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## International Regulation and Supervision of Financial Markets after the Crisis

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### A. Introduction

The title of this contribution could suggest that the financial crisis which hit the world first in summer 2007 and then with a second, even stronger strike in the second half of 2008, has already come to a halt. Sooner or later this will be the case, however, in early March 2009, when this essay was finalised, the U.S. and several European countries had just increased their rescue packages for the financial markets and, in a parallel move, their aid programmes for the general economy.<sup>1</sup> The full effects of this turmoil are still not foreseeable. Yet it has become clear that few economic events after World War II have touched the public opinion and altered a broad set of economic factors as much as the financial crisis of 2007-2009 has.

Large banks which in early 2007 gave the impression of full eco-

nomie prosperity and strength do not exist any more. The massive loss of capital as expressed in write-downs of assets was the immediate effect of the crisis and made some of them go insolvent within a few days only. Many banks were merged with institutions which still seemed to be sufficiently robust, other banks could only be saved by an extensive public bail-out, in some cases even by nationalisation.<sup>2</sup> These processes have fundamentally changed the economic position of most banks on a global scale. Measured by market capitalization, U.S. and European banks lost ground in comparison to China, which now has become the country with the biggest banks in the world.<sup>3</sup> The long-term macroeconomic effects of these structural changes in the banking sector are still open. However, the concentration process in the U.S. and Europe is problematic at least from the perspective of competition policy and perhaps financial stability as far as those banks are concerned which were created by rescue mergers since their "growth"

\* To be published in European Yearbook of International Economic Law 1 (2009), Springer, Heidelberg, forthcoming.

<sup>1</sup> Cf. Financial Times, 21.01.2009: *Geithner pledges „dramatic“ action*, <http://www.ft.com/cms/s/0/6322d126-e7de-11dd-b2a5-0000779fd2ac.html>; Handelsblatt, 22.01.2009, *Staat will Bankbilanzen entgiften*, [<sup>2</sup> Financial Times Deutschland, 22.1.1009: \*Britische Banken vor Verstaatlichung\*, <http://www.ftd.de/unternehmen/finanzdienstleister/:Finanzsystem-am-Abgrund-Britische-Banken-vor-Verstaatlichung/464091.html>. With respect to Germany, see Gesetz zur weiteren Stabilisierung des Finanzmarktes, draft of 18 February 2009, \[http://www.bundesfinanzministerium.de/nr\\\_82/DE/BMF\\\_Startseite/Aktuelles/Aktuelle\\\_Gesetze/Gesetz\\\_entwuerfe\\\_Arbeitsfassungen/entw\\\_Finanzmarktstabilisierungsergaenzungsgesetz\\\_\\\_anl,templateId=raw,property=publicationFile.pdf\]\(http://www.bundesfinanzministerium.de/nr\_82/DE/BMF\_Startseite/Aktuelles/Aktuelle\_Gesetze/Gesetz\_entwuerfe\_Arbeitsfassungen/entw\_Finanzmarktstabilisierungsergaenzungsgesetz\_\_anl,templateId=raw,property=publicationFile.pdf\).](http://www.handelsblatt.com/politik/deutschland/staat-willbankbilanzenentgiften;2131236;FAZ, 14.2. 2009, Das größte Konjunkturprogramm in der Geschichte der Bundesrepublik, p.1.</a></p>
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<sup>3</sup> See Reuters UK, 16 January 2009: *U.S. banks' market capitalization shrinks*, <http://uk.reuters.com/article/marketsNewsUS/idUKN1548387620090116>.

was not based on normal business decisions. Practically all remaining banks came under heavy regulatory pressure to recapitalize which is hardly possible as long as private equity investors step aside for having no confidence in the market development. This in turn forced the states to maintain or even extend their aid programmes.

The effects of the financial crisis on the real economy are massive, too. Within a few months only the financial crisis caused a tightening of credit conditions in many countries which made it difficult for private enterprises and other borrowers to raise the capital they required.<sup>4</sup> The severe credit conditions resulted in a contraction of investment activities with negative effects on economic growth. The sharp economic downturn by end of the year 2008<sup>5</sup> has grasped the whole world economy with unemployment threatening to rise substantially in many countries.<sup>6</sup> To counter the various strings of this development, most states rushed to set up public rescue programmes which aim at saving

their finance industries and providing financial aid to industries massively hit by the credit crunch. Again, these programmes bear fundamental risks. Due to the immense amounts necessary the programmes could not be funded by regular tax revenues, but were financed by a massive public debt. As a result, the refinancing costs as reflected in the interest rates for government bonds started rising in some countries.<sup>7</sup> The dynamic of this development became visible when for the first time after several years not only developing and emerging economies, but also highly industrialised countries<sup>8</sup> asked the IMF for financial support. In the case of Iceland this proved to be the only means of preventing a sudden state insolvency<sup>9</sup>. In the field of international monetary policy leading central banks coordinated their short-term policy,<sup>10</sup> offering additional liquidity as an emergency measure since the money markets threatened

<sup>4</sup> See ECB, *Euro Area Bank Lending Survey*, 6 February 2009, [http://www.ecb.int/stats/pdf/blssurvey\\_200901.pdf?f440961f2e7d53f6ffc5d16c094e5f3c](http://www.ecb.int/stats/pdf/blssurvey_200901.pdf?f440961f2e7d53f6ffc5d16c094e5f3c).

<sup>5</sup> Handelsblatt, 16.2.2009: *Derartiger Rückgang wäre bislang einmalig*, <http://www.handelsblatt.com/politik/konjunktur-nachrichten/derartiger-rueckgang-waere-bislang-einmalig;2157331>.

<sup>6</sup> See ECB, *Monthly Bulletin*, February 2009, p. 9; <http://www.ecb.int/pub/pdf/mobu/mb200902en.pdf>; Sachverständigenrat zur Begutachtung der gesamtwirtschaftlichen Entwicklung, *Jahresgutachten 2008/09*, p. 19 et sequentes.

<sup>7</sup> Cf. Financial Times. 21.01.2009: *Portugal suffers S&P rating cut*, <http://www.ft.com/cms/s/0/31884d0e-e7f1-11dd-b2a5-0000779fd2ac.html>; Handelsblatt, 22.01.2009: *Ökonomen warnen vor britischem Staatsbankrott*, <http://www.handelsblatt.com/politik/international/oekonomen-warnen-vor-britischem-staatsbankrott;2131304>.

<sup>8</sup> These countries are (at the end of February 2009) Hungary, Ukraine, Pakistan, Latvia, Belarus and Iceland, see <http://www.imf.org/external/index.htm>.

<sup>9</sup> See Hannibalsson, *The international financial crisis – The case of Iceland: Are there lessons to be learnt?*, Working Papers on Global Financial Markets, No. 3, 2008, <http://www.gfinm.de/images/stories/workingpaper3.pdf>.

<sup>10</sup> The first coordinated measures took place on 18 September 2008, see the press release of the ECB under <http://www.ecb.int/press/pr/date/2008/html/pr080918.en.html>.

to dry up.<sup>11</sup> Beyond these liquidity injections, many central banks cut their key interest rates, in some cases to historically unprecedented levels, as e.g. the Federal Reserve System and the Bank of England which lowered their rates to about 0.2 % and 0.5% respectively by March 2009. The political signal of such decisions was that the stability of financial markets was given priority, at least for a certain period of time, over the monetary goal of price stability.<sup>12</sup>

The crisis was also a catalyst for renewed state activity on the markets,<sup>13</sup> first to save failing banks and other institutions, second to restore public confidence in the financial markets and third to reform the fundamental rules of these markets which, as it seems, were not able to prevent the crisis. The reform process taking place on the international level and also in regional fora like the EU has just begun and will certainly continue in the years to come. One of the starting points was the “Summit on Financial Markets and the World Economy”

<sup>11</sup> ECB, *Financial Stability Review*, December 2008, p. 12, <http://www.ecb.int/pub/pdf/other/financialstabilityreview200812en.pdf>. For a general overview see IMF, *Financial Stability Report*, October 2008, p. 6 – 7; <http://www.imf.org/external/pubs/ft/gfst/2008/02/pdf/text.pdf>.

<sup>12</sup> In the Eurosystem the priority of monetary stability is underlined by Article 105 (1) TEC which explains the more careful steps of the ECB in the recent months.

<sup>13</sup> However, the regulatory state is not a new phenomenon on financial markets, see Arner, *Financial Stability, Economic Growth, and the Role of Law*, 2007, p. 95.

in Washington, D.C., where the Heads of States of the Group of Twenty (G 20)<sup>14</sup> postulated the need for more global cooperation and better regulation.<sup>15</sup> Other international organisations, like the IMF,<sup>16</sup> followed with their suggestions. Insofar, this essay can only provide an interim view on what happened and what has to be done in the future to improve the regulatory conditions for financial markets. One impression from the last 18 months is: Despite resolved rescue actions of many governments in the world, despite a vibrant public discussion on the origins of the crisis and a strong wish to reform the rules for these markets, there is great uncertainty among all participants about what really needs to be done in the long term to prevent a similar turmoil in the future.<sup>17</sup>

<sup>14</sup> On the G 20 see the general information available at [http://www.g20.org/about\\_index.aspx](http://www.g20.org/about_index.aspx).

<sup>15</sup> G 20, *Declaration of the Summit on Financial Markets and the World Economy*, 15 November 2008, [http://ec.europa.eu/economy\\_finance/publications/publication13395\\_en.pdf](http://ec.europa.eu/economy_finance/publications/publication13395_en.pdf).

<sup>16</sup> On 4 February 2009, the IMF published its *Lessons of the Financial Crisis for Future Regulation of Financial Institutions and Markets and for Liquidity Management*; <http://www.imf.org/external/np/pp/eng/2009/020409.pdf>.

<sup>17</sup> In this respect see e.g. the divergent economic proposals in: Eichengreen/Baldwin (ed.), *What G20 leaders must do to stabilise our economy and fix the financial system*, 2008, [www.voxeu.org](http://www.voxeu.org). From a political point of view see McCreevy, *Address at the EP Committee on Economic and Monetary Affairs*, Speech 09/34 of 3 February 2009, p. 3, <http://europa.eu/rapid/pressReleasesAction.do?reference=SPEECH/09/34&format=HTML&aged=0&language=EN&guiLanguage=en>. Technical questions of adequate capital requirements are dealt with by Draghi, *How to Restore Financial Stability*,

It is not surprising that the legal analysis, *de lege lata* as well as *de lege ferenda*, is influenced by this uncertainty. This is also reflected by the fact that financial markets regulation was for a long time considered as a subject for a few experts only and not as a subject for broad academic research.<sup>18</sup> Insofar, the financial crisis might at least stimulate the scientific interest of lawyers in this complex field.

