 2009.

While managerial (asset-based) fees are earned on an ongoing basis and are stable with respect to the value of the fund's portfolio, performance fees are highly unstable.[54] Moreover, their economic characteristics are very much different. As Bullard (2008) explains, if a there is a 10% decline in the value of a hedge fund portfolio along with a 10% increase in assets under management of the fund, i.e. new funds from the investors, the asset-based fee remains unchanged, while the carried interest will be decreased by the decline of the portfolio, with increase of assets having no effect.

There are devices often applied on performance fees, such as high water marks or hurdle rates.[55] These are meant to align the managers' incentives with those of the investors and thus gain the confidence of the investors that the fund will not use their money for volatile investments. However, from the systemic point of view, these devices together with the nature of the remuneration structure itself are relatively dangerous in a

[53] Managerial and performance fees usually used to be referred to as the 2/20 structure, however, according to The Economist (2009), nowadays they are likely to approach the 1/10 rather than the 2/20 structure.

[54] In case of a steep and sudden decline in the value of the portfolio, carried interest will fall dramatically, while the asset-based fee will be affected much less severely, see Bullard (2008).

[55] *High water mark* principle means that the performance fee is only paid to the manager if the fund's profit exceeds the highest previously achieved level. If it does not, no performance fee is paid. *Hurdle rate* is a benchmark over which the fund's profit must ascend for the performance fee to be paid to the manager.

sense that they impose incentives upon the managers to look for high-profit, therefore risky, investments.

Another issue worth devoting attention to is the following. We have noted that in bad times hedge fund managers may lock in their investors for longer than for the first year only. These are then usually not allowed to withdraw their money until markets settle and fund managers may sell their assets at reasonable prices. This measure is meant to protect funds from losses stemming from underpriced selling due to runs. In a way, it also protects markets from excess volatility that would otherwise occur. Actually, not so long ago, redemptions were suspended by many funds after the burnout of the subprime crisis in 2007.[56]

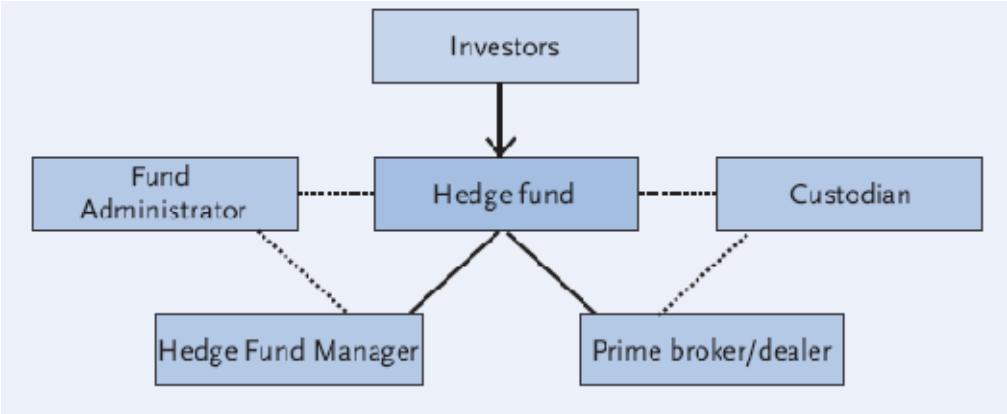
3.1.1. The Hedge Fund Market[57]

The hedge fund industry consists not only of hedge funds themselves but also of providers of services to hedge funds. Prime brokers, external fund administrators, custodians and auditors are all important parts of the hedge fund market. *Prime brokers* provide hedge funds with services such as financing, clearing and settlement of trades, securities lending for short selling, cash lending to support leverage, risk management, etc. Since both leverage and short selling declined significantly as a result of the downturn and redemptions of 2008, prime brokers were affected largely. External *fund administrators* take care of accounting or risk analysis issues up to the extent which the hedge fund management decides to be performed by a third party. *Custodians* hold and manage hedge fund assets, both cash and securities. Finally, *auditors* perform optional audits.

The structure of sources of funds keeps on changing towards institutional investors. While at the end of previous decade, high net worth individuals with 54% accounted for the majority of funds raised, over the recent decade their share on total funds has been declining, ending up at 26% in 2009.

[56] See Chapter 3.3 on the subprime crisis performance to read more.
[57] Data based on IFSL (2010) and TheCityUK databases.

Figure 6: Structure of a typical hedge fund (dashed line stands for an optional relationship)

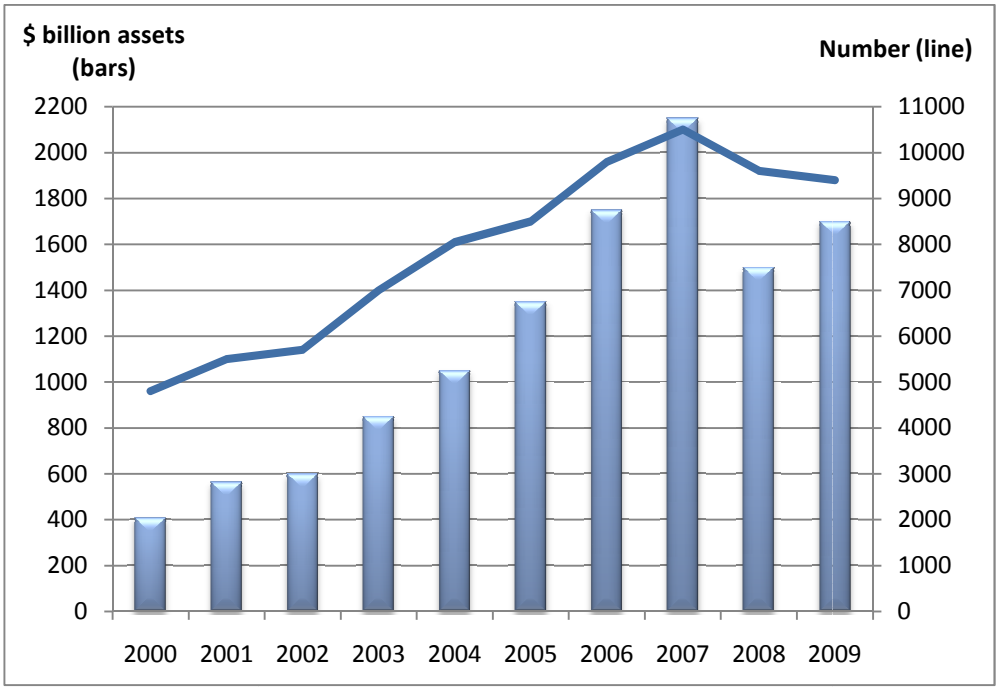


Source: IFSL (2010)

Since hedge funds may be domiciled both in onshore or offshore locations, the majority of funds operating in the market take the advantage of being registered in a more convenient tax or regulatory framework. Hence 60% of hedge funds were registered offshore in 2009. On the contrary, the EU registered only 5% of global hedge funds. Despite their place of registration, however, management of hedge funds mostly resides in onshore locations. Thus, New York and London are the biggest centres of hedge fund management, the former managing 41% and the latter 20% of global hedge fund assets.

Over the recent decade, hedge fund industry has grown rapidly. While at the turn of the millennia there were approx. 4,800 funds operating worldwide with total assets under management accounting for slightly over $400 billion, in 2007 at the peak before the fall the market witnessed 10,500 hedge funds managing $2.15 trillion. Subsequently, there was a significant fall both in assets under management as well as in absolute number of funds due to high hedge fund attrition rates (Figure 14) as a consequence of the severe global financial market downturn. However, according to IFSL (2010), in the second half of 2009, the number of new funds launched exceeded the number of liquidations and the amount of total assets under management increased again, too. See Figure 7 for an overview of the development of the hedge fund industry over the decade.

Figure 7: Hedge fund market development – total assets and number of funds globally



Source: TheCityUK

The hedge fund industry contribution to the economy is shown in Table 4 on the data on tax revenues generated from the hedge fund industry and on number of persons directly employed in the industry in the UK and in the whole EU.

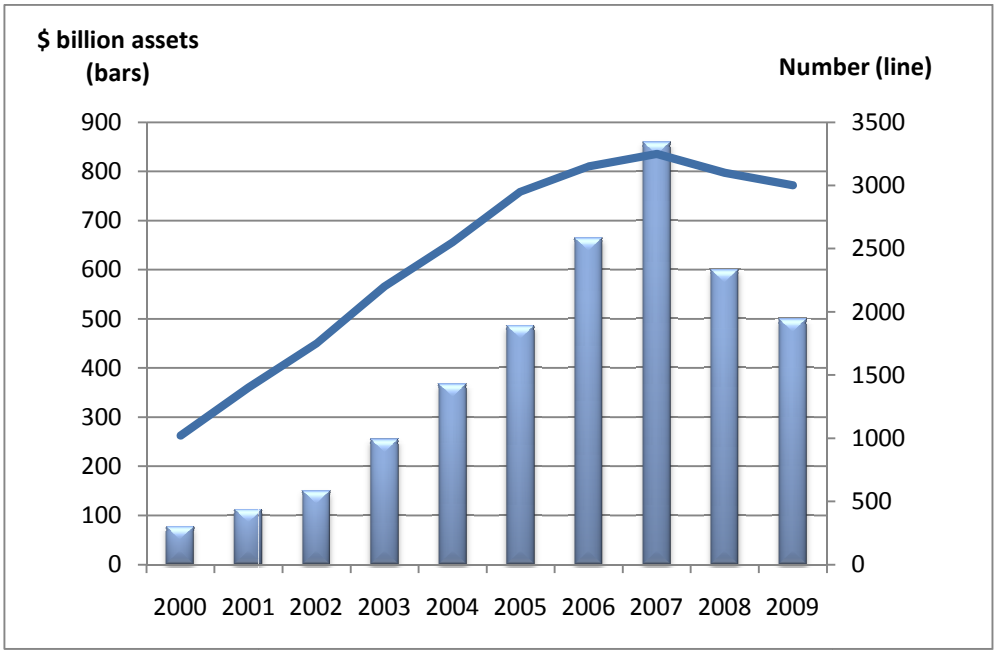
Table 4: Contribution of the hedge fund industry to the economy – amount of tax revenues generated and people directly employed in 2008

	Tax (€ millions)	People employed
UK	3,698	9,816
EU	4,176	12,434

Source: OpenEurope (2009)

Besides single hedge funds, the industry also encompasses funds of hedge funds. At the end of 2009, total assets of FOHFs accounted for approx. $500 billion, which stands for approx. 30% of total assets under management of the industry. As can be seen in Figure 8, there was a decline in the number as well as a sharp decline in the amount of assets of FOHFs in 2008. Investors' redemptions due to overall losses in the industry were the obvious reason. Moreover, according to IFSL (2010), the revealing of the giant Bernard Madoff fraud in 2008 contributed to the worsened reputation of the industry and thus helped the decline, too. Unlike in case of single hedge funds, the fall in the FOHF market continued also in 2009. Figure 8 illustrates the development of the FOHF market.

Figure 8: Fund of hedge funds market development – total assets and number of funds globally



Source: TheCityUK

3.1.2. Key Players

Over recent years, hedge fund industry has become more concentrated with few large funds holding the vast majority of assets. The concentration has been intensified over recent two years with frequent closures of smaller funds due to severe market conditions. Indeed, in 2009 the 100 largest hedge funds accounted for 99% of the industry's assets, while in 2003 it only was 54% (IFSL, 2010). In January 2010, JP Morgan was the largest hedge fund with $50.4 billion under management. Bridgewater Associates and Paulson & Co. followed with $43.6 billion and $32 billion, respectively. See Table 5 for a list of Top 10 hedge funds. Interestingly, among these Top 10 hedge funds worldwide, only two – Brevan Howard Asset Management LLP and Man AHL – are domiciled in the EU (London). The rest is based in the U.S.

Table 5: Largest hedge funds (January 2010)

Hedge Fund	$ billion
1. JP Morgan	50.4
2. Bridgewater Associates	43.6
3. Paulson & Co.	32.0
4. Brevan Howard Asset Management LLP	27.9
5. Soros Fund Management	27.0
6. D.E. Shaw Group	23.6
7. Och-Ziff Capital Management Group	23.5
8. Baupost Group	21.8
9. Man AHL	21.7
10. Angelo, Gordon & Co.	20.8

Source: TheCityUK

3.1.3. Hedge Funds Regulation

3.1.3.1. Pre-Dodd-Frank Framework

In this subchapter, we are going to describe the pre-crisis hedge fund regulatory framework. As we have already mentioned for many times, hedge funds are not subject to regulatory requirements imposed on many other investment vehicles. Let us illustrate the difference on the comparison of requirements put on U.S. mutual funds and hedge funds.

Mutual funds are subject to disclosure requirements such as filing quarterly reports to the SEC on the securities they own and semi-annual reports to shareholders on their operations, limits on capital structure, leverage and performance fees, they must meet diversification requirements. In all these aspects, on the contrary, pre-crisis hedge funds were free (Anderson, 2006a). Still, it is necessary to mention that the U.S. hedge funds, both registered and unregistered, have always been subject to antifraud provisions of securities laws. Under these provisions, summed up, hedge fund managers are prohibited from making false statements of material information or using misleading materials when they deal with their investors or counterparties.[58] However, they used to have the possibility to qualify for an exemption from the registration and disclosure requirements of the four federal securities laws, namely the Securities Act of 1933, the Securities Exchange Act of 1934, the Investment Advisers Act of 1940, and the Investment Company Act of 1940 (Shadab, 2007).

The exemption from the Investment Advisers Act of 1940 set a fund manager free from the registration duty if he had had fewer than fifteen clients during the preceding

[58] See e.g. Investment Advisers Act of 1940, Section 206, 1-4.

twelve months. Further, he was prohibited from holding himself out generally to the public as an investment adviser or acting as an investment adviser to any registered investment company.[59]

As we have already mentioned in the previous chapter, exemptions from the Securities Act of 1933 are set by the legislature known as Regulation D. Under the Rule 506 of this provision institutions can offer their securities in an unlimited amount without the need to register as long as they sell them to accredited investors (= individuals with net worth of at least $1 million or with an annual income of at least $200,000, or a company of at least $5 million in assets)[60] or to a maximum of 35 non-accredited but sophisticated investors.

To qualify for an exemption from the Investment Company Act of 1940, under which mutual funds are regulated, either of the following two conditions must be fulfilled: (1) the company has not more than one hundred investors[61], or (2) the company only sells its securities to "qualified purchasers"[62] (= individuals who own at least $5 million in investments or institutions with at least $25 million in investments)[63]. Usually the second option is chosen by hedge funds, in order to increase the available number of potential investors.

Combining the conditions for the two above mentioned exemptions, we can see why hedge funds offer and sell their securities to accredited investors only. Further, they usually take care of not having more than 499 investors in order to avoid the securities registration duty and subsequent regular disclosure statements duty imposed by the Securities Exchange Act of 1934.[64]

The drawbacks of the exemptions are that under all the Investment Advisers Act exemption from the fund manager registration duty, the Regulation D exemption from the securities registration duty and the Investment Company Act exemption from being considered an investment company an advertising limit is imposed on the unregistered funds. Hence the drawback of not being registered with the regulatory authority under these acts is that the unregistered hedge funds cannot freely advertise their activities to the general public and only can attract investors with a potential to be accredited. Interestingly

[59] Investment Advisers Act of 1940, Section 203(b)3
[60] Regulation D, Rule 501(a)3,5,6
[61] Investment Company Act of 1940, Section 3(c)1
[62] Investment Company Act of 1940, Section 3(c)7
[63] Investment Company Act of 1940, Section 2(a)51
[64] Securities Exchange Act of 1934, Section 12(g)

enough, the advertising limits form an implicit self-regulatory incentive, since the hedge fund managers *"are regulated by the fact that if you make a mistake, you can be put out of business"*.[65]

But is self-regulation enough? The lack of regulation imposed on hedge funds by the regulatory authorities is a very controversial issue. By many, they are believed to "*benefit the economy by mitigating price downturns, bearing risks that others will not, making securities more liquid, and ferreting out inefficiencies*"[66] which is only possible due to much less regulation than other investment companies are subject to (Shadab, 2007). Indeed, according to Lutton (2008), there are two factors to which the "light-touch nature" of the hedge fund regulation can be attributed. Firstly, hedge funds target "sophisticated investors", a category of investors under which the institutional or high net worth individuals are understood, who are resourced and experienced enough to be able to assess risks on their own, hence there is no need to impose additional regulation on the institutions. Other investors than the sophisticated ones are excluded by high minimum investment volumes required by the funds. Secondly, there is a belief that by light regulatory zones competitiveness of the financial sector is enhanced. The latter argument is supported also by Wymeersch (2005) who cites hedge funds as an example of financial innovations which take place outside of strictly regulated areas. Further, Wymeersch claims that *"there is a strong argument in favour of maintaining unregulated or lightly regulated zones, where new developments could take place, provided these do not jeopardize the overall confidence in the market and do not create a danger to the unsophisticated investor"*.[67]

On the other hand, over recent years there has been a large boom in the number of hedge funds operating worldwide which is mostly attributed to the fact that many "less sophisticated", i.e. small and less resourced, investors have started participating in the hedge fund industry. This trend of an increasing number of retail investors qualifying as accredited investors is known as *retailization* of hedge funds. Minimum investment requirements needed for an accreditation have decreased with the increasing number of entrants into the hedge fund industry that compete for investors (U.S. SEC, 2003). Hence serious concerns have been raised that hedge funds are too lightly regulated, since retail and unsophisticated investors *"may not possess the understanding or market power to*

[65] Anderson (2006a)
[66] Shadab (2007), pp. 36
[67] Wymeersch (2005), pp. 6

engage a hedge fund adviser to provide the necessary information to make an informed investment decision".[68] In addition, the problem is further magnified by the activities of the FOHFs, since these institutions require much lower minimum investments to qualify for accredited investors, hence they are much more affordable for smaller investors. As U.S. SEC (2003) remarks, although most of them in the U.S. being registered themselves, FOHFs are likely to experience problems with reliable calculations of their net asset values, since these are based on the underlying hedge funds, usually unregistered, to whose portfolio holdings the FOHFs do not have access.[69]

There are some other concerns that promote discussions over hedge fund regulation. Desmet (2008) names four of them. Firstly, it is the leverage and high concentration. As has already been mentioned, high leverage strategies are usually employed by fund managers, which are moreover connected to investing into very few positions.[70] Secondly, conflicts of interest have been recognised either in a way of consultants or brokers affiliated with a particular hedge fund attracting investors for this fund or in a way of auditors affiliated with the fund who thus cannot check the accounting independently. Thirdly, Desmet names a concern of hedge fund activism, i.e. making use of equity holdings in companies to affect their strategy in order to raise the stock price. The effect of hedge fund activism is however ambiguous. On one hand, these efforts are driven by a vision of short-term profit and not of long-term health of the company. On the other hand, it might be favourable for underperforming companies to go through changes and to have the mispricing of securities corrected (see e.g. Chandler, 2006). And fourthly, cases of frauds concerning hedge funds have been reported which could be prevented more efficiently if additional regulation enabled regulators to do so, e.g. through stricter disclosure requirements.

