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A New Age of Financial Regulation?

Securities, Systemic Risk and the Impact of the 2007-09
Financial Crisis on Global Financial Governance

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Abstract

The outbreak of the 2007-09 global financial crisis, with the collapse of the fourth largest U.S. investment bank *Lehman Brothers*, has clearly demonstrated the high degree of interconnectedness and growing complexity of the global financial market environment. Moreover, the crisis has shed light on unprecedented regulatory challenges, marked by new interrelated sources of *systemic risk* and the deficiencies of global regulatory oversight in keeping trace with novel types of financial activities. The Thesis aims at examining the impact of the global financial crisis on the system of financial governance at the global level by focusing on the institutional level of prudential standard setting bodies and the policy level by analyzing the achievements of the Group of Twenty (G20). Given the role of certain OTC credit derivatives, particularly mortgage-backed securities in the global market turmoil, the question of a novel approach to international securities regulation has moved to the top of the global policy agenda. By analyzing three interrelated dimensions - the institutional framework of standard setting bodies, the scope of regulation and theoretical underpinnings of global securities regulation, the Thesis intends to draw a broad picture of the main issues at stake in global securities and cross-sectoral regulation with an emphasis on financial innovation and the shadow banking system, given their role in the market turmoil of 2007-09. Has the international community entered a new age of global financial regulation?

Keywords: finance, crisis, global governance, financial regulation, efficient market hypothesis, systemic risk, OTC derivatives, securitization, shadow banking system, self-regulation, global standard setting

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Abbreviations

ABS	Asset Backed Security
BIS	Bank for International Settlements
CCCP	Central Clearing Counterparty
CCP	Central Counterparty
CDO	Collateralized Debt Obligation
CDS	Credit Default Swap
CPSS	Committee on Payment and Settlement Systems
EMH	Efficient Market Hypothesis
FCIC	Financial Crisis Inquiry Commission (US)
FSA	Financial Services Authority (UK)
FSB	Financial Stability Board
FSF	Financial Stability Forum
FSI	Financial System Inquiry (AU)
G20 / G30	Group of Twenty / Group of Thirty
GATT	General Agreement on Tariffs and Trade
GPB	Global Public Bad
GPG	Global Public Good
IAIS	International Association of Insurance Supervisors
IASB	International Accounting Standards Board
IMF	International Monetary Fund
IOSCO	International Organization of Securities Commissions
JF	Joint Forum
MMoU	Multilateral Memoranda of Understanding
MBS	Mortgage Backed Security
OTC	Over-The-Counter
OFI	Other Financial Intermediary
repo	Repurchase Agreement
SRO	Self-Regulatory Organizations
SPV	Special Purpose Vehicle
SIV	Structure Investment Vehicle
TR	Trade Repositories
WTO	World Trade Organization

1. Introduction: Scope, Content and Approach

1.1. INTRODUCTION AND STRUCTURE

Over the past three decades, the international financial landscape has undergone radical transformation, affecting both shape and structure of financial markets across the globe. The emergence of the present financial market environment has been driven by deregulation, new modes of financial intermediation and novel financial products (cp. Rajan 2005). These developments have substantially altered the systemic characteristics of the global financial system and consequently led to new and interconnected sources of complex *systemic risk*, contributing to what leading economists and financiers have characterized as “the worst financial crisis since the Great Depression”. In the wake of the global turmoil of 2007-09 the question of a new or reformed global financial architecture has moved to the top of the international policy agenda (cp. Davies 2010). The global financial crisis has shed light on the deficiencies in regulatory oversight, both at the national and the international level, in keeping trace with novel types of financial entities and activities.

The failure of the global regulatory framework has been twofold: *inadequate* regulation such as in the banking sector and a *lack* of regulation, including new financial products and channels of intermediation (Griffith-Jones 2010). The present research project focuses primarily on the latter and aims to examine the impact of the global financial crisis on the system of global financial governance by focusing on the systemic character of the financial crisis, having its origins in the structural transformations of financial markets. Given the role of certain structured credit risk transfer instruments, with mortgage-backed securities being at the centre of the global financial crisis, scholars have emphasized the failures of the current system of global securities regulation as contributing to the crisis (cp. Chaffee 2010; Langevoort 2011). By analysing three interrelated dimensions: the global institutional framework of standard setting bodies, the scope of global regulation and ideological or theoretical underpinnings of global securities regulation, the Thesis intends to draw a broad picture of the main issues at stake in global securities and cross-sectoral regulation with an emphasis on financial

innovation and the shadow banking system, given their role in the market turmoil of 2007-09. The analysis will focus on three main questions:

Q1: What were the main regulatory paradigms and approaches to global securities regulation prior to the crisis and did they change?

Q2: Which new regulatory challenges have emerged given the radical transformation of global financial markets?

Q3: What impact did the crisis have on: i. the global regulatory framework of standard setting bodies; ii. the scope of regulation and iii. regulatory ideology. Which concrete measures have been introduced by the G20 at the global level in the over-the-counter (OTC) derivatives market and the shadow banking system? Which role does the new Financial Stability Board (FSB) have?

The organization of the present paper therefore will be as follows. In order to prepare the ground for the subsequent analysis Chapter (2) deals with important concepts and theories of financial market regulation. After discussing the leading paradigm of financial economics and its implications for securities markets regulation, the main rationales and objectives for financial market regulation are presented and the externality of risk taking in financial markets will be introduced. Adjacent, Chapter (3) highlights the three key areas of transformation in modern financial markets and its systemic implications and provides an overview of the global regulatory framework for securities and cross-sectoral issues in place as the crisis erupted. Chapter (4) then attempts to assess the impact of the crisis on three interrelated dimensions of global securities and cross-sectoral regulation: i. institutional changes; ii. changes in the scope of global regulation and iii. impact on the regulatory philosophy. Chapter (5) will conclude with a summary and outlook.

1.2. APPROACH, LEVEL OF ANALYSIS AND METHODS

The various implications and difficulties associated with the possible levels of analysis have been discussed exhaustively in physical and social sciences alike. As highlighted by Singer (1961: 77) a researcher may select “any cluster of phenomena from the most

minute organism to the universe itself”, however, the “responsible scholar must be prepared to evaluate the relative utility - conceptual and methodological - of the various alternatives open to him (...)”. Accordingly, the following section attempts to briefly outline the main justifications for the chosen level of analysis, namely the systemic or international level of analysis. The focus on the global level is shaped by the tension of comprehensiveness on the one hand and a possible lack of detail on the other. The nation state level of analysis allows for in depth analysis, however the results remain limited to the particular subsystem. (ibid: 80-89) While an analysis of both levels would be desirable, this goal remains infeasible in light of the highly diversified nature of national and regional frameworks of financial regulation. Following Truman (2010), the present analysis differentiates between the international *monetary* system, i.e. the set of rules, institutional arrangements and policy instruments “governing the relations of countries through their balance of payments” (Gold 1982: 327) and the global *financial* system, consisting of financial intermediaries, markets and the institutional and legal framework underpinning their operation (Viterbo 2012: 21f.). While this distinction is not clear-cut, it is useful for the purpose of defining the focus and scope of the present Thesis. Accordingly, the present research centres on the standard setting bodies and informal forums of global financial governance and their policy responses, hence, focusing on the impact of the financial crisis 2007-09 on the reform of the global *financial* system. The framework of the G20 summits, setting the policy-agenda during and after the crisis, will assist in keeping a clear focus on policy responses. On the horizontal level, the research is narrowed by a main focus on securities regulation. Global efforts of regulating credit rating agencies are not subject of the analysis.

The present Thesis, given its focus on the global or systemic level, is aimed at an interdisciplinary approach, including relevant information, data, concepts and theories from (financial) economics, political science, and international law. Concerning methodology, dominance will be granted to qualitative methods as they provide a high degree of comprehensiveness. The research will require working with primary and secondary sources, which means both the original documents (e.g. G20 declarations ...) and studies based on them.

2. Theories and Concepts of Economic and Financial Regulation

2.1. MARKET EFFICIENCY AND THE PARADIGM OF MODERN FINANCE

Shaping both academic and political thinking over more than two centuries, the notion of the invisible hand has emerged as *the* symbol of free market economics. Coined by the social philosopher and founding father of modern economics, Adam Smith, the concept of the invisible hand marks the commencement of the idea, that the spontaneous ordering forces of the free market allow for “a more efficient allocation of societal resources than any design could achieve” (Hayek 1978: 63f.). According to the idea of the invisible hand, by pursuing their self-interest, the individual actions of market participants will lead to the maximization of aggregate welfare, hence promoting general economic wellbeing. (Mankiw 1998: 145)

In neoclassical economic thought the Smithian view culminated in the so called Fundamental Theorem of Welfare Economics. The first welfare theorem states that under certain conditions, the perfectly competitive market equilibrium is always Pareto efficient, referring to a situation in which a further reallocation of resources cannot increase the utility of one or more individuals without diminishing the utility of some other. (cp. Goodwin et al. 2009: 480ff.) The ideal assumptions underlying the first theorem include: i. perfect competition, namely the absence of any form of market power (economic agents as price-takers) and zero transaction costs, implying full and symmetric access to all market relevant information; ii. complete markets, namely the existence of markets for all goods and services, and iii. correct signalling function of market prices, reflecting all relevant and available information (no policy distortions). (cp. e.g. Acocella 2005: 13f.) Accordingly, economic theory concludes that “if there is a perfect competition existing in all markets the price mechanism would act automatically to bring about a Pareto-efficient allocation of resources, i.e. a price mechanism would automatically bring about exchange efficiency, production/technical efficiency and allocative (..) efficiency” (Mukherjee et al. 2003: 344). The central implication of the first theorem is the notion that under these certain assumptions, the organization of economic activity and hence public policy should be guided by the reliance on market forces.

The application of the ideal model of perfect competition and market efficiency to financial markets has generated conceptual confusion in the academic field. While neoclassic economic literature has advanced the precise notion of Pareto efficiency in a competitive equilibrium model, financial economic research has focused extensively on the concept of informational and pricing efficiency in describing the efficient operation of financial markets. However, as rightly pointed out by Stiglitz (1981: 236), the concept of financial market efficiency, namely informational efficiency has “not been directly related to the Pareto optimality of the economy”, emphasizing that efficiency in this sense “(...) is neither necessary nor sufficient for the Pareto optimality of the economy”. Nevertheless informational efficiency has been either implicitly equated with the general notion of Pareto efficiency, or it has been assumed to give rise to the latter (cp. Mirowski 21/12/2011).

According to finance theory, perfectly competitive financial markets are considered to process information efficiently if the market prices in general, and security prices in particular “always ‘fully reflect’ available information” (Fama 1970: 383), culminating in the leading paradigm of modern finance: the efficient market hypothesis (EMH). The EMH is associated with the idea of market rationality, i.e. the price of a security does not deviate significantly from its fundamental (intrinsic) value. Accordingly, in reflecting all relevant information, financial market prices are seen as an accurate signal for the allocation of capital. Speculative bubbles, namely substantial positive deviations of market prices from fundamental values, are considered to be highly improbable and are either attributed to changes in fundamental values (cp. Garber 1990), e.g. the arrival of new and unexpected information, or challenged by the notion that it is impossible to determine if any particular valuation is irrational (Mankiw 2011: 590).

The hypothesis relies on various theoretical assumptions and pre-conditions: Firstly, the EMH is closely related to the notion that security prices follow a random walk, i.e. a bell curve distribution of returns, suggesting that given the hypothesis that prices immediately reflect and incorporate all available information, it is not possible to predict future price changes. As Burton Malkiel (2003: 60) famously put it: “a blindfolded chimpanzee throwing darts at the *Wall Street Journal* could select a portfolio that would do as well as

the experts". This implies the impossibility of consistently earning profits in excess of average market returns, on a risk adjusted basis, by systematically beating the market. (Shleifer 2000: 1) The EMH literature differentiates between three main forms of market efficiency, each dealing with different information sets. The weak form of the hypothesis assumes that current security prices already reflect historical information on prices and volumes; hence it is not possible to predict future prices by analysing historical data. The semi strong version of the EMH states that all publicly available financial and non-financial information are immediately incorporated in current stock prices, suggesting that investors cannot gain excess profits based on the knowledge of public information. Finally, the most radical type of the EMH, the strong form, states that market prices immediately reflect all private and public information, implying the notion that investors cannot beat the market even by taking advantage of inside information that is not publicly available. Each variant of the EMH assumes that investors have immediate and symmetric access to all market relevant information. Transaction costs, namely the costs of information acquisition and exchange are considered to be zero. (cp. i.a. Fama 1970: 388ff.; Clarke et al. 2001: 128ff.)

Standing in the tradition of modern finance, the EMH is based on the notion that investors are rational, profit-maximizing actors with homogenous expectations that value securities rationally. Hence, drawing on the theory of rational expectations, it is assumed that expectations about future returns are equal to the optimal forecast, using all relevant information. However, given the probability of some investors being irrational, the EMH states that their uncorrelated random trading activities are likely to offset each other without impacting on market prices. In the case of a high correlation or similarity between the irrational trading activities, the EMH postulates the presence of rational arbitrageurs who engage in exploiting these profit opportunities, thereby eliminating the impact of investor irrationality on market prices. Consequently, while the arbitrageurs make profit, irrational investors continue to incur financial losses, inducing the latter to leave the market in the long term. The EMH, hence, relies on the assumption that arbitrage opportunities are eliminated, leading to the elimination of disparities between fundamental values and market prices. (cp. Yusupov / Lux 2007: 4; Shleifer 2000: 2)

After its introduction, the EMH has been subject to excessive empirical testing and theoretical reasoning throughout the 1970s, in particular with regards to the weak and semi strong versions, widely supporting the hypothesis in academia. Consequently, the concept of efficient financial markets emerged not only as the leading paradigm in the field of financial economics, it served as an alleged justification and theoretical underpinning for both, the Wall Street profession and financial regulators alike (The Economist 16/06/2011; Dodd 2002: 2). As stated by Gilson and Kraakman (1984: 550) in the mid-1980s, the EMH is “now *the* context in which serious discussion of the regulation of financial markets takes place”. Similarly, Quiggin (2010: 35ff.) argues that the assumptions of the EMH have contributed profoundly to a change in regulatory thinking, leading to a gradual but constant shift away from restrictive financial market regulation following the crisis and depression of the 1930s to alternative regimes of regulation, financial deregulation and the global expansion of the financial sector. From a regulatory perspective, hence, promoting market efficiency has been largely conceived of in terms of ensuring the immediate disclosure of and equal access to market relevant information.

The EMH has been repeatedly subject to both theoretical and empirical challenges over the previous decades. Grossman and Stiglitz (1980) showed that it is impossible for a financial market to be strong form informationally efficient. Given the assumption that information is costly, prices cannot fully reflect all available information, since if they did, there would be no incentive for market participants to spend resources in order to acquire and analyse the information, and in turn trade on it (known as the *Grossman-Stiglitz paradox*). Empirically, the EMH has been challenged by identifying so called market anomalies, i.e. deviations from the predictions of the concept of efficient markets, among them evidence for pricing anomalies and excess volatility (cp. LeRoy / Porter 1981, Shiller 1981), the impact of cash dividend policies on market prices (cp. Long 1978) and the famous equity premium puzzle, namely the persistence of excessive returns on stocks over Treasury Bills in the last century. Further, extensive research has been conducted to demonstrate the predictability of future stock market prices using e.g. dividend yields (cp. Rozeff 1984), earnings-price ratio (cp. Campbell / Shiller 1988) and

the size of a company, also known as “size effect”. Weak form market efficiency has been further contested by evidence of seasonal patterns in stock market returns. Among them the so called “day of the week effect”, referring to higher than average returns on the last, and lower average returns on the first trading day of the week; the “turn of the month effect”, namely higher stock market returns in the last and the first three trading days each month; and the “January effect”, indicating higher returns in January than other months of the year. (cp. Malkiel 2003; Yalçın 2010) However, research has demonstrated that several well-known anomalies, especially seasonal anomalies disappeared or at least weakened substantially after the publication of the respective academic study, indicating either increased market efficiency as a result of investor awareness or that the anomalies have been merely the result of data snooping in the first place. Market anomalies as the “turn of the month effect”, though, have been found to persist over time, while the “size effect” has reappeared following an academic study. (Marquering et al. 2006)

Empirical studies, as most prominently conducted by Werner F. M. De Bondt and Richard Thaler (1985), showed that portfolios that have performed particularly poorly in the past significantly outperform prior “winner” portfolios with exceptionally high returns thirty six month after portfolio formation, revealing substantial weak form market inefficiencies. Marking the commencement of behavioural finance, De Bondt and Thaler argue that investors tend to overreact to unexpected new information and underweight prior information, leading stock prices to over or undershoot their fundamental value. Consequently, academics stressing psychological factors leading to market anomalies have highlighted the role of “noise trading”, the notion that the demand for securities and hence trading activities are often irrational and based on “noise” rather than relevant information, affecting market prices. (cp. Smith 2003: 236ff.) In his bestseller *Irrational Exuberance*, published at the peak of the US dot.com bubble, Robert J. Shiller (2000: 2) highlighted the pivotal role of irrational behaviour and noise trading in the formation of a speculative bubble, defined as “a situation in which news of price increases spurs investor enthusiasm, which spreads by psychological contagion from person to person, in the process amplifying stories that might justify the price increases and bringing in a larger and larger class of investors (...)”.