## B. Origins and Causes of the Crisis

For analytical purposes it is indispensable to discern between origins and causes of the crisis. The first category describes the concrete economic factors which triggered the crisis. The second category deals with structural factors favouring the dynamics of the crisis and the relevance of which cannot be restricted to the case at issue.

### I. The U.S. subprime mortgages market

From a microeconomic point of

view the origins of the crisis mainly go back to the U.S. mortgage loan sector where in the period from 2001 to 2006 many low income households received loans the repayment of which was based on unrealistic assumptions.<sup>19</sup> The boom in housing prices, low interest rates on the U.S. capital markets and the politically supported vision that every citizen should own real property had triggered a broad run on mortgage loans. Three risk factors were the seed of the market-meltdown starting in 2007: Lending standards were generally low and credits were granted in many cases without a proper control of the borrowers' income.<sup>20</sup> Additionally, the amounts of the loans exceeded the actual market value of the real property in many cases as the banks expected the boom in housing prices to continue over the lifetime of the loans. Third, the default risk of borrowers in the subprime sector should be countered by variable interest rates which were regularly adapted to capital market condi-

Bundesbank Lecture 2008, BIS Review 112/2008, p. 4 et sequentes, <http://www.bis.org/review/r080922b.pdf>.

<sup>18</sup> There are pre-eminent exemptions, among them see Alexander/Dhumale/Eatwell, *Global Governance of Financial Systems*, 2006; Arner, *Financial Stability, Economic Growth, and the Role of Law*, 2007; Grote/Marauhn (ed.), *The Regulation of International Financial Markets*, 2006; Lastra, *Legal Foundations of Monetary Stability*, 2006; Scott, *International Finance: Law and Regulation*, 2<sup>nd</sup> ed 2008; Walker, *International Banking Regulation, Law, Policy and Practice*, 2001.

<sup>19</sup> Draghi, *How to Restore Financial Stability*, Bundesbank Lecture 2008, BIS Review 112/2008, p. 1, 2, <http://www.bis.org/review/r080922b.pdf>; Franke/Krahn, *The Future of Securitization*, 2008, p. 3, <http://www.wiwi.uni-frankfurt.de/schwerpunkte/finance/wp/1706.pdf>; Horn, *Das Finanzmarktstabilisierungsgesetz und das Risikomanagement zur globalen Finanzkrise*, BKR 2008, p. 452 (456 - 457); Sachverständigenrat zur Begutachtung der gesamtwirtschaftlichen Entwicklung, *Jahresgutachten 2007/08*, p. 93, 99.

<sup>20</sup> Messerschmidt, *Developments in Banking Law: 2006-2007, The subprime mortgage crisis*, Rev. Banking & Fin. L. 27 (2008), p. 1 (4).

tions.<sup>21</sup> This system was working as long as interest rates were low and the employment rate was high. When these fundamental macroeconomic data changed, many borrowers could not bear the costs of such loans any more, in particular because interest rates on capital markets went up in early 2007. In a parallel development, the boom in housing prices ended sharply so that the value of the mortgages shrunk equally.

Before this macroeconomic change begun it seemed that capital markets were easily able to “swallow” even the “subprime” risk of low income borrowers.<sup>22</sup> Securitisation is the financial instrument under which these risks are transferred from the banking sector to capital market investors. The basic concept is that the lender (or: originator) sells the loan receivables and the purchaser refinances the purchasing price by issuing securities on the capital market.<sup>23</sup> Investors acquire

the securities and accordingly take the risk of the underlying loan receivables on. The legal and economic techniques for the securitisation of loan receivables had been considerably developed since the mid nineties and the Asset Backed Securities (ABS) market seemed to be sufficiently broad and deep to absorb any of these risks. This seduced many banks (lenders as well as investment banks) to a policy of “originate to distribute” while systematically underestimating the fundamental risks which put strain on the assets they had generated.<sup>24</sup>

## II. The role of the ABS market

The existence of huge ABS programmes was also the decisive key to spread the risks which were originated in a comparatively small segment of the U.S. market to investors on a worldwide basis.<sup>25</sup> The hunger for yield and the abundance of rent-seeking capital were the reasons why any of these ABS programmes could

<sup>21</sup> Messerschmidt, *Developments in Banking Law: 2006-2007, The subprime mortgage crisis*, Rev. Banking & Fin. L. 27 (2008), p. 1 (5).

<sup>22</sup> By 2006, originations of subprime mortgages rose to 600 billion U.S. dollar, up from 160 billion U.S. dollar in 2001, see Messerschmidt, *Developments in Banking Law: 2006-2007, The subprime mortgage crisis*, Rev. Banking & Fin. L. 27 (2008), p. 1 (5). See also Horn, *Das Finanzmarktstabilisierungsgesetz und das Risikomanagement zur globalen Finanzkrise*, BKR 2008, p. 452 (457).

<sup>23</sup> See Benjamin, *Financial Law*, 2007, p. 401 et sequentes; Firla-Cuchra, *Structured Finance*, in: Freixas/Hartmann/Mayer (ed.), *Handbook of European Financial Markets and Institutions*, 2008, p. 597 et sequentes; Wood, *Law and Practice of International Finance*, University Edition, 2008, p. 450 et sequentes.

<sup>24</sup> Cf. Messerschmidt, *Developments in Banking Law: 2006-2007, The subprime mortgage crisis*, Rev. Banking & Fin. L. 27 (2008), p. 1 (3 - 4). Many regulatory responses aim at this weak point, see e.g. McIlroy, *Regulating risks: A measured response to the banking crisis*, Journal of Banking Regulation 9 (2008), p. 284 (286 - 288).

<sup>25</sup> Bartsch, *Die Geister, die ich rief...*, NJW 61 (2008), p. 3337 et sequentes; Sachverständigenrat zur Begutachtung der gesamtwirtschaftlichen Entwicklung, *Jahresgutachten 2007/08*, p. 93. On the economic rationales of securitisation see Hellwig, *Systemic Risk in the Financial Sector. An Analysis of the Subprime-Mortgage Financial Crisis*, 2008, p. 10 et sequentes, [http://www.coll.mpg.de/pdf\\_dat/2008\\_43online.pdf](http://www.coll.mpg.de/pdf_dat/2008_43online.pdf).

place its securities, mostly commercial paper and medium term notes, on the markets.<sup>26</sup> Additionally (and probably a decisive factor), the common belief was that the micro- and macroeconomic risks incorporated in the assets underlying these securities were controllable due to the sophisticated structures of ABS programmes. One of the techniques was, e.g. that the securities issued were organised in “tranches” with senior tranches of high and junior tranches of low credit quality.<sup>27</sup> A default under the assets would then first hit the junior tranche, whereas the senior tranche should benefit as long as payments were made under the assets. By this technique, a pool of poor assets could be sliced into a class of highly rated securities and various classes of lower rated securities. Alternatively, existing securities under an ABS programme could be repackaged (so-called resecuritisation) in order to mix the risks involved.<sup>28</sup> However, all these techniques could not solve the problem that the effective defaults under the assets were bigger than the security mar-

gins. Tranching and resecuritisation even produced intransparent structures impeding a realistic assessment of the risks involved.<sup>29</sup> From a technical point of view, which perhaps has been the main (but short-sighted) perspective of many decisions taken by rating agencies, the rating was to a large extent based on credit enhancement measures which financial institutions provided to the special purpose vehicle (SPV) issuing the securities.<sup>30</sup> In this respect, the most important forms of credit enhancement are liquidity facilities of investment-grade rated banks, guarantees by such banks and credit insurances by insurance companies.<sup>31</sup> Yet, it seems that these institutions themselves never had a realistic expectation of the extent to which they could be drawn on by the SPV, at least in comparison to what actually happened when the losses under the assets were realised. Another theory which proved to be partly overestimated was that risks under an ABS structure would not only be effectively transferred to investors on financial markets but, also evenly distributed there and accordingly watered down.<sup>32</sup> In reality, the diversifi-

<sup>26</sup> Messerschmidt, *Developments in Banking Law: 2006-2007, The subprime mortgage crisis*, Rev. Banking & Fin. L. 27 (2008), p. 1 (4).

<sup>27</sup> Cf. Wood, *Law and Practice of International Finance*, University Edition, 2008, p. 453 – 454.

<sup>28</sup> Cf. Wood, *Law and Practice of International Finance*, University Edition, 2008, p. 461. With respect to specific examples see Hellwig, *Systemic Risk in the Financial Sector. An Analysis of the Subprime-Mortgage Financial Crisis*, 2008, p. 23 et sequentes, [http://www.coll.mpg.de/pdf\\_dat/2008\\_43online.pdf](http://www.coll.mpg.de/pdf_dat/2008_43online.pdf).

<sup>29</sup> Franke/Krahnen, *The Future of Securitization*, 2008, p. 39, <http://www.wiwi.uni-frankfurt.de/schwerpunkte/finance/wp/1706.pdf>.

<sup>30</sup> Sachverständigenrat zur Begutachtung der gesamtwirtschaftlichen Entwicklung, *Jahresgutachten 2008/09*, p. 120.

<sup>31</sup> Cf. Wood, *Law and Practice of International Finance*, University Edition, 2008, p. 465 – 466.

<sup>32</sup> On this concept see Franke/Krahnen, *The Future of Securitization*, 2008, p. 9 et sequentes, <http://www.wiwi.uni->

ation effects were confined to a relatively small number of globally active investors, mainly large investments banks and trading departments of commercial banks. Additionally, the diversification effects depended on the relative amount of securities which the respective investors had acquired.

What followed was a chain of panic reactions:<sup>33</sup> Rating Agencies suddenly lowered the ratings of these SPVs; banks had to write-down the ABS on their balance sheets without knowing were to fix the current value of their assets. Panic sales of ABS by some hedgefunds aggravated the tensions on the market for this investment class. In a parallel move, banks involved as liquidity providers in ABS structures that now threatened to default were drawn under the facilities without knowing whether the SPV would ever be able to repay the amounts. This put an additional strain on many of them with negative effects on their own rating.

