THE REGULATORY CHALLENGE OF FINANCIAL DISINTERMEDIATION AND MARKET VOLATILITY – ANALYSIS, CRITICISM AND ALTERNATIVES TO THE POST-CRISIS STRATEGIES OF MANAGING SYSTEMIC RISK WITHIN THE SHADOW BANKING SECTOR

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Shadow Banking as One of the Yet Unresolved Origins of the Financial Crisis

The failure to fully come to grips with the shadow banking system has rightly been described as one of the most glaring weak spots in financial reform thus far[1]: the run by novation in the OTC derivatives market and the consecutive freezing of the repo and commercial paper market in the case of *Bear Stearns*, the fall of *Lehman Brothers* as a result of defaults on acquired securitized notes, the rescue of *AIG* due to the unknown identities of its CDS counterparties and the necessity to bail out the money market fund industry to prevent bank-like runs have impressively proved that the regulation of the shadow banking sector is far from able to avoid the realization of systemic risk causing negative externalities that harm the global society at large.[2] The Financial Stability Board ("FSB"), The Federal Reserve Bank

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[1] SHanson, A. Kashyap, & J. Stein , *A Macroprudential Approach to Financial Regulation*, 25 JEP, Number 1, 3 (Winter 2011). It should be noted that the neologisms of "shadow banking", "shadow banking sector", "components of the shadow banking sector" are used for mere linguistic convenience rather than the conviction of their adequacy. Concerning their origin, see: *Utzig, S.*: Shadow Banking: Hintergründe und Herausforderungen (1) ("Shadow Banking: Backgrounds and Challenges (1)"), in: Die Bank 10.2012, 80-83.

[2] Concerning the run by novation conceivable in the OTC derivatives market, see *Duffie, D./Li, A./Lubke, T.*: Federal Reserve Bank of New York Staff Reports – Policy Perspectives on OTC Derivatives Market Infrastructure, in: Staff Report no. 424, January 2010, Revised March 2010; concerning the run on repo and commercial paper, see: Darrel, D.*, The Failure Mechanics of Dealer Banks,* 24 JEP Number 1, 51-72 (Winter 2010) ; concerning the default of securitized notes as one of the causes of the financial crisis of 2007/2008, see: Coval, J., Jurek, J. & Stafford, E. *, The Economics of Structured Finance*, 23 JEP, Number 1, 3-26 (Winter 2009) Gorton, G. & Metrick, A., *Securitized banking and the run on repo,* JFE, 104, 425-451 (2012) Acharya, V., Schnabl, P & Suarez, G. *, Securitization without risk transfer*, JFE 107 , 515-536 (2003); concerning the bail out of the Money Market Fund Industry by the U.S. government, see: Gordon, J. & Gandia, C.*: Money*

of New York ("Fed"), the International Organization of Securities Commissions ("IOSCO") and numerous authors have made proposals of how to ameliorate the currently existent weaknesses, some of which have been implemented by national and supranational economic policy makers.[3] While a reaction to the financial crisis is welcome, both the regulation of the individual components of the shadow banking sector as well as the regulation of the shadow banking sector as a whole as designed after the crisis have their weaknesses.

The Regulation of the Individual Shadow Banking Sector Components

Regulation has been put in place for dealer banks (**I.**), wholesale funding (**II.**), structured finance (**III.**), OTC derivatives (**IV.**) and money market funds (**V.**).

i. Dealer Banks

> "*The financial crisis had made clear the need to reconsider the systemic risks posed by the failure of dealer banks and has provided new insights into the mechanics by which they fail. The task of building new institutional mechanisms to address these failure mechanics is timely and urgent*".[4]

Dealer banks are regulated indirectly via the regulation of repos, commercial paper and OTC derivatives. The dealer bank that suffers from a value loss of one of its assets is unlikely to be able to finance itself via equity should the asset depletion be known to potential equity investors. The latter fear that their investment would be little more than the reallocation of wealth from themselves to the creditors who are able to prove ahead of them in the glaring insolvency of the dealer bank. Hence,

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Market Funds Run Risk: Will Floating Net Asset Value Fix the Problem?, Columbia Law School Publication, Draft 3.0, (Aug 2013).