As indicated by empirical research, irrational trading activities tend to be systematic and correlated, especially noise traders tend to imitate other trading strategies. While the EMH acknowledges the presence of irrational individual investors, it assumes the rationality of the market per se as a result of rational arbitrage activities. In fact, as Shleifer (2000: 13) stresses, “the theoretical case for efficient markets depends on the effectiveness of such arbitrage”. Scholars questioning the assumptions of the EMH have stressed the limits of arbitrage given the presence of risk and the need for significant amounts of capital in real world trading (“risk arbitrage”). Many securities do not have perfect or close substitutes as assumed in classic arbitrage theory. In that case, trading with over or undervalued securities implies what financial economists have termed “fundamental risk”. Additionally, despite the incentive of excess returns, (short-horizon) professional arbitrageurs may not engage in high volatility arbitrage trades, given the risk that prices will deviate even more from fundamental values before reverting to the correct level, referred to as “noise trader risk”. (cp. Shleifer / Vishny 1997; Barberis / Thaler 2007: 1060f.) In addition to the challenges posed by econometric research stressing the at least partial predictability of stock market returns and the criticism advanced by behavioural finance, the EMH has encountered influential opposition from market failure theorists, targeting at the very foundations of the hypothesis.

2.2. THE RATIONALE FOR FINANCIAL MARKET REGULATION

The academic regulatory literature refers to two main rationales for regulation: intervention for distributional or social solidarity aims and for the purpose of promoting market efficiency (Baldwin et al. 2012: 15). However, given the limited role of financial market regulation for the purposes of redistribution and social equality in practice (cp. Financial System Inquiry 1996: 94), the following section will focus primarily on the second economic rationale of financial regulation.

The presence of market failure, i.e. a situation in which the free market fails to achieve an efficient allocation of resources, has been traditionally advanced as a technical or even normative justification for regulatory intervention. Economic theory differentiates between four main sources of market failure: imperfect competition or market power,

public goods, externalities and transaction costs or asymmetric information. Additionally, it is important to highlight the role of macroeconomic instability and structural features as a potential source for market failure, among them balance of payments disequilibria. (cp. Acocella 2005: 15ff.; Sherman et al. 2008: 428ff.) The following section briefly discusses the above listed main theoretical arguments for market failure and implications particularly relevant for financial markets:

2.2.1. Imperfect Competition or Market Power

According to microeconomic theory, a perfectly competitive market requires a large number of atomistic buyers and sellers, so that no market participant can individually influence market prices, i.e. there is no market power. In a situation where a single producer (monopoly) or only a few producers (oligopoly) dominate the market, there is a strong incentive for non-competitive market practices in order to maximize profits. (cp. Baldwin et al. 2012: 15ff.) Applied to financial economics, a perfectly competitive financial market is characterized by the existence of a large number of traders, none of which can exert influence over market prices. Traders have free access to financial markets, additionally information and trades are assumed to be costless. Traditionally, financial markets and in particular stock markets have been portrayed as near ideal models of perfect competition. In practice, the problem of monopoly and anti-competitive behaviour, however, has become an issue in the context of stock markets as well, indicated for instance by the *Nasdaq price-fixing lawsuit* in the 1990s. (Hirschey 2009: 384) Real world stock markets are characterized by the existence of large institutional investors; hence, trading activities conducted by these market participants do influence market prices in practice. In fact, research has indicated that the trading behaviour of institutional investors not only impacts on market prices, but that their trading strategies also take their own price impact into account. (cp. Pritsker 2009: 1)

Laffont and Maskin (1990) questioned the assumption of perfect competition underlying the EMH and showed that given the presence of large traders with price impact, strategic behaviour of concealing private information will lead to the breakdown of information efficiency of market prices. They conclude that “there are good reasons to believe that the

efficient market hypothesis breaks down with imperfect competition” (ibid.: 71), closely associated with the problem of asymmetric information.

2.2.2. Public Goods

By referring to two main attributes of a resource, namely its nature of consumption and the feasibility of exclusion, classic microeconomic theory differentiates between four main types of goods (or services): Private goods, public goods, common resources, and club goods. (Mankiw 1998: 220) A pure private good is characterized by rivalry in consumption and excludability. By equating marginal cost and marginal utility via the price mechanism, in a perfectly competitive market structure with no externalities, private goods or so called “market goods” are allocated in an economically efficient way. However, when it comes to pure public goods, economists generally agree that given the absence of clearly defined property rights, the “invisible hand” of the market generally fails to produce and allocate the adequate amount of goods. Public goods are non-rival and non-excludable: The consumption of a public good or service by one person will not reduce the availability of the good for others. Additionally, other consumers cannot be excluded from its use and therefore the benefits derived from the good or service. Hence, there is no market incentive for the consumer to pay for the consumption of a public good (known as *free rider dilemma*) and accordingly, there is no market incentive for potential producers to bear the production or collection costs and supply the adequate quantity of the good or service. (cp. Daly / Farley 2010: 177ff.; Callan / Thomas 2000: 52)

In the aftermath of the Mexican Peso crisis, the concept of systemic financial stability has emerged as a key concept in regulatory approaches across the world. Additionally, regulatory literature has emphasized the role of financial stability as a key public good, given the pivotal role of functioning financial markets for the overall economy, benefiting the society as a whole (cp Quintyn / Taylor 2002, Lütz 2006). While there is no agreement on a general definition of financial stability and scholars often tend to define the concept by what it is not, one may highlight three key functions of stable financial systems: i. efficient intertemporal allocation of resources; ii. accurate pricing and managing of financial risks; and iii. the ability to absorb financial and economic

shocks (Schinasi 2006: 82). If the financial system simultaneously fulfils these key functions, it is considered to be effectively working and stable.

While most scholars agree that information shares the general features of an economic good, there is no general consensus whether it is to be considered a public or private good. Some economists have stressed the role of information as a private good, by highlighting the additional economic value earned by those who control and use the information. (cp. Bates 1985) Other economists, however, have claimed that the consumption of information goods, as those contained in financial market prices, does not diminish their availability for others, emphasizing the public good character of information (Dodd 2002: 13). One can conclude that “[i]f information is a private good, it will not be efficiently allocated; if it’s a public good, it will not be produced in sufficient quantity by market forces” (Daly / Farley 2010: 181).

An important public good in the context of financial markets is the monitoring of financial entities. Given the costliness of supervising and evaluating complex financial intermediaries, there is a tendency towards inadequate and insufficient monitoring of financial institutions in unregulated markets. Inadequate monitoring may lead to inefficient resource allocation, may increase uncertainty, affect the provision of financial services and hamper financial innovation. (Levine 1996: 164f.) Accordingly, following Stiglitz et al. (1993), monitoring is a public good that tends to be undersupplied by market forces.

2.2.3. Negative Externalities and Systemic Risk

The issue of public goods is closely linked to the economic concept of externalities, being defined as “the incidental but not necessarily unanticipated effect caused by the actions of one economic agent on the welfare of another economic agent, in which the effect does not pass through markets” (Pearson 2000: 56). Accordingly, externalities are positive or negative spill over effects which occur outside the market transaction. The benefits and costs of the transaction are therefore not entirely captured by the market price, leading to market inefficiencies. As a result, the social cost of a market transaction does not necessarily equal the individual or private cost, the former often exceeding the latter one.

(cp. Callan / Thomas 2009: 55) Traditionally, governments have addressed negative externalities either via so called command-and-control policies, namely direct regulation, or market-based policies, including corrective taxes to internalize the cost of an externality and the extension of property rights. (cp. Mankiw 2011: 202ff.) Contrary to the assumptions of the EMH, financial markets exhibit various negative and positive spill over effects. Due to their macroeconomic implications, externalities in the context of finance are considered to be more pronounced than in other areas of the economy (cp. Eatwell / Milgate: 22; Stiglitz et al. 1993) The following section provides a brief overview of two important externalities associated with financial markets and institutions, i. the externality of (excessive) risk taking; and ii. information externalities (cp. Dodd 2002).

i. Externality of Risk in Finance

The rationale for financial regulation is based on the inherent property of financial markets, that excessive risk taking can have adverse consequences reaching far beyond the risk taking market participant or the immediate counterparty. The externality of risk taking may impact on non-counterparty financial institutions, financial markets and the real economy as a whole, imposing excessive costs on society at large. (Dodd 2002: 6f.; Alexander et al. 2006: 24) Given their fragile financial structure, depending heavily on the confidence of depositors and their central role in the overall economy, banks have been considered to be particularly susceptible to self-fulfilling prophecies as depository runs. A shock affecting “one bank may be contagiously transmitted to other banks”, either “because other banks are exposed (or are thought to be exposed) to similar risks or because of *actual*, direct exposures to the damaged bank in interbank markets and/or the clearing and settlement system (..)” (Herring / Schuermann 2005: 19). Accordingly, systemic risk is probably *the* rationale for financial regulation and has been traditionally advanced in the context of the banking sector. However, given the rise of large international securities firms and the increasing globalization and interconnectedness of financial markets and institutions, the concept of systemic risk has been applied by various scholars and practitioners in the context of securities and payment and settlement

regulation as well. Accordingly, the focus of systemic risk research has shifted from classic bank runs to the analysis of *market gridlock*, arising after a disruption or breakdown in the functioning of financial asset markets. As summarized by Eatwell and Milgate (2011: 22): “It may be triggered, for example, by a sharp decline in the price of one asset that sparks a widespread sell-off in the general rush for liquidity”, the latter resulting from the fact that “the individual agent knows the probability of a shock, but does not know the probability of being able to trade with the market counterparties on whom his or her liquidity depends”.

Despite the pervasiveness of the notion of systemic risk in regulatory thinking, among academics and practitioners alike, there is no overall and generally accepted definition of the concept. Additionally, tolerance levels for market instability may vary over time and across countries (cp. Davies / Green 2008: 27). Including a variety of financial risks, however, systemic risk can be defined broadly as the risk of a “systemic event that affects a considerable number of financial institutions or markets in a strong sense, thereby severely impairing the general well-functioning (of an important part) of the financial system” (De Bandt / Hartmann 2000: 11). In contrast to idiosyncratic shocks, affecting only the price of a single asset or the solvency of one institution, hence, systemic shocks are widespread and may propagate from one entity or market to the other, leading to systemic crises that may affect the system as a whole (ibid.: 12).

ii. Externality of Information in Financial Markets

As already discussed, financial markets are considered to be informational efficient if the market prices in general, and security prices in particular “always ‘fully reflect’ available information” (Fama 1970: 383). However, given their information intensity and sensitivity, financial contracts and financial markets in general are highly susceptible to information externalities. Accordingly, information generated in one market influences the pricing of assets in other markets and investment decisions per se. As highlighted by Dodd (2002: 11): “The fact that the information contained in market prices plays an important role in markets outside that in which they are established means that there is an externality to those prices.” Additionally, scholars have highlighted the information

externality associated with the release of financial accounting information. Both the timing and the actual content of the information disclosed in financial reporting releases may impact on other financial institutions. (cp. Foster 1980)

2.2.4. Transaction Costs or Asymmetric Information

Beginning in the 1970s, the standard model of perfectly competitive markets and its underlying assumptions have been substantially challenged by the rise of information economics, most prominently associated with research conducted by George Akerlof and Joseph E. Stiglitz. (cp. Cowen / Crampton 2002)

Stiglitz (2001: 505) and others showed that in the presence of information asymmetries, i.e. the assumption that one party to a transaction (usually the seller/borrower) has access to more or superior information, e.g. about the risks involved, than the other one (usually the buyer/lender), “markets are essentially never constrained Pareto efficient”. This holds true even after taking transaction and information costs into account. Differences may exist regarding the quantity as well as the quality of information, giving rise to two main problems: adverse selection and moral hazard. Adverse selection implies the mispricing of risk and refers to a “condition in which people who are most undesirable from the other party’s viewpoint are the ones most likely to seek to engage in a transaction” (Thomas 2006: 70) and are hence most likely to be selected. On the other hand, moral hazard refers to the risk that one party engages in immoral or other adverse behaviour, hence taking advantage of asymmetric information *after* the transaction. As Krugman (1999: 66) put it, moral hazard refers to “any situation in which one person makes the decision about how much risk to take, while someone else bears the cost if things go badly”. Moral hazard is linked to the so called principal-agent problem, referring to a situation where one party acts on behalf of the other. Asymmetric information represents a widespread problem and affects most markets of the economy. Nevertheless, given their central role in generating and processing information, financial markets, especially credit markets, are particularly prone to information inadequacies, resulting either in thin or illiquid markets and may even lead to their break down. (cp. Peláez / Peláez 2009: 9)

2.3. THE RATIONALE FOR GLOBAL FINANCIAL REGULATION

In the discipline of political science, much of the analysis on the globalization of financial markets, advocating a more coherent and effective system of global financial regulation, has revolved around the question of the impact of economic and financial globalization on the autonomy, functions and capacities of the classical nation state. As early as 1848, Karl Marx and Friedrich Engels (1962: 37f.) highlighted the expansionist tendencies of capitalist production leading to increased global interconnectedness, in turn challenging the role of the nation state: “The need of a constantly expanding market for its products chases the bourgeoisie over the entire surface of the globe. (...) In place of the old local and national seclusion and self-sufficiency, we have intercourse in every direction, universal inter-dependence of nations.”

Meanwhile, these global tendencies of capitalism as described by Marx and Engels have, despite regional differences, become global reality and economic and financial globalization has advanced unprecedented in human history. The second half of the 20th century has witnessed not only the rapid intensification of cross border flows, including the global mobility of goods and (to a lesser extent of) labour, as well as massive flows of capital, but also the rise of non-state global players, transnational regulatory institutions and other forms of international cooperation. Given their impact on “foreign exchanges, interest rates, the stock market, employment levels, and government tax revenues” (Holton 1998: 80), there is wide held agreement among political scientists that globalized financial markets limit the decision-making and regulatory capacities of the nation state. (cp. *ibid.*) Consequently, scholars have argued that nation states are increasingly constrained in their ability to design *effective* policies, leading to the transfer of various policy issue areas to governance levels superior to the nation state level. Enhancing the effectiveness of regulatory policies has hence been an important reasoning for global regulation. (cp. e.g. Zürn 2004) As a result, a number of academics announced the retreat or even end of the nation state. Others, however, have focused on the transformation of the functions, authority and power of the classical nation state and highlighted its role as a regulator or at least facilitator of the global economy by legitimizing supra- or transnational organizations. (cp. Guibernau 2001: 24f.)

In an attempt to conceptualize the observed transformations in international politics, academics have evoked the notion of *global governance*. The complexity of the analytical concept of global governance is not only clearly reflected in the multitude of different definitions, resulting from a vast discourse since the beginning of the 1990s in the social sciences, but also in the over- and misuse of the term by both scholars and in the non-scientific sphere. Following Dingwerth and Pattberg (2006: 185) the concept advocates a radical multipolar view of world politics, assuming “that power is shared among multiple ‘spheres of authority’ “ (ibid.: 197). Additionally, global governance is assumed to be closely tied to the idea of multi-level governance, implying that the analysis of global interactions encompasses not only multiple state- and non-state actors but also various levels and forms of governance. (ibid: 196)

Even though there is a vast consensus among political scientist that there is a need for strengthening the global system of financial regulation and oversight, there is no agreement which framework, type and regulatory model is the most desirable. Taking the maximization of global welfare as their analytical point of departure, international economic law scholars have attempted to evaluate the most appropriate and efficient institutional level of regulation in various policy areas affected by globalization. This strand of research, hence, “focuses on the allocation of jurisdictional authority among nation states and mechanisms for resolving situations in which more than one sovereign has an interest in regulating the same economic activity” (Danielsen 2011: 27). Drawing on functionalist approaches, initially developed with regards to different levels of governance in the context of the federal state (cp. Noam 1982: 279), international law and economics scholars have stressed the role of economies of scale and other economic criteria in determining the optimum regulatory level of global economic activities. Additionally, regulation literature has emphasized three main economic rationales for global financial governance, drawing heavily on market failure arguments for the justification of national intervention:

i. Systemic Risk and Global Contagion

As indicated previously, the presence of negative externalities resulting from the activity of risk taking is an important rationale for financial regulation. Given the high degree of worldwide financial interconnectedness, systemic risk may spread globally across financial institutions and markets operating at an international level, eventually impacting on the real economy. Additionally, as clearly highlighted by the global financial crisis 2007-09, regulators and political leaders have underestimated the role of new financial products in increasing complexity and systemic risk. (cp. Goldin / Vogel 2010)

ii. International Financial Stability as a Global Public Good

Global public goods (GPGs) and their counterpart global public bads (GPBs) are defined as commodities, policies or services that exhibit significant cross-border externalities and that usually cannot be adequately addressed at the national level by an individual country. Given their intrinsic characteristics GPGs are not adequately supplied by the market system and hence their production and financing largely depend on the priorities attached to them by the international community or a specific group of states. Accordingly, one can differentiate between three main triggers that may lead to the emergence of an international or even global consensus on the need to produce the GPG: *urgency*, *need* and *political motives* (Agerskov 2005: 2ff.). International financial stability with an efficient international financial architecture at its core has been highlighted by scholars as a key GPG (cp. Griffith-Jones 2002). Similarly, the joint forum of the World Bank and the International Monetary Fund (IMF), the *Development Committee* (2007: ii), has emphasized the need to strengthen the global financial architecture in order to achieve the GPG of international financial stability and sustained economic growth, including poverty reduction. In the case of financial regulation, urgency has been one of the main catalysts leading to the reform of the international regulatory system, as exemplified by the Asian and Long Term Capital Management (LTCM) financial crisis 1997-98, giving rise to the so called *New International Financial Architecture*. (cp. Agerskov 2005: 4)

iii. (De-) regulatory Competition and Regulatory Arbitrage

The paradigm of regulatory competition is based on the idea that competition between financial centres will eventually lead to the cross-border diffusion of best regulatory practices and hence, to the convergence of national regulatory standards around a socially optimum level (Dale 1996: 9). However, sceptics of the regulatory competition model have suggested that competition among countries with different regulatory frameworks may trigger a “race to the bottom”, namely the diffusion of “bad practices” or the intensification of pressures for deregulation. As argued by Helleiner (1994: 197), the unilateral deregulation of the US financial system has initiated “a war of competitive deregulation” and led to financial liberalization undertakings in several countries. Additionally, given the risk of financial contagion across borders, the ideal regulatory competition model has been criticized not only for disregarding the diffusion of “bad practices” but also the potential impact of an inappropriate national rule on other countries or even the global financial system. One may highlight for instance the danger of negative spill over effects in the case of deregulatory policies, increasing the probability of excessive risk taking. In regulatory literature, this problem is referred to as (negative) “policy externality”. (cp. Abbott / Snidal 2001)

Some scholars however, have pointed at the practice of mutual recognition of national regulatory standards or the imposition of minimum global standards, implying – at least in the short or medium term - the preservation of regulatory diversity. Others, calling for a global “level playing field” and the strengthening of the global system of financial regulation, have highlighted the problem of regulatory diversity-induced competitive distortions and regulatory arbitrage. As claimed by Griffith-Jones (2009: 7): “At the international level, there is also a need for designing an institutional structure consistent with the fact that capital and banking markets have very large parts that operate globally. For the domain of the market to be with the same as the domain of the regulator - to thus avoid regulatory arbitrage between countries and financial centres - it would be desirable to have a global financial regulator.”