### *III. Breakdown of confidence in the interbank-market*

As soon as the first signs of this development became visible in the

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frankfurt.de/schwerpunkte/finance/wp/1706.pdf.; Walker, *Editorial: The deconstruction of financial risk*, Journal of Banking Regulation 9 (2007), p. 1.

<sup>33</sup> For a deeper analysis see Hellwig, *Systemic Risk in the Financial Sector. An Analysis of the Subprime-Mortgage Financial Crisis*, 2008, p. 78 et sequentes, [http://www.coll.mpg.de/pdf\\_dat/2008\\_43online.pdf](http://www.coll.mpg.de/pdf_dat/2008_43online.pdf).

market, the mutual confidence in the creditworthiness of many banks broke down and made the interbank-market illiquid.<sup>34</sup> The interbank-market, which is a part of the money market, is the primary source for prime banks to refinance themselves with short-term liquidity.<sup>35</sup> Unsecured lending operations form the basis of refinancing operations what in turn means that mutual confidence in the business partner's creditworthiness is the essential factor driving this market.<sup>36</sup> The fundamental relevance of this market can be judged from the fact that the interest rates quoted (e.g. Euribor and Libor) are benchmarks for the whole money market. When it effectively failed in the course of 2008, the burden to provide liquidity for the whole market shifted to the central banks. This process was exacerbated when the U.S. investment bank Lehman Brothers Inc., tumbling heavily under the subprime crisis, was not bailed out by the U.S. tax payer. The decision of then U.S. Secretary of the Treasury, Henry Paulson, taken together with the Federal Reserve on 12 September 2008, not to save Lehman Brothers,<sup>37</sup> has been

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<sup>34</sup> Sachverständigenrat zur Begutachtung der gesamtwirtschaftlichen Entwicklung, *Jahresgutachten 2008/09*, p. 121.

<sup>35</sup> Hartmann/Valla, *The Euro Money Markets*, in: Freixas/Hartmann/Mayer (ed.), *Handbook of European Financial Markets and Institutions*, 2008, p. 453 et sequentes.

<sup>36</sup> Hartmann/Valla, *The Euro Money Markets*, in: Freixas/Hartmann/Mayer (ed.), *Handbook of European Financial Markets and Institutions*, 2008, p. 453 (457).

<sup>37</sup> Accordingly, Lehman Brothers Holding Inc. filed for bankruptcy protection in the U.S. un-



conceived as a dramatic signal by market participants.<sup>38</sup> From the point of view of economic theory, there were at least two reasons for this decision, namely that in a market economy investors also bear the risk of their investments and second that a general guarantee to bailout any bank would result in moral hazard<sup>39</sup> with long-term negative effects for depositors and other clients. Measured by its immediate effects, however, the result of the decision was that the crisis deepened considerably, since Lehman Brothers was regarded as a systemically relevant bank by market participants.<sup>40</sup>

#### IV. Causes: An overview

##### 1. Open financial markets

From the perspective of a structural analysis the developments on the financial markets were promoted by several factors. First, capital markets are globally open today, in the sense that international capital movements are not restricted considerably by national law.<sup>41</sup> On this ground, not only the volume of transactions but, also the rate of

innovation in financial products (as well as their complexity) and the amount of embedded leverage in the market could grow considerably.<sup>42</sup> On a technical level, these developments were fostered by improved mathematical risk models, sophisticated standards of information technology and growing capability of the international payment and settlement system to process a large number of transactions within shortest time.<sup>43</sup>

From a legal point of view, the existence of internationally open markets is surprising insofar as there exist no relevant treaty rules under international law imposing a general obligation on states to guarantee free movement of capital. To the contrary, the IMF agreement, by assuring the members' rights to control capital transactions,<sup>44</sup> is at best neutral as concerns free movement of capital and the OECD Code of Liberalisation of Capital Movements merely reflects the status quo under the national law of its members.<sup>45</sup> Insofar, the most outstanding multi-lateral approach was chosen by the

der Chapter 11 Bankruptcy Code on 15 September 2008.

<sup>38</sup> Sachverständigenrat zur Begutachtung der gesamtwirtschaftlichen Entwicklung, *Jahresgutachten 2008/09*, p. 122 -123.

<sup>39</sup> On moral hazard see Lastra, *Legal Foundations of International Monetary Stability*, 2006, p. 113.

<sup>40</sup> ECB, *Financial Stability Review*, December 2008, p. 12, <http://www.ecb.int/pub/pdf/other/financialstabilityreview200812en.pdf>.

<sup>41</sup> See also Arner, *Financial Stability, Economic Growth and the Role of Law*, 2007, p. 63 – 64.

<sup>42</sup> Draghi, *How to Restore Financial Stability*, Bundesbank Lecture 2008, BIS Review 112/2008, p. 5, <http://www.bis.org/review/r080922b.pdf>.

<sup>43</sup> Arner, *Financial Stability, Economic Growth and the Role of Law*, 2007, p. 64; Padoa-Schioppa, *Regulating Finance*, 2004, p. 10 - 11.

<sup>44</sup> Art. VI Sec. 3 IMF Agreement. For further reading see Lowenfeld, *International Economic Law*, 2<sup>nd</sup> ed., 2008, p. 608; Qureshi/Ziegler (ed.), *International Economic Law*, 2007, p. 182 - 183.

<sup>45</sup> For a current version of the code see <http://www.oecd.org/dataoecd/10/62/39664826.pdf>.

EU which in Article 56 (1) EC-Treaty prohibits restrictions on free movement of capital not only between the Member States but also between Member States and third states.<sup>46</sup> Additionally, bilateral investment treaties contributed to the opening of capital markets as some of them provide the right to free market access, however, in most cases pursuant to the internal regulations of the host state.<sup>47</sup> Apart from these provisions, states unilaterally opened their capital markets, mainly to attract direct investments but also in order to benefit from other forms of international capital movements. Open capital markets do not automatically generate specific risks, on the contrary, they contribute to more competition and help enhancing worldwide economic growth. However, open capital markets are the ground on which risks arising somewhere in the world for whatever reason, spread easily from one country to another by infecting one financial institution after the other.<sup>48</sup> Open

capital markets are also the basis for the development of large international groups of financial institutions within which risks can be easily transferred and which, by their sheer size, constitute a systemic risk in case they fail one day. In other words: Open capital markets impede measures to isolate financial risks on a local or regional level or to confine the geographic reach of an ongoing crisis.

## *2. Conflicts between monetary and financial stability*

Based on a monetary policy which, due to benign macroeconomic conditions, could consider the risks for price stability to be relatively small, global interest rates were generally on low levels over a longer period of time. In particular, the Federal Reserve System had been offering money at very low rates since 2001,<sup>49</sup> whereas the European Central Bank pursued a more careful policy.<sup>50</sup> A specific strain came from the Bank of Japan which, under the pressure of a severe internal banking crisis since the mid-nineties, kept its interest rates hardly above 0%. The interest rates differentials resulted in massive carry trades from Japan to other monetary areas, i.e. international banks borrowed in Japan and invested the money somewhere else.

<sup>46</sup> The far reaching effects have been cut down by the ECJ as far as capital movement are linked with the free movement of services or the right of establishment, see ECJ, C-452/04, *Fidium Finanz AG*, [2006] ECR I, 9521, paras. 25 and 47; C-524/04, *Test Claimants in the Thin Cap Group Litigation*, [2007] ECR I, 2107, paras. 101 and 104. Also C-102/05, *A and B*, [2007] ECR I, 871 para. 27.

<sup>47</sup> Article 3 (1) U.S. Model BIT (2004); see also Dolzer/Schreuer, *Principles of International Investment Law*, 2008, p. 80 et sequentes.

<sup>48</sup> Cf. Arner, *Financial Stability, Economic Growth, and the Role of Law*, 2007, p. 37; Busch, *Banking Regulation and Globalization*, 2009, p. 246.

<sup>49</sup> With respect to the Fed see the historical development of federal funds rates at <http://www.federalreserve.gov/fomc/fundsrate.htm>.

<sup>50</sup> For a statistical overview of the ECB rates from 1999 to 2008 see <http://www.ecb.int/stats/monetary/rates/html/index.en.html>.

The existence of easy credit conditions on the global level is said to have induced many banks to take higher risks because on the one hand, capital was available at low costs and on the other hand, yields in regular business were small.<sup>51</sup> The existence of cheap money may also have fuelled the bubble in asset prices, as e.g. was the case in the U.S. housing market. In any event, these developments point at an underlying tension between monetary stability and financial stability even if under normal conditions both objectives should mutually reinforce each other.<sup>52</sup> Whereas the objective of monetary stability is bound to the development of the level of consumer prices (and measured by standardised consumer price indices),<sup>53</sup> financial stability may, *inter alia*, depend on the de-

velopment of asset prices which are not to be considered by central banks. This does not mean that central banks may ignore the development of asset prices. Rather, the problem is that in a monetary system where the legal priority for central banks is price stability<sup>54</sup> the room for manoeuvre remains limited.<sup>55</sup> Additionally, the open market and credit instruments of regular monetary policy are not apt to directly influence asset prices other than those of financial assets. The only strategy offered by such monetary policy tools would be to raise interest rates preemptively in the absence of risks for price stability.<sup>56</sup> Such policy would require that a rise in asset prices is clearly identified as being an unhealthy bubble and that the costs of an economic downturn - as a result of higher interest rates - are lower than the costs of a sudden bursting of the bubble.<sup>57</sup> In practice, this policy poses severe prognostic problems for central banks and, if implemented, a high risk of distorting market developments. More fundamentally and from a legal point of view, the question may be raised why a central bank should be responsible for the

<sup>51</sup> Cf. Draghi, *How to Restore Financial Stability*, Bundesbank Lecture 2008, BIS Review 112/2008, p. 6, <http://www.bis.org/review/r080922b.pdf>; *Report of the High Level Group on Financial Supervision in the EU* (de Larosière Group), 25 February 2009, paras. 43 - 45. See also Busch, *Banking Regulation and Globalization*, 2009, p. 251.