3.1.3.2. Recent attempts at the improvement of the framework

In light of the intensified discussions over the subject, there have actually been attempts at imposing additional regulation on the U.S. as well as European hedge funds during recent years. On the next few pages, we provide a list of the proposed or adopted measures with their descriptions.

[68] U.S. SEC (2003), pp. 81

[69] Under the new Dodd-Frank Act, all hedge funds with assets over $150 million will have to register with the SEC, see Chapter 3.1.3.2.B. Hence FOHFs will have better knowledge of what they invest into.

[70] However, levels of hedge fund leverage nowadays are fairly down from levels usual in the 1990's, which led to the fall of LTCM, and they are widely agreed not to be dangerous.

A. Hedge Fund Rule

In 2004, the SEC adopted the so-called Hedge Fund Rule which required most hedge fund managers to register as investment advisers.[71] Indeed, the SEC assumed that not the fund itself but every single investor of a hedge fund was the client of the fund's manager. Hence managers suddenly had more than fourteen clients; therefore they did not qualify for the exemption from the Investment Adviser Act of 1940 anymore and were required to be registered with the SEC effective February 1, 2006. As Desmet (2008) summarizes the effects, once hedge fund managers were registered as investment advisers, they had to adopt codes of ethics with expected standards of conduct, maintain certain books and records. Further, the SEC was entitled to review the fund's internal controls and procedures and examine their adequacy. However, many things were about to stay the same after managers would have registered. For example, registration did not require providing of performance statistics (Pozen, 2006). Neither imposed it any limits on the variety of investment strategies, diversification issues (heavily under-diversified portfolio is not exceptional), leverage ratios or performance fees (Anderson, 2006a). Although the original intention of the SEC only was to have some oversight of the hedge fund managers' activity and to enhance the possibility of detecting fraud which they had planned to achieve by the adoption of the Hedge Fund Rule, the question is whether benefits of the hedge fund manager registration for the society would have been worth the additional cost burden imposed on the funds, and subsequently on their investors. Namely, registration would not have led to any systemic risk prevention, since the Hedge Fund Rule, as it was adopted, was of no effect with respect to issues such as leverage or diversification.

Importantly, according to Glassman & Atkins (2004), the commissioners who dissented from the proposal from the very beginning, the Hedge Fund Rule did not even address the original intentions of the SEC, i.e. to protect investors from being defrauded. The authors argued on the following grounds. Firstly, a "typical" hedge fund fraud, based on the cases investigated by the SEC during the preceding years, was committed either by a manager too small to be registered, or by a manager already registered. Further, mutual fund managers were registered and still abuses took place which had not been revealed by the SEC examiners. Secondly, although retailization of hedge funds was agreed upon to be a problem, a revision of the accreditation criteria for investors rather than registration of hedge fund managers would have been a solution. Thirdly, Glassman and Atkins

[71] Rule 203(b)(3)-2 under the Investment Advisers Act of 1940

questioned the scope of the Hedge Fund Rule, since, on principle, it did not address hedge funds exclusively. Rather it targeted "private funds" with a lock-up period of up to two years.[72] Then, a manager could have lengthened the lock-up period, and some really did so, to evade the effect the Rule, which would have harmed the investors. And fourthly, the investors would have to carry the costs of registration alongside the costs they exercised to do their own research, since the information on the fund's performance obtained when managers were registered was not enough. Further, the Hedge Fund Rule imposed substantial costs also on the SEC itself. As the authors say, *"if we fail to devote adequate resources and develop the necessary expertise to carry out effective risk-based examinations, we are providing a false sense of security by suggesting to the marketplace that, through registration, we have bathed hedge funds in 'sunlight'"*.[73]

Anyway, the life of the Hedge Fund Rule was not long. In June 2006, it was vacated and remanded by the U.S. Court of Appeals for the District of Columbia Circuit, since the Court stated that the client of a hedge fund manager is the fund itself, and not the fund's investors.[74] By that time, hundreds of managers had registered. After the decision, they were allowed to deregister if they wished so. However, the vast majority of hedge fund managers remained registered; the SEC reported an increase in the number of registered hedge fund managers even after the Hedge Fund Rule was struck down. According to Grant (2006), the reason for that was the potential market advantage of remaining registered, since it was likely to help hedge funds to attract institutional investors who gained confidence from the oversight that the registration provided.

After the bad success of the Hedge Fund Rule, the SEC continued in its efforts to gain some oversight over the alternative investment vehicles. Hence in 2007, a new regulatory measure was adopted, which was referred to as *Prohibition of Fraud by Advisers to Certain Pooled Investment Vehicles*.[75] According to this Rule, it is forbidden for *"any investment adviser to a pooled investment vehicle to make an untrue statement of a material fact to any investor or prospective investor in the pooled investment vehicle, or to omit to state a material fact necessary in order to make the statements made to any investor or prospective investor in the pooled investment vehicle, in the light of the*

[72] The definition of „private funds" that were subject to the Hedge Fund Rule consisted of more points than the lock-up period only but still it was wide enough to cover other alternative investment vehicles, too.
[73] Glassman & Atkins (2004), pp. 106
[74] See U.S. Court of Appeals (2006): Goldstein v. SEC
[75] U.S. SEC: Rule 206(4)-8 under the Investment Advisers Act of 1940, further referred to as the New Antifraud Rule

circumstances under which they were made, not misleading"[76], since any such activity is considered to be fraudulent and deceptive. Importantly enough, the rule applies to all managers of pooled investment vehicles, whether registered with the SEC or not. Thus managers of hedge funds, private equity funds, mutual funds, etc., are all subject to the New Antifraud Rule.

B. Dodd-Frank Act

In Chapter 2.4.3.1 we have already discussed the brand new regulatory package of legislature known as the Dodd-Frank Act. The adoption of the Act is likely to have broad consequences both for hedge funds and private equity. The immediate effect is the obligation to register with the SEC for all hedge funds (as well as private equity funds) with more than $150 million of assets and further to be subject to periodic inspections by SEC examiners. The funds will further have to report financial data to the SEC. Once the SEC founds a fund too large or too risky, it will be placed under the Fed supervision (Deutsche Bank Research, 2010). The Act does not specify any prudential rules or rules on business conduct. But the SEC is given a broad mandate to expand its regulatory powers over the hedge fund industry in the future.

The Dodd-Frank Act also affects hedge funds via its derivatives market section. According to Petajisto (2010), a hedge fund which trades OTC derivatives might be regarded as a "major swap participant", which is likely to result in being subject to additional regulation within the derivatives section of the Act upon the discretion of a regulator.

As has been already mentioned, the Dodd-Frank Act contains a special provision on banks named the Volcker Rule. It also affects alternative investment vehicles significantly, since it prohibits banks from proprietary trading and, in particular, limits banks' investments in hedge funds and private equity funds. Namely, banks are prohibited from acquiring or retaining equity, partnership or ownership interests in hedge funds and private equity funds with the exception of certain specified investments in hedge funds or private equity funds not exceeding 3% of the total ownership of the fund within one year of the investment, and 3% of the bank's Tier 1 Capital (Deutsche Bank Research, 2010). Thus, banks which are engaged in a hedge fund or proprietary trading activity will have to either terminate such an activity or spin it off to an independent entity. The Volcker Rule is

[76] Rule 206(4)-8(a)(1)

expected to be fully implemented within a relatively long period of time – combination of transition periods during which banks will conform their activities to the Rule might postpone the effective date by up to twelve years.

As we have denoted in the previous chapter, a strong orientation of the Dodd-Frank Act towards banking institutions and a relatively heavy regulatory burden that it imposes upon them are likely to create a significant competitive advantage for non-bank financial institutions which are not about to suffer from such strong regulatory provisions. Hedge funds and private equity funds are a very illustrative example. Although under new rules they are subject to stricter regulation than they were before, they still have been left out of the new comprehensive regulatory measures imposed on banks. Thus, they are likely to benefit from the fact that banks will be forbidden to engage in proprietary trading. Further, since banks will be prohibited from hedge fund and private equity activities and will have to spin these activities off to independent units if they decide not to terminate them completely, the funds' direct competitors in the market will be weakened (Deutsche Bank Research, 2010).

C. Europe

In the UK, the way of policing and regulating hedge funds is different. According to Anderson (2006b), both UK and U.S. hedge fund managers and other experts consider the British model to have distinct advantages over the SEC attempts. In the UK, all hedge funds are subject to registration and regulation and their managers are authorized by the FSA (FSA, 2009). During the authorization process, which might take up to six months, a fund is assigned an individual regulator who examines its business plan and people in charge of various functions of the fund, and after the authorization is granted, the fund has to hand in regular risk assessments (Anderson, 2006b). To sum up, the UK model relies on frequent communication between hedge funds and regulators. In this way, the FSA maintains the basic oversight that the SEC has been yearning for since the original adoption of the Hedge Fund Rule.

The extent of regulation differs largely among EU member states. Many of them, similarly to the U.S., do not impose such a strict regulation on hedge funds. However, given the high leverage nature of hedge funds, they are alleged by the EU authorities to be dangerous not only for non-banks, but also for the banking sector, since many investment banks as well as commercial banks have engaged in the hedge fund investment.

For this reason, the De Larosière Group (2009), among many other things in their report, recommends to adopt a set of regulatory measures with respect to hedge funds for all the EU member states (as well as for the U.S.) comparable to those used in the UK. The Group claims that hedge funds did not play a major role in the emergence of the latest turmoil in the financial markets, regarding the fact that the initial causes of the crisis consisted in mortgage banking and excess leverage. Nevertheless, they are of the view that it is widely agreed that the highly leveraged hedge funds contributed to high market volatility and they also had a transmission function (selling of shares) after the crisis broke out. Hence they require adequate capital requirements to be set, reporting obligations to be applied in order to assess the degree of leverage of hedge funds, and incentives inducing excessive risk taking (structure of bonuses) to be rectified.[77] Further, the Group calls for higher transparency, for registration of funds and for assessing their strategies, methods and leverage, since banks as the main lenders to hedge funds *"have not been able to obtain a global view of the risks they were engaging in"*.[78] Lastly, very strict capital requirements and close monitoring should be applied to banks owning a hedge fund (or a private equity fund).[79]

FSA discusses the applicability of regulation of hedge funds via the Turner Review (FSA, 2009). The report says hedge funds are subject neither to capital adequacy nor liquidity regulation because their activities are not bank-like. The authors state that, on average, leverage of hedge funds is lower than leverage of banks. Further, hedge funds do not provide direct services to retail customers, neither they allow investors to withdraw their money until a specified redemption date comes. Hence they "*are not performing a maturity transformation function fully equivalent to that performed by banks…*"[80] On the other hand, FSA admits that hedge fund aggregate activity might have a pro-cyclical effect on the economy in a way that in times of economic distress funds tend to deleverage in order to be able to meet investors' demands for redemptions. In this way, prices of securities are pushed down, as was the case in the early stages of the latest crisis. Hence, some kind of regulation seems to be in place. In addition, as the FSA in its Turner Review alerts, it is possible that in the future hedge funds will develop into more bank-like institutions with greater systemic importance in terms of their scale, leverage or customer premises, and the regulatory framework should be able to recognize and respond to this

[77] De Larosière Report (2009), Article 91
[78] De Larosière Report (2009), Article 88
[79] De Larosière Report (2009), Article 92
[80] FSA (2009), pp. 72

development soon enough. The Review offers a comparison to the situation of the U.S. investment banks which were probably not systemically important during the 1970s and 1980s; nevertheless, they have gradually developed into crucial ones to the financial system. Regulatory framework has not noticed this development and the results materialised in 2007…

Thus, changes reflecting the latest financial development recommended by the FSA in the Turner Review include two points: (1) regulatory authorities need to collect much wider range of information on hedge fund activities and need to take into account potential macro-prudential risks stemming from the information, and (2) the authorities need the power to impose prudential regulation on hedge funds if they spot the funds' activity have become bank-like in nature or systemically important, as described in the previous paragraph.[81]

The aforementioned reports create grounds on which the EU regulatory framework for AIFs will be restructured. Namely, as has already been discussed in Chapter 2.4.2.2, the European Commission proposed a set of new regulatory measures – the AIMF Directive – which was adopted in 2010 and came into force in early 2011. Let us briefly review its main consequences for the European hedge fund industry. Following the UK model, the Directive establishes an obligation to register for all hedge fund managers managing more than €100 million of assets. The same threshold applies for the disclosure of systemically relevant data to regulatory authorities. Further, the concept of the "EU passport" for managers that once have been authorized in either of the member states is also a part of the Directive. However, provisions concerning the third country marketing that are included in the AIFM Directive are rather protectionist and are very likely to make the non-EU funds as well as EU funds managed by non-EU fund managers unavailable for EU investors, thus leaving them worse off and decreasing the competitiveness of the whole EU economy.[82] In addition, ESMA's powers to intervene in the marketing of funds or to impose limits on their leverage will be substantially increased.

3.1.3.3. Case Study: Systemic Risk of Hedge Funds

Let us move the discussion to the level of systemic risk, since the main economic argument for regulating hedge funds is their alleged potential to create systemic risk

[81] See FSA (2009), Chapter 2.3.

[82] See AIMA (2009) for a discussion of the potential consequences of the AIFM Directive provisions on third country marketing.

(Petajisto, 2010). According to the FSA (2010), hedge funds might carry potential systemic risk via two channels. Firstly, the *credit channel* brings the risk of destabilizing the systematically important investors in case of losses on the fund's investments, since these are borne by the fund's creditors. Secondly, the *market channel* represents the risk of market volatility increased by the activity of hedge funds, since their joint impact might drive asset prices upwards in good times and downwards due to forced selling in bad ones.[83]

There are other authors who consider hedge funds being potentially dangerous to the system. For example, Schwarcz (2008) sees them bearing greater systemic risk potential than many other business institutions. He states this is largely because hedge funds managers "*aggressively seek above market profits and quick returns and employ investing strategies that may converge*".[84]

The FSA's credit channel of hedge fund alleged systemic risk potential refers to the counterparty risk inherent in virtually all financial transactions. One of the ways of dealing with the credit channel is an imposition of stricter rules with respect to engaging in business with AIFs on hedge funds' major creditors which themselves might be systemically important, e.g. banks or pension funds. We believe this way of settling the problem is more efficient than imposing direct regulation on hedge funds.

The market channel refers to the problem hedge funds are often blamed for, namely that their effort to quickly deleverage increases price volatility in the markets after an adverse market development has taken place. This has been the case after the latest crisis broke out. Let us analyse this issue a little bit more. We will have a look at rates of return of various hedge fund strategies over the last twelve years and thereout we will try to derive a conclusion whether there is a systemic risk incorporated in the functioning of hedge funds or not.

- **Hypothesis 3:** *Rates of return of various hedge fund strategies are strongly correlated.*

To analyse the hypothesis, we will use the following data:

[83] However, this FSA study found no hedge fund in the territory of the UK that carried any large systemic threat to the financial system, as of October 2009.
[84] Schwarcz (2008): Systemic Risk, pp. 204

Table 6: HFRI indices of annual investment returns of hedge fund strategies

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	YTD Q2 2010
S&P 500	28.59%	21.03%	-9.09%	-11.85%	-22.09%	28.67%	10.86%	4.91%	15.78%	5.49%	-36.99%	26.47%	-6.64%
HFRI Equity Hedge	15.98%	44.22%	9.09%	0.40%	-4.71%	20.54%	7.68%	10.60%	11.71%	10.48%	-26.65%	24.55%	-1.71%
HFRI EH: Equity Market Neutral	8.30%	7.09%	14.56%	6.71%	0.98%	2.44%	4.15%	6.22%	7.32%	5.29%	-5.93%	1.43%	-0.69%
HFRI Event Driven	1.70%	24.33%	6.74%	12.18%	-4.30%	25.33%	15.01%	7.29%	15.33%	6.61%	-21.82%	25.04%	2.26%
HFRI ED: Merger Arbitrage	7.23%	14.34%	18.02%	2.76%	-0.87%	7.47%	4.08%	6.25%	14.24%	7.05%	-5.36%	11.63%	0.71%
HFRI ED: Distressed	-4.23%	16.94%	2.78%	13.28%	5.28%	29.56%	18.89%	8.27%	15.94%	5.08%	-25.20%	28.13%	3.92%
HFRI Relative Value	2.81%	14.73%	13.41%	8.92%	5.44%	9.72%	5.58%	6.02%	12.37%	8.94%	-18.04%	25.80%	3.64%
HFRI RV: Convertible Arbitrage	7.77%	14.41%	14.50%	13.37%	9.05%	9.93%	1.18%	-1.86%	12.17%	5.33%	-33.71%	60.17%	2.69%
HFRI Macro	6.19%	17.62%	1.97%	6.87%	7.44%	21.42%	4.63%	6.79%	8.15%	11.11%	4.83%	4.37%	-1.16%
HFRI Fund Weighted Composite	2.62%	31.29%	4.98%	4.62%	-1.45%	19.55%	9.03%	9.30%	12.89%	9.96%	-19.02%	19.98%	-0.21%
HFRI FOF Composite	-5.11%	26.47%	4.07%	2.80%	1.02%	11.61%	6.86%	7.49%	10.39%	10.25%	-21.36%	11.46%	-1.03%

Source: HFR Global Hedge Fund Industry Report – Second Quarter 2010

www.hedgefundresearch.com

The HFRI indices are equally weighted performance indices utilized globally as an industry benchmark. HFRI Fund Weighted Composite comprises over 2,000 funds, both onshore and offshore, with either more than $50 million of assets under management or with a track record of at least twelve months, with no FOHFs involved. On the contrary, HFRI FoF Composite includes 650 FOHFs with other conditions equal. Besides them, Table 6 includes rate of return indexes of various hedge fund strategies from 1998 to the second quarter of 2010. The main groups of hedge fund strategies according to Hedge Fund Research, Inc. are printed in bold with indexes for few relevant subgroups under each group. The S&P 500 index will allow us to compare the hedge fund performance to the overall performance of equity market.