2.4. OBJECTIVES AND TYPES OF FINANCIAL MARKET REGULATION

As highlighted in sections 2.2 and 2.3., most rationales of regulatory intervention can be traced back to the existence of certain types of market failures. Accordingly, one may differentiate between three key objectives of financial market regulation, with different relevance and implications for the various financial sectors: Overexposure to systemic risk can not only lead to the breakdown of certain financial institutions and impact on the overall financial system, but may also pose a threat to the economic system as a whole. The promotion of financial stability and safe and solvent financial institutions is consequently the primary objective of financial market regulation and supervision. It is of particular relevance in the context of banking but also in securities regulation. Transparency and the protection of consumers and investors is the second main goal of financial market regulation and closely linked to the problem of asymmetric or imperfect information. It focuses upon the relationship between financial firm and customer and aims to ensure transparency and the accurate dissemination of information. Finally, financial market regulation aims at promoting the general efficiency and well-functioning of the financial system. This includes the prohibition of anti-competitive behaviour as well as destructive competition, among them dishonest trading and other forms of fraud. (cp. Demaestri / Guerrero 2003: 4, Llewellyn 1999: 9) Following Goodhart et al. (1998: 4ff.) three generic forms of financial regulation may be distinguished:

i. Systemic Regulation

Systemic or macro-prudential regulation is aimed at the soundness of financial institutions exclusively from the perspective of systemic risk posed by certain financial entities. Accordingly, the systemic approach to regulation recognizes the impact of correlated exposures and hence aggregate risks on the economic system as a whole and is designed to mitigate systemic risk across markets and institutions.

ii. Prudential Regulation

In contrast to systemic regulation, prudential regulation focuses on the solvency, soundness and safety of individual financial institutions even in the absence of systemic

implications for the purpose of consumer and investor protection. Given “that the consumer loses when an institution fails, even if there are no systemic consequences” (ibid.: 5), prudential regulation is particularly necessary in the presence of imperfect information, “a situation where further disclosure [of information], no matter how high quality or comprehensive, cannot overcome market failure” (FSI 1997: 191). The case for prudential regulation reflects that in practice consumers / investors are often not able to judge the safety of financial institutions.

iii. Conduct of Business Regulation: Disclosure Regulation

In contrast to the before mentioned types of regulation, conduct of business regulation is targeted at the functions of financial institutions rather than the institutions per se and is designed to ensure fair business practices and appropriate behaviour in relation to consumers / investors. Conduct of business regulation is hence primarily directed at consumer protection and focuses on transparency and the accurate and fair dissemination and disclosure of information (e.g. disclosure regime for financial products). The disclosure based approach to investor protection is based on the assumption that increasing the publicly available information enables market participants to make well-informed decisions (implying the ability to evaluate the risks associated with certain investment schemes), thereby promoting market efficiency, discipline and fairness, jointly contributing to higher confidence in the overall system (Avgouleas 2009: 8f.). Additionally, some regulators have advanced the concept of self-regulation as an additional element of a regulatory regime:

iv. Self-regulation

The notion of self-regulatory mechanisms in finance has been primarily advanced by scholars and regulatory practitioners in the United States and Britain, in particular in the context of securities markets. The concept includes standards set by the respective industry, internal compliance and supervisory structures within financial firms, as well as formal self-regulation. In practice, *formal* self-regulation in securities markets is conducted primarily through a self-regulatory organization (SRO), defined as “a private

institution that establishes, monitors compliance with, and enforces rules applicable to securities markets and the conduct of market participants” (Carson 2011: 5). The by far most important type of SRO is a securities exchange. However given the increased commercialization and privatization of securities exchanges throughout the world, their (public) regulatory function has diminished markedly over the last two decades. Other SROs include clearing agencies, various member organizations and industry associations. In contrast to formal self-regulation through SROs, the concept of pure self-regulation typically precludes statutory regulation, referring to a model “in which market participants draw up the rules and police them” (Davies / Green 2008: 211).

Despite differing definitions and models of self-regulation, the various approaches share the common view that given the enormous complexity of modern financial markets, those affected by financial regulation “often have a better understanding of their own activities than do regulators, thus creating an information asymmetry between the regulators and the regulated” (Provost 2012: 558f.). Proponents emphasize that self-regulatory mechanisms are quick, flexible and the most cost-effective (e.g. lower transaction costs) regulatory solution. Additionally, it has been argued that self-regulation may lead to a higher degree of compliance, since in general, self-imposed rules are perceived as more appropriate and effective by the regulated industry than those imposed by external regulation. Approaches of self-regulation, such as e.g. voluntary information disclosure and self-monitoring, however, have been subject to substantial criticism, particularly in the light of practical experiences concerning the operation of self-regulatory mechanisms in certain countries. (cp. Davies / Green 2008: 210f.) Critics of self-regulation have highlighted that even though the regulated industry has an information advantage, the question remains whether they “use the discretion afforded them in ways consistent with public regulatory goals rather than with their own private individual interests” (Coglianese / Mendelson 2010: 153). Accordingly, sceptics insist that adverse incentive structures may lead to an inefficient regulatory outcome.

2.5. EXPLAINING REGULATION AND REGULATORY CHANGE

Over the 20th century, social scientists have developed various theories explaining economic regulation, including normative approaches targeting at the question which type of regulation is the most desirable in terms of improving social welfare, positive theories aimed at economic explanations of regulation, and combinations of the two. The scholarly discourse on explaining regulation has been largely dominated by the clash of two opposing types of regulatory theories – public interest approaches and the capture or private interest view of regulation. Other approaches have highlighted the role of ideology in altering regulatory paths. (cp. Hertog 1999; Kroszner 1999)

2.5.1. Public Interest Theories

Public interest theories of regulation have been advanced both as normative variant, explaining regulation as the improvement of social efficiency, as well as a positive concept, namely as improving Pareto efficiency. Regulatory intervention is seen as a way to improve market efficiency in order to promote the public or common interest. Accordingly, this group of theories is based on the assumption that regulators are benevolent actors, both willing and capable of correcting market failures and undesirable outcomes via direct or indirect market intervention. The public interest view has encountered severe criticism, most prominently but not solely from the so called *Chicago School of Law and Economics*. (Shleifer 2005)

Academic criticism has centred around four main arguments: First of all, the theory has been rejected due to the vagueness of the concept of public interest and social efficiency. Critics argue that there is no generally accepted and uncontested single notion of public interest. In fact, the theoretical concept of public interest tends to oscillate between economic efficiency and social equity. It remains unclear how to balance the (occasionally conflicting) goals of justice and efficiency in practice. (cp. Baldwin et al. 2012: 42; Feintuck 2010: 43f.) Secondly, public interest theories have been questioned by a number of scholars due to their strong focus on market failure. Contrary to the assumptions of the theory of market failure, academics have suggested that markets may often correct inefficiencies themselves, without direct regulatory intervention. Beside the

confidence in the market mechanism of competition, this line of criticism is based on the importance of private negotiations and arrangements, as well as the adjudication by impartial courts, e.g. enforcing contracts. Additionally, the notion of market failure has been contrasted with the idea of government failure, claiming that regulatory intervention is prone to similar inefficiencies as the market mechanism itself. (cp. Hertog 1999: 232f.) The approach of new institutional economics has highlighted the problem of asymmetric information and transaction costs inherent to all forms of organization, including government intervention (Peláez / Peláez 2009: 14). Others have emphasized that regulatory intervention is prone to biases, corruption and other forms of manipulation, or even incompetence. Finally, as indicated by Posner (1974: 340), the theory does not specify the mechanism by which the public interest is transposed into legislative action. In response to the criticism, the public interest theory has been reformulated and revised, leading to new versions of the theory, e.g. taking into account transaction and information costs. Additionally, while insisting that regulatory institutions are set up in order to serve the public interest, newer versions recognize the possibility of misconduct, leading to inefficient outcomes. Accordingly, these versions do not claim that regulatory intervention is infallible, but do “assume that market failure exists, that regulation is the most effective means of combating it and that regulation does not continue to exist once the costs exceed the benefits” (Hertog 1999: 235). Analogous to the argument of government failure, scholars have argued that the arguments of regulatory inefficiency are no more valid than those concerning market inefficiency; hence, the possibility of government failure is not a sufficient justification to discard regulation and rely solely on market mechanisms. (Boettke et al. 2007: 136)

2.5.2. Private Interest Theories and the Role of Ideology

The second main tradition, opposing the public interest view, is the so called capture or Chicago theory of regulation. This group of theories is primarily concerned with the question why regulation comes into being in its current form, rather than why we need intervention from a normative point of view. (Culp 1997: 459) Private interest theories have first been developed by political scientists, mainly in the context of analysing the

role of interest groups in the policy formation process, later formalised and substantiated by economists. One of the most important private interest theories, based on the economic concept of *homo economicus*, is the so called theory of economic regulation, developed by George Stigler in 1971. (Posner 1974: 341ff.) The theory emanates from the assumption that interest groups attempt to capture and influence the political decision-making process and its legislative outcome, hence that “as a rule, regulation is acquired by the industry and is designed and operated primarily for its benefit” (Stigler 1971: 3). Accordingly, while private interest theories and the related empirical work have been advanced primarily as positive approaches to the explanation of regulation, it cannot be denied that they may serve as a justification to reject regulatory intervention per se. Stigler’s capture theory suggests that regulation is often demanded by an industry in order to secure a competitive advantage (known as *rent seeking*).

This view has been amended by other scholars of the Chicago theory of regulation by emphasizing the role of small competing pressure groups, exercising effective political pressure in order to achieve desired outcomes. (Hertog 1999: 239) Additionally, public choice theories have attempted to shed light on the supply side of regulation, directed at the explanation why regulation tends to serve the interests of the regulated industry and, hence, why regulators are inclined to promote certain types of regulatory policies. Scholars have highlighted that “agencies often promulgate slightly uncertain policies so that mistakes can be blamed on the uncertainty rather than an actual error for which the whole agency or a specific regulatory policy would be held accountable” (Culp 1997: 461). Particularly in the context of financial markets regulation, characterized by a high level of complexity and specialization, one must underline the problem of asymmetric information between regulators and regulated industries, implying the possibility of suboptimal regulatory outcomes including non-regulation. Additionally, it is assumed that due to their dependence on the regulated industry, regulators will be likely to avoid conflicts. (ibid.) Engelen et al. (2011) have argued that in the period leading up to the global financial crisis, direct and indirect lobbying activities by the financial sector have outpaced the influence of technical elites and hence, markedly influenced regulatory processes.

According to private interest theories, regulatory change occurs only if there is an exogenously induced transformation in the distribution of power or interests. A classic example is the conventional wisdom of the crisis-induces-reform hypothesis, stating that a financial or “economic crisis often induces policy change (or, even stronger, that crisis is not only sufficient to induce reform but also necessary; that is, that significant reform takes place only in the wake of a crisis)” (Drazen / Easterly 2001: 129). A crisis can substantially alter the power distribution between various political groups or impact on the prevailing ideological climate and thereby inducing a climate of reform.

Accordingly, a third group of theories has highlighted the role of changing ideology of regulators and voters, leading to re-regulation or deregulation. (cp. Hertog 1999: 242ff.) The widespread idea that regulation and deregulation are profoundly influenced by the overall intellectual climate is clearly reflected in various accounts explaining the wave of deregulation over the last decades, contributing to the financial turmoil of 2007-09. Approaches stressing ideological factors have pointed at the pervasiveness of the so called free market ideology or neo-liberalism (e.g. MacEwan / Miller 2011). Caldentey and Vernengo (2010: 10) have stressed the impact of leading academic discourses on regulatory thinking, arguing that “modern finance was not primarily an instrument for understanding the functioning of real financial markets, but a device to promote its transformation, and for favoring certain social groups at the expense of others”.

3. Financial Markets, Regulatory Challenges and the Global Financial Crisis 2007-09

3.1. THE TRANSFORMATION OF THE GLOBAL FINANCIAL ENVIRONMENT

Over the past three decades, the international financial landscape has undergone radical transformation, affecting both shape and structure of financial markets across the globe. The emergence of the new financial market environment has been driven by three interrelated developments: The deregulation and globalization of financial markets; institutional and structural changes as the rise of financial conglomerates and non-bank financial intermediaries; and finally technical progress and financial innovation (cp. Dale 1996; Rajan 2005). These developments have contributed to the rise of new interconnected sources of systemic risk, leading to “the worst financial crisis since the Great Depression” (cp. i.a. Soros 2008; Rogoff 15/09/2008; Griffith-Jones / Ocampo / Stiglitz 2011).

3.1.1. The Era of Financialization and Systemic Risk

The influential academic and founder of world-systems analysis Immanuel Wallerstein considered globalization as a process that is practically identical with the rise of global capitalism. Economic globalization is widely considered to be *the* driving force behind the intensification of worldwide interconnectedness and the increasing degree of human interdependence. (Colander 2002) The *international economy* of the 1940s and 1950s can be characterized by the steady rise and intensification of world trade between national economies, including developed and developing countries. At a regulatory level this period is marked by the establishment of the Bretton Woods system, setting up the International Monetary Fund (IMF), the World Bank and the General Agreement on Tariffs and Trade (GATT). These so called “Bretton Woods years” were characterized by the dominance of current account transactions, capital controls and the promotion of monetary stability, through a fixed but adjustable exchange rate system. (Bordo / Eichengreen 1993)

Due to the drastic devaluation of the US Dollar, as well as fundamental changes in the overall financial context, the Bretton Woods exchange rate system collapsed and was

eventually replaced by a managed floating exchange regime in 1973. The unilateral removal of international capital controls by the US in 1974, followed by the United Kingdom and other states across the world, has finally lead to an unprecedented increase in cross border financial activity. (Boughton / Lateef 1995: 211) The *transnational economy*, replacing the international economy of the Bretton Woods years, is therefore marked by a high level of international trade combined with an on-going integration of financial markets at a global scale. The transnational economy displays a rapid growth of Foreign Direct Investments (FDI) and other cross-border capital flows, outstripping the growth rate of exports. (Holton 1998: 52f.) By the year 2007, world exports of goods had grown to USD 14 trillion, compared to approximately USD 2 trillion in 1980 (WTO Statistics Database). In the same period, global FDI inflows had grown from USD 54 billion to 1.97 trillion (UNCTAD Statistics).

While the internationalization of the banking sector has advanced since the 1960s and early 1970s, the globalization of securities business is a more recent phenomenon, gaining momentum by the 1980s. Following Dale (1994: 3) the globalization of securities markets is reflected in the significant increase in the volume of three main types of securities transactions: i. cross-border transactions; e.g. the acquisition of foreign securities on the domestic exchange of the issuer; ii. cross-exchange transactions, e.g. securities that are listed in one or more foreign exchanges; and iii. internationally traded securities, namely the global bond market. By 1990, the ratio of the total stock of global (non-derivate) financial assets to global GDP, referred to as *global financial depth*, amounted to 227%, compared to 109% in 1980. The subsequent period was followed by an average annual growth rate of about 9% until 2008. (Jain 2011: 59) Accordingly, the so called “decade of globalization” (Boughton 2002), witnessed a sharp increase in financial market activity and the relative size of financial markets, heralding the era of *financialization*. The process of financialization is marked by the growing significance of the financial sector compared to the real economy and can be therefore characterized as a “pattern of accumulation in which profit making occurs increasingly through financial channels rather than through trade and commodity production” (Krippner 2004: 14),

clearly reflected in an increase of the financial sector's share of the total gross domestic product (Palley 2007: 3).