<sup>52</sup> See in this respect Draghi, *How to Restore Financial Stability*, Bundesbank Lecture 2008, BIS Review 112/2008, p. 5 et sequentes, <http://www.bis.org/review/r080922b.pdf>. The long-term mutual reinforcement of both objectives is stressed by Issing, *Monetary and financial stability – is there a trade-off?*, BIS Review 16/2003, p. 2; <http://www.bis.org/review/r030331f.pdf>. See also Padoa-Schioppa, *Regulating Finance*, 2004, p. 112 et sequentes.

<sup>53</sup> For the ECB see <http://www.ecb.int/mopo/html/index.en.html>; from a legal point of view Häde, in: Calliess/Ruffert (ed.), *EU/IEGV*, 3<sup>rd</sup> ed. 2007, Art. 105 para. 3; Ohler, *Die hoheitlichen Grundlagen der Geldordnung*, JZ 2008, p. 317 (322).

<sup>54</sup> See Article 105 (1) TEC. On this aspect see Padoa-Schioppa, *Regulating Finance*, 2004, p. 115.

<sup>55</sup> Cf. Issing, *Monetary and financial stability – is there a trade-off?*, BIS Review 16/2003, p. 5; <http://www.bis.org/review/r030331f.pdf>.

<sup>56</sup> Draghi, *How to Restore Financial Stability*, Bundesbank Lecture 2008, BIS Review 112/2008, p. 6, <http://www.bis.org/review/r080922b.pdf>.

<sup>57</sup> Cf. Issing, *Monetary and financial stability – is there a trade-off?*, BIS Review 16/2003, p.5; <http://www.bis.org/review/r030331f.pdf>.

business decisions of banks and other market participants. Legally speaking, those actors remain solely responsible for their decisions as long as the central bank does not intentionally motivate them to take higher risks. In the real world of monetary policy however, there exists a broad consensus that central banks bear a psychological responsibility for side effects of their monetary decisions which they may also exercise by appropriate “take care” calls to the market.<sup>58</sup>

### *3. The relevance of fair value accounting*

Structurally, there are indications that the existing system of financial reporting standards under IAS 39 of the International Accounting Standards Board (IASB) contributed to the massive breakdown of the markets. The IASB is a private standard-setter, based in London, which develops accounting standards (today known as International Financial Reporting Standards, IFRS). A main purpose is to achieve convergence of worldwide accounting standards, in particular with the U.S. GAAP, what is also the reason why the IASB cooperates intensively with the corresponding U.S. organisation, the Financial Accounting Standards Board (FASB),<sup>59</sup> and other local standard

setters.<sup>60</sup> In the EU, IAS and IFRS are incorporated under a regulation pursuant to Article 249 (2) EC-Treaty as secondary community law.<sup>61</sup> Any decision to incorporate a new international accounting standard requires its full adoption without the possibility to restrict or amend it.<sup>62</sup> A leading principle for the development and implementation of accounting standards is the fair-value presentation according to which the valuation of assets and liabilities is based on current market prices (“mark-to-market”). This is a solid and realistic basis in all cases where there is a liquid market for an asset. In practice however, the valuation is very often not made with respect to a specific market or real transactions but on the basis of mathematical models (e.g. because the market is too small or because there is no trade at all in the asset) so that discretionary elements may distort the valuation. In addition, the fair value principle fails when an existing market for an asset turns illiquid or faces another form of external stress as it was the case for many structured securities in the wake of the financial crisis. The impossibility of pricing assets under such conditions made those securities seem

<sup>58</sup> Cf. Padoa-Schioppa, *Regulating Finance*, 2004, p. 115.

<sup>59</sup> For a comparison between IASB and FASB see Fleckner, *FASB and IASB: Dependence despite Independence*, Virginia Law & Business Review 3 (2008), p. 275 et sequentes.

<sup>60</sup> See Memorandum of Understanding between IASB and FASB of 27 February 2006, <http://www.iasb.org/NR/rdonlyres/874B63FB-56DB-4B78-B7AF49BBA18C98D9/0/MoU.pdf>

<sup>61</sup> Regulation (EC) No 1606/2002, OJ 2002 L 243, p. 1. A codified set of IAS and IFRS incorporated under this regulation is provided by Commission Regulation (EC) No 1126/2008 of 3 November 2008, OJ 2008 L 320, p. 1.

<sup>62</sup> Article 3 of Regulation (EC) No 1606/2002.

worthless even if there was no default of the individual issuer. Finally, the financial crisis proved that the fair value principle operates procyclically by increasing the cyclical movements of the economy.<sup>63</sup> The IASB tried to react on the public criticism, in particular by the G 20,<sup>64</sup> by amending the relevant IAS 39 and IFRS 7 what was also incorporated into EU law immediately.<sup>65</sup> This amendment opened the way to reclassify certain financial instruments out of the trading book of the banks. However, this move does not solve the fundamental question whether a general, more restrained valuation which is not influenced by the short-term volatility of markets for financial assets but on long-term considerations, following the precautionary principle, would help stabilising

financial markets.<sup>66</sup> There are also indications that the fair value method of valuation had a strong impact on compensation schemes for traders and the top management in banks. The bonus-based pay systems which were common in all bigger banks so far relied on the development of asset prices and increased, accordingly, the willingness of banks to take short-term risks.<sup>67</sup> In this perspective, bonus systems seem to be an essential factor at least for the risk-appetite on the market which may have contributed to the development of economic bubbles.

#### 4. Weaknesses of regulation and supervision

Lastly, and decisively for the purpose of this contribution, the crisis revealed certain weaknesses within the system of public regulation and supervision of financial institutions.<sup>68</sup> The problems involved cover the whole area of legislation, the administrative implementation of such provisions by public authorities, the enforcement of legal requirements against banks and the international cooperation between supervisors. In

<sup>63</sup> IMF, *Global Financial Stability Report*, October 2008, p. 113 et sequentes, <http://www.imf.org/external/pubs/ft/gfst/2008/02/pdf/text.pdf>; Hellwig, *Systemic Risk in the Financial Sector. An Analysis of the Subprime-Mortgage Financial Crisis*, 2008, p. 6, [http://www.coll.mpg.de/pdf\\_dat/2008\\_43online.pdf](http://www.coll.mpg.de/pdf_dat/2008_43online.pdf); Zeitler, Internationalisierung des Rechts – Notenbanken, Finanzstabilität und Rechnungslegung, in: *Vielfalt und Einheit, Wirtschaftliche und rechtliche Rahmenbedingungen von Standardbildung, Schriften des Augsburg Center for Global Economic Law*, Vol. 19, 2008 p. 65 (78).

<sup>64</sup> G 20, *Declaration of the Summit on Financial Markets and the World Economy*, 15 November 2008, para. 16: Strengthening Transparency and Accountability, [http://ec.europa.eu/economy\\_finance/publications/publication13395\\_en.pdf](http://ec.europa.eu/economy_finance/publications/publication13395_en.pdf).

<sup>65</sup> Commission Regulation (EC) No 1004/2008 of 15 October 2008, OJ 2008 L 275, p. 37.

<sup>66</sup> Zeitler, Internationalisierung des Rechts – Notenbanken, Finanzstabilität und Rechnungslegung, in: *Vielfalt und Einheit, Wirtschaftliche und rechtliche Rahmenbedingungen von Standardbildung, Schriften des Augsburg Center for Global Economic Law*, Vol. 19, 2008 p. 65 (79).

<sup>67</sup> See Draghi, *How to Restore Financial Stability*, Bundesbank Lecture 2008, BIS Review 112/2008, p. 5, <http://www.bis.org/review/r080922b.pdf>.

<sup>68</sup> See the *Report of the High Level Group on Financial Supervision in the EU* (de Larosière Group), 25 February 2009, para. 25 et sequentes.

the end, these shortcomings boil down to the questions to what extent legal requirements are able to induce an adequate risk taking and risk transfer on financial markets, respectively prevent an excessive risk taking. The background of this question is that banks and other institutions *must* deal with financial risks which represent the essence of their respective businesses. Accordingly, the regulation of financial markets must, on the one hand, allow financial institutions to generate and bear reasonable financial risks on an individual level. This will also include, as long as markets are open and based on undistorted competition, that banks which operate their businesses badly become insolvent and are wound up.<sup>69</sup> On the other hand, such regulation must prevent systemic risks from arising at all or, at least from unfolding uncontrollably. In practice however, it will be extremely difficult to reconcile both requirements since they may partly contradict each other. In the words of Mario Draghi, the Chairman of the Financial Stability Forum: *“No financial system will be free from crisis whatever the rules of the game. The fundamental task for authorities is therefore to enhance the resilience of the financial system to shocks and disruptions whatever their source, with a view to minimising the knock-on effects elsewhere.”*<sup>70</sup>

<sup>69</sup> Padoa-Schioppa, *Regulating Finance*, 2004, p. 1, 99.

<sup>70</sup> Draghi, *How to Restore Financial Stability*, Bundesbank Lecture 2008, BIS Review

## C. Financial Stability as a Public Good

### *I. Economic function of financial markets*

Banks and other financial institutions are private enterprises in most countries but, they serve important public functions.<sup>71</sup> In particular, banks operate as financial intermediaries by collecting capital from investors and depositors on the market and on-lending it to borrowers. This credit function enhances the opportunities for borrowers and their respective business partners to buy and sell in all cases where the contemporaneously exchange of cash against delivery is for various reasons either not possible or not desirable. Furthermore, banks deliver indispensable services for the daily functioning of payment systems which they partly operate themselves or which they use to transfer payments from one account to another.<sup>72</sup> Hence, a stable and efficient payment system contributes to the smooth operation of an economy.<sup>73</sup> Without these services, e.g. a vendor would not receive his money from the purchaser in a

112/2008, p. 3, <http://www.bis.org/review/r080922b.pdf>;

<sup>71</sup> Padoa-Schioppa, *Regulating Finance*, 2004, p. 110; see also Arner, *Financial Stability, Economic Growth, and the Role of Law*, 2007, p. 40 et sequentes.

<sup>72</sup> The public relevance of payment systems is underlined by Article 105 (2), forth indent TEC.