[3] For a comprehensive overview of the reforms undertaken by the FSB, USA and EU, see: Greene, E. & Broomfields, E., *Promoting risk mitigation, not migration: a comparative analysis of the shadow banking reforms by the FSB, USA and EU*, 8 CMLJ, Number. 1, *Rehahn, J.*: Regulierung von "Schattenbanken": Notwenidgkeit und Inhalt ("The regulation of "shadow banks": Necessity and content"), in: Beiträge zum Transnationalen Wirtschaftsrecht, Heft 125, Apr. 2013, *Schaffelhuber, K.*: Regulierung des "Schattenbankensystems" ("Regulation of the "Shadow Banking System""), in: GWR 2011, 488-493. For a reception in the media, see: Masters, B.*, Regulators peer into financial shadows*, Financial Times, Nov 18, 2012. More precise references as to the post-crisis reforms will be provided underneath.

[4] Duffie, D., *The Failure Mechanics of Dealer Banks*, 24 JEP, Number 1, 51-72, 70 (Winter 2010)

it has to rely on different kinds of financing such as overnight repos or asset-backed commercial paper. What will happen once OTC derivative counterparties are informed about the weakening of the dealer bank's balance sheet asset side is novation: the counterparties will interpose a novating party so as to no longer be exposed to the dealer bank's credit risk which appears to have increased but rather to the credit risk of the new interposed novating party (so-called "run by novation"). 5 Once more and more OTC derivatives counterparties act in this way, potential novating parties will know that something is wrong with the dealer bank's credit worthiness and refuse to novate since it is them who would be exposed to the dealer bank's credit risk as a result of the novation. This refusal to novate will be known to repo and commercial paper buyers who will refuse to roll-over (so-called "repo run" or "run on commercial paper"). The roll-over risk materializes and the dealer bank's house bank will end any pre-existing credit-line. The dealer bank is no longer able to finance itself and will be exposed to a bank-run. The respective regulation does not focus on dealer banks themselves. Rather, it focuses on the creation of rules for the repo, commercial paper and derivatives market.[6] The latter, however, enter the scene of the failure mechanics of dealer banks at a rather late stage.[7] The further the failure mechanics – run by novation, repo run, commercial paper run, ending of the house bank credit line and eventually bank run – have progressed, the harder it appears to be able to stop them from resulting in the ultimate realization of the systemic risk within the shadow banking sector – the freezing of financial resources of the dealer bank – which will ultimately translate into the realization of systemic risk in the banking sector in the form of bank runs. Hence, an alternative regulatory mechanism focusing on dealer banks

[5] A thorough description on the failure mechanisms of a dealer bank can be found at Darrel, D., *The Failure Mechanics of Dealer Banks*, 24 JEP, Number 1, 51-72 (Winter 2010), see supra fn. 2.

[6] On the economic mechanics of commercial paper runs, see: Kacperczyk, M. & Schnabl, P., *When Safe Proved Risky: Commercial Paper during the Financial Crisis of 2007-2009*, 24 JEP, Number 1, 29-50 (Winter 2010)

[7] For the regulation of repos, see: *FSB*, Strengthening Oversight and Regulation of Shadow Banking – Policy Framework for Addressing Shadow Banking Risks in Securities Lending and Repos, Aug 29, 2013; for the regulation of commercial paper, see: *FSB*, Strengthening Oversight and Regulation of Shadow Banking – Policy Framework for Strengthening Oversight and Regulation of Shadow Banking Entities, Aug 29, 2013; for the regulation of OTC derivatives, see: *FSB*, Consultative Document – Strengthening Oversight and Regulation of Shadow Banking – An Integrated Overview of Policy Recommendations, Nov. 18, 2012.