According to Levinson (2009: 6ff.), the sharp increase in financial market activity can be traced back to four main factors: First of all, inflation rates have fallen markedly since the 1980s, creating a favourable environment for capital investments. Secondly, the 1990s witnessed an unprecedented shift from unfunded to funded pension plans in many countries across the globe, where contributions are obligatory and defined but managed by private pension funds and invested in a variety of financial assets. By the end of 2007, global pension fund assets amounted to USD 15 trillion. Thirdly, stock and bond markets performed exceptionally well during the 1990s - with the exception of the Asian financial crisis - and in the period before 2008. Due to favourable stock market returns, investors are inclined to reinvest some of their profits in the financial markets, thereby reinforcing the positive trend. Finally, the emergence of a multitude of new and highly complex financial products, most prominently credit derivative products and asset-backed securities. (Levinson: 6f.) Initially designed as financial tools for risk management purposes, credit default swaps (CDSs), collateralized debt obligations (CDOs), and other products soon diversified into an "individual financial product line of their own" (Deacon: 151), leading to an enormous boost in financial market activity.

The expansion and deepening of financial markets over the last decades, characterized by the dramatic increase in cross-border and global financial linkages, has promoted international risk diversification leading to the reduction of so called unsystematic, namely asset-specific risk. However, as highlighted by the growing field of network theory in finance, "interconnectedness is a double-edged sword: it has the potential of making a network more *robust* via improved risk sharing, yet it could also render a network more *fragile* by increasing systemic risk" (IMF 2011: 4). Battiston et al. (2009), for instance, have shown in the context of credit markets, that once the level of interconnection (via diversification) in a network increases above a certain threshold, the probability of default at the systemic level starts to increase. Accordingly, the globalization of financial markets is marked by a potential trade-off between decreasing the probability of individual default via risk sharing and increasing systemic risk due to

the dissemination of financial risk and distress across state borders. Evidently, the domino effect of systematic cross-border contagion is particularly likely and severe if the shock originates in a main financial hub. A study conducted by Degryse et al. (2009), for instance, has examined the cross-border contagion risk in the period between 1999 and 2006. The simulation indicates that “a shock wiping out 25% (35%) of US (UK) cross-border liabilities against non-US (non-UK) banks could lead to bank contagion eroding at least 94% (45%) of the recipient countries’ banking assets” (ibid.: 4). Similar results have been found for an initial financial shock affecting the liabilities in Eastern Europe, Russia or Turkey.

3.1.2. Technical Progress and Financial Innovation

One of the main forces substantially shaping and altering the modern financial landscape has been rapid technical progress, including the development of new financial statistical techniques, and the revolution in information and communication technology. While innovation is an inherent part of the evolution of financial markets and hence, in itself not a novel phenomenon, the pace and scale of financial innovation activities have accelerated dramatically over the past three decades. (Llewellyn 1992: 40) This development can be traced back to the increase in the demand for risk management products given higher market volatility and uncertainty after the collapse of the Bretton Woods system on the one hand, and the trend of financial deregulation on the other. Accordingly, probably *the* single most important feature of modern finance has been the tremendous and unprecedented growth of the financial derivatives market. (cp. Verma 2008: 3; Hull 2009: 1).

A derivative, defined as a financial “*contract that derives most of its value from some underlying asset, reference rate, or index*” (Kolb / Overdahl 2003: 1), is a very flexible and multifaceted financial tool which can serve a variety of purposes. In the context of risk management, derivatives (i.e. derivative securities) are used for hedging against various types of risk, for instance, against potential adverse movements in market prices, thereby reducing the impact of market volatility (*market risk*). On the other hand derivatives have gained prominence as a potent instrument for speculation via betting on

the value of the underlying asset or instrument, as well as for arbitrage purposes, e.g. taking advantage of price inefficiencies. In the academic literature, derivatives are commonly classified according to three aspects (cp. Dale 1994: 153; Verma 2008: 4ff.): i. the relationship between the derivative and the underlying asset; ii. the nature of the underlying asset; and iii. the type of market in which the derivative is traded.

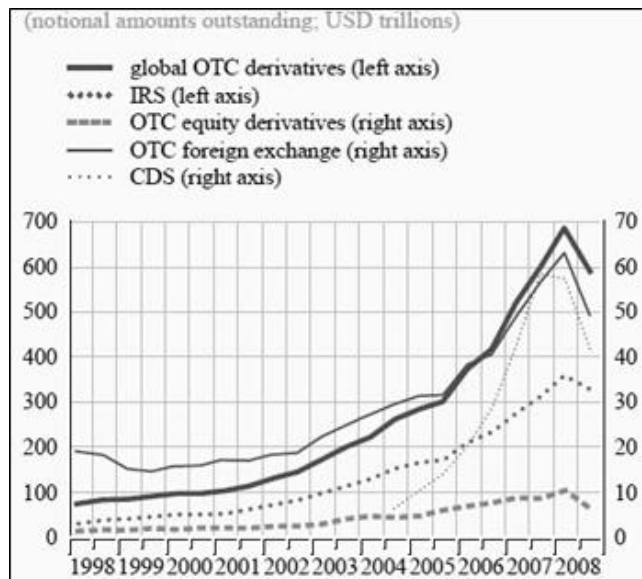
Derivative instruments (as e.g. forward contracts, swaps) can exhibit a very close or so called linear relationship to the underlying asset, “reflected in the fact that at maturity, the payoff of the forward contract changes by an amount identical to the change in the value of the underlying itself either be linear payoff” (Verma 2008: 4). On the other hand, derivatives with optionality, so called options (granting the holder the right to sell or buy without the obligation to do so), are characterized by a non-linear relationship between payoff at maturity and the price of the underlying. Additionally, there are so called hybrid or structured derivative instruments combining different types of financial contracts. (ibid.) Secondly, one may classify derivatives according to the type of underlying asset: interest rate, foreign exchange, credit, commodity or equity (stocks) and even other derivative securities, creating so called *derivatives-squared* (McCormick 2011: 61). Finally, there are two types of markets in which derivatives are traded: organized exchange markets where participants trade standardized contracts which fulfil certain requirements and decentralized, unregulated over-the-counter (OTC) markets where transactions are typically negotiated, settled and cleared bilaterally, namely between the two counterparties. (cp. IMF 2010; Dale 1994: 153)

OTC markets are highly flexible, allowing market participants to tailor derivatives products to meet their specific needs and risk preferences. As a consequence, OTC derivatives markets tend to facilitate financial innovation, leading to its spectacular growth over the last decade. (Cecchetti et al. 2009: 49) As summarized by Figure 1, the estimated total notional amount of outstanding over-the-counter (OTC) derivatives increased from USD 70.1 trillion in June 1998 (cp. BIS 1998a) to USD 684 trillion by June 2008 (cp. BIS 2008), with interest rate derivatives (IRS) being by far the largest market segment, followed by foreign exchange derivatives, credit derivatives (CDS) and finally equity-linked derivatives. The OTC business is mainly concentrated in the world’s

leading financial centres, the UK accounting for about 43% of all derivatives turnover in 2007, followed by the US with a share of 27%. About 75% of the total OTC business undertaken by UK-based financial institutions in 2007 is cross-border. Japan, Germany and France combined were responsible for about 15% of the overall OTC trading in 2007. (Jones 2009: 6)

Figure 1 Size of the Global OTC Derivatives Markets (1998-2008)

Source: European Central Bank (2009), pp. 14



Given their heterogeneity and self-regulatory nature, OTC markets, however, exhibit three main weaknesses in contrast to exchange-traded markets: First of all, OTC derivative markets are characterized by the opacity of exposures (Acharya / Bisin 2010) and interconnections, leading to a lack of transparency. Accordingly, counterparty risk, arising "from the possibility that borrowers and counterparties in derivatives transactions may default" (Hull 2009: 497), is an inherent part of OTC derivatives markets. Due to the lack of full knowledge of the trade positions held by other market participants, there is an intrinsic danger of underestimating counterparty risk, leading to excessive risk-taking activity. In the case of large exposures, the default (or risk of default) of one counterparty may lead to a knock-on or spill over effect from one market participant to the other,

spreading losses and risks through the national and international financial network (interconnectivity or systemic risk). (cp. Dodd 2004: 5f.; IMF 2010: 97) The opacity of interrelations impedes the detection of large hidden exposures, limiting financial supervision and monitoring. (Cecchetti et al. 2009: 50) Finally, given the relatively low trading frequency, OTC derivatives markets tend to be less liquid than exchange-traded or other organized markets. Most OTC swaps, for instance, are on average traded less than 20 times per day. (IOSCO 2011c: 7).

The most remarkable trend in derivatives markets since the 1990s has been the tremendous growth of the credit derivatives segment, enabling market participants to shift credit risks, i.e. “the risk of financial loss due to the default of a borrower or a decline in the borrower’s credit quality” (Yadav 2008: 40) across financial institutions and sectors. The global notional amount of credit derivatives outstanding has grown from about USD 108 billion in 1998 (cp. BIS 2001: 24) to USD 4.5 trillion by 2004, followed by an explosive growth until the beginning of the market turmoil in 2007, amounting to USD 51 trillion (cp. BIS 2007: 24). Credit derivatives are very versatile instruments which are “defined as arrangements that allow one party (protection buyer or originator) to transfer, for a premium, the defined credit risk, or all the credit risk, computed with reference to a notional value, of a reference asset or assets, which it may or may not own, to one or more other parties (the protection sellers)” (Kothari 2011: 7).

Accordingly, the use of credit derivatives enables the protection buyer, i.e. risk seller, to transfer credit risk without selling the underlying asset, while the protection seller uses credit derivatives as a profitable investment tool, diversifying his investment portfolio. The main participants in the credit derivative market, both as buyers and sellers of credit protection are banks and securities firms. As the main credit originators, commercial banks typically buy protection while investment banks and universal banks (offering both commercial and investment banking) tend to act both as risk sellers and buyers, as well as market makers or intermediaries. Institutional investors as insurance companies, pension and mutual funds, as well as short term investors as hedge funds act mainly as protection sellers. (cp. Kasapis 2008: 6ff.)

In the period leading up to the global financial crisis, marked by apparent economic stability, there has been wide-held agreement that credit derivatives have contributed profoundly to financial stability via risk transfer and dispersion, while simultaneously increasing financial market efficiency by creating liquidity, enhancing credit availability and reducing the costs of financial intermediation (cp. Llewelyn 2009: 20). As highlighted in the Global Financial Stability Report (IMF 2006: 51): “The dispersion of credit risk by banks to a broader and more diverse group of investors, rather than warehousing such risk on their balance sheets, has helped to make the banking and overall financial system more resilient.” The credit derivative boom over the last decade is characterized by a high degree of innovation and variability, including the involvement of new types of underlying asset classes. One may differentiate between two main credit risk transfer product categories: i. fundamental or *single-name* credit derivative products as credit default swaps (CDS); and ii. *multi-name* structured credit products as asset-backed securities (ABS) and collateralized debt obligations (CDO). (cp. Banks et al. 2007; Hull 2009: 525ff.; Joint Forum 2005: 3)

i. Single-Name Credit Default Swaps (CDS)

The credit default swap (CDS) is the most popular type of credit derivative product in the market, providing insurance against the risk of a *credit event*, namely the default of a particular reference entity. Traded in the OTC market, CDSs have experienced tremendous growth rates, their outstanding value increasing from about USD 1 trillion in 2001 to USD 60 trillion in 2007 (Baily et al. 2008: 62f.). By entering into a CDS deal, the “buyer of the insurance obtains the right to sell bonds issued by the company for their face value when a credit event occurs and the seller of the insurance agrees to buy the bond for their face value when a credit event occurs” (Hull 2009: 526). While credit derivatives as CDSs allow for hedging all or part of the credit risks involved in the transaction, they are characterized by a high degree of counterparty risk given the absence of a central clearing facility. Contrary to the total rate of return swap (TORS), however, the protection seller only takes the risk of default, while the price risk (due to market volatility) is born by the protection buyer. Additionally, CDSs have gained

popularity as an instrument for speculative purposes. By buying insurance, CDSs allow for speculating on a reference entity's credit quality and might even trigger a self-fulfilling prophecy leading to bankruptcy (e.g. rumours). It is noteworthy, that the buyer of insurance does not have to owe the underlying security or debt (no insurable interest), implying the danger of moral hazard. Trading in these so called *naked credit default swaps* has hence been compared to "buying fire insurance on your neighbor's house and then lighting the match" (Tabb 2012: 205).

ii. Securitization and Structured Credit Products: ABS and CDOs

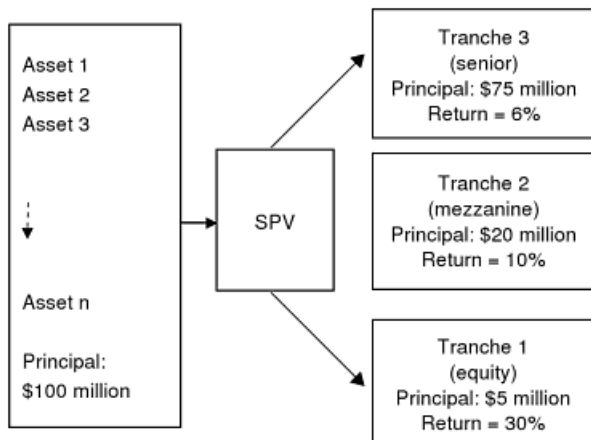
Credit derivative transactions may be either conducted between two counterparties or as a capital market transaction, i.e. "embedding the derivative into some capital market instrument, and offering such instrument to investors in the capital market" (Kothari 2011: 11).

An asset backed security (ABS) is a structured financial credit product that is created, e.g. by a bank or loan company, from a pool of underlying assets (referred to as *origination*) that may include both tradable and non-tradable assets such as corporate bonds, consumer loans as residential mortgages (i.e. mortgage backed securities) and credit card receivables or other structured finance products. These contractual promises are transferred to a separate (legal) off-balance sheet entity, a so called special purpose vehicle (SPV), structured investment vehicle (SIV) or conduit which subsequently issues securities with different risk-return profiles (referred to as *tranching*) backed by the cash flows of the asset pool and selling them to a larger, widespread group of investors (referred to as *distribution*). This financial-legal technique of originating and distributing, i.e. transfer of a (mainly illiquid) asset pool into marketable securities, is known as *securitization*. (cp. Tanega 301f.; Hull 2009: 536f.) In the period leading up to the global market turmoil of 2007-09, short term or very short term lending instruments became an important funding tool for structured products. Such markets for short term funding include the asset-backed commercial paper market and the market for repurchase agreements (i.e. the repo market), both contributing to the rise of the shadow banking system (Eichner et al. 2010: 20).

The key characteristic of structured finance, i.e. the tranching of liabilities, implies “the ability to create one or more classes of securities whose rating is higher than the average rating of the underlying collateral asset pool or to generate rated securities from a pool of unrated assets” (Fender / Mitchell 2005: 69), thereby adding a new dimension to the process of securitization. The credit risk is usually allocated to three tranches ranging from senior tranches (least risky, typically AAA rating) and mezzanine tranches to equity tranches as the most risky ones (usually not rated) and hence, implying the highest returns given that no credit event occurs (see Figure 2). Depending on risk preferences, an investor can choose between relatively safe investments or more risky ones. Pension funds, for instance, are typically constrained in investing in risky assets, while hedge funds might choose the riskiest tranche.

Figure 2 Basic Structure of an Asset-Backed Security (ABS)

Source: Hull (2008), pp. 24



Typically, mezzanine risk is more difficult to sell than senior tranches, giving rise to a new and innovative type of structured ABS in the run up to the financial crisis 2007: the collateralized debt obligation referencing ABS (ABS CDO). In practice, the mezzanine tranches of various ABS (among them mortgage backed securities) are repackaged into a new ABS, known as *two-layer* or *re-securitization* and then sold to national and international investors. Moreover, there is the possibility to create CDO-squared, i.e. a

CDO backed by a pool of other CDO tranches. In addition to cash ABS CDOs, the global credit derivatives market has witnessed the rise of so called synthetic ABS CDOs. In contrast to cash CDOs, synthetic CDOs are characterized by the fact that ownership of the reference portfolio is not shifted to a SPV, instead the originator transfers the credit risk of the underlying assets by using CDSs. Subsequently, the SPV issues securities with different risk profiles backed by the cash flows from CDSs, which are then sold to investors. ABS CDOs backed by a pool of both cash assets and CDS are so called hybrid CDOs. (cp. Joint Forum 2008: 4ff.; Hull 2009: 538; Fabozzi et al. 2006: 133ff.)

Credit derivatives and in particular structured products are marked by the presence of information asymmetries. The originate-to-distribute business model using credit derivatives, allows shifting credit risks from loan originators to other financial institutions, not involved in the initial credit assessment. This may lead to problems of adverse selection, e.g. poor underwriting standards and since there is little incentive to monitor the borrower once the credit risk is transferred, to the danger of moral hazard. (cp. section 2.2.4) The possibility to remove assets (e.g. loans) from balance sheet (via conduits, SPV, SIV ...) and thereby raising capital, depository institutions are inclined to originate more risk. As summarized by Rajan (2005: 317): “As plain vanilla risks can be moved off bank balance sheets into the balance sheets of investment managers, banks have an incentive to originate more of them. Thus they will tend to feed rather than restrain the appetite for risk. (..) Moreover, the risk they now bear is a small (though perhaps the most volatile) tip of an iceberg of risk they have created.” Consequently, credit derivatives may be used for regulatory arbitrage purposes by transferring risk off the balance sheets and shifting it to less regulated or non-regulated intermediaries or markets to evade regulation as e.g. minimum credit rating investments, capital requirements or adverse taxation. Accordingly, from a regulatory or supervisory perspective, credit derivatives especially multi-layered structured products are highly complex and non-transparent, implying ramified exposure chains, opacity in the market structure and the danger of systematic mispricing due to overreliance on rating agency ratings. These characteristics of the OTC credit derivative market poses major difficulties

for supervisory and regulatory authorities in assessing the involved risk and identifying potential sources of systemic risk. (cp. Joint Forum 2008: 24ff.)