<sup>73</sup> Arrigunaga, *Deposit Insurance Schemes: Reconciling Market Discipline with Financial Stability*, in: Giovanoli (ed.), *International Monetary Law*, 2000, p. 323 (330 – 331)

cashless transaction which today is the normal form of exchanging goods and services. Investment banking activities (after the crisis mostly a sector of commercial banking) aim at raising debt capital which is the common alternative to corporate lending by banks and an important instrument for the financing of public households, big private enterprises, infrastructure projects etc. Insurance companies serve transferring and distributing specific risks (e.g. loss, theft, accident, transport, credit default, fire, water, environment etc) from the individual insured person to a larger group of persons, the community of policy holders. Thereby, they reduce the economic risk of many commercial transactions and provide the basis for businesses which otherwise could not take place.

## *II. The objective of financial stability*

As soon as the proper functioning of these services is threatened in a bigger part of or even in the whole market, one may speak of systemic risks. The term “financial stability” expresses the same aspect from a positive perspective: Maintaining financial stability means avoiding systemic risks from unfolding uncontrollably in the market. It is common sense today that financial stability must be considered as a pre-eminent public goal.<sup>74</sup> Institu-

tionally, this is reflected on the international level in the Financial Stability Forum which the G 7 established in 1999, with a secretariat at the Bank of International Settlements (BIS) in Basel.<sup>75</sup> It brings together national authorities responsible for financial stability in significant international financial centres, i.e. treasuries, central banks, and supervisory agencies. Also representatives from the IMF, the World Bank, the OECD, the BIS, the European Central Bank and from international standard setting bodies like the Basel Committee, IASB, IAIS and IOSCO take part in the consultations and the exchange of information. On the level of public international law the objective of maintaining financial stability is recognised by the Annex on Financial Services to the General Agreement on Trade in Services (GATS). Paragraph 2 (a) of the Annex permits WTO Members to take measures for prudential reasons “or to ensure the integrity and stability of the financial system”. Within the EU, Article 105 (5) TEC provides that “the ESCB shall contribute to the smooth conduct of policies pursued by the competent authorities relating to the prudential supervision of credit institutions and the stability of the financial system.” In England, it was the Banking Act 2009 which

and Accountability, para. 2, 6, [http://ec.europa.eu/economy\\_finance/publications/publication13395\\_en.pdf](http://ec.europa.eu/economy_finance/publications/publication13395_en.pdf).

<sup>75</sup> On the FSF see Arner, *Financial Stability, Economic Growth and the Role of Law*, 2007, p. 75 – 76; Alexander/Dhumale/Eatwell, *Global Governance of Financial Systems*, 2006, p. 74 – 75.

<sup>74</sup> G 20, *Declaration of the Summit on Financial Markets and the World Economy*, 15 November 2008, para. 16: Strengthening Transparency

introduced the objective of financial stability for the first time and made it immediately “Objective 1” for the “Special Resolution Regime” which is applicable to distressed banks.<sup>76</sup> In the same way, the German legislator based its “Finanzmarktstabilisierungsgesetz” of 17 October 2008 on the express purpose of stabilising the financial markets.<sup>77</sup>

Despite the overwhelming importance of this objective, there exists no universally recognised definition of what must be understood by the stability of the financial system. So far, various approaches can be identified which rely either on the aspect of maintaining the positive functions of financial markets or, negatively, stress the necessity to avoid systemic risks. Very often, both aspects will also be mixed, as the following overview demonstrates. The European Central Bank formulates: “*Financial stability can be defined as a condition in which the financial system – comprising of financial intermediaries, markets and market infrastructures – is capable of withstanding shocks and the unravelling of financial imbalances, thereby*

*mitigating the likelihood of disruptions in the financial intermediation process which are severe enough to significantly impair the allocation of savings to profitable investment opportunities.*”<sup>78</sup> In the economic literature this approach is shared e.g. by Issing<sup>79</sup> and Padoa-Schioppa.<sup>80</sup> The German Bundesbank rather stresses the positive functions of financial markets and defines financial stability “*as the financial system’s ability to perform its key macroeconomic functions well, even in stress situations and during periods of structural adjustment. This embraces the efficient allocation of financial resources and risks as well as efficient payment and settlement processing. Ideally, a financial system is sufficiently robust to enable it to absorb financial and real economic shocks internally.*”<sup>81</sup>

In a more simple way the Bank of Japan writes: “*Financial system stability refers to a state in which the financial system functions properly, and participants, such as firms and individuals, have confidence in the system.*”<sup>82</sup> In academic discussions many authors avoid a positive definition and stress the objective of preventing systemic risks in the financial system.<sup>83</sup>

<sup>76</sup> See the text of the Act under [http://www.opsi.gov.uk/acts/acts2009/pdf/ukpga\\_20090001\\_en.pdf](http://www.opsi.gov.uk/acts/acts2009/pdf/ukpga_20090001_en.pdf). On the need for a special resolution regime see already Lastra, *Northern Rock, UK bank insolvency and cross-border bank insolvency*, *Journal of Banking Regulation* 9 (2008), p. 165 (169 et sequentes).

<sup>77</sup> *Bundesgesetzblatt I*, 2008, p. 1982. See also Horn, *Das Finanzmarktstabilisierungsgesetz und das Risikomanagement zur globalen Finanzkrise*, BKR 2008, p. 452 et sequentes.

<sup>78</sup> ECB, *Financial Stability Review*, December 2008, p. 9, <http://www.ecb.int/pub/pdf/other/financialstabilityreview200812en.pdf>.

<sup>79</sup> Issing, *Monetary and financial stability – is there a trade-off?*, *BIS Review* 16/2003, p. 1; <http://www.bis.org/review/r030331f.pdf>.

<sup>80</sup> Padoa-Schioppa, *Regulating Finance*, 2004, p. 110.

<sup>81</sup> See <http://www.bundesbank.de/finanzsystemstabilitaet/fs.en.php>.

<sup>82</sup> See <http://www.boj.or.jp/en/type/exp/seisaku/expfinsys.htm>.

<sup>83</sup> Alexander/Dhumale/Eatwell, *Global Governance of Financial Systems*, 2006, p. 23 et sequentes.



### III. Systemic risk and financial stability

The essence of systemic risks is that they may result in crises which do harm to the whole financial system. In other words: A risk is of systemic nature if its negative effects are not confined to a single institution but threaten to jeopardize the proper functioning of at least a bigger part of the market.<sup>84</sup> A key factor for understanding systemic risks is that financial institutions do not operate isolated but are mutually bound to each other within a broad range of business transactions.<sup>85</sup> A second challenge for the stability of banks in particular is that they transform short-term liquidity (provided by depositors) into illiquid long-term credits they extend to their borrowers. The maturity mismatch between these two strings of their business makes them potentially vulnerable.<sup>86</sup> With these provisos, the individual crisis of one institution may trigger the crisis of further

institutions which economists describe as “contagion effect”, “domino-effect” or “spill-over effect”.<sup>87</sup> The problem of categorizing “contagion effects” is that the origins of a crisis on the level of an individual bank cannot be restricted to a fixed number of factors.<sup>88</sup> Certainly, in an *ex-post* perspective one will always find that flawed business decisions by bank managers, respectively a bad risk management were at the origin of a crisis. Those decisions, however, were in any event influenced by a wide set of macroeconomic factors as well as flaws in monetary policy, fiscal policy and prudential supervision. Herd behaviour in the market plays a crucial role as well as other psychological factors, like risk aversion or risk appetite which in turn depend on the individual disposition of a person as well as on the general economic environment fostering either over-optimism or over-anxiety. For the purpose of crisis prevention, the *ex-post*-analysis is not of direct benefit for future prudential supervision since the next systemic crisis will probably have a different origin than the last one. From this perspective it would also not be sufficient to analyse the issue of systemic risk according to the phenomena which possibly hint at a financial instability<sup>89</sup> since

quentes; Arner, *Financial Stability, Economic Growth and the Role of Law*, 2007, p. 72; Lastra, *Legal Foundations of International Monetary Stability*, 2006, p. 138 et sequentes.

<sup>84</sup> See Lastra, *Legal Foundations of International Monetary Stability*, 2006, p. 138 – 139; Scott, *International Finance; Law and Regulation*, 2<sup>nd</sup> ed 2008, p. 130 - 131.

<sup>85</sup> A key element is the interbank market, see Padoa-Schioppa, *Regulating Finance*, 2004, p. 107; Lastra, *Legal Foundations of International Monetary Stability*, 2006, p. 142 – 143; Scott, *International Finance; Law and Regulation*, 2<sup>nd</sup> ed 2008, p. 130 - 131.

<sup>86</sup> Alexander/Dhumale/Eatwell, *Global Governance of Financial Systems*, 2006, p. 24; Padoa-Schioppa, *Regulating Finance*, 2004, p. 99.

<sup>87</sup> See e.g. Alexander/Dhumale/Eatwell, *Global Governance of Financial Systems*, 2006, p. 24; Hartmann/Valla, The Euro Money Markets, in: Freixas/Hartmann/Mayer (ed.), *Handbook of European Financial Markets and Institutions*, 2008, p. 453 (480 – 481).

<sup>88</sup> Identical analysis by Lastra, *Legal Foundations of International Monetary Stability*, 2006, p. 139.

<sup>89</sup> This is e.g. done by Ferguson, *Should Financial Stability be an Explicit Central Bank Objec-*

first, the economic interpretation of such phenomena may be flawed and second, if they occur it may be already too late to prevent the crisis. Accordingly, the question can only be which aspects are *structurally* relevant in an *ex-ante* analysis.