As the next step, we compute a correlation matrix for these data, so that we can see what their mutual correlations are.[85]

[85] Correlation matrix is a matrix of mutual correlation coefficients of two random variables. It is computed according to the following formula:

$$\rho_{X,Y} = \frac{cov(X,Y)}{\sigma_X \sigma_Y},$$

where $cov(X,Y)$ is the covariance of random variables X and Y computed as

$$cov(X,Y) = E[(X - E[X])(Y - E[Y])]$$

and σ_X and σ_Y are standard deviations of random variables X and Y computed as

$$\sigma_X = \sqrt{E[(X - E[X])^2]},\ \sigma_Y = \sqrt{E[(Y - E[Y])^2]}.$$

Table 7: Correlation matrix of the HFRI indices of annual investment returns of hedge fund strategies

	S&P 500	**HFRI Equity Hedge**	HFRI EH: Equity Market Neutral	**HFRI Event Driven**	HFRI ED: Merger Arbitrage	HFRI ED: Distressed	**HFRI Relative Value**	HFRI RV: Convertible Arbitrage	**HFRI Macro**	HFRI Fund Weighted Composite	HFRI FOF Composite
S&P 500	1.000										
HFRI Equity Hedge	0.850	1.000									
HFRI EH: Equity Market Neutral	0.371	0.516	1.000								
HFRI Event Driven	0.803	**0.857**	0.414	1.000							
HFRI ED: Merger Arbitrage	0.617	0.765	0.790	0.677	1.000						
HFRI ED: Distressed	0.695	0.703	0.261	0.946	0.502	1.000					
HFRI Relative Value	0.644	**0.774**	0.525	**0.854**	0.762	0.829	1.000				
HFRI RV: Convertible Arbitrage	0.584	0.638	0.320	0.726	0.591	0.731	0.929	1.000			
HFRI Macro	0.460	**0.546**	0.062	**0.493**	0.228	0.435	**0.190**	0.044	1.000		
HFRI Fund Weighted Composite	0.803	0.956	0.432	0.942	0.723	0.842	0.822	0.657	0.602	1.000	
HFRI FOF Composite	0.661	0.889	0.471	0.883	0.697	0.812	0.813	0.594	0.555	0.963	1.000

Source: Author's research

Firstly, correlations with the S&P 500 index are quite straightforward. Overall HFRI Fund Weighted Composite index's correlation with S&P 500 amounts to 0.803, since the index comprises hedge funds across various strategies, most of which are equity based. On the other hand, correlation of the HFRI FoF Composite index with the S&P 500 is 0.661, as portfolios of FOHFs are usually more diversified.

Moving to the strategies, a high correlation between Equity Hedge strategies and the S&P 500 index (0.850) was expected, since Equity Hedge strategies predominantly specialise in long and short positions in equity and equity derivative securities. Hence returns of these strategies move in accordance with moves in the equity markets. On the contrary, Macro strategies, which are based on movements of underlying economic variables and their impact on security prices, correlate with equity market represented by the S&P 500 much less (0.460).

However, correlations among strategies themselves are more important for us, since we can derive some conclusions about systemic risk upon them. Indeed, we will analyse the main group of strategies only. Table 7 shows that there are relatively high levels of mutual correlation between Equity Hedge, Event Driven and Relative Value strategies. Equity Hedge strategies correlate the most; their correlation coefficients for Event Driven and Relative Value strategies are 0.857 and 0.774, respectively. Correlation of Event Driven and Relative Value strategies is also significant – it amounts to 0.854. Correlations of the three groups of strategies with Macro strategies are less significant, amounting to 0.546 for Equity Hedge, 0.493 for Event Driven and 0.190 for Relative Value strategies.

Box 3: Main categories of hedge fund strategies according to Hedge Fund Research, Inc.

Main Categories of Hedge Fund Strategies

Equity Hedge

Equity Hedge strategies maintain positions both long and short in primarily equity and equity derivative securities. A wide variety of investment processes can be employed to arrive at an investment decision, including both quantitative and fundamental techniques; strategies can be broadly diversified or narrowly focused on specific sectors and can range broadly in terms of levels of net exposure, leverage employed, holding period, concentrations of market capitalizations and valuation ranges of typical portfolios. Equity Hedge managers would typically maintain at least 50% exposure to, and may in some cases be entirely invested in, equities – both long and short.

Event Driven

Investment managers maintain positions in companies currently or prospectively involved in corporate transactions of a wide variety including but not limited to mergers, restructurings, financial distress, tender offers, shareholder buybacks, debt exchanges, security issuance or other capital structure adjustments. Security types can range from most senior in the capital structure to most junior or subordinated, and frequently involve additional derivative securities. Event Driven exposure includes a combination of sensitivities to equity markets, credit markets and idiosyncratic, company specific developments. Investment theses are typically predicated on fundamental characteristics (as opposed to quantitative), with the realization of the thesis predicated on a specific development exogenous to the existing capital structure.

Macro

Investment managers use a broad range of strategies in which the investment process is predicated on movements in underlying economic variables and the impact these have on equity, fixed income, hard currency and commodity markets. Managers employ a variety of techniques, both discretionary and systematic analysis, combinations of top down and bottom up theses, quantitative and fundamental approaches and long and short term holding periods. Although some strategies employ RV techniques, Macro strategies are distinct from RV strategies in that the primary investment thesis is predicated on predicted or future movements in the underlying instruments, rather than realization of a valuation

discrepancy between securities. In a similar way, while both Macro and equity hedge managers may hold equity securities, the overriding investment thesis is predicated on the impact movements in underlying macroeconomic variables may have on security prices, as opposed to EH, in which the fundamental characteristics of the company are the most significant and integral to investment thesis.

Relative Value

Investment managers maintain positions in which the investment thesis is predicated on realization of a valuation discrepancy in the relationship between multiple securities. Managers employ a variety of fundamental and quantitative techniques to establish investment theses, and security types range broadly across equity, fixed income, derivative or other security types. Fixed income strategies are typically quantitatively driven to measure the existing relationship between instruments and, in some cases, identify attractive positions in which the risk adjusted spread between these instruments represents an attractive opportunity for the investment manager. RV position may be involved in corporate transactions also, but as opposed to ED exposures, the investment thesis is predicated on realization of a pricing discrepancy between related securities, as opposed to the outcome of the corporate transaction.

Source: Hedge Fund Research, Inc.
See https://hedgefundresearch.com/index.php?fuse=indices-new&1291562720 for all strategy definitions.

But what do correlations of strategies say about systemic risk? Basically, imagine a situation in the market which adversely affects one of the strategies. In case of high correlations, the indexes move hand in hand (up to certain extent). Hence if one strategy suffers from the market development, other strategies with which the particular one is strongly correlated are likely to suffer, too, according to statistics, which endangers the whole industry. Probability of overall industry getting in serious trouble is thus increased when an adverse development in the financial market takes place, just like we have seen recently. Therefore, with high correlation of strategies there is much higher probability of significantly increased price volatility during bad times, since very many funds will try hard to deleverage. Moreover, in case of failure of several important hedge funds, a chain of failures of systemically important institutions might be triggered. Hence not only market channel but also credit channel of systemic risk applies with high correlation of hedge fund strategies. Disregarding our previous discussion about extensive regulation of hedge funds

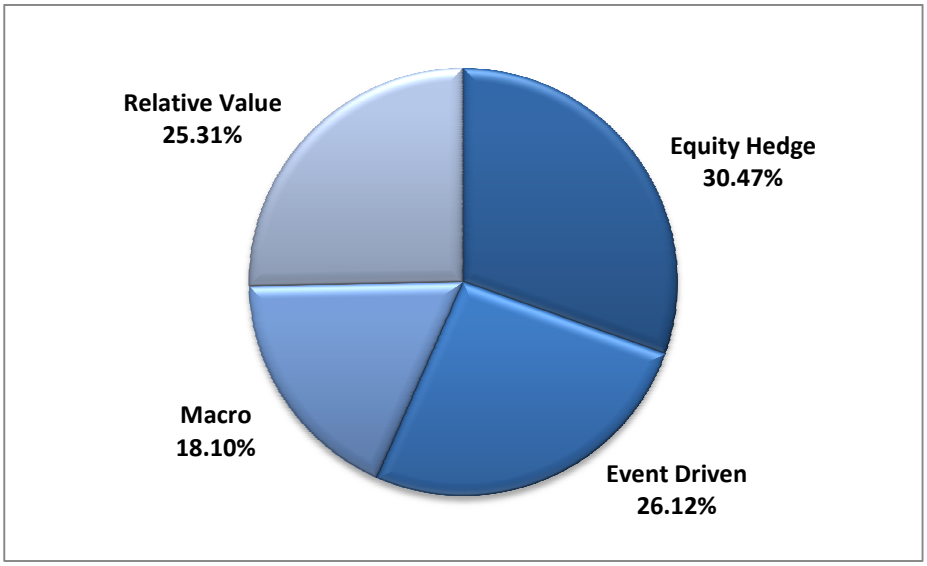
being unnecessary and inefficient for a moment, we therefore conclude there actually is certain level of systemic risk inherent in the functioning of hedge funds.

In order to be proper, we need to notice that correlations of Macro strategies with the other main strategy groups are lower which might weaken the conclusion of our analysis. However, when we look at Figure 9, we can see that Macro strategies only account for 18.1% of all strategies employed by hedge fund managers. The other three main groups of strategies account for 81.9% of the market, hence we consider the conclusion of the previous paragraph being unaffected by lower Macro strategies correlations.

- **Hypothesis 3:** *Rates of return of various hedge fund strategies are strongly correlated.*

  Based on the analysis above, the hypothesis about rates of return of various hedge fund strategies being strongly correlated *cannot be rejected*. Hence there is certain amount of systemic risk incorporated in the hedge fund industry. Nevertheless, although we admit there is some systemic risk potential in hedge funds, in this work we still argue that their excessive regulation would be inefficient. This opinion is largely based on the experience of the industry over recent decade as well as on the fact that the risk can be more efficiently alleviated via regulating hedge funds' major counterparties than via regulating funds (or their managers) themselves.

Figure 9: Estimated strategy composition by assets under management as of Q2 2010



Source: HFR Global Hedge Fund Industry Report – Second Quarter 2010
Copyright 2010. All rights reserved.
www.hedgefundresearch.com

Since we now have completed the assessment of all the hypotheses of this thesis, we provide a summary of our results in Table 8.

Table 8: Summary of hypotheses

Hypothesis	Rejected	Not Rejected
1. Non-bank sector of financial markets carries a considerable portion of systemic risk.	●	
2. AIFM Directive will bring more costs than benefits.		●
3. Rates of return of various hedge fund strategies are strongly correlated.		●

Table 9: Summary of the proposed or adopted modifications of the hedge fund regulatory framework

Author/Measure	Year	Description	Advantages	Drawbacks
Security and Exchange Commission ***Hedge Fund Rule***	2004	The Rule forced hedge fund managers to count each of their investors rather than the fund itself as their clients. Under such circumstances, managers would not have qualified for the exemption from the Advisers Act, since they provided services to more than fourteen clients, and they had to register with the SEC. In 2006, the Rule was vacated and remanded by the U.S. Court of Appeals for the DC Circuit.	Once registered, hedge fund managers would have had to submit examinations, maintain certain books and standards and adopt codes of ethics. SEC would have had some oversight concerning hedge fund activity. Thus possibilities to reveal financial difficulties as well as fraud at an earlier stage would have been enhanced.	Registration would have increased burden of both the industry and the SEC. Further, the typical fraud involves small hedge funds which would not have been subject to registration under the Rule anyway. Moreover, the Rule could have been evaded by simply lengthening the lock-up period to two years.
Security and Exchange Commission ***New Antifraud Rule***	2007	The Rule was designed to protect investors in the U.S. pooled investment vehicles against fraud. It applies to managers of hedge funds as well as private equity funds and mutual funds, whether registered under the Advisers Act or not.	False or misleading statements or other attempts at defrauding investors of the pooled investment vehicles by their managers are legally considered a fraudulent and deceptive act which is subject to appropriate provisions.	No benefit from the financial stability point of view has been achieved by the Rule, since its objective was to enhance investor protection rather than to prevent industry difficulties capable of adversely affecting the broader financial sector from occurring.
European Commission ***De Larosière Report***	2009	The Group suggests extending regulation to all entities with potential systemic impact. Hedge funds all over the EU should be approached in the similar way they are treated in the UK. They suggest the adoption of capital controls and reporting obligations for hedge funds, their registration and control of strategies and leverage.	The UK model of hedge fund regulation appears to be a convenient form of the alternative investment vehicles treatment that neither suppresses the industry's performance nor imposes prohibitive costs on either of the involved institutions. Hence its spread over Europe is an interesting idea.	By an adoption of all or some of the measures extending beyond the current UK model, administrative and compliance costs would increase not only for the affected funds but also for regulatory authorities, pushing down significantly the industry's productivity. Above all, the intended positive impact on the stability of the financial system is highly uncertain (or even improbable) anyway.

Financial Services Authority ***Turner Review***	2009	The report suggests regulatory authorities should concentrate on gathering extensive information on hedge funds activity and on being flexible to apply prudential regulation if hedge funds become bank-like in nature or systemically important.	Imposing only light regulatory requirements in the form of reporting obligations would contribute to enhanced transparency of the industry without increasing the costs of compliance too much.	Without specifying parameters, according to which a hedge fund could be considered a "bank-like" or a systemically important institution, the decision remains on a discretion of the corresponding regulator. Hence a risk of excessive and inappropriate regulation still exists.
European Commission ***AIFM Directive***	2009	The Directive imposes registration and disclosure requirements upon hedge fund managers, sets authorization requirements necessary for granting the "EU passport", deals with third country marketing and other issues, such as limits on leverage.	Transparency and disclosure of investments would be increased by applying the Directive. Moreover, since a fund manager would be allowed to trade his fund throughout the EU once he has been granted the "EU passport", the Single Market would be enhanced.	The Directive's protectionist nature might make the non-EU managers stop marketing their funds in the EU which would result in a decrease of investment choice, leaving the whole EU less competitive. Further, the Directive features a "one-size-fits-all" approach.
Party of European Socialists ***P. N. Rasmussen's opinion***	2010	Strong enemy of hedge funds and private equity funds and a keen supporter of the AIFM Directive. He suggests even stricter measures to regulate the funds to be applied, such as strict limits on leverage, penalties for improper conduct, non-EU funds to be covered by the EU regulation, etc.	Strict regulatory rules for the AIFs would result in lower volatility of financial markets and higher transparency of OTC markets.	The costs of compliance would become prohibitive for many fund managers who would therefore cease to operate in the EU. Non-EU funds would be discouraged from investing in the EU due to strict regulation they would be subject to.
U.S. Government ***Dodd-Frank Act w/ the Volcker Rule***	2010	The U.S. regulatory response to the financial crisis focuses mainly on the banking sector but devotes attention also to non-banks. It imposes an obligation to register on hedge funds with more than $150 million of assets and puts them subject to the SEC inspections. The Volcker Rule prohibits banks from proprietary trading and limits their hedge fund investments and activity.	Registration of large hedge funds brings more transparency and increases the probability of fraud detection. The funds are not burdened by any prudential rules or conduct-of-business rules. From the hedge fund manager point of view, a significant advantage of the Act is the prohibition of banks' hedge fund activity, since a large competitor in the market is thus weakened.	Despite imposing only disclosure requirements on hedge funds, the Act leaves a broad opportunity for the SEC to expand its regulatory powers over the industry in the future upon its own discretion. Many details are left for the regulators to decide later, hence future additional regulatory burden is not out of the question.

3.1.4. The Stories of Hedge Fund Failure

In the world of hedge funds, failures are nothing unusual. Sure enough, only to the extent the failing institutions are minor players in the financial markets. However, if they are a big multibillion hedge funds, their failure can be much more spectacular. In the history of hedge fund industry there were two remarkable cases of such a hedge fund failure that have been widely discussed ever since. Although they both involved huge losses in billions of USD, their impact on global markets was different. The first one demonstrated the fragility of the funds and imposed a big threat on the global financial markets. On the other hand, the second failure, though even more severe, did not affect the markets significantly. They are the cases of the Long-Term Capital Management (LTCM) hedge fund of 1998 and the Amaranth Advisors hedge fund of 2006. The stories are described in Box 4 and Box 5. If the reader is familiar with them, he may skip them and continue directly to the text that follows afterwards.

Box 4: The 1998 case of Long-Term Capital Management

The 1998 Case of Long-Term Capital Management

The LTCM fund was founded in 1994. Before the problems came, it had been no loosely-performing institution. The minimum investment was set to $10 million with 3-year lock-in period. Management and incentive fees charged by the fund managers were rather high relatively to other institutions, amounting to 2% and 25%, respectively. The initially raised equity prior to the start of business amounted to $1.25 billion. Profitability of the fund was huge, till 1997 the amount of equity increased to $7 billion. In 1995, net returns reached 40%, in 1997 they were something less than 20%. See Figure 10 for an illustration of the return development of the fund.

Such high profits were achieved thanks to investment strategies employed, among which there were convergence trading[86] and dynamic hedging[87]. However, in order to exploit reasonable profits out of these strategies the fund had to take large positions that were highly leveraged (Prabhu, 2001). In the half of 1998, the fund's balance sheet

[86] A typical *convergence trading* strategy is to bet that the price difference between two assets with similar, but not identical, characteristics will narrow in the future. See Xiong (2001) for a comprehensive study of convergence trading with wealth effects.

[87] *Dynamic hedging* is a hedging technique which seeks to limit the investment's exposure to *delta* and *gamma* by adjusting the hedge as the underlying security changes. For further studies of dynamic hedging, see e.g. Coleman, Kim, Li & Verma (1999).

comprised assets that were worth $125 billion. Since at the end of 1997 the fund had returned to its investors approx. 36% of capital base, the corresponding half-1998 level of equity was $4.1 billion. The leverage ratio thus accounted for 30-to-1, which was unusual and highly risky even for a hedge fund. Moreover, the fund was exposed to a substantial repudiation risk due to holding large amounts of Russian governmental bonds which was not a safe investment at the time, since Russia's economy was heading for a severe crisis.