Due to the dominance of large investors, the credit derivatives market is considered to be relatively concentrated. Given that the “sudden withdrawal of a large market participant may lead to considerable price movements in the market and to serious liquidity risk in the short-term” the market for credit derivatives tends to exhibit the “illusion of liquidity” (Schlösser 2011: 15f.).

3.1.3. Structural Transformations and the Emergence of Financial Conglomerates

Finally, the global process of financial market integration has been accompanied by substantial structural transformations of the financial landscape over the past decades. These changes have been largely driven by two main developments, in fact representing two sides of the same coin: First of all, these structural developments have been largely generated by the increased involvement of banks in the business of securities underwriting. Deregulatory initiatives finally paved the way for the functional integration of banking and securities business, leading to the gradual erosion of the traditional differentiation between investment and commercial banking and the emergence of so called *financial conglomerates*. (Dale 1996: 13). A financial conglomerate, hence, can be defined as “any group of companies under common control whose exclusive or predominant activities consist of providing significant services in at least two different financial sectors (banking, securities, insurance)” (BIS 1995: 1), many of them operating at a global scale.

The rise of financial conglomerates has evidently posed a major challenge to financial oversight. In practice, prudential supervision and regulation has focused separately on each type of activity, being subject to different regulatory approaches and requirements, e.g. capital requirements for deposit taking institutions. While global banking regulation has traditionally been primarily concerned with capital adequacy and balance sheet exposures and the main focus of systemic stability consideration, insurance supervisors have focused predominantly on the liability side of balance sheets, price risk and a sound solvency regime. Global securities markets supervision, on the other hand, has been

fundamentally directed at promoting efficient markets, fostering information dissemination and disclosure requirements. The combination of these different financial activities and the potential threat of intra and extra group contagion due to correlation of risks have challenged regulators not least with regards to the determination of adequate capital requirements for conglomerates. Given their global scope, various international initiatives (e.g. Joint Forum, cooperation between IOSCO and Basel) have attempted to find a common approach to the supervision of financial conglomerates, however with limited success. (cp. BIS 1995; Alexander et al. 2006: 26, 50)

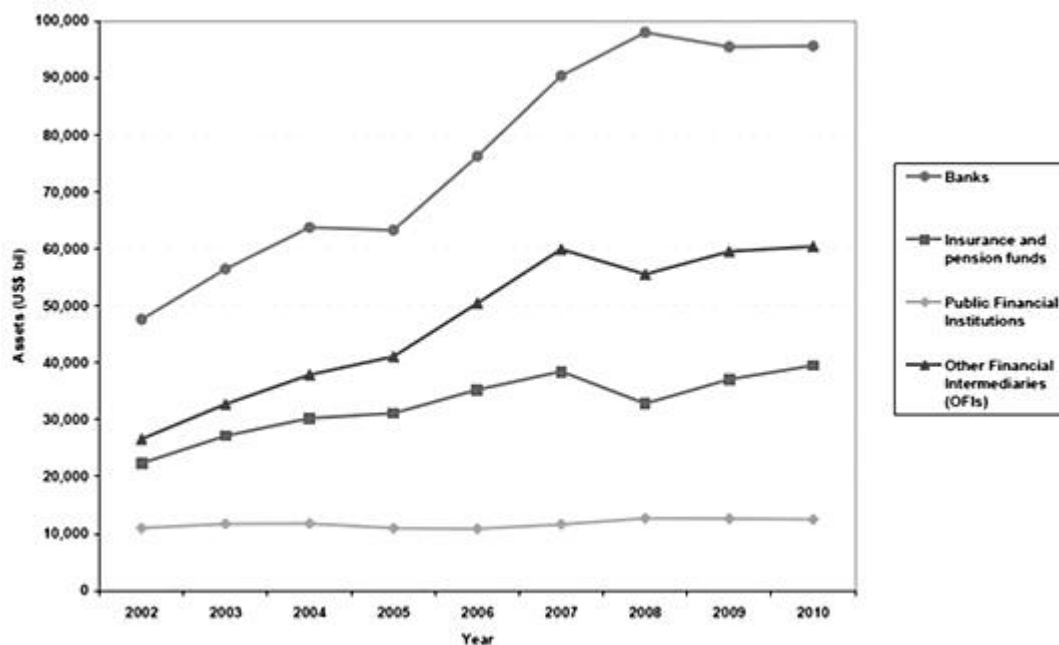
As highlighted by Wilmarth (2009: 994f.), in the period leading up to the market turmoil of 2007 “(..) large complex financial institutions (LCFIs) - including the four largest U.S. banks (BoFA, Chase, Citigroup and Wachovia), the five largest U.S. securities firms (Bear Stearns, Goldman, Lehman, Merrill and Morgan Stanley), and seven major foreign universal banks (Credit Suisse, Deutsche, Barclays, RBS, HSBC, BNP Paribas and Societe Generale) - collectively dominated the markets for debt and equity securities, syndicated loans, securitizations, structured-finance products and OTC derivatives.” Accordingly, growing financial market activity has been accompanied by a process of institutionalization: When it comes to trading in financial markets, individual investors have been largely outpaced by large-scale investors with high levels of capital concentration, having implications for the stability of the financial system as a whole. (Dale 1996: 221f.)

A second important characteristic has been a trend away from traditional bank-intermediated financing toward “direct” financing via securities markets, a phenomenon referred to as *disintermediation*. However, as highlighted by Rajan (2005: 314), the term is misleading given the fact that even “[t]hough in a number of industrialized countries, individuals do not deposit a significant portion of their savings directly in banks any more, they invest indirectly in the market via mutual funds, insurance companies, and pension funds, and indirectly in firms via (indirect) investments in venture capital funds, hedge funds, and other forms of private equity”. Accordingly, the new financial market environment is characterized by the dramatic increase of non-bank credit intermediaries, namely “entities and activities structured outside the regular banking system that perform

bank-like functions” (FSB 2011b: 1), referred to as *shadow banking system*. As indicated in Figure 3, the period prior to the financial crisis has witnessed the rapid growth of assets held by non-bank financial intermediaries, increasing from about USD 27 trillion in 2002 to USD 60 trillion in 2007, constituting about one fourth of the total financial system. Simultaneously, there has been a sharp increase in assets held by banks (ibid.: 8).

Figure 3 Assets held by Banks and Other Financial Intermediaries (OFIs)
(in USD bn)

Source: Financial Stability Board (2011), pp. 27



The main advantages of credit intermediation via non-bank financial entities is the provision of alternative funding and increased cost-efficiency given the high degree of specialization in the shadow banking system. By creating long (risk) chains of credit intermediation via securitization techniques and structured financial products, usually each step performed by a separate non-bank entity, however, the rise of non-bank financial actors has led to increased complexity and opacity. Contrary to the traditional banking system, the shadow banking system does not have access to public sector guarantees or central bank liquidity. As a consequence, non-bank financial intermediaries

tend to be either under-regulated or not regulated at all, creating loopholes in the system of financial supervision. However, similar as in the traditional banking sector, short-term liabilities are used to finance long-term assets, implying the danger of shadow banking panic if confidence is lost. (cp. FSB 2011b; Comotto 2012; Hall) These short-term liabilities, however, are borrowed from depository banks, mutual funds or households. As exemplified by Hall and Liebermann (2012: 782): “Instead of depositing funds in a regular bank, you could provide the funds to Lehman [Brothers] by buying one of its corporate bonds - a promise from Lehman to return your funds, with interest, within days or weeks. Alternatively, you could put your savings in a regular bank, and the *bank* might lend to Lehman.” These lending chains, hence, may lead to indirect exposures to derivative activities, even if the respective financial institution does not participate in the derivatives markets directly (Yadav 2008: 32). Accordingly, the shadow banking system may represent a potential source of “double risk”: directly given the high degree of intra-system interconnectedness and poor regulation, and indirectly through links with the regular banking system. Given the structural transformation of global financial markets, regulators are hence confronted with potential gaps in supervision and regulatory arbitrage either via institutional adaption, i.e. international bank groups, or via linkages to un- or under-regulated shadow banking entities such as hedge funds. (ibid.: 81)

3.2. THE GLOBAL REGULATORY FRAMEWORK AND SECURITIES REGULATION

Despite the global scale of financial market operations, posing inherent limitations to national regulation and supervision, there has been no international consensus on the establishment of a *World Financial Authority* (Eatwell / Taylor 1998), as it has been the case in the trade sector with setting up the World Trade Organization (WTO) as the successor of the General Agreement on Tariffs and Trade (GATT). The current global financial governance framework is highly disintegrated and complex, comprising numerous institutions, organizations, committees and other bodies. Their function is either limited to a particular sector of the financial services industry; or to promote specific functional tasks. Additionally, the global financial architecture has witnessed the rise of informal forums as the Group of Twenty Finance Ministers and Central Bank

Governors (G20), aiming at international cooperation and consultation on the regulation and supervision of the international financial system. (Baker 2010c: 58) As a consequence, international regulation and the evolution of global regulatory standards “has taken place in a relatively fragmented, weak, and exclusive institutional context” (Helleiner / Pagliari 2010a: 3).

Undoubtedly, issues of international financial regulation and global standardization touch upon some of the most sensitive areas of national sovereignty. As a consequence, the global financial system witnessed the emergence of a number of consensus based, transnational regulatory and standard setting organizations aimed at *managing systemic risk* (Alexander et al. 2006: 34). Over the last three decades various Committees have been established under the Bank for International Settlements (BIS), starting in the banking sector with the Basel Committee on Banking Supervision (“Basel Committee”) in 1974. For the securities sector the International Organization of Securities Commission (IOSCO) has been created, followed later by the International Association of Insurance Supervisors (IAIS). Additionally, in the aftermath of the Asian financial crisis, the scope of international financial regulation expanded, leading to the establishment of the Committee on Payment and Settlement Systems (CPSS), the Committee on the Global Financial System (CGFS) and private institutions as the International Accounting Standards Board (IASB). It is important to highlight that despite the profound transformations of international financial markets associated with the rise of new financial entities and instruments over the last decades, the global regulatory framework is markedly structured along the traditional three pillars of finance, namely banking, securities and insurance. Given the high interrelation between the various financial services, this sectoral approach has been criticized as being inappropriate and inefficient in regulating modern financial markets. (Davies / Green 2008: 222)

In an effort to address cross-sectoral implications of global financial market activity, the Basel Committee, IOSCO and IAIS together established the Joint Forum (JF) in 1996, followed by the Financial Stability Forum / Board (renamed after the global financial crisis) as cross-sectoral coordinating body in 1999. (cp. Young 2011) The International Monetary Fund (IMF) and the World Bank, being part of the international financial

global governance architecture, have assumed oversight and monitoring functions, especially with regards to the implementation of global financial standards, however, “they have no role in sanctioning non-compliers and are not themselves involved in setting those standards” (Davies 2010a: 186). Prior to the outbreak of the Asian financial crisis, their focus had been largely on monetary and fiscal policy, rather than financial regulation per se.

Global financial governance relies markedly on declarations, principles, best practices, standards and other forms of so called *international soft law*. The various forms of international soft law rules are not legally binding without their transposition into multilateral treaty frameworks. (cp. Abbott / Snidal 2000; Kerwer 2005) Besides legally binding, namely *substantive* treaties, the most cited source of public international law is international custom (international customary law), consisting of two compulsory elements: state practice and general conviction of law (known as *opinio iuris*). However, “the absence of a binding international legal commitment to implement the Basel Accord and other international financial standards has taken these standards outside the scope of customary international law and treaties” (Alexander et al. 2006: 136). All policy reforms and agreements are based on reaching consensus among all members, who then - ideally- act in accordance with the commitments on a voluntary basis. These loose or alleged “toothless” structures of global financial governance have often led to criticism regarding its effectiveness. As Blundell-Wignall and Atkinson (2010: 13) illustrate in the context of banking regulation: “The financial system is a system of promises. A basic problem with the Basel system is that it cannot deliver a regulatory ideal of treating the same promises in the financial system in the same way wherever they are passed in the regulatory and tax arbitrage process. The same promises should be treated in the same way, regardless of where they sit in the financial system.” Undoubtedly, mechanisms of global or multilateral governance follow a different path than traditional legal structures of hard law. However, depending on the level of commitment on behalf of the involved actors, intergovernmental cooperation bodies and soft law agreements are not necessarily ineffective or powerless, as indicated by the application of the Basel Committee standards in more than a hundred countries worldwide.

The following section briefly describes the main global regulatory organization in charge for international securities markets regulation, standard setting and international cooperation: the International Organization of Securities Commissions (IOSCO) and its relation to the Committee on Payment and Settlement Systems (CPSS). Additionally, the two main cross-sectoral bodies of global financial governance, the Joint Forum (JF) and the Financial Stability Forum (renamed Financial Stability Board) are presented.

3.2.1. The International Organization of Securities Commissions (IOSCO)

The International Organization of Securities Commissions (IOSCO), based in Madrid, has been established in 1983 as the global successor of a regional inter-American association and is *the* international standard setting body for securities markets. Its foundation has been triggered by the increasing globalization of financial markets and securities business. IOSCO is aimed at creating and implementing uniform rules and standards for the regulation of global securities markets, promoting three main objectives of securities regulation: “protecting investors; ensuring that markets are fair, efficient and transparent; and reducing systemic risk” (cp. IOSCO 2011).

Given the increasing relevance of global non-bank financial institutions in the process of intermediation and their affiliation with commercial banks, IOSCO has become concerned with the question of systemic risk in the context of securities firms. Traditionally, there was wide-held conviction (especially, but not solely in the United States) that securities firms pose no or merely limited risk to financial stability, hence, drawing a sharp distinction between banking regulation (as a mean to guard against systemic threat) and securities regulation (with the main objective of investor protection). With the US stock market crash of 1987 and later with the collapse of LTCM, several regulatory authorities acknowledged the systemic risk implications of securities regulation. However, no international agreement on capital requirements could be reached, limiting global standards largely to business-of-conduct and disclosure requirements. (cp. Alexander et al. 2006: 55ff. ; Herring / Schuermann 2005: 21f.)

Its institutional structure encompasses the General Secretariat; the Presidents’ Committee, made up of all ordinary and associate members, meeting once a year; the

Executive Committee, including the Technical Committee and the Emerging Markets Committee; and four Regional Standing Committees. At present, IOSCO's membership comprises 115 *ordinary members* with voting power, i.e. national regulators responsible for securities regulation and 88 members with no right to vote, namely 11 *associate members*, as public regulatory agencies and 77 *affiliate members*, the latter primarily entailing self-regulatory organizations (SROs) initiated by the respective industry. Based on its relatively broad membership and the equal voting rights for all ordinary members in the Presidents' Committee, IOSCO is considered in general to be more legitimate than other global standard setting bodies as e.g. the Basel Committee. The Technical Committee has emerged as the leading forum, responsible for most regulatory policies and prudential standard setting. Its limited membership of 17 countries in total, involving primarily regulators from the G10 countries, however, has raised concerns about the accountability and legitimacy of IOSCO's decision-making process. Additionally, IOSCO has been criticized repeatedly on the grounds of transparency, given that committee meetings are not open to IOSCO members that are not part of the respective committee and the public in general. (Alexander et al. 2006: 59)

Following the stock market crash of 1987, negotiations on the harmonization of capital adequacy requirements for securities firms were initiated, however reaching no agreement between European and US regulators (cp. Singer 2004: 546ff.). In 1998, IOSCO created a set of *Objectives and Principles of Securities Regulation*, which has been subsequently extended and revised, containing to date thirty-eight principles (IOSCO 2011a). In 2002, the organization started to implement a cooperation and exchange model based on so called Multilateral Memoranda of Understanding (MMoU) in order to increase compliance with its standards. Given the *soft law* character of the regulatory standards, members are not bound legally by any statements produced by IOSCO. Additionally, in comparison to the Basel Committee, IOSCO "had a somewhat lower profile" (Davies / Green 2008: 59), not least due to the fact that issues of global securities regulation had been less of a priority among national regulators in the period before the financial crisis 2007-09. Accordingly, IOSCO has attracted only limited attention by academics and most practitioners prior to 2007, being describes as "a

relatively passive organization whose primary role has been to encourage regulators to negotiate and fulfill bilateral information-sharing agreements” (Simmons 2000: 613).

Negotiations between IOSCO and the Basel Committee starting in 1991 on the coordination of capital adequacy requirements for banks and securities firms broke down in 1992 due to divergences among European and US regulators within the Technical Committee of IOSCO. In early 1995, the two bodies jointly issued a report on derivatives operations of banks and securities firms, outlining the main risks involved in derivatives trading from a regulatory point of view. Such tentative attempts to coordinate international banking and securities regulation, have “been given further impetus by the Barrings collapse in February 1995, which revealed embarrassing lack of cooperation between bank and securities regulators internationally” (Dale 1995: 147).

3.2.2. IOSCO and the Committee on Payment and Settlement Systems (CPSS)

The Committee on Payment and Settlement Systems (CPSS), established in 1990, is a standard setting body aimed at promoting financial stability through the strengthening of financial market infrastructure, including payment, clearing and securities settlement systems. As of 2007, the CPSS had fourteen members, including the United States, Singapore, Hong Kong, the European Central Bank, the United Kingdom and various other European countries. Remarkably, Australia, China, India, Russia and some other main economies did not participate until 2009. In 2001, IOSCO and CPSS jointly produced the *Recommendations for securities settlement systems* (BIS 2011), a very basic set of minimum standards for securities settlement systems.