Insofar, three situations must be discerned on a structural level. First, a systemic risk may arise, if large numbers of banks adopt parallel business strategies and bear identical severe risks over the same period of time. Second, there is always a systemic risk if a very large bank fails. Third, there is a systemic risk if an essential market infrastructure, as it is the case with computer systems or payment systems, fails. Fourth, there is a systemic risk in most cases of so called external shocks, like international environmental catastrophes and wars. It is not the place and time to discuss all these issues in depth. In particular, case four refers to a situation which normally is out of reach of regulators, whereas classical regulatory issues are raised in cases one to three. As far as the problem of parallel wrongful business decisions is concerned it must be borne in mind that not every identity of business strategies or minor errors are of relevance but only such long term parallel activities which bear fundamental risks for the banks

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*tive*, p. 2; <http://www.bis.org/events/conf0303/panferg.pdf>. Similar approaches by Alexander/Dhumale/Eatwell, *Global Governance of Financial Systems*, 2006, p. 24; Scott, *International Finance; Law and Regulation*, 2<sup>nd</sup> ed 2008, p. 132 - 133.

themselves. In these cases parallel strategies lead to risk concentrations in parts of the financial markets which may turn out as relevant as the risk concentration within an individual institution. Normally, under the conditions of strong competition on open markets parallel behaviour (and accordingly risk concentration) should be effectively avoided. Problems of parallel behaviour may arise, however, if the competition among institutions is not based on alternative business strategies any more but merely on price competition with respect to identical products. In particular, parallel investment strategies of trading departments may raise concerns over the building of systemic risks. An effective regulatory approach to parallel behaviour is, however, extremely difficult to implement since regulators must have a detailed and deep information basis to compare the strategies of individual banks and understand the risks of counterparties. A mere comparison of figures would in most cases not suffice since the valuation of risks requires more than using mathematical models or statistical data.<sup>90</sup> Realistically, the most effective means in the long-run to prevent parallel behaviour is a strong and undistorted competition on the market.

As far as the systemic risk encapsulated in very large banks is con-

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<sup>90</sup> Cf. Hellwig, *Systemic Risk in the Financial Sector. An Analysis of the Subprime-Mortgage Financial Crisis*, 2008, p. 60, [http://www.coll.mpg.de/pdf\\_dat/2008\\_43online.pdf](http://www.coll.mpg.de/pdf_dat/2008_43online.pdf).

cerned, this issue has already been extensively discussed for a long time. “Too big to fail” or “large complex financial institutions (LCFI)” are usually the catchwords circumscribing the problem.<sup>91</sup> With respect to such banks one faces the following dilemma: Large banks are not doing business which *per se* must be considered as riskier than the business of smaller banks. Accordingly, the question whether a bank is sound and resilient does not depend on its size. Rather, the problem posed by large banks is that, *if* they fail, for whatever reason, the adverse effects of their insolvency will automatically affect other institutions. From a regulatory perspective this could trigger a policy under which the insolvency of a large bank should be prevented at all costs. That this is not a theoretical problem has become obvious since October 2008. The G7 politically agreed on 11 October “to take decisive action and use all available tools to support systematically important financial institutions and prevent their failure.”<sup>92</sup> Whereas this policy may be necessary in times of a heavy crisis, the long term problems should not be ne-

glected. The first question to be raised in this context would be: “Which elements constitute a systemically important bank?” The answer is, so far, absolutely unclear, relevant factors being the size of the bank in relation to the size of the market,<sup>93</sup> or even if the bank is relatively small, its economic relevance for a specific market sector or its interconnection with other institutions.<sup>94</sup> In any event, a regulatory policy aiming specifically at systemically important banks could create moral hazard if it implies the promise to bail out every large bank.<sup>95</sup> Under such an implicit guarantee banks are induced to increase their risk positions beyond a level they would normally choose. The perverse result is that the instrument which aims at preventing systemic risk effectively increases such risks. Additionally, the economic selection process taking place under conditions of undistorted competition and eventually resulting in an orderly liquidation proceeding<sup>96</sup> will be switched off.

<sup>91</sup> See e.g. Cartwright, *Banks, Consumers and Regulation*, 2004, p. 33; Crawford Lichtenstein, *The Fed’s New Model of Supervision for “Large Complex Banking Organizations”*, *Transnational Lawyer* 18 (2004-2005), p. 283 et sequentes; Johnston et al., *Large and Complex Financial Institutions, Challenges and Policy Responses – Lessons from Sweden*, IMF Working Papers, 2003; <http://www.imf.org/external/pubs/ft/pdp/2003/pdp01.pdf>.

<sup>92</sup> See under <http://g8live.org/2008/10/12/g7-announces-plan-of-action-for-finance-crisis/>.

<sup>93</sup> Cf. Scott, *International Finance; Law and Regulation*, 2<sup>nd</sup> ed 2008, p. 131 - 132.

<sup>94</sup> Lastra, *Northern Rock, UK bank insolvency and cross-border bank insolvency*, *Journal of Banking Regulation* 9 (2008), p. 165 (172); Wood, *Law and Practice of International Finance*, University Edition, 2008, p. 342; see also Bank of England, *Financial Stability Review*, December 2003, p. 92, <http://www.bankofengland.co.uk/publications/fsr/2003/fsr15art3.pdf>.

<sup>95</sup> Cartwright, *Banks, Consumers and Regulation*, 2004, p. 33.

<sup>96</sup> On the relevance of liquidation proceedings in a market economy see Lastra, *Northern Rock, UK bank insolvency and cross-border bank insolvency*, *Journal of Banking Regulation* 9 (2008), p. 165 (173); Padoa-Schioppa, *Regulating Finance*, 2004, p. 99.

Even banks which operate inefficiently are kept alive instead of being wound up. In this dilemma, a solution can only be found by strictly differentiating between times of crisis management and normal periods.<sup>97</sup>

Finally, technical infrastructure of financial markets may be systemically relevant. In particular, this is the case with payment and settlement systems over which large funds are transferred between banks.<sup>98</sup> Payment systems are also a major channel of international contagion since shocks can be easily transmitted, e.g. when a market disruption triggers the sudden transfer of assets to a “safe haven”. The systemic risk inherent in a payment system is that the default of a participant or the breakdown of the whole system could result in the inability of other participants to meet their obligations as they become due.<sup>99</sup> This in turn could cause widespread liquidity or credit problems which could threaten the stability of the financial system.

<sup>97</sup> For a comparable solution see also *Report of the High Level Group on Financial Supervision in the EU (de Larosière Group)*, 25 February 2009, para. 127: “constructive ambiguity”.

<sup>98</sup> Cf. Alexander/Dhumale/Eatwell, *Global Governance of Financial Systems*, 2006, p. 24; Lastra, *Legal Foundations of International Monetary Stability*, 2006, p. 143 – 145; Padoa-Schioppa, *Regulating Finance*, 2004, p. 108.

<sup>99</sup> See BIS, Committee on Payment and Settlement Systems, *Core Principles for Systemically Important Payment Systems*, Section 3.01, <http://www.bis.org/publ/cpss43.pdf?noframes=1>.

Against this background, the BIS in 2001 developed 10 core principles for systemically important payment systems.<sup>100</sup>

#### *IV. Further ends of financial markets regulation*

##### *1. Public Confidence in the Markets*

Prudential supervision of financial institutions does not only deal with financial stability and systemic risks but, must consider additional, often complementary objectives. One of the central ends of banking regulations is to create a legal environment in which depositors and investors have confidence in the ability of their business partners to repay amounts when they are due.<sup>101</sup> Apart from very important psychological and macroeconomic factors this confidence relies on stable and predictable legal provisions governing financial markets. It depends on the ability of supervisors to control and enforce the observance of all relevant legal provisions by financial institutions. Ideally, the legal regime applicable to a financial institution should also foster transparency and reward adequate risk taking while punishing excessive risk taking. At least the third condition deserves a caveat if it was understood as requiring supervisors to monitor each individual business decision. Rather, supervisors focus on reporting obligations by

<sup>100</sup> *Core Principles for Systemically Important Payment Systems*, Section 3.11 et sequentes.

<sup>101</sup> Cf. Cartwright, *Banks, Consumers and Regulation*, 2004, p. 31 - 32; Wood, *Law and Practice of International Finance*, University Edition, 2008, p. 342.

banks, internal risk management strategies and the development of financial figures of an institution and, partly, on macroeconomic conditions. Is it realistic to consider that supervisors fundamentally change this approach? The answer is probably no, since the instruments necessary to prevent excessive risk taking on the level of individual business decisions would require an in-depth-control for which neither sufficient staff nor detailed economic know-how is available. Even if both conditions were fulfilled, this kind of supervision would threaten to replace private business decisions by public welfare dirigism.

## 2. Investor Protection

Promoting financial stability may not be considered in isolation from a second objective of financial market regulation which is investor protection.<sup>102</sup> It is based on the concept that on financial markets there is a strong information asymmetry between depositors and investors on the one hand, and the financial institutions on the other hand which make use of the deposits and extend credits to borrowers or in-

vest in other assets.<sup>103</sup> For this reason, the central instruments for safeguarding investor protection are providing information to investors and enhancing the transparency of financial businesses in general. The risk of bank failures with adverse effects on investors will also be reduced by regulatory capital requirements which are at the core of banking supervision. The effects of these instruments coincide with the objective of financial stability as they are meant to induce institutions to deal carefully with the money entrusted to them. In recent years, investor protection was additionally reinforced by deposit insurance regulations which aim at protecting small depositors against concrete losses suffered due to the failure of a bank.<sup>104</sup>

A second objective of this legislation is to calm down depositors in the advent of a banking crisis and hence to prevent a bank run which could trigger a systemic crisis.<sup>105</sup> It is highly questionable whether this protection mechanism works in practice since, at least within the EU, the amount guaranteed per depositor is limited to 20.000 Euro.<sup>106</sup> Accordingly, its stabilising effects are relatively small

<sup>102</sup> Expressly mentioned by recitals 5, 46 and 57 of Directive 2006/48 relating to the taking up and pursuit of the business of credit institutions, OJ 2006 L 177 p. 1; see also Follak, International Harmonization of Regulatory and Supervisory Frameworks, in: Giovanoli (ed.), *International Monetary Law*, 2000, p. 291 (309); Padoa-Schioppa, *Regulating Finance*, 2004, p. 97; Wood, *Law and Practice of International Finance*, University Edition, 2008, p. 342.

<sup>103</sup> See e.g. Cartwright, *Banks, Consumers and Regulation*, 2004, p. 6.

<sup>104</sup> Arrigunaga, Deposit Insurance Schemes: Reconciling Market Discipline with Financial Stability, in: Giovanoli (ed.), *International Monetary Law*, 2000, p. 323 (329 – 330).

<sup>105</sup> See Arrigunaga, Deposit Insurance Schemes: Reconciling Market Discipline with Financial Stability, in: Giovanoli (ed.), *International Monetary Law*, 2000, p. 323 (329); Cartwright, *Banks, Consumers and Regulation*, 2004, p. 192.