should intervene at a much earlier stage of the failure process. It should intervene at the very beginning of the process so as to avoid it being triggered. The question that has to be answered is thus: how does the process begin? The answer is this: it begins with the loss of confidence in the balance sheet asset side of the dealer bank by the OTC derivatives counterparties. The beginning is hence of a psychological nature and it is also in the realms of psychology that it should be battled. Thus, the consecutive question must be: how can the confidence in the dealer bank's balance sheet asset side be maintained despite the fact that certain assets have decreased in their value due to the decrease of the credit-worthiness of the dealer bank's debtors? The dealer bank has to refinance itself quickly and efficiently. However, once the market of potential equity investors gets to know of the asset value decrease, hardly anybody will be willing to invest in equity since the investment appears to be little more than a transfer of wealth from the investee to the investee's creditors who will access the invested sums in the anticipated insolvency proceedings. The lack of confidence in the future positive economic development of the dealer bank, more precisely in the future absence of its insolvency allowing creditors to access the invested equity and leaving equity holders with a subsidiary claim, on the side of potential equity investors keeps the dealer bank from successfully refinancing itself so as to maintain OTC derivatives counterparties' confidence and hence to avoid them from initiating novations that will then translate into repo and commercial papers runs. The real question is hence: how can potential equity investors' confidence in the future absence of any loss of their investment due to consecutive insolvency proceedings be maintained so as to incentivize them to invest and thereby allow the dealer bank to refinance itself before the failure mechanics kick in? It appears to be recommendable to create an insolvency rule that allows equity investors to retrieve their investment if they invest in a financially strained dealer bank and the latter enters insolvency. The equity investors would be incentivized to invest despite the fact that the dealer bank's assets have turned bad. This confidence creating insolvency rule specifically tailored for the prevention of the triggering of the dealer bank failure mechanics would allow the dealer bank to refinance itself with equity so as to be able to compensate for the depreciation of its assets and thereby to prevent its derivatives counterparties from novating.

Wholesale Funding: commercial paper and repurchase agreements

> "*Commercial paper played a central role during the financial crisis of 2007-2009. […] Twice during the financial crisis of 2007-2009, the commercial paper market nearly dried up and ceased being perceived as a safe haven*".[8]

The current strategies and proposals of managing risk in the commercial paper and repo market are the following:

- a ban of the re-hypothecation for the purpose of financing the own-account activities of intermediaries purchasing the collateral in the first place;
- a permission to engage into re-hypothecation to entities subject to adequate regulation of liquidity risk;
- having repos that are backed by risky or illiquid collateral not exempt from the automatic stay in insolvency so as to incentivize pre-transaction screening;
- defining numerical floors on haircuts as well as haircut calculation methods.[9]

The permission of re-hypothecation of those entities adhering to certain liquidity requirements should be welcomed. However, both the ending of the exemption of repos from the automatic stay in insolvency and the defining of numerical floors on haircuts by reference to clearly spelt out residual maturity of collateral tables could be viewed critically: the *ending of the exemption of repos from automatic stay* will certainly ensure that repo sellers will screen the repo buyer more closely so as to more clearly anticipate the risk of non-transferal of the transferred collateral at a later stage; however, it will also desincentivize the use of repos since the transaction parties are degraded to normal, non-privileged creditors. A decreased use of repos will decrease the debt funds circulating in financial markets. The

[8] Taken from: Kacperczyk, M. & Schnabl, P., *When Safe Proved Risky: Commercial Paper during the Financial Crisis of 2007-2009*, 24 JEP, Number 1, 29-50, 29 & 48 (Winter 2010) ; for a background into the economics of repos, see: Hördahl, P. & King, *M.*: *Developments in repo markets during the financial turmoil*, BIS Quarterly Review, Dec 2008.

[9] See *FSB*, Strengthening Oversight and Regulation of Shadow Banking – Policy Framework for Addressing Shadow Banking Risks in Securities Lending and Repos, Aug 29, 2013.

definition of numerical floors on haircuts by reference to the clearly spelt out residual maturity of collateral tables will incentivize parties to cumulate their transactions at the top of the respective bucket so as to be able to have a maximum length of maturity and a minimum haircut floor. Regulatory arbitrage may result from the schematic system.[10]