3.2.3. The Joint Forum (JF)

The Joint Forum (JF), established under the auspices of the Basel Committee on Banking Supervision, IOSCO and IAIS (the so called *Parent Committees*) in 1996, aims at addressing cross-sectoral issues of global financial governance, including the governance of financial conglomerates. The JF comprises representatives from 13 countries, among them the US, Canada, Australia, Japan and 9 from Europe, each Forum participant sending an equal number of banking, insurance and securities supervisors. (cp. Young

2011: 103f.; Davies / Green 2008: 81f.) Its main objective is “to support banking, insurance and securities supervisors in meeting their regulatory and supervisory objectives and, more broadly, to contribute to the international regulatory agenda in particular where risks exist across or in gaps between the three supervised sectors” (IOSCO 2011). In practice, scholars have highlighted that its mandate has been substantially limited to providing recommendations to the Parent Committees. Additionally, as highlighted by Davies and Green (2008: 82), “mainly due to political resistance in the US in particular, and to the long-standing resistance of the large US investment banks to group supervision of any kind”, substantial progress on the global governance of financial conglomerates has been limited.

3.2.4. The Financial Stability Forum (FSF)

The Financial Stability Forum (FSF) was established in the aftermath of the Asian financial crisis by the finance ministers and central bank governors of the G7, in order to reduce systemic risk via improved information exchange and the coordination and promotion of international standard setting and implementation. Bringing together national central banks, government representatives, various regulatory and supervisory authorities, representatives of the committees of central bank experts, international organizations as the IMF and the main international regulatory bodies, the FSF aimed at identifying and assessing vulnerabilities affecting the global financial system as a whole. (cp. Arner / Buckley 2010: 19; Helleiner 2010: 283)

During the first two years after its creation, the Forum established various subject-specific working groups producing wide-ranging recommendations in order to strengthen financial stability. However, as highlighted by Carrasco (2010: 106), the working groups had a tendency “to point to substantial future work that needs to be done, positioning the FSF as a body that has potential rather than one that is actually achieving solutions to the problems it identifies”. Following some controversies among the sector-based international regulatory bodies, questioning the legitimacy of the working groups per se, the FSF focused primarily on developing status reports, providing assessments on issues relevant to global financial stability and adding impetus to other institutions of specific

subject areas. In addition, competing national views and preferences on the role of the FSF in the global financial architecture contributed to a weakening of the body. (cp. Davies Green 2008: 116)

3.3. The Global Financial Crisis of 2007-09

As the influential financier George Soros correctly highlighted in his book *The new paradigm of financial markets*, the worst financial crisis since the Great Depression has been the “culmination of a super-boom that has lasted for more than twenty-five years” (Soros 2008: vii). The decades leading up to the financial crisis of 2007, were characterized by a high level of macroeconomic stability and rising growth rates across the OECD countries, as well as in the wholesale financial system. This period of growth, however, became increasingly driven by excessive borrowing, expansionary monetary policies in the US, cheap credits and lenient lending, off balance-sheet financing and leverage; accompanied by a process of financial deregulation. (World Economic Forum 2009: 16) The crisis, having its origins in the bursting of the “dot com bubble” of 2001, was further triggered by a long period of low interest rates in the United States, contributing to excessive subprime lending characterized by the tremendous decline of underwriting standards. These easy credits were driven by processes of speculation and securitization. After their issuance, subprime mortgages were repackaged into structured credit products and passed on to investment banks selling them to international investors and other financial entities across the globe. The market for residential mortgage backed securities (MBS), insured by CDS, and for ABS CDOs skyrocketed.

In his testimony before the US Financial Crisis Inquiry Commission (FCIC), leading financial analyst Mike Mayo compared these financial innovations with “cheap sangria”: “A lot of cheap ingredients repackaged to sell at a premium. It might taste good for a while, but then you get headaches later and you have no idea what’s really inside” (FCIC 2011: 6). With the bursting of the speculative US housing bubble leading to defaults in the subprime mortgage loans market, however, the subprime crisis erupted. (Shiller 2008: 6f.) The value of MBS started to decline, putting shadow bank entities under stress. The process of de-leveraging initiated by a run on the shadow banking system, lead to the

collapse of the entire SPV and SIV system. Simultaneously, due to rising distrust and risk avoidance, banks sharply increased the interest rate at which they borrowed and lend to one another, leading to a classic liquidity crisis in the banking system, resulting in panic and the collapse or near collapse of a number of big financial institutions. “In the course of two weeks in September 2008, the government took over of the mortgage companies Fannie Mae and Freddie Mac, Lehman Brothers collapsed into bankruptcy, Merrill-Lynch was sold to Bank of America, and the Federal Reserve organized an \$85 billion bailout of AIG.” (Jones I 2009: 8) Stock prices crashed dramatically, around the globe governments intervened heavily in the financial market in order to save banks and prevent the collapse of financial institutions of systemic relevance. Following the first wave of market turmoil, broad agreement emerged that the credit crunch has demonstrated the failure of existing regulatory frameworks in keeping pace with the increasing globalisation of financial markets and the rise of new financial products (cp. Davies 2010a). Practitioners and legislators around the world seemed to advocate a more effective and vigorous system of global financial regulation.

4. International Financial Market Regulation after the Global Crisis

The global financial crisis has shed light on the deficiencies in regulatory oversight, both at the national and the international level in keeping trace with new types of financial activity and monitoring risks affecting the financial system as a whole. Following Griffith-Jones (2010), the failure of the present global regulatory framework has been twofold: First of all, the deficit is reflected in the regulated sector, most prominently the banking system, marked by inadequate capital requirements, lack of disclosure, the failure to limit excessive risk taking and finally insufficient enforcement (cp. Blundell-Wignall / Atkinson 2010). Simultaneously, however, vast areas of the modern financial market environment, including new financial products and channels of intermediation, were either not regulated at all or merely subject to minimum disclosure requirements. The present chapter will focus primarily on the latter, analysing the main global regulatory initiatives in this area so far and draw an overall picture of the impact of the crisis on global securities and cross-sectoral regulation.

The analysis comprises three dimensions: First of all, the regulatory dimension, reviewing the emergence of the G20 as the new forum for financial regulation, the establishment of the Financial Stability Board (FSB) as the novel global systemic risk supervisory body and the “reawakening” of IOSCO. The following section aims at analysing the impact of the financial crisis on the global regulatory scope and perimeter and finally, the third section revisits the main underlying theoretical assumptions of securities regulation, examining the implications of the crisis for some aspects of regulatory thinking.

4.1. THE IMPACT ON REGULATORY BODIES: THE G20, THE FSB AND IOSCO

4.1.1. The G20 and Global Financial Reform

The emergence of the Group of Twenty (“G20”) as the main forum for international crisis management and global financial reform, replacing the G7/G8 as the centrum of economic cooperation, is probably the most visible transformation in global financial governance triggered by the financial crisis in 2008. (cp. Woods 2011a; Baker 2010a; Davies 2010) Initially, the G20 was established in the wake of the Asian financial crisis

in the late 1990s, following a recommendation of the G7 finance ministers. Created as a forum for cooperation and consultation on the regulation and supervision of the international financial system, it has brought together the major advanced and emerging economies of systemic relevance once a year, representing all regions of the world and generating about 90 per cent of global GNP. A total of 19 of the world's largest economies are represented by their finance ministers and central bank governors together with the European Union, the latter represented by the President of the European Council and by the European Central Bank. It is only with the outbreak of the financial crisis in 2008, however, that the G20 has re-emerged as an important actor in the financial system. (Hajnal 2007: 151f.)

This shift from the framework of the G7/ G8 to the G20 in the global financial crisis have been explained by two main factors: First of all, it can be claimed that in the course of the Asian financial crisis leaders of developed countries have recognized that a number of emerging market countries have become global players of systemic relevance. Accordingly, they were aware of the need to include them into the global governance structure of financial cooperation, in order to tackle the crisis in joint action. Secondly, policy observers and journalists have highlighted the issue of political strategy in the push for a G20 summit. France's (now former) president Nicolas Sarkozy, but also Britain's Prime Minister at that time, Gordon Brown, strongly advocated coordinated action in the framework of the G20, rather than the G8, probably with the intention to limit perceived US dominance in the field of international policy coordination. Nicolas Sarkozy, for instance, emphasized the role of Europe in the aftermath of the first G20 summit, describing it as a “ ‘historic’ outcome ending ‘the madness of this time of total deregulation’ which would not have happened without ‘pressure from France and Germany’ “ (as quoted in APCO 2009: 3). Likewise it has been argued that the United States preferred negotiations within the forum of the G20 in order to diminish dominance of the European Union. (Nelson 2010: 6)

The G20 is an informal ad hoc institution and therefore does not possess formal decision making capacity and holds no authority to implement or enforce rules: the implementation of concrete policy measures is up to the national governments or

international organisations such as the European Union or the International Monetary Fund (IMF). It has been characterized as an *apex policy forum*, defined as entities operating at the highest level of governance, that display “a global perspective, or remit, and seek to define priorities, directing, steering and framing work conducted elsewhere, rather than undertaking substantive work themselves” (Baker 2010a: 59). All policy reforms and agreements are based on reaching consensus among all members, who then – ideally - act in accordance with the commitments on a voluntary basis. Accordingly, these standards are not legally binding and there is no possibility to sanction non-compliance. These loose or perceived “toothless” structures of the G20 have often led to criticism regarding its effectiveness. (Davies 2010: 186) Unlike other institutions such as the World Trade Organization, the G20 has no permanent staff of its own and is therefore dependent on a temporary secretariat and formal international economic organizations, especially the International Monetary Fund (IMF) and the World Bank but also regulatory standard setting bodies as the Basel Committee. Accordingly, the G20 attempts to define a minimum consensus and set out priorities for a common agenda, transferring substantial work to international institutions or global regulatory bodies.

To date six G20 summits have been held: The first meeting took place in Washington, DC in mid-November 2008, almost exactly one month after the global financial services firm Lehman Brothers had filed for bankruptcy. The Washington meeting was followed by summits in London and Pittsburgh in 2009, in Toronto and Seoul in 2010 and in November 2011 in Cannes. Especially the first three G20 summits have been negotiated under the banner of the financial crisis clearly stating the ambition to strengthen international prudential financial regulation. (Bradford / Limm 2011)

The *Washington summit* was characterized by immediate macroeconomic crisis management, favouring expansionary monetary and fiscal policies. Witnessing the largest bankruptcy in American history, namely the collapse of the fourth largest investment bank, *Lehman Brothers* - holding assets worth more than USD 600 billion - engendered panic around the global financial market system. Accordingly, the Washington summit reached a common understanding on the root causes of the global crisis and produced the joint *Declaration on financial markets and the world economy*, identifying five key

principles underlying the envisioned reform of global financial market regulation: i. strengthening transparency and accountability, including improved disclosure requirements for complex financial products; ii. enhancing sound regulation and developing appropriate and efficient oversight for all financial markets, products and participants; iii. promoting integrity in financial markets, i.e. strengthening investor and consumer protection and promoting information sharing; iv. reinforcing global coordination and cooperation and finally, v. reforming the global financial regulatory framework and international financial institutions (cp. G20 2008). These general principles for reforming financial markets were accompanied by an agreement on strengthening cooperation in fighting protectionism, therefore reemphasizing the commitment to the principles of the free market. (Nelson 2010: 10)

The *London summit* of April 2009, producing the joint *Declaration on strengthening the financial system*, is often considered to be the most ambitious and far reaching meeting of the G20, especially in contrast to the relatively broad and vague principles of reform set out during the Washington summit. First of all, the G20 leaders reached agreement on increasing the funding for the IMF by over 1 trillion US Dollars. The crisis accompanied by the IMF's increased lending capacity led to a re-strengthening of the organization, since its "1997-1998 response to countries affected by the East Asian financial crisis had left it branded 'illegitimate' even by mainstream economist" (Woods 2010: 52). Further, agreement on the necessity to bring systemically important hedge funds under regulation and take action concerning so called "tax-evasion paradises" could be reached. Additionally, negotiations took place concerning the oversight over credit rating agencies. (cp. G20 2009a) The main achievement, however, has been the establishment of the Financial Stability Board (FSB) under US-leadership, as the successor of the Financial Stability Forum, representing the first major institutional innovation undertaken by the G20. Its creation has been linked to the effort to strengthen the global prudential standards regime and set up measures for a cross-border crisis management by involving emerging economies. (Helleiner 2010) As emphasized in the final G20 communiqué: "Major failures in the financial sector and in financial regulation and supervision were fundamental causes of the crisis. Confidence will not be restored until we rebuild trust in

our financial system. We will take action to build a stronger, more globally consistent, supervisory and regulatory framework for the future financial sector, which will support sustainable global growth and serve the needs of business and citizens.” (IMF 2009a)

At the third G20 summit taking place in Pittsburgh in September 2009 the group was announced to become the new permanent council for international economic cooperation, therefore officially replacing the G7/G8. The *Pittsburgh summit* was characterized by a shift from immediate crisis management to a main focus on future prospects and long term agreements. The main achievement, at least at a level of principle, had been the consensus on creating a new framework in order to strengthen international standards for bank capital, namely increasing the liquidity requirements in the banking system. Negotiations on compensation practices leading to excessive risk taking did not lead to any consensus. Additionally, the summit aimed at elaborating exit strategies of the stimulus measures and enhancing the regulation of OTC derivatives markets, securitization practices and hedge funds. The latter task had been assigned to global regulatory bodies as the new Financial Stability Board (FSB) and the International Organization of Securities Commission (IOSCO). (cp. Nelson 2010: 11)

As the worst phase of the crisis was overcome, reflecting the period of the first three summits, analysts have observed a decline of enthusiasm and commitment regarding global financial regulation. In June 2010, the fourth G20 summit took place in Toronto, marked by a process of economic recovery. The main priorities on the *Toronto summit*’s agenda were evaluating the progress of financial reform measures, promoting reforms to ensure economic growth and free markets, and discussing a global tax on financial transactions (cp. Dettmar et al. 22/09/2009). The outcome of the G20 Toronto Summit, however, revealed not only different approaches to financial reform among the G20 member countries, but also a partial renunciation of a uniform framework for the regulation of global financial markets. (The Guardian, 29/06/2010) While the United States approached the topic from focusing on the size of financial institutions relative to the economy (referred to as “too big to fail”), the Europeans have sought to raise capital requirements for banks in the framework of the Basel institutions (known as Basel III). Fundamental differences among the G20 members on monetary and fiscal policy, on

financial sector taxation, on minimum capital requirements for the banking system, on derivatives and on hedge funds, represented a major step backwards. (Cendrowic 24/06/2010)

The G20 *Seoul summit* was relatively unanimously described as “high on rhetoric, low on achievement” or as characterized by the former IMF managing director Dominique Strauss-Kahn as “more a G20 of debate than a G20 of conclusion” (as quoted in the Financial Times 12/11/2010). The agenda encompassed measures on promoting economic recovery and sustainable growth, based on free trade, discussing the risk of currency wars and the necessity of global safety nets, as well as issues regarding the support of developing countries, being particularly vulnerable in the face of the economic downturn. Additionally, the leaders confirmed the Basel III framework, which had been discussed previously at the Toronto summit and called for a stronger cooperation between the FSB and the IMF. Although the commitment to strengthen global prudential standards has been reaffirmed, concrete measures proved to be very lenient given the emergence of regulatory divergences. The last G20 summit so far, held in November 2011, has been largely dominated by the Eurozone debt crisis. Additionally, the *Cannes summit* reaffirmed the commitment to enhance the regulation of OTC derivatives and to close regulatory gaps with regards to the regulation of shadow banking entities. The substantive work has been delegated to global regulatory bodies as the FSB, IOSCO, the Basel Committee and the CSSS. (cp. G20 2011)

4.1.2. The “New” Financial Stability Forum: The Financial Stability Board

In April 2009, following the recommendations set out at the Washington summit, the G20 established the Financial Stability Board (FSB) as the expanded successor of the Financial Stability Forum (FSF). The Financial Stability Board, hosted by the Bank for International Settlements in Basel, is made up of the G20 senior representatives from finance ministries and central banks, central bank experts, as well as the main global standard setting bodies and international financial institutions, including the International Monetary Fund and other financial institutions relevant for financial stability at a global scale. For the first time, the FSB includes members from emerging economies. (Nelson

2010: 11) The strengthening of the FSF/FSB can be considered as an attempt to address the structural shortcomings of the three pillar system of the global regulatory architecture (cp. Davies / Green 2010: 221), inherently limiting global systemic and cross-sectoral regulatory and supervisory oversight. Additionally, the broadening of membership led to inclusion of important emerging economies such as Argentina, Brazil, China, India, Russia and Mexico.