Soon, the problems actually materialized with the devaluation of Russian currency and the default of the Russian government on its debt in August 1998. LTCM's holding of Russian government bonds together with consequences in financial markets driving the yield spreads in the other direction than the fund had been betting on implied heavy losses for the fund. It had to start selling its assets in order to meet margin calls of banks, whose collaterals for LTCM's debts shrank as a consequence of the Russian default (Riemlová, 2008). Demands for capital injections were unsuccessful; the fund ended up with a loss of approx. $3.5 billion of its capital base over August and September and its potential near collapse was feared by many. Consequences for the already fragile markets would have been rather dangerous, regarding the large position the LTCM's portfolio comprised.

LTCM's trading counterparties and creditors were exposed to high risk due to the uncertain future of the fund. In case it really collapsed, they would have been seriously harmed. Hence, in search for the least costly solution, the four most concerned of them, known as the Core Group, started to consider recapitalization of the LTCM by mutual investments of its major counterparties (later referred to as the consortium approach). Eventually, fourteen companies participated in the consortium. Under the deal arranged by the Fed, the consortium obtained 90% stake in the fund's portfolio and the operational control, in exchange for $3.6 billion of investment in new equity to the fund.

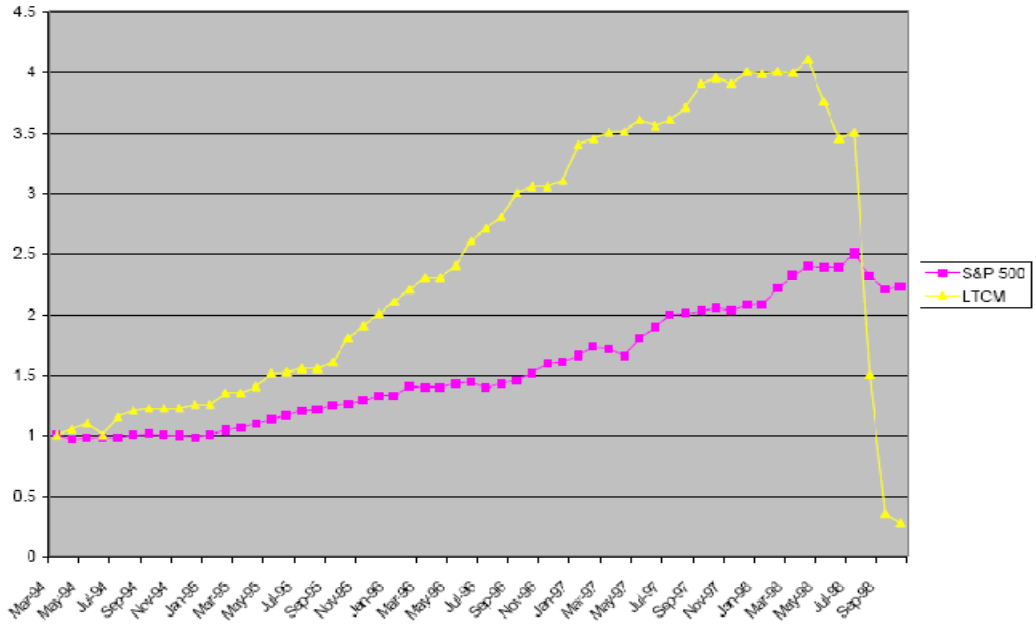
Although substantial losses were suffered by many investors in the LTCM and by its managers, the consortium acquisition provided enough liquidity for global financial markets to calm down. However, the LTCM fund itself was finally liquidated in 2000.

Source of data and information:
Riemlová (2008), U.S. President Working Group on Financial Markets (1999)

The failure of LTCM resulted in broad discussions about policy framework and regulatory issues concerning alternative investment vehicles. In an effort to prevent another collapse in the future, banks increased margin requirements when lending to hedge

funds as well as increased the disclosure requirements on information on hedge fund activities (Riemlová, 2008).

Figure 10: Value of $1 invested in the Long-Term Capital Management hedge fund vs. S&P 500 (March 1994-October 1998)



Source: Prabhu (2001)

However, although he admits LTCM was a spectacular case, Shadab (2007) claims there is little to learn from its failure about hedge fund regulation nowadays, since the fund's loss was caused by its unique characteristics with combination of the Asian crisis of 1997 and Russian devaluation and default of 1998. Shadab argues that additional regulation should not be imposed on hedge funds, since today's funds are much less leveraged than the LTCM back in 1998 and they constitute systemic risk no greater than conventional financial institutions. As an example of the ability of today's advanced markets to survive major failures he puts forth the case of Amaranth Advisors hedge fund, which is the second story we are going to present.

Box 5: The 2006 case of Amaranth Advisors

The 2006 Case of Amaranth Advisors

Amaranth Advisors hedge fund was another large institution that got into serious troubles. It was founded in 2000 and focused mainly on spread trading in natural gas market. Till 2006 it had been very successful in doing so and the fund had been very profitable.

However, in September 2006, the bet on future price of natural gas turned out to be completely wrong. During a single week, the fund lost approx. $6 billion which was much more than the LTCM lost over several months. Despite the fact, that it was the largest hedge fund failure by that time, markets and counterparties hardly noticed any troubles.

No bailout plans were designed. Instead, Amaranth's assets were sold for $2 billion to JP Morgan investment bank and to the Citadel hedge fund. As a result, the fund's investors recovered one third of their investments into the fund, while its counterparties' claims were entirely satisfied.

Source of data and information:
Broughton (2006), Riemlová (2008), Shadab (2007)

There are several factors of why the reaction of markets was so dramatically different from the case of LTCM. Amaranth's leverage prior to the fall was approximately 8:1, hence significantly lower than the one of LTCM (Broughton, 2006). Riemlová (2008) further explains that, firstly, Amaranth was only active in a small-scale natural gas market, hence besides the fund managers its losses were borne by relatively small number of creditors. Secondly, banks took their lesson from the LTCM story and held more equity and collateral against hedge fund risk. And thirdly, broader and more liquid global financial markets in 2006 were able to better cope with the failure of a large hedge fund.

As we have already mentioned, Shadab (2007) presents the case of Amaranth Advisors as a proof that additional regulation of hedge funds is unnecessary since markets nowadays are able to handle even failure of such a large institution. However, it is crucial to remember the circumstances under which LTCM failed. Asian Crisis of 1997 preceded the failure which brought great deal of uncertainty to the markets. The Russian default and devaluation in 1998 were subsequently the final impulse that destabilised financial markets largely. In order to prevent further destabilisation, strong efforts to rescue the LTCM fund

were put forth. On the contrary, failure of Amaranth arose due to a bad decision in trading at times of global economic boom. Markets were stabilised and thus able to incorporate the consequences of the failure. Incentives to bail the fund out were thus far smaller.

Thus, we believe it is not possible to objectively derive conclusions whether additional regulation is necessary or not on the basis of the two cases of failure, since the conditions under which both failures took place were significantly different. However, it is clear that both funds and markets have taken their lessons and are much more likely to survive a major failure of a large hedge fund even at times of strong economic turmoil, which is after all the case of the latest crisis.

As has already been mentioned at the beginning of this subchapter, besides the above mentioned spectacular hedge fund failures there have been also many other collapses, some of them smaller, some bigger. For this reason, Table 10 provides a summary of selected hedge fund failures with large losses over the last sixteen years and also lists the strategies, brief causes and estimated losses of each case.

Table 10: Selected hedge fund failures and large losses

Fund	Strategy	Year	Estimated Loss	What went wrong?
Amaranth	Multistrategy	2006	6,400	Excessive exposure to energy prices
Long-Term Capital Management	Fixed-income arbitrage	1998	3,600	Excess leverage during Russian default crisis
Tiger Management	Macro	2000	2,600	Bad bet on yen lost USD 2 billion
Soros Fund	Macro	2000	2,000	Major losses on Internet and technology stocks
Fenchurch Capital	Fixed-income arbitrage	1995	1,264	Failed shift from US-only to European markets
Princeton Economics International	Macro	1999	950	Market losses, fraud
Vairocana Ltd.	Fixed-income arbitrage	1994	700	Market losses, bet on falling rates
Lipper	Convertible arbitrage	2001	700	Market losses, fraud
Askin Capital Management	Fixed-income arbitrage	1994	660	Failed hedge, market losses, margin calls
Lancer	Long/short equity	2003	600	Fraud
Beacon	Fixed income arbitrage	2002	500	Losses on mortgage derivatives, failed to mark to market
Manhattan Investment Fund	Long/short equity	1999	400	Fraud
MotherRock	Energy Fund	2006	230	Loss from natural gas market
Global Systems Fund	Macro	1997	125	Wiped out by collapse of Thai baht
Argonaut Capital Management	Macro	1994	110	Market losses
Maricopa Investment	Long/short equity	2000	59	Market losses, fraud
Cambridge Partners	Long/short equity	2000	45	Fraud
HL Gestion/Volter	Managed futures	2000	40	Market losses, regulatory intervention
Ashbury Capital Partners	Long/short equity	2001	40	Fraud
ETJ Partners	Relative value	2001	21	Market losses, fraud
Ballybunion Capital	Long/short equity	2000	7	Fraud

Source: Ferguson & Laster (2007)

3.2.Private Equity

Private equity is a term encompassing several industries – buyouts, venture capital, expansion capital, etc. Although there are important distinctions between these terms, they tend to be generally referred to as private equity (O'Brien, 2010).[88] To make it clear, we provide a list of private equity activity as it was summarized by TheCityUK (2010b):

> *Investments* represent the financing of businesses through venture capital, buyouts and other forms of financing. *Venture capital* represents investment in companies that have undeveloped or developing products (seed stage, start-up stage, expansion stage, replacement capital). *Buyout funds* typically target the acquisition of a significant portion or majority control of businesses which normally entails a change of ownership. These are generally investments in more mature companies. Special situation includes a range of investments such as distressed debt, equity-linked debt, project finance and leasing. This category includes investment in subordinated debt, referred to as *mezzanine debt financing*.
>
> *Fund raising* refers to the money investors have committed to private equity funds in any one year.
>
> *Divestments* represent the realisation or exiting of a private equity investment. This is generally done by selling the company either to another private equity firm or to another corporation or floating the company on a stock market. Divestment is the moment when a private equity firm actually earns profit.[89]

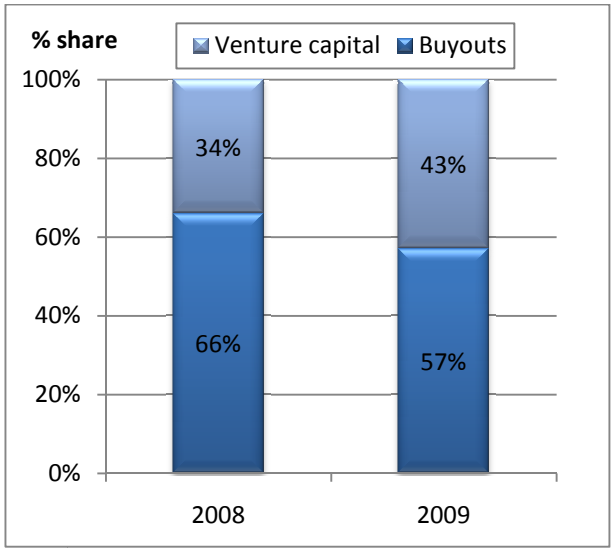
Buyout is a slightly more often used form of private equity investment. As can be seen in Figure 11, buyouts accounted for 66% of total funds raised in 2008, while in 2009 they accounted for 57%. The smaller category – venture capital – is further divided into four subcategories. (1) *seed stage* represents financing of research and development of an initial concept, (2) *start-up stage* focuses on facilitating product development and marketing, (3) *expansion stage* finances growth of a company which is already trading at a

[88] There is a difference in terminology between Europe and the U.S. – while in Europe there are three main categories of private equity businesses, namely buyouts, venture capital and expansion capital (later stage of company's existence), in the U.S. terminology, venture capital and expansion capital tend to be referred to jointly. See e.g. European Commission (2006).

[89] Taken from TheCityUK (2010b), pp. 4

profit, and (4) *replacement capital* represents an acquisition of existing shares in a company from another private equity investor or from other shareholders.

Figure 11: Private equity funds raised by expected form of investment



Source: TheCityUK

Private equity firms create private equity funds – large pools of private money used for investing in companies. Like hedge funds, private equity funds belong to the group of contractual savings institutions. U.S. SEC (2003) defines them as unregistered private collective investment vehicles pooling money from investors to invest in equity securities. Private equity funds are legally set up usually as limited partnerships, with the private equity firm as a general partner (analogy to hedge fund managers) and the investors as limited partners. The objective of a private equity fund is to invest in the equity of different, mostly unlisted, companies and to generate profits stemming from holding stocks of a particular company in a portfolio which is then distributed among investors of the fund. Private equity management of a portfolio company works to improve the company's performance, so that its stock price rises. The private equity fund then earns profit by exiting the company, either by an IPO of its stock or by a direct sale.

According to Metrick & Yasuda (2010), a typical private equity fund has a lifetime of ten years, with the first five years of investment period, i.e. the period when managers of the private equity firm are allowed to invest in new companies and demand the committed capital from investors, and the second five years for carrying on of the existing investments or exiting of the existing portfolio companies.

Actually, private equity funds bear many similarities with hedge funds. Let us review them at first:

- *accredited investors*

  The private equity funds investors are either institutional or they are the high net worth individuals.[90] To qualify for an investment in the fund, they must be accredited at first, i.e. they must be willing to invest certain minimum amount of money. Minimum requirements for investments vary considerably across funds. Like hedge funds, private equity funds do not attract investors publicly by advertising but rather directly or through a broker.

- *managerial and performance fees*

  Managers in a private equity firm who run a fund typically charge a management fee and a performance fee. The former one, being the only source of fixed income, has traditionally been computed as a fixed annual rate from the committed capital, e.g. 2% a year[91] over the life of the fund, say 10 years, hence accounting for 20% of the committed capital altogether, leaving 80% of the committed capital free for investments. Recently, however, a trend of a decreasing management fee has prevailed. In such a case, managers charge certain fee over the investment period, which is then decreased by a certain amount of basis points a year after the investment period has ended (Metrick & Yasuda, 2010).[92] The performance fee is a source of variable income and it is computed as a percentage of the profits of the fund.

- *lack of regulation*

  Similarly to hedge funds, private equity funds usually operate exempt from the obligation of registration with the regulatory authorities, hence without any or with only a light touch of regulatory requirements.

[90] According to the European Commission (2006), up to 85% of European private equity funds investors were institutional ones (banks, pension funds, etc.).
[91] Similarly to hedge funds, there is a downward trend in the remuneration structure.
[92] There can also be other structures for the computation of the management fee. An interested reader might consider reading Metrick & Yasuda (2010).

- *leverage*

  In case of buyouts, private equity funds use leverage as well as private funds for investing in selected companies. Actually, there is a category of the private equity business which is called leveraged buyouts which uses heavy leverage for acquiring portfolio companies, so that the committed capital is diversified among many investments. Usually, the assets of an acquired company serve as collateral to the loan. Moreover, also the portfolio companies of a private equity fund use leverage, although much lower than the large financial institutions.[93]

There are however significant differences that distinguish private equity funds from hedge funds. Let us review them briefly:

- *invested capital vs. committed capital*

  Unlike in case of hedge funds or mutual funds, the level of assets under management of private equity funds is not well-defined, since private equity firms receive only commitments from investors to provide funds when needed for investments of the private equity fund (Metrick & Yasuda, 2010). The total amount of such commitments is referred to as the *committed capital*. Hence private equity funds do not maintain a pool of uninvested capital but they rather perform a capital call to investors when the private equity firm – the general partner – decides to invest in a selected company.

- *infrequent redemptions vs. virtually no redemptions*

  Investment in the fund is of a long-term nature with very few possibilities, if any, to withdraw money from the fund before the end of the ex-ante contracted investment term. However, over the life of a fund there can be a cash distribution among investors in case the fund sells its investment in a portfolio company, or the fund can distribute company shares instead.

[93] See "Private Equity and Systemic Risk", available at www.privateequitycouncil.org/just-the-facts/private-equity-and-systemic-risk/

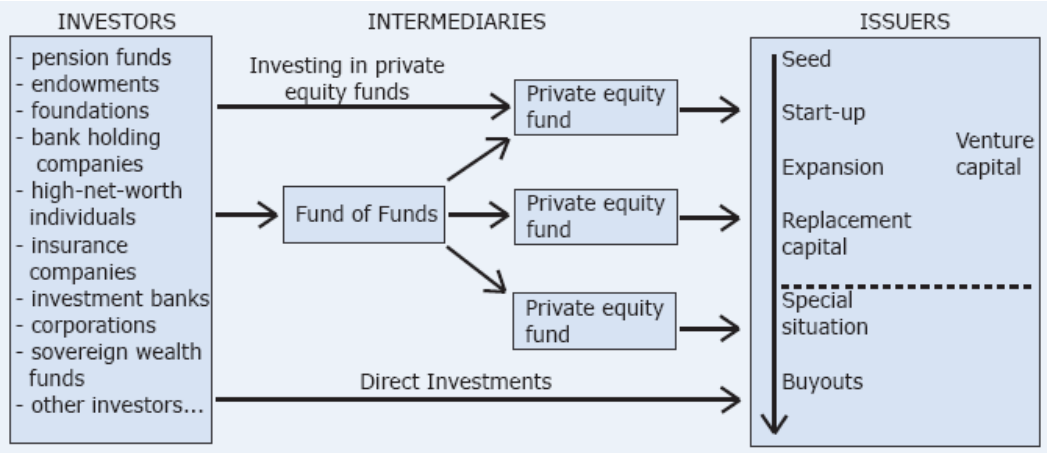
- *variety of investment strategies vs. long-term investment in a portfolio company*

  While the main objective of a hedge fund is to create short-term profit and for this purpose it uses many different strategies combining short and long positions, private equity funds invest long-term, working to improve the company's performance, cut costs, sell assets and motivate the management of the company (O'Brien, 2010).

3.2.1. Private Equity Market[94]

Over recent years, the interest in the private equity market has grown rapidly because of the fact that private equity investments have experienced constantly higher returns than other more conventional forms of investment. The growth of private equity market over recent years has taken place largely thanks to private equity funds which act as intermediaries in the market. On one side there are investors, on the other issuers of securities. According to TheCityUK (2010b), almost four-fifths of private equity investments flow through intermediaries, the rest being invested directly in the issuers. Most of the overall private equity capital comes from institutional investors. TheCityUK (2010b) further states that, since private equity is a very expensive form of financing, the issuers are mostly firms that do not have access to any alternative source of acquiring necessary funds. The structure of a private equity market looks as illustrated in Figure 12.