<sup>106</sup> Art. 7 (1) Directive 94/19/EC on deposit guarantee schemes, OJ 1994 L 135, p. 5.

because there is no coverage for amounts exceeding this limit.<sup>107</sup> If, on the contrary, the insured amounts were higher this could generate an incentive for banks to take higher risks since they assume that their depositors are insured anyway.<sup>108</sup> Another concern refers to the smooth functioning of the deposit insurance scheme in the case of a severe systemic crisis, since it is doubtful whether the resources of the scheme, which in many jurisdictions is operated and funded by the financial institutions themselves, would suffice to cover timely and completely all amounts due.<sup>109</sup> Its smooth and proper functioning, however, will be essential for the credibility of the deposit insurance scheme and, hence, the stabilising effect on the financial system.

### 3. Innovation and competition

To a certain extent, regulatory law may also be used to develop financial markets. The idea is that the states enacting such legislation enhance the proper functioning of markets or even create new market segments.<sup>110</sup> This may be particu-

larly true in emerging markets,<sup>111</sup> whereas the relevance of this regulatory approach is more limited in mature markets. In any event, state regulation should avoid restricting the innovation and competition processes on financial markets as long as market processes do not threaten other important public interests or individual goods. Innovation may help solving the problem of risk allocation on financial markets and is, in any event, necessary to react to changing demands of customers. Competition is essential for an effective allocation of capital and contributes to the growth of markets.<sup>112</sup> It may also contribute to the stability of financial markets by fostering diversification and by selecting risk-adequate business strategies. In the past years, particular attention has been paid to the regulatory objective of harmonising the conditions of competition. Creating a global “level playing field” was the express aim of the Basel Committee on Banking Supervision<sup>113</sup> and also in the EU the legislation establishing the internal market for financial services should

<sup>107</sup> For this reason, the EU Commission has proposed to raise the amount to 50.000 Euro, see COM(2008)661 final.

<sup>108</sup> Arrigunaga, Deposit Insurance Schemes: Reconciling Market Discipline with Financial Stability, in: Giovanoli (ed.), *International Monetary Law*, 2000, p. 323 (331 – 332).

<sup>109</sup> See Report of the High Level Group on Financial Supervision in the EU (de Larosière Group), 25 February 2009, para. 134 et sequentes which suggest a pre-funding mechanism.

<sup>110</sup> See Hecker, *Marktoptimierende Wirtschaftsaufsicht*, 2007, p. 31 et sequentes.

<sup>111</sup> See Lastra, *Legal Foundations of International Monetary Stability*, 2006, p. 151 et sequentes.

<sup>112</sup> Cf. e.g. Cartwright, *Banks, Consumers and Regulation*, 2004, p. 45 et sequentes; Mayer, *Regulatory Principles and the Financial Markets Services Act 2000*, in: Ferran/Goodhart (ed.), *Regulating Financial Services in the 21<sup>st</sup> Century*, 2001, p. 25 (31 - 32).

<sup>113</sup> Basel Committee on Banking Supervision, *International Convergence of Capital Measurement and Capital Standards*, June 2006, p. 2 (para. 4), <http://www.bis.org/publ/bcbs128.pdf?noframes=1>; see also McDonough, *Speech at a conference on “The Challenge of Credit Risk” in Frankfurt am Main on 24/11/98*, BIS Review 102/1998, p. 1.

create equal conditions of competition for financial institutions.<sup>114</sup>

## D. Functions and Instruments of Financial Markets Regulation

### I. Crisis Management and Crisis Resolution

Three broad categories must be distinguished in the regulation of financial markets: crisis prevention, crisis management and crisis resolution. The two latter aspects are at the core of current legal attempts to deal with the ongoing turmoil on the markets. Crisis management encompasses a broad range of measures which aim at stabilising markets and rescuing individual institutions. It is the realm of public interventions in the form of liquidity assistance, the provision of guarantees and equity capital, with its reflections in corporate law and insolvency law. As the financial crisis also demonstrated, the level of international coordination with respect to crisis management is low and confined to an informal political understanding between governments. The reasons for the concentration of crisis management decisions on the level of nation states are simple: First, these measures require a quick reaction which excludes complicated forms of international consensus building. Sec-

ond, these decisions involve the use of financial resources in an order of magnitude which is a matter for national budgetary authorities as only these have the possibility to raise taxes or borrow on the market.

If one is to consider the lessons for future crisis management the first will be that the adverse effect of a systemically important institution threatening to fail should never be underestimated, as the case of Lehman Brothers demonstrates. However, with a view to avoid moral hazard it will be practically excluded that public authorities can *ex-ante* grant a bail-out guarantee to any large or strongly interconnected financial institution. Second, the question of who is lender of last resort (and to what extent) must be answered with respect to the impact on monetary and fiscal policy and the distribution of powers between central bank and the treasury. As concerns the division of these public functions within the EU, the distribution of competences can be outlined as follows: The ECB is in charge of implementing monetary policy which also allows it to provide emergency liquidity under its regular instruments pursuant to Article 18 of the Statute of the ESCB and of the ECB. Insofar, the ECB is the market-wide lender of last resort for the Eurosystem, however, confined to the range of monetary policy instruments under the Statute. Under the provisions of the Statute it is unclear whether the ECB may also grant liquidity assistance to individual banks in the meaning of concrete

<sup>114</sup> Recital 5 of Directive 2006/48 relating to the taking up and pursuit of the business of credit institutions, OJ 2006 L 177 p. 1. For a general overview see Schnyder, *Europäisches Banken- und Versicherungsrecht*, 2005, p. 1 et sequentes.

rescue operations. The Statute does not expressly deal with this question whereas the EC Treaty confers to the European System of Central Banks, comprising the ECB and the National Central Banks (NCB), the power to contribute “to the stability of the financial system”.<sup>115</sup> This mismatch between Statute and EC Treaty is understood as leaving the power to act in individual cases with the NCBs,<sup>116</sup> unless the Governing Council of the ECB stops the performance of this function under Art. 14 (4) of the Statute. The EC Treaty limits the powers of the NCBs from another angle: As soon as a financial institution becomes insolvent and applies for the opening of insolvency proceedings, an NCB is halted from financing the reorganisation of this institution. This limitation is derived from Article 101 EC-Treaty, a treaty provision which originally aimed at another situation. Article 101 (1) EC-Treaty prohibits the financing of public deficits by overdraft facilities or other credit facilities from central banks. The *ratio legis* is to prevent risks for price stability in the EMU and to maintain the pressure of fiscal discipline on

Member States as provided by Article 104 EC-Treaty.<sup>117</sup> The ECB interprets Article 101 (1) very extensively and demands that “national legislation may not require an NCB to finance either the performance of functions by other public sector bodies or the public sector’s obligations vis-à-vis third parties.”<sup>118</sup> With respect to rescue operations for financial institutions, the ECB regards the reorganisation of insolvent banks as a public function which, accordingly, may neither be financed by it nor by a National Central Bank.<sup>119</sup> As a consequence, the treasury of a Member State will be the only legal lender of last resort once a financial institution has become insolvent (and not only illiquid). Even if it is difficult to reconcile the wording of Article 101 (1) EC-Treaty with this extensive interpretation, considered by the purpose of the monetary financing prohibition such interpretation would make sense. Beyond that prohibition, the EC-Treaty requires Member States to comply also with the prohibition of state aid under Article 87 (1). The Commission has so far pursued a pragmatic course by exempting national emergency programmes under Article 87 (3) EC-Treaty. The exact limitations of European state aid law on national rescue operations in systemic crises, however, still have to be explored.<sup>120</sup>

<sup>115</sup> Article 105 (5) EC-Treaty.

<sup>116</sup> See Lastra, *Legal Foundations of International Monetary Stability*, 2006, p. 305 – 306; critical about this approach Smaghi, *Who Takes Care of Financial Stability in Europe*, in: Goodhart (ed.), *Which Lender of Last Resort for Europe?*, 2000, p. 227 (240 – 241); Smits, *The Role of the ESCB in Banking Supervision*, in: ECB (ed.), *Legal Aspects of the European System of Central Banks*, 2005, p. 199 (205) allocates this function to the ECB exclusively.

<sup>117</sup> Cf. Häde, in: Calliess/Ruffert (ed.), *EUV/EGV*, 3<sup>rd</sup> ed., 2007, Article 101, para 1 – 5.

<sup>118</sup> ECB, *Convergence Report*, May 2008, p. 23.

<sup>119</sup> ECB, *Convergence Report*, May 2008, p. 24.

<sup>120</sup> See e.g. Arhold, *Globale Finanzkrise und europäisches Beihilfenrecht*, *EuZW* 2008, p. 713 et sequentes.



## II. Crisis Prevention

The most important regulatory questions will have to be raised with respect to future rules for crisis prevention. The essential provisions have been developed by the Basel Committee on Banking Supervision during the last three decades. Although legally not binding the recommendations by the Committee are the relevant international standard for banking regulation. Today, they contain a highly sophisticated set of rules for the capital adequacy of internationally active banks, the so called Basel II Capital Framework of June 2006.<sup>121</sup> Conceptually, Basel II rests on three pillars: the minimum capital requirements, the supervisory review process and market discipline. The fundamentally new approach of Basel II, compared to its predecessor, the Basel Capital Accord of 1988, was twofold: First, the new provisions should reflect the risk positions of banks more accurately. Second, the capital requirements should, for the first time, not only cover credit risks and market risks but also operational risks.<sup>122</sup> To realise these approaches, more attention was given to internal risk assessment techniques and internal

risk management procedures.<sup>123</sup> They are reflected both in pillar 1 (minimum capital requirements) and pillar 2 (supervisory review process). Under pillar 1, banks that internally develop sophisticated standards of assessing relevant risks (credit risks, market risks, operational risks) may benefit from reductions of the capital requirements whereas banks that do not dispose of these techniques bear the full capital burden.<sup>124</sup> The rationale is to encourage banks to improve their internal risk assessment and risk management and strengthen thereby the self-responsibility of bank managers and the self-regulation of the whole sector. The tasks of supervisors (pillar 2) accordingly refer to the compliance with capital requirements by banks and the review of their internal processes.<sup>125</sup> Pillar 3, market discipline, conceived as an additional incentive for a sound risk management, complements the other pillars. For this effect, Basel II requires the disclosure of all relevant information by the banks (e.g. capital adequacy,

<sup>121</sup> See <http://www.bis.org/publ/bcbs128.htm>.