In addition to the initial mandate of the FSF, including assessing vulnerabilities with implications for the stability of the global financial system and promoting information exchange, the main tasks of the FSB include: i. monitoring macroeconomic developments and their regulatory implications; ii. promoting and monitoring compliance with international financial standards; iii. undertaking reviews together with the global regulatory standard setting bodies in order to assess and better coordinate policy development work; iv. promoting supervisory colleges; v. managing cross-border crisis management and finally, vi. close cooperation with the IMF and conducting so called Early Warning exercises (cp. BIS 3/04/2009)

Having a full-time secretary-general, its main aim is to strengthen international prudential financial regulation and oversight, with main focus on liquidity and capital issues, as well as promoting transparency, risk management and assessment. Although the creation of the Financial Stability Board can be seen as part of an aspiring effort to promote effective international prudential standards, many unsolved challenges have remained. Eric Helleiner (2010a: 282) highlights four main deficiencies: The FSB still needs to develop effective mechanisms for monitoring and encouraging compliance, as well as reinforce initiatives to strengthen the consensus on effective international standards. Given the fact that its agenda is determined by the G20, it remains unclear how the FSB will “name and shame” inadequate national policy reforms in practice and hence, “how critical judgments would be reached and crucially whether any mechanisms or safeguards will exist to prevent critical messages from being diluted, or removed, due to political pressure from a particular member state” (Baker 2010a: 20). This situation is compounded by the fact that the FSB has no clearly defined rule-making and rule-enforcement authority (cp. Woods 2011b). Additionally, in order to strengthen its role in

the global financial governance architecture and enhance its independency as an institution, scholars have highlighted the necessity to increase its staffing and depart from the overreliance on BIS funding and include broader sources of financing (CGFR 2011: 16). Furthermore, it is of paramount importance to establish legitimacy within its member states but also towards non-member states. This condition proves to be indispensable regarding the problem of “race to the bottom” practices in financial regulation, rendering global prudential standard ineffective and without substance in practice. Finally, it is necessary to clarify the role of the FSB in relation and vis-à-vis other international financial and economic governance institutions.

Due to these weaknesses and unsolved problems a number of scholars have been highly critical of the establishment of the FSB. In fact, Howard Davies, former director of the London School of Economics sarcastically claims that “so far the most significant architectural change, and it is scarcely even that, has been to *rename* the Financial Stability Forum as the Financial Stability Board” (Davies 2010: 188, emphasis added). Other critics have emphasized that the FSB has not been formally ratified by national legislation, hence lacking authority to play any substantial role in the global regulatory architecture. As highlighted by Woods (2011b: 6), the FSB “was created and could be terminated by a press release of the G20”.

At the same time, however, the inclusion of important emerging countries may contribute to more balanced regulatory approaches, bringing new perspectives and diversity in to the international arena of financial governance. By including the interests of the developing world, the new member states may act as a counterforce to deregulatory approaches. The interests of smaller developing and emerging countries, as for instance simplification of regulation, however, are still not adequately represented. (Griffith-Jones / Young 2009) It is important to mention in this context that economic global governance faces a dilemma: On the one hand, in order to engender effective global prudential standards, it is necessary to involve as many actors as possible. On the other hand, however, with the increasing number of actors, consensus building becomes highly complex, often leading either to unsatisfying “minimal” solutions and agreements based on the lowest common

denominator or to no agreement at all, bearing the risk of a “race to the bottom” in order to attract foreign capital investments.

4.1.3. IOSCO and the Crisis of 2007-09

In November 2007, as an immediate response to the unfolding global financial crisis, IOSCO initiated a working group on the subprime market turmoil, analysing the causes of the crisis and its regulatory implications for international securities markets. The final report highlighted the role of new financial products, credit rating agencies, poor underwriting and risk management standards and the lack of transparency in causing the crisis, establishing recommendations for additional IOSCO action. (cp. IOSCO 2007) Moreover, IOSCO amended its core *Objectives and Principles of Securities Regulation*, including eight new principles with an enhanced focus on reviewing the perimeter and scope of securities regulation and the importance of systemic risk in securities markets. The novel principles include the appropriate oversight of hedge funds and credit rating agencies. (cp. IOSCO 10/06/2010) The broadened scope of developing principles and standards for securities regulation are furthermore reflected in the establishment of various task forces, leading to a broad set of standards covering due diligence requirements and unregulated financial entities, markets and products. (cp. Diplock 2010) In 2008, IOSCO broadened its membership, including now Brazil, China and India (cp. Griffith-Jones / Young 2009).

The large number of international regulatory standards set by IOSCO in the aftermath of the financial crisis, ranging from the regulation of hedge funds, rating agencies and OTC derivatives markets including CDS to questions of financial infrastructure reform as central clearing (mainly jointly with the CPSS) and disclosure requirements, came as a surprise considering its image as a relatively passive organization. Nevertheless, a number of academics have argued that the financial crisis has in fact weakened rather than strengthened IOSCO's role in shaping global financial policy. Its agenda has been largely set by the G20 as *the* driving force of regulatory reform. As highlighted by Pagliari (2011): “The regulatory standards published by IOSCO in 2009 reflect the new

consensus that had emerged among politicians outside of the organizations, rather than the leadership of the same international regulators.”

4.2. THE IMPACT ON THE SCOPE OF GLOBAL SECURITIES REGULATION

As announced at the G20 Washington summit and later reaffirmed and prioritized in the London *Declaration on strengthening the financial system*, at the core of the objective to enhance sound regulation has been the agreement that “all systemically important financial institutions, markets, and instruments should be subject to an appropriate degree of regulation and oversight” (G20 2009a: 3). Given their role in the global financial crisis, OTC derivatives and the shadow banking system have moved to the top of the agenda, representing the two *main* un- or under-regulated financial areas.

4.2.1. Regulating the OTC Derivatives Markets

Given their tremendous growth over the last decades, OTC derivatives markets and in particular credit derivatives markets have been repeatedly subject of global regulatory interest, as reflected in various reports conducted primarily by the Joint Forum, the International Organization of Securities Commission (IOSCO) and the Committee on Payment and Settlement Systems (CPSS). The first comprehensive study on global derivatives trading, *Derivatives: Practices and Principles*, including recommendations of academics, end-users and dealers, published by the G30, dates back to 1993. The influential G30 report can be considered as being “at the forefront of self-regulation” (Tsingou 2001) in derivatives market, advocating efficient self-regulation and the reliance on market discipline and private-sector responsibility rather than any form of direct regulation (cp. G30 1993). The notion that direct intervention in financial markets fundamentally hampers innovation and market efficiency, held by many policy makers and practitioners in the US and the UK, has further backed the private opposition of formal regulation (cp. Helleiner / Pagliari 2010b). Contrary to optimistic views claiming that global regulation is less prone to capture, Baker (2010b: 650) has shown that financial regulatory capture has not only been pervasive at the national level prior to the crisis but also transmitted into the perceived technical regulatory organizations of global

financial governance, revealing “the mutual dependence and reciprocity between domestic and international spheres”.

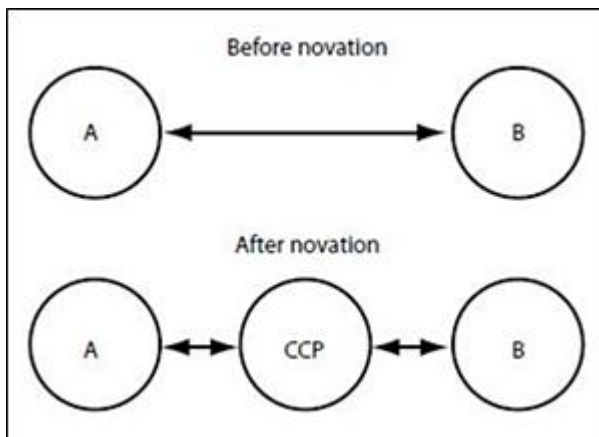
The 1998 *OTC derivatives: Settlement Procedures and Counterparty Risk Management* report (BIS 1998b), jointly produced by CPSS and the precursor of the CGFS, analysing the various types and sources of risks associated with OTC trading, including the concept of systemic risk, has been the first international regulatory analysis dealing with central clearing counterparties (CCCPs) for OTC derivatives as a practice for managing counterparty risk. However, global standards on CCP (central counterparty) clearing, as set by CPSS and IOSCO in 2004, targeted primarily at exchange-traded derivatives. (cp. Glass 2012:) As discussed in section 3.1.2. of the present analysis, in contrast to exchange-traded derivatives, OTC derivatives are primarily negotiated and cleared bilaterally, involving solely the counterparties to the transaction. The global financial crisis has highlighted that the problem of counterparty risk in bilaterally cleared markets, leading to increased opacity of financial interconnections, may have systemic implications. Accordingly, a relatively broad G20 consensus emerged that there is a need to improve regulatory frameworks and strengthen clearing mechanisms for OTC markets. At the Pittsburgh summit, the G20 announced that by the end of 2012, *standardized* OTC derivatives contracts should be moved onto organized exchanges or electronic trading platforms and cleared through CCPs. In order to determine the appropriate degree of standardization and hence the products’ suitability for being cleared by a CCP, it is necessary to evaluate three main factors: the uniformity of legal or contractual terms and definitions, the level of operational standardization as common trade procedures and finally, the degree of liquidity (IOSCO 2011c: 22ff.). In order to advance the standardisation of CDSs and other OTC derivatives and encourage derivatives dealers to trade in standardized products that may be cleared by a CCP, the G20 has envisaged additional capital requirements for bilateral positions. Furthermore, a commitment to report OTC contracts to “trade repositories” (TRs) has been set out. (cp. G20 2009b) Two non-exclusive approaches can be distinguished: i. introducing CCP clearing for OTC derivatives off-exchange or/and ii. moving standardized OTC derivatives to organized exchanges (cp. Glass 2012: 84).

i. Central Counterparty (CCP) Clearing for OTC Derivatives off-exchange

A CCP is defined as a legal entity that “interposes itself between counterparties to financial contracts traded in one or more markets, becoming the buyer to every seller and the seller to every buyer” (BIS 2004: 1), thereby cancelling and replacing the initial bilateral contract and its responsibilities with two new contracts (a process referred to as *novation*). As shown in Figure 4, after novation the contracting parties are no longer counterparties to each other, the CCP becomes the only counterparty to each participant. Additionally, the practice of central clearing allows for settling trades via multilateral netting, referring to a process whereby participants agree to offset obligations or positions with each other via a CCP (cp. Cecchetti et al. 2009: 49).

Figure 4 Central Counterparty (CCP) Clearing: Novation

Source: International Monetary Fund (2010), pp. 8



There are two main benefits of CCPs: First of all, there is a substantial reduction of counterparty risk and contagion effects, since the default of any participant is mitigated either by the initial margin collected by the CCP from each participant as a buffer against potential future losses or contained by other default protection as contributions of the other members if the margin is insufficient. The introduction of a CCP, itself not exposed to market risk, hence “reduces the risk that failure by a single derivatives counterparty can cascade into a system-wide crisis, with that counterparty’s failure causing a trading partner to immediately become insolvent, and that trading partner’s insolvency causing

still more financial failures” (Glass 2012: 84). The second main advantage is increased market transparency, given that transactions are usually recorded and additionally other trading related information is collected, enabling regulators to keep track of the developments in the market. Strengthening transparency may additionally contribute to mitigate the risk of *market gridlock* given the fact that the inability to assess the positions held by other market participants, as well as the risks involved exacerbated the market turmoil of 07-09. (cp. IMF 2010: 7; Cecchetti et al. 2009) In order to take full advantage of the benefits offered by CCP clearing and ensure the mitigation and reduction rather than the amplification of systemic risk, it is of pivotal importance that central clearing facilities are subject to careful and vigilant regulatory supervision and monitoring (cp. Squam Lake Working Group 2009: 4).

ii. Moving OTC Derivatives onto organized exchanges

The introduction of CCPs in OTC derivatives market does not necessarily (but can) imply the transfer of OTC contracts to organized exchanges. In the case of securities (including derivatives) exchanges, however, CCP are usually mandatory and exchanges often simultaneously function as a CCP. The main difference between an off-exchange CCP cleared derivative contract and an exchange-traded CCP cleared contract is the fact that in the latter case “the price is determined by the matching of anonymous buy and sell orders entered on the exchange, and parties are required to transact at the price at which orders ‘cross’ on the exchange” (Glass 2012: 84), hence leading to more transparent pricing and liquidity, at the same time reducing dealer profits. However, in order to be eligible for trading and clearing on organized exchanges, contracts need to display a certain degree of standardization.

Despite the commitment to introduce central clearing for standardized OTC derivatives contracts by the end of 2012, results so far have fallen short of expectations and the Financial Stability Board (FSB) assumes that the objective will not be reached by all member jurisdictions in the respective period (cp. FSB 2011a: 1). The agreement on the necessity of CCP clearing in standardized OTC derivatives markets has been accompanied by political struggles and disagreement, primarily between the US and the

European Union, concerning the structuring and cross-border implications of CCPs. Given the global nature of OTC derivatives, there is a strong case for a global CCP, not least due to the advantages resulting from economies of scale, referring to the fact that “the average cost per transaction declines with an increase in the number of transactions” (IMF 2010: 21). On the other hand, opponents of a single CCP argue that given the high level of risk aggregation, its failure would cause tremendous systemic disruptions. It can be argued, however, that due to the high degree of interconnectedness the default of a major market participant would have an adverse impact on various CCPs (ibid.). Neither policy makers from Europe nor from the US could agree on a global CCP located outside their respective jurisdictions. Additionally, there is no agreement on which OTC derivatives contracts are to be subjected to mandatory CCP clearing or/and moved to exchanges. The multi-counterparty clearing system, hence, raises the question of regulatory arbitrage, particularly given the political pressure exerted by interest groups, e.g. derivatives end-user, in order to enforce exemptions to mandatory clearing. (Chwiero 2011: 28)

In June 2012, following the commitment of the G20 to strengthen global derivatives regulation, IOSCO published its final report on *International Standards for Derivatives Market Intermediary Regulation*. The report focuses on global regulatory standards for “those entities that are in the business of dealing, making a market or intermediating transactions in OTC derivatives” (IOSCO 2012a: 4), hence, excluding end-users and other market participants that are not engaged in the before mentioned activities. The recommendations issued by IOSCO include: i. registration or licensing requirements; ii. establishing minimum standards for initial and on-going reporting requirements, including public dissemination of relevant information; iii. considering capital requirements for non-prudentially regulated intermediaries; iv. introducing business conduct standards for intermediaries in order to prevent fraud and manipulation; v. protecting customers via the segregation of client positions and collateral from assets belonging to the intermediary; and vi. improving risk management and record keeping standards for OTC derivative transactions. Above all, however, IOSCO emphasizes the need to improve the coordination of OTC derivatives market intermediaries regulation at

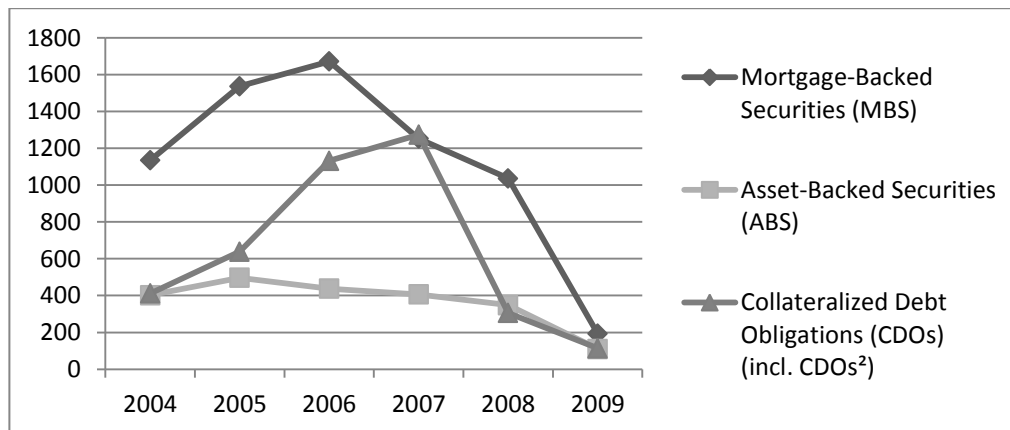
the global scale, calling for international regulatory consistency to avoid regulatory arbitrage and consequently, mitigate the danger of systemic risk. (ibid.: 7f.)

4.2.2. Securitization

In the wake of the financial turmoil of 2007, the market for *multi-name* structured credit derivative products witnessed a sharp decline and has not fully recovered since. Additionally, the drop in asset securitization was accompanied by the freeze of trading in particular asset classes, as most prominently MBS. As indicated in Figure 5, between 2006 and 2009 global MBS issuance decreased from approximately USD 1.7 trillion to USD 192.8 billion. CDO and CDO² issuance dropped from USD 1.3 trillion in 2007 to USD 113.6 billion in the respective period; the market for CDO² virtually collapsed by 2009.

Figure 5 Global Issuance of Structured Credit Products

Source: Graph and calculation based on IMF Data from the Global Financial Stability Report (2009), 2.2.



In its 2009 report on *Unregulated Financial Markets and Products*, IOSCO issued various recommendations and standards for reforming the regulation of global securitization markets. Given their pivotal role in credit risk transfer and alternative credit provision, restoring investor confidence and improving the oversight and robustness of the market has been one of the main priorities in the aftermath of the global financial crisis. In contrast to previous approaches, IOSCO underlines the need to move beyond

industry based regulatory mechanisms. Accordingly, while IOSCO (2009b: 5) “acknowledges and encourages industry initiatives to strengthen the operation of the securitisation and CDS markets”, the report clearly underlines the limitations of self-regulatory approaches, given that “neither industry initiatives nor market discipline averted the deficiencies that contributed to the global financial crisis”. The report focuses on six areas of recommendations: i. examining and aligning incentive structures in the securitization process, e.g. compensation on long term performance, retention requirements; ii. improving risk management and facilitating the understanding of complex financial products; iii. independence of service providers; iv. reviewing investor suitability requirements; and v. improving and standardizing disclosure requirements, including initial and on-going disclosure of all relevant information. Finally, IOSCO calls upon national supervisory bodies to assess the perimeter of regulatory powers (cp. IOSCO 2009b: 27f.). The implementation assessment in 2011, however, has highlighted deficiencies in most jurisdictions concerning disclosure requirements for private and wholesale offerings and highlighted the need to improve international regulatory convergence in order to avoid market fragmentation (IOSCO 2010).