Figure 12: Private equity market



Source: TheCityUK (2010b)

[94] Data based on IFSL (2010), TheCityUK (2010b) and TheCityUK databases.

The British Private Equity & Venture Capital Association has pointed out that the private equity industry is a significant contributor to the UK economy (TheCityUK, 2010b) for the following reasons:

- Companies that have received private equity backing in the UK account for employment of around 3 million people, or 16% of UK private sector employees. In addition private equity funds based in the UK employ several thousand people.
- Through investment overseas, the industry contributes to the current account of the UK balance of payments through income and capital gains. Exports of private equity backed companies grew by 10% annually over the five years to 2006/07 totalling a cumulative £188bn in export sales during this period.
- Sales revenue of private equity backed companies rose by 8% a year between 2001/02 and 2006/07 totalling £1,331bn during this period. Private equity backed companies contributed £35bn in taxes in 2006/07.
- Higher rate of return provides an attractive asset for institutional investors, lifting prospective income of their clients.[95]

For illustration, numbers of persons directly employed in the private equity industry in the UK as well is in the whole EU are presented in Table 11 on the data from 2008. Moreover, tax inflow generated from private equity industry is also significant, as is shown in Table 11 as well.

Table 11: Contribution of the private equity industry to the economy – amount of tax revenues generated and people directly employed in 2008

	Tax (€ million)	People employed
UK	2,433	8,147
EU	4,989	27,272

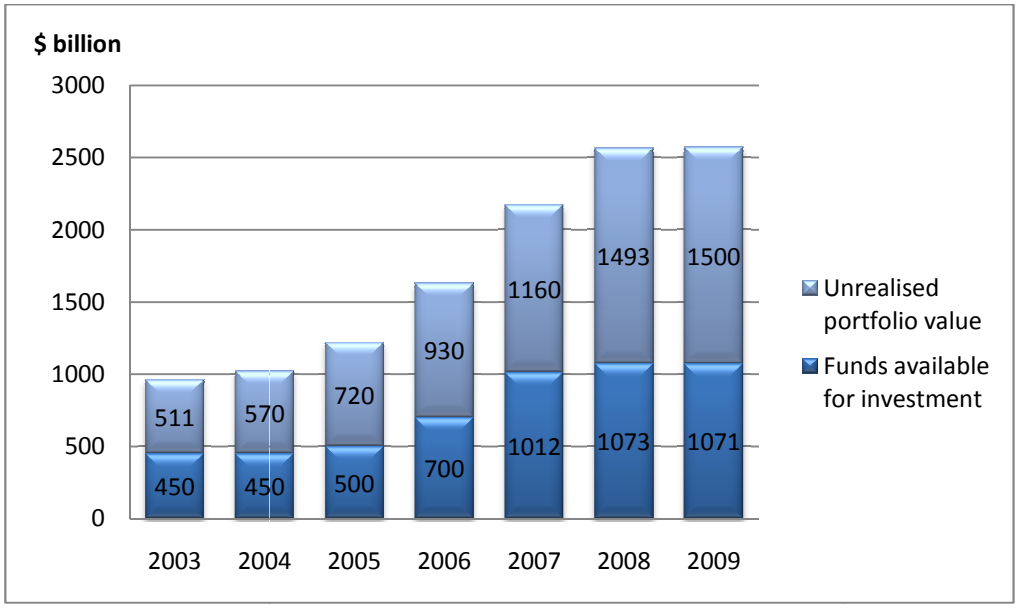
Source: OpenEurope (2009)

At the end of 2009, assets under management of private equity firms worldwide totalled over $2.5 trillion, a value only slightly higher than in 2008. Of the total, funds available for investment accounted for approx. $1 trillion, i.e. 40%. As can be seen in Figure 13, the growth of assets under management over recent years has been mostly due

[95] Taken from TheCityUK (2010b), pp. 7

to the growth of the unrealised portfolio value because of lower investment activity associated with falls in equity markets (TheCityUK, 2010b).

Figure 13: Private equity assets under management worldwide



Source: TheCityUK

3.2.2. Key Players

At the end of 2009, the world's largest private equity firm was Goldman Sachs Principal Investment Area with amount of capital raised equal to $54.6 billion and thus comparable to the amount of assets under management of the largest hedge fund. It was followed by The Carlyle Group with $47.8 billion and Kohlberg Kravis Roberts with $47 billion. Similarly as in case of the hedge fund industry, New York and London are the key locations for private equity firms. Of the ten major private equity firms listed in Table 12, five are based in New York (numbers 1, 3, 5, 7 and 9) and two in London (numbers 6 and 10).

Table 12: Largest private equity firms by amount of capital raised for direct private equity investment in 5 years up to end-2009

Private Equity Firm	$ billion
1. Goldman Sachs Principal Inv. Area	54.6
2. The Carlyle Group	47.8
3. Kohlberg Kravis Roberts	47.0
4. TPG	45.1
5. Apollo Global Management	34.7
6. Bain Capital	34.2
7. CVC Capital Partners	31.1
8. The Blackstone Group	29.2
9. Bain Capital	23.0
10. Warburg Pincus	21.7

Source: TheCityUK

3.2.3. Key Transactions

The three biggest transactions in the private equity market during 2009 and the first half of 2010 were the $3.9 billion acquisition of Talecris Biotherapeutics by Grifols SA, the $3.1 billion acquisition of Bridas Corp. by CNOOC Ltd. and the $3.0 billion acquisition of Interactive Data Corp. by Interactive Data SPV. See Table 13 for a more comprehensive list of private equity deals.

Table 13: Largest private equity transactions during 2009 and the first half of 2010

Transaction	Private Equity Firm (Acquirer)	$ billion
1. Talecris Biotherapeutics	Grifols SA	3.9
2. Bridas Corp.	CNOOC Ltd.	3.1
3. Interactive Data Corp.	Interactive Data SPV	3.0
4. Healthscope Ltd.	Healthscope Ltd. SPV	2.1
5. Michael Foods Inc.	GS Capital Partners	1.7
6. Styron Corp	Bain Capital Partners	1.6
7. Pets At Home Ltd	KKR & Co	1.5
8. DynCorp International	Cerberus Capital	1.4

Source: Reuters

Although they were the largest over recent 20 months, these transactions were still relatively small. It becomes obvious immediately when compared to the list of largest transactions generally (Table 14). The differences from the pre-crisis amounts are striking. The sum of the eight largest private equity investments of 2009 and the first half of 2010 is only slightly higher than the single seventh largest private equity transaction generally. According to TheCityUK (2010b), the sharp decline has taken place due to buyout

managers shifting funds to distressed debt, bankruptcy financing, private investments in public equity, emerging markets and financial institutions.

Table 14: Largest private equity transactions generally

Transaction	Private Equity Firm (Acquirer)	$ billion
1. Equity Office Properties Trust (2007)	Blackstone	38.9
2. Hospital Corp. of America (2006)	Bain, KKR, Merrill Lynch	32.7
3. RJR Nabisco (1989)	KKR	31.1
4. Harrah's Entertainment (2006)	Apollo, Texas Pacific	27.4
5. Clear Channel Communications (2006)	Bain, Thomas H. Lee	25.7
6. Kinder Morgan (2006)	Carlyle, Riverstone, Goldman Sachs	21.6
7. Freescale Semiconductor (2006)	Blackstone, Carlyle, Permira, Texas Pacific	17.6
8. Albertson's (2006)	Cerberus	17.4

Source: Fortune

Interestingly, as can be seen in Table 14, 2006 was really a good year for the private equity industry, as six of the eight largest private equity transactions of all times took place in this year. This fact is supported also by Figure 17, where we can see that the years 2006-2008 were by far the most successful over recent decade as for both funds raised as well as funds invested. On the other hand, the year 2009 experienced a steep decline in both values.

3.2.4. Private Equity Regulation

Similarly to hedge funds, private equity funds have traditionally been exempt from financial regulation imposed on traditional investment vehicles. What distinguishes them from hedge funds, however, is that there seems to be a wider agreement on the fact that private equity funds do not represent a significant threat to the financial system. Private equity managers deal almost exclusively with sophisticated investors who are able to assess and understand all the risk stemming from the investment. According to EVCA, this fact is very much reflected in the type and level of regulation of private equity funds.[96]

There are further arguments refusing the idea about private equity funds being systemically risky which are mostly of the following nature[97]:

[96] www.evca.eu/publicandregulatoryaffairs/default.aspx?id=86

[97] The list of arguments taken from "Private Equity and Systemic Risk", available at http://www.privateequitycouncil.org/just-the-facts/private-equity-and-systemic-risk/

- private equity relies on long-term capital and invests mostly in illiquid assets, hence the funds are not subject to runs, as was the case of many other investment vehicles
- they do not have to sell assets in times of diminishing prices in order to fund investors' redemptions, since there are usually no redemption periods
- low, if any, leverage in comparison to other (alternative) investment vehicles
- portfolio companies are not deeply inter-connected with other players in the financial markets, hence they are not likely to trigger a series of losses leading to systemic risk
- private equity funds' portfolios are diversified across multiple industries, hence they are not exposed to any single sector performance risk

The opinion of private equity funds not being systemically risky is supported also by the European Commission (2009) stating that *"private equity funds, due to their investment strategies and a different use of leverage than hedge funds, did not contribute to the increased macro-prudential risk"*.[98] Further, neither the De Larosière Report nor the Turner Review deal with private equity funds at all, on the contrary to hedge funds. This suggests a wide agreement among experts on private equity funds being not of a systemic importance.

Indeed, considering the EU, until recently there was no harmonised regulatory framework for private equity at the EU level. Instead, the industry was regulated on a national basis in most EU member states. Notwithstanding, according to EVCA, the private equity industry was indirectly affected by other EU legislature, such as the Markets in Financial Instruments Directive, UCITS, the Pension Funds Directive, and the Capital Requirements Directive in a way of placing regulatory requirements on the institutional investors investing in private equity funds.[99]

Nevertheless, the main documents representing the post-crisis regulatory response of both EU and the U.S. actually do deal with private equity, mostly because the alternative investment sector of the financial market, which along private equity covers also hedge funds, etc., is usually looked at en block by the regulatory authorities. So, the AIFM Directive, which has already been discussed in Chapter 2.4.2.2, reshapes regulatory framework of the European AIFs, including private equity funds. And it is widely

[98] European Commission (2009), pp. 4
[99] *Supra note* 96

criticized for this "one-size-fits-all" approach, since, besides not distinguishing between various types of AIFs, it does not even distinguish between systemically important funds and those with no systemic potential. Hence, private equity funds are subject to the same requirements as hedge funds although they are much less controversial from the systemic point of view. Further, although the industry welcomes the fact that some kind of legal certainty has been achieved, it is concerned that some provisions of the Directive might cause an unintended harm to small businesses in the form of adversely affecting financing of SMEs (EVCA, 2010). Aside from that, outcomes of the discussion of the AIFM Directive provisions from Chapter 2.4.2.2 apply also for private equity funds (see Table 15).

As we have already mentioned several times, the adoption of the Dodd-Frank Act in the U.S. will have broad consequences for both hedge funds and private equity funds. In Chapter 3.1.3.2.B, we have discussed its implications for hedge funds. For private equity funds they are very similar. According to the Act, all private equity funds with more than $150 million of assets are subject to registration as well as periodic inspections by the SEC. If the SEC finds the fund too risky, it can place it under the Fed supervision (Deutsche Bank Research, 2010). Venture capital funds are exempted from the obligations imposed by the Act which generally is a welcomed fact, since companies benefiting from the activity of venture capital funds will not be adversely affected. The Volcker Rule, which is incorporated in the Act, limits banks in their investments in private equity funds. Generally, the Act places heavy focus on banking institutions while imposing only moderate provisions upon alternative investment vehicles. Hence it creates a competitive advantage for institutions such as private equity funds in a way that they are likely to benefit from banks being forbidden to engage in certain activities, e.g. proprietary trading.[100]

[100] See Chapter 3.1.3.2.B for a more detailed description of the Dodd-Frank Act with respect to hedge funds and private equity funds.

Table 15: Summary of the proposed or adopted modifications of the private equity regulatory framework

Author/Measure	Year	Description	Advantages	Drawbacks
European Commission ***De Larosière Report***	2009	De Larosière Report does not deal with private equity funds except for a minor note in Paragraph 92 stating that banks should not be prohibited from owning a private equity fund, but rather they should be monitored closely.	N/A	N/A
Financial Services Authority ***Turner Review***	2009	Although dealing with hedge funds in many contexts, the Turner Review does not mention private equity funds at all.	N/A	N/A
European Commission ***AIFM Directive***	2010	The Directive imposes registration, disclosure and transparency requirements on AIFs including private equity funds and sets conditions for the EU authorization of their managers.	Thanks to requirements imposed by the Directive, transparency of the industry will be increased. Further, the Single Market will be enhanced by allowing the authorized fund manager to market his fund throughout the EU.	Due to its third-country policy, non-EU funds' access to the EU market will be difficult which will result in a decline in the investor choice and in the overall competitiveness of the EU. Further, the Directive's "one-size-fits-all" approach will have adverse affects on the private equity industry.
U.S. Government ***Dodd-Frank Act w/ the Volcker Rule***	2010	Similarly as for hedge funds, the Act imposes obligation to register on private equity funds with more than $150 million in assets and prescribes obligatory SEC inspections (venture capital funds remain exempted). The Volcker Rule prohibits banks from proprietary trading and limits their private equity activity.	More transparency is brought to the industry by registering large private equity funds, while no excessive burden is imposed on the industry. Limits placed on the private equity activity of banks create competitive advantage for private equity funds.	Despite private equity funds being far less debatable than hedge funds with respect to systemic risk, the SEC treats them equally and is empowered to extend its regulatory authority over them upon its own discretion.

3.3. The Subprime Crisis Performance – Hedge Funds and Private Equity

3.3.1. Hedge Fund Performance

At the beginning, there was a hedge fund – one might be tempted to conclude, regarding the breakout of the latest subprime crisis. However, this statement would account for a confusion of cause and effect. After the housing bubble in the U.S. burst and the real estate prices began to decline gradually[101], subprime lending based on the assumption of stable or rising housing prices, which allowed lenders to get their money back by the means of foreclosure even if borrowers were unable to repay their debts, was hit severely. Suddenly, many borrowers defaulted on their debts, since their houses were hard to sell. Meanwhile however, their mortgages were transformed into various mortgage-backed securities and traded across the financial sector. Bad loans caused these securities to decline in their value which was, indeed, the actual beginning of the crisis.

In turn, many financial institutions got in trouble due to the decreasing value of mortgage-backed securities in their portfolios.[102] Among such institutions, hedge funds were of no exception. Two of them, run by one of the major American investment banks, Bear Stearns, named the *Bear Stearns High-Grade Structured Credit Fund* and the *Bear Stearns High-Grade Structured Credit Enhanced Leveraged Fund* lost so much of the value of their portfolios that they had to receive a huge bail-out from Bear Stearns in mid-2007 to meet the obligations towards their investors. Nevertheless, within few weeks the funds declared bankruptcy after they had lost virtually all of the investors' capital.[103] As a consequence of the bankruptcy, Bear Stearns declared a 61% decline in its third-quarter profit (Grynbaum, 2007), which was then followed by a downgrade of the Standard & Poor's credit rating of the company from AA down to A later that year and by a loss in the fourth quarter of 2007. Bear Stearns was then sold to JP Morgan Chase which was granted a $30 billion loan by Fed for this purpose.[104] The failure of Bear Stearns hedge funds hurt also the already heavily troubled Lehman Brothers, another major U.S. investment bank

[101] This happened in autumn of 2005 already, but few people noticed at the time, see Krugman (2008).
[102] Krugman (2008) estimates the losses to the investors who bought the mortgage-backed securities to amount to around $1 trillion.
[103] See www.investopedia.com/articles/07/bear-stearns-collapse.asp for more detailed story of the bankruptcy.
[104] The de facto Fed bail-out of Bear Stearns faced much criticism after the merger. However, the Fed chairman Ben Bernanke defended the decision with arguments simply saying that Bear Stearns had been too big to fail. See "Bernanke Defends Bear Stearns Bailout" available at www.cbsnews.com/stories/2008/04/03/business/main3991713.shtml?source=RSSattr=HOME_3991713.

and the 2007 biggest mortgage-backed security underwriter, whose stock fell sharply on the event, and so contributed to its eventual fall-down a year later.[105]

But the origin of the crisis was by no means a fault of the hedge fund industry. On the contrary, hedge funds were victims, too, since they were hit by the downfall on the capital markets. Their contribution to the turmoil was limited to increasing volatility in the markets due to their need to deleverage in order to meet investors' demands, as we will see in the next paragraph.