<sup>122</sup> See Basel Committee on Banking Supervision, *International Convergence of Capital Measurement and Capital Standards*, June 2006, p. 144 et sequentes (paras. 644 – 683), <http://www.bis.org/publ/bcbs128.pdf?noframes=1>.

<sup>123</sup> Basel Committee on Banking Supervision, *International Convergence of Capital Measurement and Capital Standards*, June 2006, p. 144 et sequentes (paras. 644 – 683), <http://www.bis.org/publ/bcbs128.pdf?noframes=1>.

<sup>124</sup> Basel II privileges the so called Internal Ratings Based Approach, see Basel Committee on Banking Supervision, *International Convergence of Capital Measurement and Capital Standards*, June 2006, p. 52 et sequentes (paras. 211 - 537), <http://www.bis.org/publ/bcbs128.pdf?noframes=1>.

<sup>125</sup> Basel Committee on Banking Supervision, *International Convergence of Capital Measurement and Capital Standards*, June 2006, p. 204 et sequentes (paras. 719 – 807), <http://www.bis.org/publ/bcbs128.pdf?noframes=1>.

amount of risks) as markets may reward a good and punish a bad bank management.<sup>126</sup>

The regulatory and economic effects of Basel II on the current financial crisis are uncertain. The existing Framework was issued only in July 2004 and transposed by the EU in June 2006.<sup>127</sup> The EU directive required the Member States to adopt the necessary laws and regulations by 31 December 2006 which became applicable on 1 January 2007.<sup>128</sup> In the U.S., the implementation of Basel II started only in 2006 and has not been fully finalised by 2009.<sup>129</sup> Against this background it becomes clear that the origins and causes of the financial crises are older than the new provisions. One might even argue that the crisis would have been prevented or at least been smaller in its extent if Basel II had already been implemented in important markets like the U.S.<sup>130</sup> Nonetheless, the Basel II framework suffers from

shortcomings which are partly due to political restraints in the mandate of the Committee and partly due to conceptual weaknesses.

Basel II does not deal at all with the question of adequate liquidity management which played a pivotal role in the development of the current financial crisis. For historical reasons it focused on solvability which is owed to the function of regulatory capital as a risk buffer and quantitative limitation against additional risk taking by the banks.<sup>131</sup> As a first reaction to the financial crisis, the Basel Committee started closing this gap by publishing in September 2008 its "Principles for Sound Liquidity Risk Management and Supervision".<sup>132</sup> The Basel Framework does also not deal at all with the question of supervisory powers of the national authorities since this is considered as an exclusive domaine of domestic law. Yet the existence of effective, flexible and internationally harmonised supervisory powers will play a central role for the institutional design of financial markets.<sup>133</sup>

Conceptually, the regulatory approach of Basel II concentrates on the risk positions of individual institutions and financial groups but less

<sup>126</sup> Basel Committee on Banking Supervision, *International Convergence of Capital Measurement and Capital Standards*, June 2006, p. 226 et sequentes (paras. 808 - 826), <http://www.bis.org/publ/bcbs128.pdf?noframes=1>.

<sup>127</sup> Directive 2006/48 relating to the taking up and pursuit of the business of credit institutions, OJ 2006 L 177 p. 1.

<sup>128</sup> Article 157 of Directive 2006/48.

<sup>129</sup> See the information available under <http://www.federalreserve.gov/generalinfo/basel2/default.htm>.

<sup>130</sup> Horn, *Das Finanzmarktstabilisierungsgesetz und das Risikomanagement zur globalen Finanzkrise*, BKR 2008, p. 452 (456); *Report of the High Level Group on Financial Supervision in the EU* (de Larosière Group), 25 February 2009, para. 53.

<sup>131</sup> See Ohler, *Europäisches Bankenaufsichtsrecht*, in: Derleder/Knops/Bamberger (ed.), *Handbuch zum deutschen und europäischen Bankrecht*, 2<sup>nd</sup> ed. 2009, § 76, para. 44.

<sup>132</sup> See <http://www.bis.org/publ/bcbs144.pdf?noframes=1>.

<sup>133</sup> *Report of the High Level Group on Financial Supervision in the EU* (de Larosière Group), 25 February 2009, para. 83.

on the systemic interconnections within the financial market.<sup>134</sup> Although the drafters of Basel II were aware of the issue of systemic risk,<sup>135</sup> it was not taken into account, e.g. that the systemic risk of very large or very interconnected banks is higher than that of smaller banks. One might argue that equal conditions of competition preclude a differentiated treatment of banks with respect to capital requirements and supervisory review. Yet it should be considered whether a differentiation would be justified due to the different structural risks of the banks. As concerns the reliance of Basel II on internal risk assessment approaches for the calculation of regulatory capital it seems that the risk of structural flaws in these models is underestimated, e.g., when important risk factors are simply not taken into consideration. This is particularly true if risk assessment models focus too much on quantitative historical data, whereas the next systemic crisis will be triggered by an event unforeseen in the model.<sup>136</sup> The

same is true for stress testing models used by supervisory authorities:<sup>137</sup> Even if they are forward looking, they can only use stress factors already known. Clearly, it is impossible for anybody to consider future, unknown factors in a risk assessment. Yet, if this is the problem of any risk model in general the question must be raised whether the extent to which Basel II relies on IRBA and privileges banks using them is actually justified.

It should also be discussed whether the minimum capital ratio of 8%<sup>138</sup> is still adequate in a world of complex, fully interconnected global financial markets. Whereas under the initial version of Basel I this ratio should cover only credit risks, it was extended later to market risks and now under Basel II also to operational risks. In other words: The growing risk coverage was not countered by a rise in regulatory capital so that the capital available for individual risk positions decreased. Certainly, higher capital requirement would not have prevented the crashes of many banks in the recent crisis since the write-downs were by far greater than the existing capital. This argument does not, however, take into account that

<sup>134</sup> Cf. Hellwig, *Systemic Risk in the Financial Sector. An Analysis of the Subprime-Mortgage Financial Crisis*, 2008, p. 56 et sequentes, [http://www.coll.mpg.de/pdf\\_dat/2008\\_43online.pdf](http://www.coll.mpg.de/pdf_dat/2008_43online.pdf).

<sup>135</sup> See Basel Committee on Banking Supervision, *International Convergence of Capital Measurement and Capital Standards*, June 2006, paras. 4 and 49 (xvi), <http://www.bis.org/publ/bcbs128.pdf?noframes=1>.

<sup>136</sup> Cf. *Report of the High Level Group on Financial Supervision in the EU* (de Larosière Group), 25 February 2009, para. 61. See also the sharp criticism by Hellwig, *Systemic Risk in the Financial Sector. An Analysis of the Sub-*

*prime-Mortgage Financial Crisis*, 2008, p. 51 – 52, 55, [http://www.coll.mpg.de/pdf\\_dat/2008\\_43online.pdf](http://www.coll.mpg.de/pdf_dat/2008_43online.pdf).

<sup>137</sup> For an overview see Marcelo/Rodriguez/Rocharte, *Stress test and their contribution to financial stability*, *Journal of Banking Regulation* 9 (2008), p. 65 et sequentes.

<sup>138</sup> Basel Committee on Banking Supervision, *International Convergence of Capital Measurement and Capital Standards*, June 2006, p. 2 (para. 5), <http://www.bis.org/publ/bcbs128.pdf?noframes=1>.

the (adequate) level of regulatory capital contributes to the building of confidence by investors which is also reflected in current market expectations. It may also reduce the problem of moral hazard which the “too big to fail” assumption produces and which was fuelled by the recent crisis management. Hence, higher and perhaps less pro-cyclical minimum capital requirements would seem to have stabilising effects<sup>139</sup> but, they depend on the ability of banks to raise this capital on the market. As there is the threat of competitive inequality and regulatory arbitrage if not all relevant jurisdictions actually implement a higher minimum capital ratio, it is uncertain whether the Committee will be actually prepared to tighten this requirement.

Taken as a whole, Basel II is suffering from its extreme complexity making it difficult to apply the regime in jurisdictions with less sophisticated supervisory systems. Due to its complexity it also lacks the flexibility to be adapted to irregular situations. Finally, it does not solve the fundamental problem

<sup>139</sup> This is a suggestion coming from many sides, see e.g. McIlroy, *Regulating risks: A measured response to the banking crisis*, Journal of Banking Regulation 9 (2008), p. 284 (286, 290 - 291); Report of the High Level Group on Financial Supervision in the EU (de Larosière Group), 25 February 2009, para. 59. On the deficient equity capital of banks see also Hellwig, *Systemic Risk in the Financial Sector. An Analysis of the Subprime-Mortgage Financial Crisis*, 2008, p. 43 et sequentes, [http://www.coll.mpg.de/pdf\\_dat/2008\\_43online.pdf](http://www.coll.mpg.de/pdf_dat/2008_43online.pdf).

that capital requirements are considered by banks as something similar to taxes where the addressees have an interest in avoiding this burden. Even if it was conceived as a system against the avoidance of capital requirements,<sup>140</sup> the complexity of Basel II still induces banks to search for the “holes in the system”. The danger is that a regulatory policy which aims at the punctual steering of every specific risk will suffer from over-complexity and finally lose control over the system as a whole.

### E. Perspectives

The reform of financial market regulation will have to deal with a broad range of problems reaching from monetary policy, financial reporting standards, corporate governance of financial institutions and remuneration schemes to questions of capital adequacy and supervisory control. All in all, the focus on the systemic aspects of financial stability will have to become stronger, since the current crisis disclosed structural shortcomings on this field. Particular attention will have to be paid, even if it was not discussed in this essay, to the question of how the institutional design of financial supervision should be in the future. Better forms of international cooperation will be necessary as well as institutions being able to supervise broad market develop-

<sup>140</sup> This was a criticism raised particularly against Basel I, see e.g. Weber/Darbellay, *The regulatory use of credit ratings in bank capital requirement regulations*, Journal of Banking Regulation 10 (2008), p. 1 (3).

ments and their impact on the financial institutions. However, two things should be born in mind: First, that any regulatory provision, whether reasonable or not, remains useless if the competent authorities are not able or not willing to enforce it effectively. Second, that any institutional design even if it was ideally structured will not provide an absolute protection against future crises.

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