4.2.3. Regulating the Shadow Banking System

Following the efforts to strengthen global banking regulation via Basel III, concerns over a new wave of regulatory arbitrage emerged, moving the question of the regulation of shadow banks to the top of the international regulatory agenda. Given their central role in the global financial crisis and their tremendous growth following the securitization boom over the last decades, the G20 leaders authorized the FSB jointly with other global regulatory organizations to develop recommendations and guidelines aimed at improving the present framework and advance new approaches to the regulation of non-bank entities. The main recommendations include the mapping of the overall shadow banking system and its connections with the regular banking system, identifying and assessing sources of systemic risk and regulatory arbitrage, comprising the monitoring of off-balance sheet exposures and the degree of leverage with particular emphasis on the analysis of credit intermediation chains. While indirect regulation via the regulation of

the regular banking systems' interactions with non-bank financial intermediaries remains an essential part of shadow banking regulation, the FSB highlighted the need for direct regulation given their role as a potential source of systemic risk per se. (cp. FSB 2011b) It can be argued, that the global financial crisis has highlighted the limitations of the predominant *line-in-the-sand rationale* (De la Torre / Ize 2009: 8), referring to the regulatory approach of separating prudentially regulated (deposit taking) financial intermediaries from others, while disregarding the role of non-bank financial intermediaries as a potential source of systemic risk, *both* due to high leverage and via their interconnections with the banking system. The FSB announced the issuance of global standards on the regulation of the overall shadow banking system by the end of 2012. The report will focus primarily on five policy areas: i. the interconnection of the shadow banking system with the regular banking sector; ii. money market funds; iii. identification of other shadow bank entities and development of a prioritization scheme, as well as recommendations for those with significant shadow banking risks and systemically important entities; iv. securitization (building on the previous work of IOSCO); and v. securities lending with a focus on repo markets (cp. FSB 2012).

Hedge Funds

Despite the rapid increase in the volume of assets held by hedge funds, the rise of these shadow-banking institutions had not been subject of regulatory interest until the dramatic collapse of LTCM, revealing the high degree of financial interconnectedness between regulated and non-regulated entities. The US analysis following the collapse, however, suggested, "that it was not hedge funds per se which posed a threat to the financial system, but their ability to gain excessive leverage, whose scale was not properly understood by the counterparties who are providing it" (Davies / Green 2008: 229). Subsequently, an international regulatory consensus emerged that focused on recommending counterparty disclosure requirements and endorsing self-regulatory mechanisms as voluntary codes of best practices. This "hands-off" regulatory approach, dominating in the period prior to the global financial crisis and markedly driven by US and UK policy makers, had been still evident at the G20 Washington summit. However,

the G20 approach shifted markedly at the London summit, stating that “hedge funds or their managers will be registered and will be required to disclose appropriate information on an ongoing basis to supervisors or regulators, including on their leverage, necessary for assessment of the systemic risks that they pose individually or collectively” (G20 2009a: 3). The responsibility of overseeing systemically relevant hedge funds was assigned to the FSB.

As highlighted by Helleiner and Pagliari (2010b: 78) this radical shift from relying on self-regulatory and voluntary mechanisms to a direct oversight by regulators has been triggered by an “unprecedented politicization of financial regulatory politics” both within the US and the UK. As the crisis unfolded, the role of hedge funds in accelerating market volatility and asset declines due to deleveraging moved to the centre of public attention. Following various hedge fund scandals in the past, their role in deepening the crisis was another blow to the reputation and image of the industry. Accordingly, in order to restore investor confidence, the hedge fund industry per se acknowledged the necessity to impose at least some basic form of direct regulation. Additionally, Germany and France, who had repeatedly advocated global standards for hedge fund regulation, have received political tailwind given the market turmoil and its dramatic consequences. (cp. *ibid.*: 79ff., Fioretos 2010: 29)

In 2009, IOSCO (2009a: 8f.) developed six principles of hedge fund oversight: i. mandatory registration of hedge funds and their managers; ii. develop regulatory requirements, including as applicable prudential and disclosure standards; iii. mandatory registration or regulation and supervision of prime brokers and banks providing funding to hedge funds; iv. mandatory disclosure of relevant information; v. encouragement of self-regulatory best standards and voluntary code of conducts; and vi. international cooperation and information exchange among regulators. The new international regulatory approach, hence, represents a break with the past model of pure indirect regulation, relying on the notion of market discipline imposed by the unfettered market and mitigating systemic risk via regulatory and supervisory oversight of counterparties (Fioretos 2010: 9).

4.3. THE IMPACT ON REGULATORY THEORY

4.3.1. The Efficient Market Hypothesis (EMH) Revisited

In the wake of the global financial crisis 2007-09 economic and in particular modern financial theory has encountered substantial criticism from academics and practitioners alike, bringing the efficient market hypothesis (EMH) back to the centre of attention. In his noteworthy New York Times article *How Did Economists Get It So Wrong?*, Nobel laureate Paul Krugman (02/09/2009), for instance, targets at economic and finance conceptions of perfect and rational markets, blaming the economic profession of turning “a blind eye to the limitations of human rationality (..), to the imperfections of markets - especially financial markets - (..) and to the dangers created when regulators don’t believe in regulation”. Others, as the financial journalist Roger Lowenstein and the GMO investor Jeremy Grantham have even more explicitly accused the EMH and the erroneous policy decisions based on its interpretation, for being responsible for the worldwide financial and economic crisis, sparking a lively debate between opponents and proponents of the hypothesis. (cp. Davies 2010: 187ff.; Siegel 27/10/2009)

Similarly, the Turner Review, issued by the Financial Services Authority (FSA) (2009: 39ff.) as a regulatory response to the global crisis, lists the main intellectual assumptions underlying financial market regulation throughout the world, stressing that “at the core of these assumptions has been the theory of efficient and rational markets” (ibid.: 39):

- i. financial markets are both efficient and rational, implying the accurate pricing of assets;
- ii. market discipline effectively limits excessive risk taking; and
- iii. by spreading risk, financial innovation and novel risk management techniques based on mathematical and statistical techniques have improved the overall stability and resilience of the financial system.

As highlighted by economists defending the EMH, however, solely the first two of the summarized Turner review propositions may be attributed to concepts associated with the hypothesis per se. In general, proponents have claimed that most criticism of the EMH in the wake of the crisis is either exaggerated or based on the misinterpretation of the hypothesis. However, as pointed out by Justin Fox (5/11/2009), even if these objections are valid, “what Turner describes was the key message that emanated from

academic finance and economics into the Wall Street and government-policy mainstream over the past few decades”. It can be argued that the EMH became part of a broader predominant free market ideology, underlying financial deregulatory waves over the past decades.

4.3.2. The Disclosure Paradigm, Self-Regulation and Systemic Risk after the Crisis

The notion of efficient and rational financial markets has been accompanied by the reliance on self-regulatory or soft touch regulatory mechanisms, failing to adequately address the problem of systemic risk in securities markets. (cp. Dodd 2002: 2) Securities regulation has hence focused primarily on disclosure or code of conduct rules and standards, disregarding the necessity of systemic regulation. This concept has been clearly reflected in both, national and international regulatory approaches alike, as most prominently highlighted in the *Objectives and Principles of Securities Regulation* issued by IOSCO, being recognized as benchmarks for the regulation of global securities markets. Accordingly, the IOSCO principles emphasize that regulation should aim at promoting efficiency by ensuring the immediate disclosure of, and equal access to market relevant information. (IOSCO 2003: 6) Following the disclosure oriented regulatory approach “the thrust of regulation in the UK and elsewhere has been on accounting standards, timely publication of company news and data, disclosure of fees and full descriptions of financial products” (Cohen 24/01/2011).

The global financial crisis, however, has clearly highlighted the limits of the disclosure model and the power of market discipline in restraining excessive risk taking. While arguably some investors had insufficient or inadequate information on the financial products involved, many others did not lack adequate information, however, i. were either not able to process the information due to the high degree of complexity (especially in the case of structured credit derivative products); or ii. imitated the trading strategies of other market participants, a phenomenon known as *herding*; or iii. were driven by investor overconfidence prevailing in the era of the *great moderation* (Avgouleas 2009: 5f.). Given the complexity and interconnectedness of present financial markets, the overreliance on market- and disclosure-based regulation, as it has been the

case in global financial governance, implies the danger of underestimating sources of systemic risk. As stated by IOSCO (2011b: 8): “The crisis highlighted that although the traditional disclosure and business conduct oversight functions of securities regulators contribute to a reduction of systemic risk, they are not specifically designed to do so and, in their scope and application at the time of the crisis, were not sufficient to prevent systemic risk from emerging and threatening financial stability, particularly when those risks emerge in areas where disclosure and business conduct rules are inapplicable, insufficient or inadequately applied.” Given the high degree of interconnectedness resulting from complex financial entities and instruments, IOSCO and various national regulators have since acknowledged the necessity to include the mitigation of systemic risk as a concern and objective of securities regulation. The degree to which securities regulation should engage in systemic risk regulation, however, is less evident and depends to a large extent on other regulatory efforts such as in the banking sector (Erskine 2010: 5).

5. Conclusion and Outlook

As highlighted by Morris Goldstein (1998: 67) in the aftermath of the Asian financial turmoil: “There’s nothing like a major crisis to focus people’s minds on why it is important to improve the international financial architecture.” Following the collapse of the fourth largest U.S. investment bank *Lehman Brothers*, sending shock waves across the international economic and financial system, regulatory practitioners and legislators around the globe seemed to call for the reform and strengthening of global financial regulation. The global crisis has clearly demonstrated the emergence of a new age of unprecedented regulatory challenges, marked by interconnected sources of systemic risk. Simultaneously, it has revealed the deficiencies of global regulatory oversight in keeping trace with the increasing complexity of modern financial markets. In addition to regulatory reforms in the banking sector, the question of a novel approach to international securities regulation, traditionally oscillating between regulatory competition and weak regulatory convergence, has moved to the top of the global policy agenda. (cp. Chaffee 2010; Langevoort 2011; IOSCO 2011b).

At this stage, it is too early to draw definite conclusions on the impact of the global crisis on financial governance at the global scale. The magnitude of changes is yet unclear, not least due to implementation periods and currently evolving propositions by numerous working groups that have been established under the auspices of global standard setting bodies in the aftermath of the crisis. Nevertheless, one may highlight some key aspects: The emergence of the G20 as the leading forum for global financial reform and economic cooperation is probably the most visible transformation in post-crisis global financial governance. Their main institutional reform has been the establishment of the Financial Stability Board (FSB), replacing the Financial Stability Forum (FSF) with a broader mandate and extended membership. In order to play a substantial role in the future global regulatory architecture, it is indispensable to gradually increase its capacities and leadership role as an institution. At present, however, given its dependence and lack of rule-making and enforcement authority, it is unclear whether the FSB will be able to fulfil its mandate. As reflected in the broadened membership of the now G20, the FSB

and IOSCO, global financial governance after the crisis is marked by the inclusion of a broader range of actors, particularly emerging countries. While this represents an important first step to increase the effectiveness and legitimacy of global standards, consensus building is likely to become even more complex, increasing the potential danger of paralysis of global standard setting.

Undoubtedly, the global financial crisis has triggered a broadening of the global regulatory scope, including financial instruments and entities that had been previously un- or under-regulated. For the first time, OTC financial derivatives, hedge funds and other shadow banking entities have become subjects of global standard setting, shifting from the private sphere of self-regulation to the political and legal arena of global financial governance. At the Pittsburgh summit, the G20 declared that by the end of 2012, standardized OTC derivatives contracts would be moved onto organized exchanges or electronic trading platforms and hence subjected to mandatory CCP clearing. For bilateral positions and non-standardized products, the G20 leaders envisaged additional capital requirements. Additionally, under the auspices of IOSCO, global standards on the regulation of OTC derivative market intermediaries have been launched in June 2012. The shift from a hands-off approach to direct oversight has been also reflected in the global principles of hedge fund regulation and standards on the reform of global securitization markets, both issued in 2009. By the end of 2012, the FSB will issue global standards on the regulation of the shadow banking system, including money market funds, additional recommendations related to securitization and the interrelation of shadow banking entities with the regular banking sector (cp. FSB 2012).

The crisis has provoked a critical assessment and questioning of the dominant conceptual and intellectual framework underlying national and international securities regulation. Particularly the efficient market hypothesis (EMH) and various models and assumptions based on its conception, have become the target of harsh criticism among numerous economists and regulators around the globe. Additionally, both scholars and practitioners have highlighted the pervasiveness of the so called free market ideology, implying the notion of self-stabilising, rational and efficient markets, in shaping perceptions and attitudes towards financial markets regulation. Consequently, as argued by Erskine

(2010: 9), the “regulators’ job was to stay out of the way of market developments, imposing as few barriers to their development as possible”. Financial market regulation, hence, has been clearly characterized by an unquestioned belief in the benefits of unfettered markets and financial innovation. Novel financial products have been perceived of as necessarily increasing the resilience of the overall financial system, thereby disregarding potential systemic risks associated with their use. The global financial crisis has clearly demonstrated that with increasing interconnectedness, international risk diversification may in fact lead to the augmentation of systemic risk. Accordingly, the discourse of post-crisis global standard setting in the field of securities regulation is marked by an increased scepticism concerning the overreliance on private self-regulation and the disclosure paradigm. These characteristics of international securities regulation, predominant in the era leading up to the market turmoil, marked the framework of transferring “strong important regulatory functions to private market actors, granting a public policy role to industry-driven self-regulatory measures, and directing the ‘visible hand’ of regulation to the purpose of harness the ‘invisible hand’ of market discipline” (Pagliari 2010: 2f.). Given the high degree of interconnectedness resulting from complex financial entities and instruments, IOSCO and various national regulators have since acknowledged the necessity to expand the framework underlying securities regulation that has focused exclusively on investor protection via disclosure requirements and market efficiency to include the mitigation of systemic risk as a concern of securities regulation.

As the past has shown, while a financial crisis may induce a climate of reform, it is important to pursue a gradual but *constant* interest in the reform of the global financial framework. Various observers have identified a weakening of enthusiasm and commitment in strengthening global regulatory harmonization after the worst phase of the financial crisis seemed to be overcome, reflected for instance in the likely failure of meeting implementation deadlines and the divergences between the European Union and the US concerning hedge fund regulation. Global regulatory bodies, numerous scholars and private-sector organizations have drawn public and political attention to the dangers of increased national divergences, implying the danger of fragmentation and regulatory

arbitrage with its adverse consequences. Despite the renewed interest in strengthening global financial governance as the market turmoil unfolded and certain important changes at the global scale since, the international community has not, at least for now, entered a new age of global regulation. While theoretical discussions on a single global financial authority have re-emerged in the aftermath of the turmoil, at least currently, “political consensus to reconcile differences in national interests and political priorities that would ultimately drive individual states to relinquish their regulatory autonomy to a single ‘super’ regulator is almost impossible to imagine” (Blackmore / Jeapes 2009: 122). Post-crisis global financial governance has not deviated from relying on standard setting, recommendations and other forms of non-binding international legal commitments. Accordingly, one may identify a complex multi-level governance system of global financial regulation, with a main emphasis on national and regional harmonization. Given the tremendous transformations of financial markets and the cross-border externalities associated with global financial activities, however, regulatory fragmentation and international divergences are not a feasible option for the future. The Thesis therefore concludes with the following statement by Ian Goldin and Tiffany Vogel (2010: 13): “The question is not *if* structural change will take place in global governance, but *when* and at *what cost?*” (Goldin / Vogel 2010: 13).

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Pledge of Honesty

On my honour as a student of the Diplomatic Academy of Vienna, I submit this work in good faith and pledge that I have neither given nor received unauthorized assistance on it.

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1996 - 2004	Bundesgymnasium Wien IX, Wasagasse 10, 1090 Vienna, Austria Matura (secondary-school graduation diploma)

Internships and Work Experience

Sept – Nov 2011	United Nations Office on Drugs and Crime (UNODC) Division for Policy Analysis and Public Affairs / Advocacy Supporting research in various areas, among them illicit financial flows, corruption Daily monitoring and compilation of the UNODC Press Clippings Editing and writing of web stories for the UNODC web site, Social Media
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Dec 2010 – Aug 2011	International Netherland Group (ING) Bank / Vienna N.V. Branch Supporting Head of Customer Relations and European Customer Desk Research and administration
Mar – July 2010	University of Vienna, Austria / Department of Government <i>International research project:</i> "The Politicization of Europe. A comparative study of six West European countries, 1970-2010" / Research assistance
Aug 2009	Wirtschaftskammer Österreich, Vienna (Chamber of Commerce Austria) Abteilung Recht und Organe Support of administration and office organization
Feb 2008 / July 2008 Aug – Sept 2007	Raiffeisen Zentralbank Österreich AG, Vienna, Austria Corporate, Trade & Export Finance Prepared guarantee texts, issued and amended guarantees Collaborated with the Country Risk Management Department
Aug – Sept 2006	Lawyer's and Notary's Office Peter Höche, Frankfurt/Main, Germany Conducted research for several law cases (civil and corporate law), involved in client discussions

Language Skills

German: native
English: fluent written and spoken
Hungarian: fluent written and spoken
French: intermediate (DEL F B2)

Computer Skills

MS Office
Lotus Notes
SPSS (basic)
Banktrade, IFS
Web Content Management System (CMS) (basic)
Dreamweaver