So, let us return to the general level. Looking back at the list of hedge fund characteristics mentioned at the beginning of this chapter, we can pick some of them that are especially relevant with respect to the latest crisis. They are the *infrequent redemptions* and the *leverage*. After the turmoil broke out in the investment banking sector, it affected financial markets and their participants globally. Since markets were sinking, investors preferred holding cash to investing in securities or other instruments. Hedge fund investors were of no exception. Hence, as the redemption periods were approaching, investors announced withdrawing their money from the funds, and they did it in their hundreds of thousands. Resemblance with the conventional bank run is no coincidence, since they actually were bank runs with the only exception that the "banks" in troubles were institutions coming from the shadow banking system. Problem with the funds was that they were heavily leveraged. In order to obtain cash necessary to satisfy investors' withdrawal demands, they were forced to sell virtually everything that was in their portfolio. Since asset prices had already gone down, the funds were selling in large quantities at lower than reasonable price, pushing prices further down, decreasing values of their portfolios more and more. Hence, this *"self-reinforcing cycle of forced liquidation of assets"*[106] aggravated volatility and decreased prices across the financial system. Geithner (2008) points out that *"the scale of long-term risky and relatively illiquid assets financed by very short-term liabilities made many of the vehicles and institutions in this parallel financial system vulnerable to a classic type of run, but without the protections such as deposit insurance that the banking system has in place to reduce such risks"*.[107] There is a very close relation to the Krugman's concern of *malign neglect* (Krugman, 2008) that has already been mentioned. In short, Krugman considers the rapid growth of the shadow banking sector

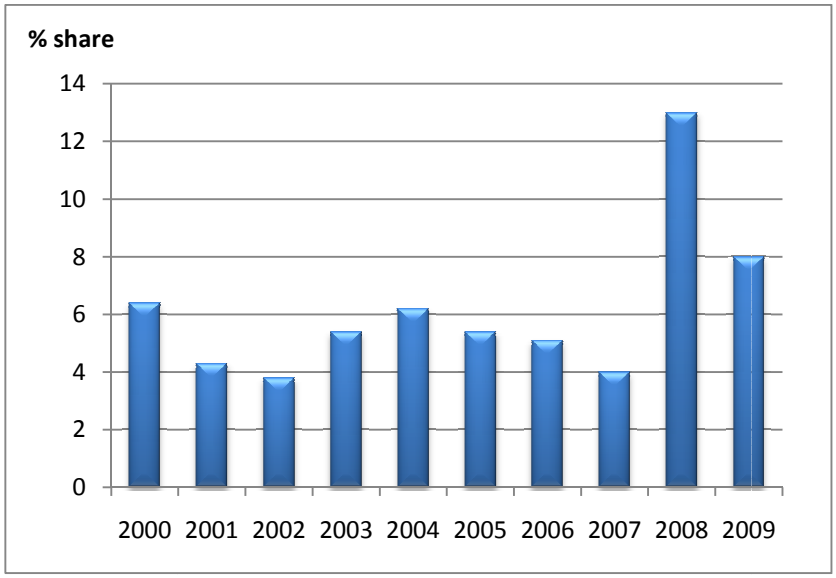
[105] See www.investopedia.com/articles/economics/09/lehman-brothers-collapse.asp for the whole story.
[106] Geithner (2008), In: Krugman (2008), pp. 170
[107] Geithner (2008), In: Krugman (2008), pp. 161

which remained ignored by the regulators to be a situation very similar to the one that preceded the Great Depression at the end of 1920's.

However, as far as hedge funds are concerned, this comparison is obviously exaggerated. Many hedge funds suspended redemptions in their expectations of worsening of overall economic situation, since selling of illiquid assets that they would have otherwise had to undergo would have caused even bigger losses to the investors that were about to stay in the funds. Hence the effect of runs of investors was reduced. The fact is that the boom of redemptions of 2008/09 and the associated pressure to deleverage endangered a lot of hedge funds, forcing many of them to close or go bankrupt and exit the market as a consequence of the crisis. This is illustrated by the 3-6% attrition rates usual in previous years suddenly accelerating to 13% in 2008 (Figure 14). However, within only a year, redemptions slowed down fairly and, as a consequence, attrition rates decreased sharply. Anyway, it is crucial to say that none of the fund closures imposed any substantial risk on the financial system, while incomparably higher losses and risks were created by failures of large banks. There were also cases of voluntary hedge fund closures decided upon by fund managers who found it more profitable in the altered economic conditions to terminate the operation of their fund (Król, 2010).

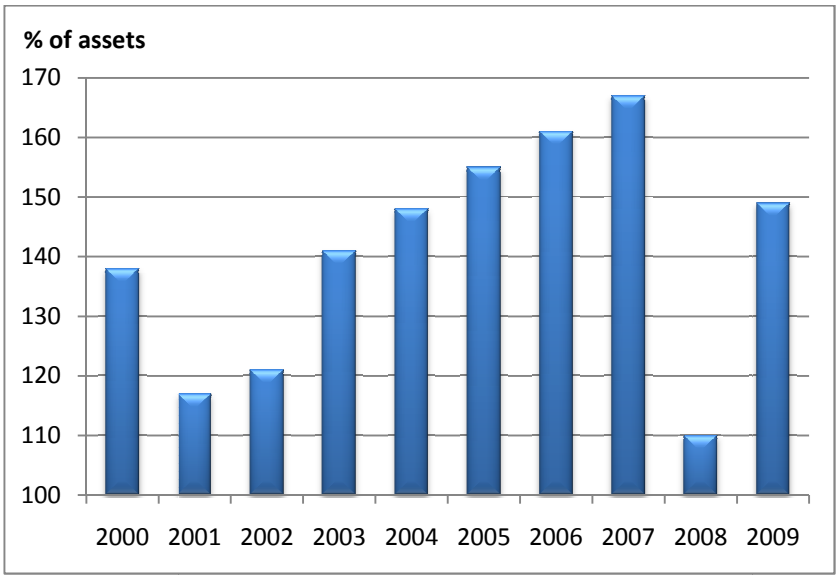
Further, levels of funds' leverage were significantly lower shortly before the crisis breakout than they had been in the late 1990's. In Box 4 we have discussed the 1998 case of LTCM whose level of leverage shortly before the fall achieved approx. 3,000%. In Figure 15, we can see that although leverage of funds was continually rising over the recent decade, it was very far from the levels of LTCM even at its peak of 2007 when it amounted to 167% of assets under funds' management. The deleveraging "race-to-the-bottom" of the funds which had not suspended redemptions cut the leverage rates deeply down to 110% in 2008. Interestingly enough, in 2009 hedge funds achieved levels of leverage again similar to levels they had used prior to crisis.

Figure 14: Hedge fund attrition rates



Source: TheCityUK

Figure 15: Hedge fund use of leverage

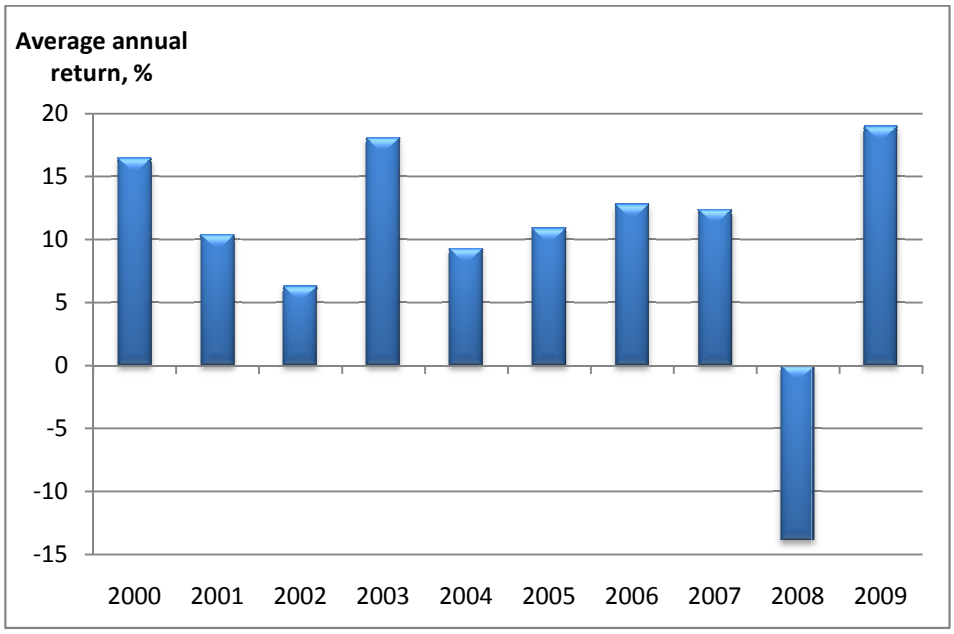


Source: TheCityUK

In 2008, the average global hedge fund return declined sharply, from 12.4% in 2007 to –13.9%, accounting for the worst annual loss in the history of the hedge fund industry. Nevertheless, the industry survived rather well, since with the improved market conditions in the very next year the average global hedge fund return achieved 19%, which was the best annual result of the decade. See Figure 16 for the industry performance over the decade. The structure of sources of funds has changed over recent years, as the share of high net worth individuals on funding of hedge funds was overtaken by institutional

investors. Finally, the fact turned out to matter, since, according to IFSL (2010), funds with a higher proportion of institutional investors performed better during times of falling liquidity of 2008 and the beginning of 2009.

Figure 16: Average global hedge fund returns



Source: TheCityUK

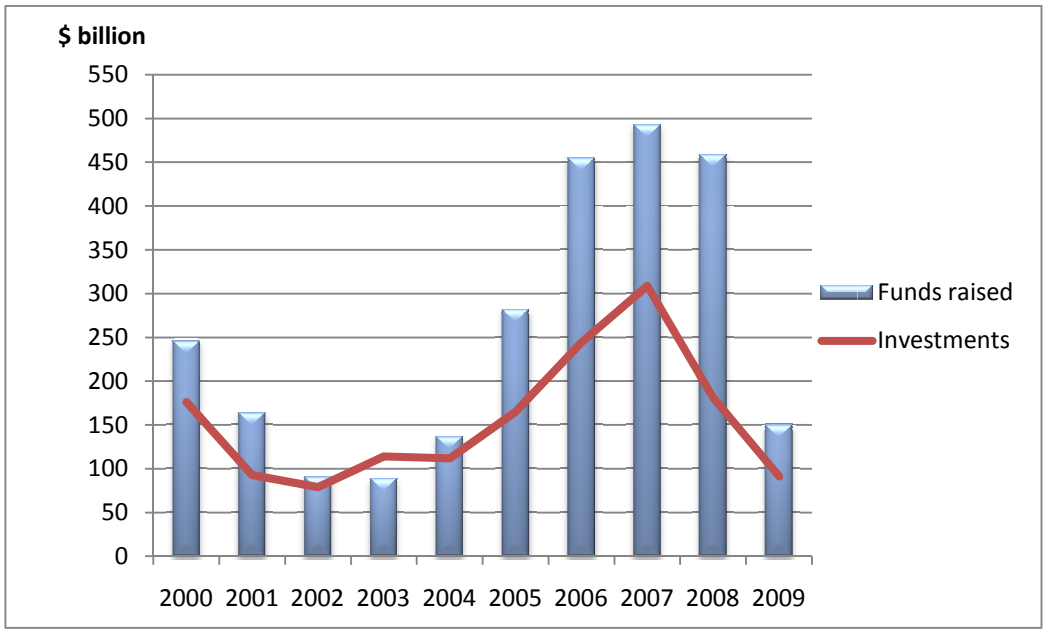
To summarize, it is obvious that hedge funds were affected largely by the subprime crisis. Falls in equity markets and pressure to sell virtually all of the funds' portfolios to meet redemption calls of the investors harmed the industry badly, bringing it down from two-digit profits to even bigger losses. However, the data suggest that the market saw a significant upturn in the hedge fund industry in 2009, since many of the analysed parameters returned to pre-crisis, or even better, levels within a period of only a year. As Petajisto (2010) puts it, hedge funds held up relatively well during the crisis which addressed most of the system fragilities and they seem to have been prepared for the upcoming economic turmoil. As a consequence, there has been no major hedge fund failure. Thus, it is obvious that hedge funds did not play any significant role in the development of the crisis and their role was limited to increasing price volatility in capital markets.

3.3.2. Private Equity Performance

Unlike hedge funds, private equity funds experienced no runs, given by the fact that private equity investors are locked in the funds for long periods of time. The global economic crisis however showed its effect on private equity funds in several ways:

(1) The fundraising declined steeply. In 2009, we can observe a steep drop both in funds raised and in amount of investments. Figure 17 shows that while in 2008 both values fell but still were very high, reaching $459 billion of raised funds and $181 billion invested, the following year brought both values down to $150 billion and $91 billion, respectively, the lowest values in a pretty long time.

Figure 17: Private equity development – total funds raised and funds invested globally

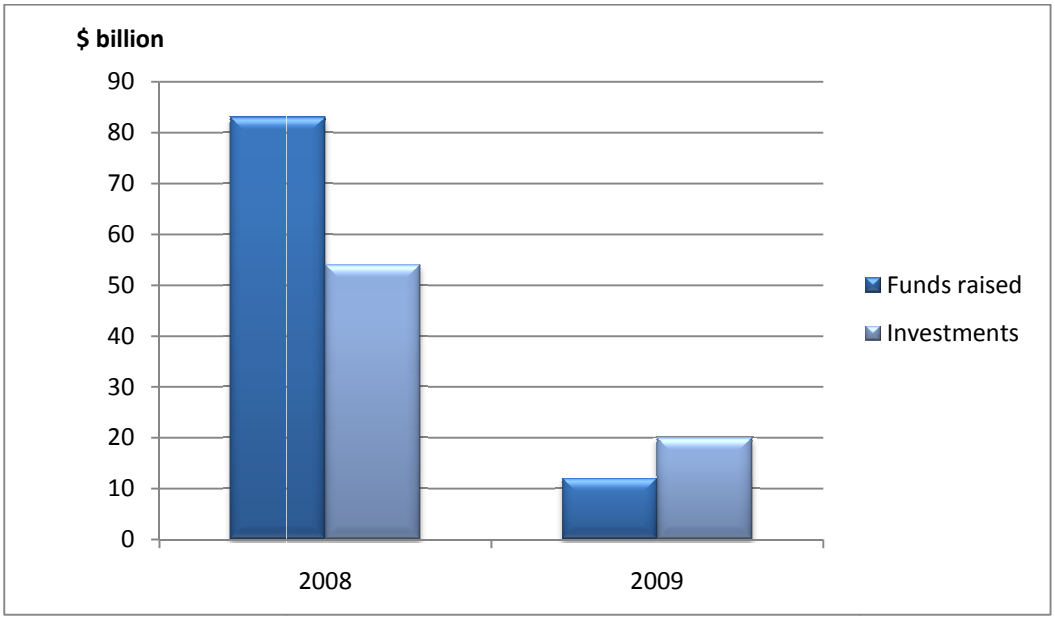


Source: TheCityUK

Was the European private equity market affected, too? Yes, private equity funds in the three EU countries with the largest private equity industry – the UK, France and Germany – raised only $12 billion, which is over 85% less than $83 billion raised in 2008. See Figure 18 for an illustration. Within the whole EU, the structure of private equity investors moved away from pension funds, which accounted for 14% of European private equity investors in 2009, while in 2008 they accounted for 25%.[108]

[108] Data taken from TheCityUK datasets.

Figure 18: Private equity – total funds raised and funds invested decline in the Top 3 EU private equity countries



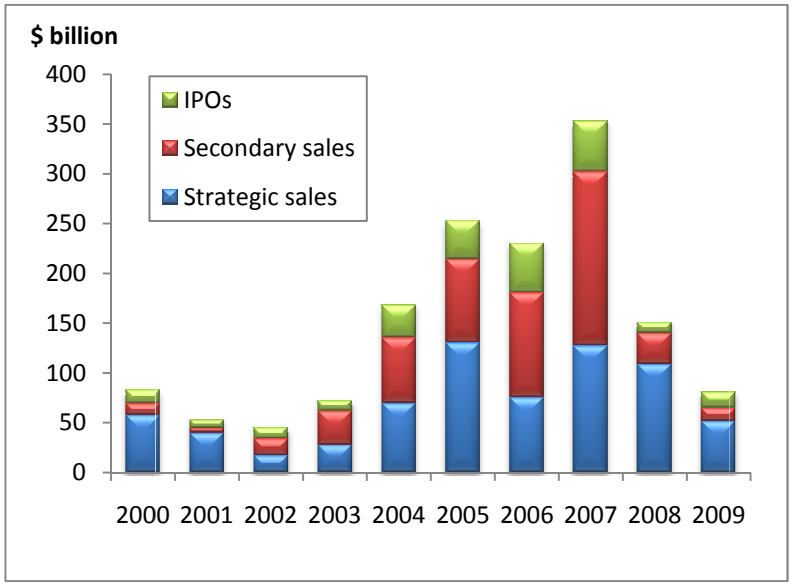
Source: TheCityUK

(2) The investment activity of the funds in 2009 decreased, too, by almost 63% from $54 billion in 2008 to $20 billion in 2009.[109] Again, see Figure 18 for a graphical comparison.

Similarly, total divestment activity fell down significantly in 2009 due to global economic slowdown, to $81 billion from $151 billion in 2008. The development of private equity exit transactions – all the IPOs, secondary sales to other private equity firms and sales to corporations – over recent decade is illustrated in Figure 19.

[109] TheCityUK estimates

Figure 19: Global private equity divestments



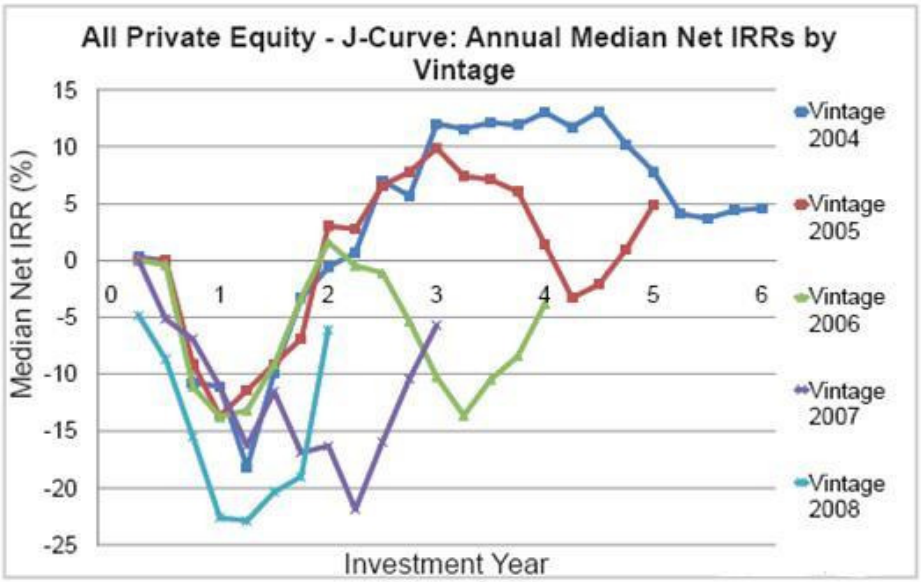
Source: TheCityUK

(3) The overall private equity industry's performance fell down significantly with the diminishing value of portfolio companies due to the global financial crisis. The effect of the crisis was that the portfolio companies found it very difficult to gain access to credit, hence their value was decreasing, lowering the value of the funds' portfolios. Moreover, not only portfolio companies but also funds themselves experienced difficulties with accessing credit due to the credit crisis. As a consequence of the higher costs of debt, leverage was limited. Since company buyouts are the most leveraged transactions, their share in the private equity investments decreased from 66% in 2008 down to 57% in 2009.[110]

According to Friedman (2010), with the overall downward portfolio revaluation the whole private equity industry's performance in terms of the rate of return fell to -27.6%, as of December 31st, 2008. As a consequence, the so-called "J-curve" depicting the usual private equity performance of investments from recent years was suddenly reversed, since the investments lost the gains they had previously made. With later improvements in market conditions, rates of return set up their rise again. The obtained "W-curve" thus features the private equity sector performance during the latest financial crisis (Friedman, 2010). See Figure 20 for a graphical illustration.

[110] TheCityUK (2010b)

Figure 20: Private equity sector J-Curve – the W-Curve



Source: Friedman (2010)

4. Regulatory Improvements

4.1. Banks or non-banks?

It is widely recognised that the financial system needs a regulatory reform after the outbreak of the crisis which it has been suffering from for the last couple of years. Legal initiatives to reform the regulatory framework, some of which have been outlined in the previous chapters, have earned support of banks and other financial institutions. Generally, they focus mostly on macro-prudential supervision, derivatives markets and prudential rules for banks. Importantly enough, they also widely include provisions on imposing regulation on alternative investment vehicles which are blamed by many to have contributed to the depth of the crisis. This is, however, a very questionable argument. Hence, is the extension of regulation over all non-bank financial institutions, i.e. including the alternative investment vehicles, really necessary? Is it not a useless burden imposed on the system? Are not the results going to be counterproductive?

In the previous chapter, we have extensively discussed hedge funds and private equity funds, their performance of recent years and their regulation. It was a rather positive analysis. In this chapter, we would like to move on towards a more normative discussion on how we believe the regulatory framework for hedge funds and private equity funds should look like in order to be efficient but not excessively overregulated.

As Petajisto (2010) states, the recent financial crisis has provided a real-life "stress-testing" which has examined thoroughly all the fragilities of the system. But surprisingly, in this financial mess hedge funds performed relatively well. Although an average hedge fund fell by approx. 20%, there was no major hedge fund failure over the period, at least slightly similar to the case of LTCM of 1998. Also the levels of leverage were lower. In his article, Petajisto concludes that hedge funds took their lesson from the LTCM case and were prepared for times of turmoil. This is also confirmed by the fact that many of them suspended withdrawals which definitely contributed to the prevention of runs that would have brought significant failures. Obviously, there were runs on hedge funds anyway, since by far not all of them suspended redemptions. They resulted in an increased volatility on financial markets due to forced sales of illiquid hedge fund assets. However, this is a process the proposed regulation can do nothing about.

The European way of the regulatory response to the latest crisis follows conclusions of the De Larosière Report to a large extent (see Chapter 2.4.2.1). With respect to the parallel banking sector, the De Larosière Group recommends to:

- extend appropriate regulation, in a proportionate manner, to all firms or entities conducting financial activities of a potentially systemic nature, even if they have no direct dealings with the public at large
- improve transparency in all financial markets – and notably for systemically important hedge funds – by imposing, in all EU member states and internationally, registration and information requirements on hedge fund managers, concerning their strategies, methods and leverage, including their worldwide activities
- introduce appropriate capital requirements on banks owning or operating a hedge fund or being otherwise engaged in significant proprietary trading and to closely monitor them[111]

The Recommendation is understandable from a certain point of view. After the crisis hit the markets, efforts to prevent another crisis to happen in the future has focused on every market participant that could somehow be regarded to have contributed at least minimally to the origins of the crisis. Naturally, the alternative investment vehicles, and hedge funds especially, have not escaped the eyes of regulators. Before the crisis, they made huge amounts of money while virtually no-one really understood exactly how. They were hidden under the veil of secrecy, since they did not have to report any detailed information on their operations to the regulatory authorities. However, the basic principles were widely known to such an extent that was sufficient for blaming hedge funds responsible by many for the breakout of the crisis and for its depth.

But the nature of the crisis has been more bank-like than anything else. It was the failure of banks that put the big things into motion, not of a hedge fund. As we know, banks were highly regulated also before the crisis, and still the crisis was allowed to happen. At the beginning of this thesis, in Figure 1, the amount of assets under management of world largest banks versus amount of assets under management of hedge funds and private equity funds was depicted. The difference in the amounts is huge. Hence, do we believe that extension of regulation over the additional tiny portion of the amount that we already regulate will be of much help?

[111] Larosière, J. de et al. (2009), Recommendation 7 on the parallel banking system

It might be argued that the number of hedge fund failures increased rapidly after the crisis broke out. This is obviously true, as can be seen in Figure 14. However, instead of illustrating the systemic risk potential of the funds, this fact actually proves the opposite. Despite increasing of attrition rates far above usual levels, there has been no single major hedge fund failure endangering the system in recent years. Further, not all hedge fund closures refer to failures and losses for investors (Król, 2010). There have been many funds that terminated their activity upon their own decision. As an example, let us mention the quite recent case of the BlueCrest BlueTrend UCITS fund. Set up in 2009 by BlueCrest Capital, the fund operated under the UCITS structure which has been a trend recently, as was mentioned earlier in the thesis. However, the UCITS structure requires high levels of liquidity and transparency and it also imposes investment limits (Jones, 2010). Hence, operation of such a structure is very costly. High costs together with limits on what instruments it could invest in were the reasons why the BlueCrest Capital decided to terminate its BlueCrest BlueTrend UCITS fund. Nevertheless, over the life of the fund the investors had earned profits and were returned their investments after the fund closed down, thus the closure represented no major losses.

The author of this thesis does not think excessive regulation to be imposed on hedge funds and private equity funds is necessary. And there are others who share this opinion. This view is supported for instance by CNB (2009): *"The Czech National Bank is of the opinion that the range of regulated subjects should not be extended excessively. The current financial crisis has shown that there was rather a failure of judgement and regulation of exposition of banks as well as other already regulated financial institutions to the complex structured instruments (such as ABS). Sector fragmentation of the financial supervision and the related gaps in the oversight coverage of the markets with these instruments probably contributed significantly to this failure. Thus, attention should be devoted predominantly to closing of these gaps rather than to the additional enlargement of the range of regulated institutions"*.[112] Thus, according to the CNB, regulatory requirements imposed on hedge funds or private equity funds will be of little, if any, help. Instead, they will result in increases of costs of funds due to the costs of compliance which will inevitably be passed on to investors, or they will make funds leave the market. Further, regulatory authorities will end up with higher costs, too, since the extension of

[112] CNB (2009), reaction to Recommendation 7 of the De Larosière Report on the parallel banking system (author's translation)

regulation over wider range of institutions will necessarily result in significantly increased administrative costs.

The good news is that major restructuring of financial regulatory framework has been pursued on both sides of the Atlantic which addresses the supervisory fragmentation and the related gaps in coverage that the CNB identifies. The U.S. approach recognises banking institutions as the fundamental issue to focus on, while admitting the alternative investment vehicles their minor systemic importance by not imposing heavy regulatory burden upon them. On the contrary, the EU approach of "regulating everything we can" is likely to be counterproductive. Restructuring of the financial oversight system within the EU is widely appreciated but the extension of regulation over AIFs via the AIFM Directive is debatable.

Namely, instead of the effort to regulate hedge funds and private equity funds, an intensified regulatory focus placed on their major counterparties is a step in the right direction, since it is them who threatens the system the most if an investment fund turns out to be unlucky. By this, mostly imposing stricter rules on the funds' major institutional investors and major lenders is understood, limiting the exposure of these counterparties to the risk of a fund failure. This represents a measure to treat the FSA's credit channel of the alleged hedge fund systemic risk.[113] While the Dodd-Frank Act in the U.S. incorporates such provisions on banks which prohibit or limit acquiring or retaining interests in hedge funds and private equity funds, the EU chose the way of imposing regulation directly on the alternative funds.

Hence, as a suggestion to consider, the following subchapter outlines the main points of a hypothetical regulatory framework for AIFs and their managers that, as we believe, would be efficient and safe, while it would not impose excessive burden on the non-bank financial sector.

4.2.Proposed Framework

So far, we have mostly criticised the attempts at extending the regulatory framework over AIFs. However, not all regulatory requirements for AIFs that have arisen over recent years should be declined completely. Some of them actually do make sense and can be beneficial both for investors and funds themselves. In case of some others, it is not the question whether to apply them or not but rather in what way or to what extent to apply

[113] See Chapter 3.1.3.3.

them. This is confirmed also by AIMA (2009), as we mentioned in Chapter 2.4.2.2, and also by the operation of the UK framework of the hedge fund industry. In this light, we will outline a regulatory framework that we consider appropriate for the efficient functioning of both hedge funds and private equity funds within the EU and for their investors being protected adequately. Some of the proposed measures are also desirable for the U.S. AIF framework.

Virtually all recent suggestions to regulate AIFs require them to be registered with and authorised by a supervisory authority. Registration and authorisation feature the UK hedge fund model which is widely acknowledged to be more efficient than the U.S. (pre-Dodd-Frank) one. We share the opinion that registration and authorisation of AIFMs is a good thing, since this measure makes the non-bank sector more transparent. Hence registration and authorization of fund managers create the first point of our theoretical AIF regulatory framework. However, we adhere to the opinion of AIMA (2009) that all AIFMs should be registered and authorised, not only those managing assets over certain arbitrarily given threshold. There is no reason to regulate some funds while not to regulate others. Further, a threshold for registration would create incentives for fund managers to stay out of sight of regulators by artificially diminishing the value of funds and thus increasing the possibility of misconduct.

The requirement of disclosure of systemically relevant data by funds only makes sense when it is applied to funds with at least some systemic risk potential. There is no need to apply it to all AIFs, since the vast majority of them do not have any potential of systemic impact at all. This would only impose excessive burden to regulators and excessive costs to smaller funds with no value added from the systemic point of view. Hence, on the contrary to the first point, there should be a sufficiently high threshold over which funds would disclose systemically relevant information to the regulatory authorities which would decide on the appropriate type but also volume of data.[114] The AIFM Directive sets this threshold to €100 million which we consider to be too low, since the majority of funds would go beyond this limit. Instead, the AIMA's suggestion of €1 billion seems to be a reasonable estimate of the amount of assets in a fund with some systemic importance.

Further, provision of extensive information by fund managers to investors and counterparties should not be obligatory, since AIFs target professional investors who are

[114] Again, we are indebted to AIMA (2009) for leading us to this point.

sophisticated enough to gather the information and assess all the associated risks on their own. Similarly, counterparties of these funds are mostly banks or traditional investment funds who usually run their own risk assessment departments. Hence, to impose a duty of extensive information provision would increase administrative costs of funds without bringing any real value added with respect to investor protection, hence it would be inefficient. Instead, we suggest leaving this measure voluntary for funds which would be interested in providing extensive information to counterparties and investors as a means of a competitive advantage.

As far as the EU regulatory framework is concerned, we support the AIFM Directive's concept of the "EU passport", since it will contribute to the enhancement of the EU Single Market by reducing administrative costs and *"equalising opportunities for investors in different member states"*.[115] The authorization necessary for granting the passport, however, should not be set in such a way that non-EU fund managers would find it very hard, or nearly impossible, to enter the EU market, as it is currently set by the new AIFM Directive. This would significantly decrease the competitiveness of the EU financial market as well as reduce investor choice, leaving the European investors worse off. Instead, *ad hoc* approach should be pursued when dealing with non-EU funds or fund managers, so that countries of domicile of the non-EU funds or their managers could be assessed with respect to their level of prudential regulation and tax issues for each individual non-EU fund (manager) applying for authorization.

EU AIFMs should be allowed to freely employ the knowledge and expertise of other fund managers to which they delegate certain functions, disregarding whether these delegates are European or not, because it is mostly the European investors who would benefit on the enhanced performance of the particular fund due to knowledge of the delegate. This holds for the depositaries (custodians), too. We believe that there is no need for custodians and subcustodians to necessarily be EU institutions, since by insisting upon such a rule, the supply of custody services to managers would shrink and costs of managers would rise. Similarly, there should not be a strict liability to its own failures imposed upon a depositary, as is the current state of things under the AIFM Directive, since fewer depositaries will become available to the managers and, more importantly, their fees will rise, increasing managers' costs which will be passed to the investors, decreasing their returns on investments.

[115] AIMA (2009), pp. 7

Limits on leverage of AIFs, and particularly hedge funds, have been a widely discussed topic over recent years (remember the case of LTCM in 1998). However, the author believes that imposing limits on leverage of funds nowadays is not a good idea. Firstly, levels of leverage today as well as shortly before the latest crisis were much lower than they had been in the days of LTCM and there has been no major crash of a (hedge) fund due to the crisis. Funds seem to have taken a lesson out of the LTCM or Amaranth cases and reacted adequately after the turmoil materialized, e.g. by suspending redemptions. Secondly, leveraged strategies are the factor which makes the AIF industry interesting for investors, since it has the power to create fair returns out of potentially uninteresting strategies. With limits on leverage, the industry would lose a great deal of its attractiveness. Lastly, leverage caps might act pro-cyclically under certain circumstances, since they would push further down the asset prices by forcing funds to deleverage in order to meet these requirements in times of market turmoil eroding the funds' capital base (AIMA, 2009). Instead of leverage caps, we would recommend adopting provisions limiting the level of engagement of big institutional investors (such as banks or pension funds) in AIFs. Such measures would ensure that these investors would not be harmed by failure of a fund to such an extent that would be likely to start a chain reaction endangering the whole financial system or either of its parts. After all, the U.S. Dodd-Frank Act already incorporates such provisions.

Lastly, there have been concerns raised over recent years about continuing retailization of the hedge fund industry. This may represent a threat to the financial system, since retail, i.e. unsophisticated, investors obtain access to hedge fund investments, while all the functioning of the industry including its relationship to the regulatory authorities has been designated for professional, i.e. sophisticated investors, who are able, equipped and resourced to perform their own risk assessment of the investment. On the contrary, a retail investor is very vulnerable. Since one of the intentions behind the hedge fund regulatory proposals has been (and should be) the investor protection, we suggest establishing a rule on the minimum investment requirements for hedge funds. €5 million seems to be a reasonable amount for the exclusion of unsophisticated investors and preventing the industry from further retailization tendencies. Such a rule would be easier, more efficient and transparent than imposing prudential regulation on the funds.

The above mentioned suggestions on improving the regulatory framework for the AIFs and their managers predominantly react on the recently adopted AIFM Directive and they are largely based on the position of AIMA. Nevertheless, points 1-3 and 6-8 in Table

16, which provides a recapitulation of all the aforementioned suggestions along with their short description, are also applicable for regulatory frameworks of other jurisdictions, such as the U.S.

Table 16: Summary of the proposed regulatory framework for the (EU) alternative investment funds

Measure	Description
1. Registration and authorization of all AIFMs	For the sake of a better overview and transparency of the shadow banking system registration and authorization of AIFMs is a desirable thing. However, threshold should be set to zero, so that regulatory authorities know about all the funds and managers operating in the market.
2. Disclosure of systemically relevant data	Only funds with a systemic risk potential should be requested to disclose relevant information. Otherwise, regulatory authorities would become clogged with useless data of no prudential worth. Therefore, there should be sufficiently high threshold for big funds to disclose systemically relevant data, e.g. €1 billion.
3. Voluntary disclosure of extensive information to investors and counterparties	Obligatory extension of information sharing is likely to be inefficient due to sophisticated investors. Instead, voluntary provision of extensive information might serve as a competitive advantage.
4. "EU passport" without protectionist requirements	The concept of granting access to financial markets of all member states once a fund manager has been authorized in one of them is welcomed throughout the sector. However, the approach to third country managers should not be of a protectionist nature, since it would be the EU investors who would pay the price.
5. Delegation and depositaries not limited to being EU institutions	Fund managers that have been authorized for the "EU passport" should still be allowed to access services of non-EU managers to delegate some of their functions to as well as non-EU depositaries, since access to global knowledge and experience would be a benefit for EU investors.
6. No leverage limits	Placing a cap on the amount of leverage an AIF can use is irrelevant, since levels of leverage used today are not likely to account for a systemic failure. Further, it would decrease the attractiveness of the industry. What is worse, it is likely to act pro-cyclically.
7. Tighter regulation of big institutional investors in AIFs, such as banks or pension funds	Stronger regulatory requirements with respect to investing in AIFs or engaging in the business of AIFs placed on important institutional investors will mitigate the impact of losses due to a fund failure and will be more efficient than direct interventions in the AIF industry, such as placing a leverage cap.
8. Obligatory minimum investment requirements	Setting a sufficiently high minimum investment in a hedge fund would effectively exclude retail investors from engaging in the business, hence protect them from losses they would otherwise be likely to suffer from, since they are unable to assess all the associated risks thoroughly on their own.

Some of these suggestions have already been implemented in either of the two main regulatory acts that have been adopted recently – the Dodd-Frank Act in the U.S. and the AIFM Directive in the EU. However, the author believes that nothing but their joint adoption would create a safe, flexible and efficient regulatory framework that would be welcomed by all the AIFs, their managers, investors and regulators.

5. Conclusion

Non-bank financial institutions, and especially the alternative investment sector, have come under intense scrutiny after the latest global financial crisis broke out. The AIFs have constantly been alleged by their opponents that they have a large systemic risk potential which is not subject to virtually any regulatory control.

However, the crisis has been of a bank nature; the non-bank sector has been affected only after the crisis broke out. Obviously, AIFs have played certain role in the development of the turmoil but it has been limited to increasing price volatility in financial markets which is attributed to their acute need to deleverage. The size of the alternative investment sector based on the amount of assets under management is tiny in comparison to the banking sector or even to the conventional investment branch of the non-bank sector. Hence the risk inherent in the functioning of the sector is unlikely to have systemic consequences in case of a significant negative market development.

This is not to say that there is no systemic risk incorporated in the AIFs at all. With respect to hedge funds, the risk of a potentially systemic nature lies in the fact that returns of hedge funds strategies are markedly correlated both mutually as well as with the development in the equity markets. Thus, Hypothesis 3 has not been rejected. As a result, rates of return of various hedge fund strategies tend to move in accordance with equity markets. Further, their mutual correlation means that when returns on one strategy decline, returns of other strategies are likely to decline, too. Therefore, a risk exists that with an adverse development in the markets the overall industry will get into serious trouble. This might result in significantly increased price volatility due to joint deleveraging. Moreover, if several important funds fail, a chain of failures of systemically important financial institutions – counterparties to failed hedge funds – might be triggered.

In reality, however, we have not seen anything like that during the latest crisis; there has been no major hedge fund failure. Funds seem to have taken lessons from the past and are better prepared for periods of turmoil. The experience over recent decade, along with the small size of the alternative investment sector, thus supports the fact that systemic risk stemming from hedge funds is minor. Hypothesis 1 has therefore been rejected.

Efforts to put the AIFMs subject to stricter regulation have intensified with the crisis especially in the EU. Certain reforms of the AIFM regulatory framework would be welcomed even by the industry itself; however, the resulting reform represented by the

AIFM Directive is likely to induce more costs than benefits. The reality is that banks as well as conventional investment vehicles, jointly managing amounts much bigger than those under management of AIFMs, are subject to strict regulatory requirements and still the latest crisis was not prevented from happening. Extension of strict regulatory measures over the tiny alternative investment sector will thus hardly be of any help in the struggle against systemic risk. On the contrary, provisions incorporated in the AIFM Directive are likely to reduce investor choice and decrease the overall competitiveness of the EU. These costs will more than offset benefits of higher transparency. Therefore, Hypothesis 2 has not been rejected.

The pace and vehemence with which the AIFM Directive was prepared seem to have produced counterproductive results. In order to obtain an appropriate and efficient framework, as we believe, some measures of the Directive need to be rethought, some dismissed. A good example of an appropriate attitude is the Dodd-Frank Act in the U.S. The Act aims more at regulating counterparties to AIFMs rather than at regulating AIFMs themselves. For if major institutional investors are limited in their investments in AIFs, the already small systemic risk of the industry is further alleviated without excessive burden placed on the alternative investment sector.

Besides tighter regulation of major counterparties of the AIFs, the thesis proposes other measures to be incorporated in the appropriate and transparent legal framework for the AIF operation. They are the registration and authorization of all AIFMs with threshold set to zero, obligatory disclosure of systemically relevant data to regulators with a threshold sufficiently high for the exclusion of systemically irrelevant funds, voluntary disclosure of extensive information to counterparties, a rethought concept of the "EU passport" without protectionist conditions, abolition of leverage caps and finally setting of minimum investment requirements in order to prevent retailization. We believe such a framework will provide for a higher investor protection and for a better overview and transparency of the alternative investment sector while it will not decrease its competitiveness nor increase overall social costs.

The proposed framework is unlikely to prevent another crisis from happening but so is also the one set by the AIFM Directive, since the importance of AIFs for the outbreak of a similar crisis to the latest one would most probably be minor again. However, the latter one is likely to substantially increase costs for the industry, its investors and for regulators, without much value added in return. The proposed framework, on the contrary, reflects interests of all of them.

References

1. Alternative Investment Management Association (2009). AIMA Position Paper on the European Commission's Draft Directive on Alternative Investment Fund Managers (AIFMs). London, October 9
2. Anderson, J. (2006a). For Hedge Funds, Life Just Got a Bit More Complicated. *The New York Times*, March 31
3. Anderson, J. (2006b). Lessons From the British Way of Policing Hedge Funds. *The New York Times*, July 7
4. Andrlíková, P. (2010). *The Role of Credit Rating Agencies in 2008/2009 Global Financial Crisis*. Bachelor thesis, IES FSV UK, Prague
5. Ashurst (2010). *The AIFM Directive – the final text*. Corporate briefing, London, November 2010
6. Broughton, P. D. (2006). Hedge Fund: A Gamble Too Far. *The First Post*, September 20, available at: http://www.thefirstpost.co.uk/2567,news-comment,news-politics,-hedge-fund-a-gamble-too-far
7. Bullard, M. (2008). Regulating Hedge Fund Managers: The Investment Company Act as a Regulatory Screen. *13 Stanford J. Law, Bus. & Fin. 286*
8. Cantrell, A. (2005). How Hedge Funds Make Money Now. *CNNMoney.com*, August 4
9. Carmichael, J., Pomerleano, M. (2002). *The Development and Regulation of Non-Bank Financial Institutions*. The World Bank, Washington, D.C.
10. Chandler, S. (2006). Hedge Funds Put The Pressure On. *Chicago Tribune*, January 27
11. Coleman, T.F., Kim, Y., Li, Y., Verma, A. (1999). *Dynamic Hedging in a Volatile Market*. Cornell University, Ithaca
12. Constâncio, V. (2010). *The Establishment of the European Systemic Risk Board: Challenges and Opportunities*. Introductory remarks at the Eurofi Financial Forum 2010, Brussels, September 29, available at: http://www.ecb.int/press/key/date/2010/html/sp100929_1.en.html
13. Czech National Bank (2009). *Pozice České národní banky ke zprávě skupiny vedené Jacquesem de Larosièrem k dohledu nad finančním trhem v EU (The Report of The de Larosière Group)*. Prague, available at:

http://www.cnb.cz/miranda2/export/sites/www.cnb.cz/cs/verejnost/pro_media/tiskove_zpravy_cnb/2009/download/090318_de_Larosiere_pozice_CNB_cz.pdf

14. Dechert LLP (2010). *Dodd-Frank Measures Affecting Credit Rating Agencies*. Legal update from Dechert's Finance and Real Estate Group, Issue 35, August 2010
15. Desmet, T. O. (2008). Understanding Hedge Fund Adviser Regulation. *Hastings Business Law Journal, 4(1)*
16. Deutsche Bank Research (2010). *US Financial Market Reform*. September 28, available at: http://www.dbresearch.com/PROD/DBR_INTERNET_EN-PROD/PROD0000000000262857.pdf
17. The Economist (2009). *One-and-Ten*. January 29, available at: http://www.economist.com/node/13036802
18. The Economist (2010). *One and Ten, Never Again?*. April 22, available at: http://www.economist.com/node/15955358
19. European Central Bank (2009). *Manual on Investment Fund Statistics*. May 2009
20. European Central Bank (2005). *Hedge Funds and Their Implications for Financial Stability*. August 2005
21. European Commission (2006). *Report of the Alternative Investment Expert Group – Developing European Private Equity*. Brussels, July 2006
22. European Commission (2009). *Proposal for a Directive of the European Parliament and of the Council on Alternative Investment Fund Managers*. Brussels, April 2009
23. European Private Equity & Venture Capital Association (2010). *Implementing Measures Must Safeguard Finance for SMEs and Innovation, Says Industry*. Press release, Brussels, November 11
24. European Securities Markets Expert Group (2008). *Role of Credit Rating Agencies*. ESME's Report to the European Commission, June 2008
25. Ferguson, R., Laster, D. (2007). Hedge Funds and Systemic Risk. In: Banque de France (2007). *Financial Stability Review – Special Issue on Hedge Funds*. April 2007
26. Financial Services Authority (2009). *The Turner Review – A Regulatory Response to the Global Banking Crisis*. London, March 2009
27. Financial Services Authority (2010). *Assessing Possible Sources of Systemic Risk from Hedge Funds*. London, February 2010

28. Financial Times (2005). *Hedge Fund Is Now a Meaningless Term*. August 18
29. Friedman, T. (2010). Private Equity Performance: The W-Curve. In: *Preqin Private Equity Spotlight*. Vol. 6(7), July 2010
30. Glassman, C. A., Atkins, P. S. (2004). *Dissent of Commissioners Glassman and Atkins to Proposing Release No. IA-2266*. available at www.sec.gov/rules/proposed/ia-2266d.pdf
31. Grant, J. (2006). Hedge Fund Advisers Move to SEC Register. *Financial Times*, August 1
32. Grynbaum, M. M. (2007). Bear Stearns Profit Plunges 61% on Subprime Woes. *The New York Times*, September 21
33. International Centre for Financial Regulation (2010). *Draft Proposals for AIFMD: ECON Committee, ECOFIN, European Commission*. May 24, available at: http://www.icffr.org/assets/pdfs/Newsletters/AIFM-Directive-Version-3.aspx
34. International Financial Services London (2010). *Hedge Funds 2010*. April 2010, available at: http://www.thecityuk.com/media/2358/Hedge_Funds_2010.pdf
35. International Monetary Fund (2004). *Global Financial Stability Report*. September 2004, available at: http://www.imf.org/external/pubs/ft/GFSR/2004/02/pdf/gfsr0904.pdf
36. International Monetary Fund (2010). *Shaping the New Financial System*. IMF Staff Position Note, October 3
37. Jones, S. (2010). US Hedge Funds Embrace the Benefits of Ucits. *Financial Times*, August 5
38. Katz, J., Salinas, E., Stephanou, C. (2009). *Credit Rating Agencies*. CrisisResponse Note No. 8, The World Bank, October 2009, available at: http://rru.worldbank.org/documents/CrisisResponse/Note8.pdf
39. Krugman, P. (2008). *The Return of Depression Economics and the Crisis of 2008*. W. W. Norton & Company, Inc., New York
40. Larosière, J. de et al. (2009). *The High-Level Group on Financial Supervision in the EU*. Brussels, February 2009
41. Llewellyn, D. (1999). *The Economic Rationale for Financial Regulation*. FSA Occasional Paper, April 1999
42. Lutton, D. (2008). *The Regulation of Hedge Funds at an EU Level. The US Sub-Prime Crisis in Context*. University of Strathclyde

43. McDonough, W. J. (1998). *Statement Before the Committee on Banking and Financial Services*. U.S. House of Representatives, October 1, 1998, available at: http://newyorkfed.org/newsevents/speeches/1998/mcd981001.html
44. Mejstřík, M., Pečená, M., Teplý, P. (2008). *Základní principy bankovnictví*. Karolinum, Praha
45. Metrick, A., Yasuda, A. (2010). The Economics of Private Equity Funds. *Review of Financial Studies*, Vol. 23(6), pp. 2303-2341
46. O'Brien, T. (2008). *Private Equity and Hedge Funds*. Available at http://privateequityblogger.com/2008/08/private-equity-and-hedge-funds.html
47. O'Brien, T. (2010). *What Is Private Equity?* Available at http://privateequityblogger.com/2010/06/what-is-private-equity.html
48. Oesterle, D. A. (2006). *Regulating Hedge Funds*. Ohio State Public Law Working Paper No. 71
49. OpenEurope (2009). *The EU's AIFM Directive: Likely Impact and Best Way Forward*. London, September 2009
50. Ossendorf, V., Jekl, A. (2010). Regulation of Alternative Investment Funds in the Czech Republic in the Context of the Debate on Their Potential Regulation in the European Union. In: Czech National Bank (2010). *Financial Stability Report 2009/2010*, pp. 120-129
51. Persaud, A. D. et al. (2009). *The Fundamental Principles of Financial Regulation*. Geneva Report on the World Economy 11, CEPR
52. Petajisto, A. (2010). *Hedge Funds after Dodd-Frank*. New York University, Leonard N. Stern School of Business, available at: http://w4.stern.nyu.edu/blogs/regulatingwallstreet/2010/07/hedge-funds-after-doddfrank.html
53. Pozen, R. (2006). Reporting Standards For Hedge Funds Must Be Raised. *Financial Times*, January 12
54. Prabhu, S. (2001). *Long-Term Capital Management: The Dangers of Leverage*. Duke University, Durham, NC, available at: http://econ.duke.edu/dje/2001/prabhu.pdf
55. Rasmussen, P. N. (2010). *On EU Regulation of Hedge Funds and Private Equity – Making the Right Choice*. Letter to Michel Barnier – EU Commissioner for Internal Market and Services, March 2010

56. Riemlová, S. (2008). *Hedge Funds' Performance Within the Subprime Mortgage and Financial Crisis 2007/2008*. Diploma thesis, IES FSV UK, Prague
57. Schwarcz, S. L. (2008). Systemic Risk. *The Georgetown Law Journal*, Vol. 97(193), pp. 193-249
58. Shadab, H. B. (2007). The Challenge of Hedge Fund Regulation. *Regulation*, Vol. 30(1), pp. 36-41
59. Šinka, M. (2010). *European Financial Supervision: Hedge Funds, De Larosière Report and the Draft AIFM Directive*. Unpublished essay, IES FSV UK, Prague
60. TheCityUK (2010a). *Fund Management 2010*. October 2010, available at: http://www.thecityuk.com/media/188154/fund%20management%202010.pdf
61. TheCityUK (2010b). *Private Equity 2010*. August 2010, available at: http://www.thecityuk.com/media/179004/private%20equity%202010.pdf
62. Trpčevski, I. (2010). *Supervision of the Integrated European Banking Market*. Diploma thesis, IES FSV UK, Prague
63. Tucker, P. (2010). *Shadow Banking, Financing Markets and Financial Stability*. Lecture at a BGC Partners Seminar, Bank of England, London, available at: http://www.bankofengland.co.uk/publications/news/2010/003.htm
64. U.S. Court of Appeals for the District of Columbia Circuit (2006). *Goldstein v. SEC*. No. 04-1434, June 23
65. U.S. President Working Group on Financial Markets (1999). *Hedge Funds, Leverage, and the Lessons of Long-Term Capital Management*. April 1999
66. U.S. Securities and Exchange Commission (2003). *Implications of the Growth of Hedge Funds*. Staff Report, September 2003
67. Vaughan, D. A. (2003). *Selected Definitions of "Hedge Fund"*. U.S. SEC, available at: http://www.sec.gov/spotlight/hedgefunds/hedge-vaughn.htm#footnote_1
68. White, B. (2005). As Hedge Funds Go Mainstream, Risk Is Magnified. *The Washington Post*, August 11
69. Wymeersch, E. (2005). The Future of Financial Regulation and Supervision in Europe. *Common Market Law Review*, 42(4), pp. 987-1010
70. Xiong, W. (2001). Convergence Trading With Wealth Effects: An Amplification Mechanism in Financial Markets. *Journal of Financial Economics*, Vol. 62(2), pp. 247-292

Interviews

1. Król, J. (2010) – Director of Policy and Government Affairs, The Alternative Investment Management Association Limited (AIMA), interview via phone on November 1

Websites

1. www.cbsnews.com
2. www.ec.europa.eu
3. www.evca.eu
4. www.g20.org
5. www.hedgefundresearch.com
6. www.hnonline.sk
7. www.investopedia.com
8. www.money.cnn.com/magazines/fortune/ – Fortune Magazine
9. www.openiazoch.zoznam.sk
10. www.privateequitycouncil.org
11. www.reuters.com
12. www.sec.gov
13. www.thecityuk.com – TheCityUK – datasets

Directives & Legislature

1. European Commission: Directive 2009/65/EC of the European Parliament and of the Council of 13 July 2009 on the coordination of laws, regulations and administrative provisions relating to undertakings for collective investment in transferable securities (UCITS)
2. European Commission: Proposal for a Directive of the European Parliament and of the Council on Alternative Investment Fund Managers and amending Directives 2004/39/EC and 2009/65/EC published on 30 April 2009 as COM (2009) 207 final
3. U.S. Congress: Public Law 111-203 Dodd-Frank Wall Street Reform and Consumer Protection Act, July 21, 2010
4. U.S. Securities and Exchange Commission: Investment Advisers Act of 1940
5. U.S. Securities and Exchange Commission: Investment Company Act of 1940

6. U.S. Securities and Exchange Commission: Regulation D, 17 C.F.R. §230.501 *et seq.*
7. U.S. Securities and Exchange Commission: Rule 203(b)(3)-2 under the Investment Advisers Act of 1940 ("The Hedge Fund Rule")
8. U.S. Securities and Exchange Commission: Rule 206(4)-8 under the Investment Advisers Act of 1940 ("The New Antifraud Rule")
9. U.S. Securities and Exchange Commission: Securities Act of 1933
10. U.S. Securities and Exchange Commission: Securities Exchange Act of 1934

Master Thesis Proposal

Institute of Economic Studies
Faculty of Social Sciences
Charles University in Prague

Author:	**Bc. Michal Šinka**	Supervisor:	PhDr. Petr Teplý Ph.D.
E-mail:	michal.sinka@gmail.com	E-mail:	teply@fsv.cuni.cz
Phone:	608 548 956	Phone:	222 112 304
Specialization:	Finance, financial markets and banking	Defence Planned:	February 2011

Proposed Topic:

Regulation of Non-Bank Institutions in Financial Markets

Topic Characteristics:

The thesis is devoted to the regulatory and supervisory issues of the non-bank institutions such as hedge funds or private equity. Traditionally, regulatory authorities aiming at maintaining financial stability have focused solely on the banking sector, which has been supposed to carry the largest portion of potential financial instability and systemic risk. However, not only banks but also non-bank institutions matter. The aim of the thesis is to describe the regulatory framework of the non-bank financial sector, to examine the problems and their relation to the latest financial crisis, and to search for possible improvements of the framework.

Hypotheses:

1. Non-bank sector of financial markets carries a considerable portion of systemic risk.
2. Current financial regulatory framework has some drawbacks which contributed to the recent turmoil in the financial markets.
3. Elimination of these drawbacks will contribute to the alleviation of potential future

Methodology:

The methodology chosen for the thesis corresponds to the institutional, theoretical nature of the thesis itself. Therefore, methods typical for institutional economics will be employed, i.e. broad survey, synthesis, comparison and critique of literature devoted to regulation and supervision of financial markets, with strong emphasis on the non-bank sector. The regulatory framework will be examined thoroughly. American and European regulatory measures will be discussed separately and they will be compared. Afterwards, the regulatory framework will be put into context with today's world. By doing so, conclusions on the suitability of the (pre-crisis) existing framework will be derived and possible improvements will be discussed. Further, the suggested framework will be set in the pre-crisis environment and the hypothetical development of the events in financial markets will be compared to the actual one; hence the efficiency of the framework improvements for potential future crises of a similar nature will be tested.

Outline:

1. Introduction
2. Theoretical background of (non-bank) financial market regulation and supervision
3. Hedge funds and private equity during the global crisis
4. Proposed improvements
5. Conclusion

Core Bibliography:

Carmassi J. (2009): A Proposal of a New Approach to Financial Supervision after the 2007-2008 Financial Crisis. PhD thesis, Luiss Guido Carli

Carmichael J., Pomerleano M. (2002): *The Development and Regulation of Non-Bank Financial Institutions.* IBRD/ The World Bank, Washington DC

Davies H., Green D. (2008): *Global Financial Regulation: The Essential Guide.* Polity Press, Cambridge

Kumar A., ed. (1997): *The Regulation of Non-Bank Financial Institutions: The United States, the European Union, and Other Countries.* World Bank Discussion Paper 362, Washington, D.C.

Larosière J. de et al. (2009): Report of the High-Level Group on Financial Supervision in the EU. Brussels

Schwarcz S.L. (2008): Systemic Risk. *The Georgetown Law Journal*, 97(1): 193-249

Turner A. (2009): The Financial Crisis and the Future of Financial Regulation. The Economist's Inaugural City Lecture of January 21, 2009, Financial Services Authority

In Prague, March 26, 2010

Bc. Michal Šinka

PhDr. Petr Teplý Ph.D.