As alternative mechanisms may be considered the following: firstly, a sliding scale matching the liquidity matches with the degree to which the repo is privileged within insolvency would be more nuanced and avoid the drastic, intimidating and potentially debt finance draining result of the total negation of the exemption: the greater the liquidity, the more privileged the party should be in the insolvency process. A thorough design of a proposal breathing this idea will be elaborated by the dissertation. Secondly, the numerical floors on haircuts should be complemented by a general rule allowing the respective regulator to reallocate the respective party to a bucket with a higher haircut level if a sufficient amount of repo transactions is located at the top of the respective bucket so as to be able to profit from a maximum maturity of the collateral while only adhering to a minimum haircut floor and hence indicating regulatory arbitrage. The regulatory mechanisms should thus roughly be designed as follows: if the regulator finds a sufficiently large amount of repo transactions at the top of the residual maturity of collateral bucket while a negligible amount is located at the bottom or middle of it, the regulator is justified in assuming that the respective party seeks to profit from regulatory arbitrage and may hence assign the repo transaction to the next bucket demanding a higher haircut level. The clear outline of such a regulatory mechanism will be dealt with in the dissertation.

Structured finance

> "*The 2007-2008 financial crisis was a system wide bank run. What makes this bank run special is that it did not occur in the traditional-banking system, but instead took place in the "securitized-banking" system*".[11]

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10 See supra fn. 10, p. 27 at the top.

11 Gorton, G. & Metrick, A., *Securitized banking and the run on repo*, JFE 104 (2012), 425-452, 425. For an overview of the economic mechanisms of securitization, see: Acharya, V., Schnabl, P. & Suarez, G.: *Securitization without risk transfer*, JFE 107 (2013), 515-536, Coval, J , Jurek, J & Stafford,

The risk retention or "skin in the game" requirements have already been implemented: in the EU which focuses on investors, CRD prohibits EU credit institutions from investing in ABS unless one originator retains at least 5% of the economic interest in the securitized notes; in the US which focuses on the sponsor, the latter is to retain an economic interest equal to at least 5 % of the credit risk associated with the assets that are collateralized.[12] The idea is to incentivize the originator to thoroughly screen the asset which is transferred by means of an equitable assignment to the SPV or SIV and hence to align the interests of the originator and the eventual noteholders. Furthermore, the enhancement of transparency and standardization of securitization products is proposed as a method seeking to reduce the opaqueness and complexity associated with such products.[13] The risk retention requirement is hence to ensure that the originator does not only transfer an asset hailed as highly income generating which turns out not to be so and should be welcomed. The increased transparency requirements, however, assume that potential noteholders will consume and understand the information which appears unlikely. As an alternative, retail noteholders should be forbidden from investing in the most risky tranche of notes issued by the SPV. The degree of sophistication of the noteholder as well as its degree of systemic importance should correlate to the riskiness of the note tranche that it is allowed to invest in: the less sophisticated or more systemically important the noteholder, the less it should be allowed to invest into high risk tranches. A regulatory rule with a likewise content has to be designed.

OTC derivatives

"*In the wake of the recent financial crisis, over-the-counter (OTC) derivatives have been blamed for increasing systemic risk. Over-the-counter derivatives markets are said to be*

E., *The Economics of Structured Finance*, 23 JEP, Number 1, 3-26 (Winter 2009); for the basic foundations and new developments in the ABS market, see: *Zeising, M.*: Asset Backed Securities (ABS) – Grundlagen und neuere Entwicklungen ("Asset Backed Securities (ABS) – Foundations and recent developments"), in: BKR 2007, 311-323.

12 See *OICU-IOSCO*, Global Developments in Securitization Regulation, Consultation Report, June 2012

13 *FSB*, Consultative Document – Strengthening Oversight and Regulation of Shadow Banking – An Integrated Overview of Policy Recommendations, Nov 18, 2012.

complex, opaque, and prone to abuse by market participants who would take irresponsibly large amounts of risk".[14]

The current strategies and proposals of managing risks emanating from OTC derivatives in the form of the counterparty credit risk have three directions: *one*, to incentivize uncleared derivatives parties to clear so as to mitigate risk through a well collateralized central counterparty ("CCP"); *two*, to require more robust collateralization of uncleared derivatives contracts[15]; *three*, to repeal the insolvency privileges of OTC counterparties allowing them to jump ahead of the bankruptcy repayment line in front of other creditors so as to incentivize them to thoroughly screen their contractual party so as not to suffer an unexpected liquidity shock if the latter defaults.[16] The entry requirements of CCPs may exclude parties that would suffer a liquidity shock culminating in the realization of systemic risk if their counterparty defaults outside the CCP structure. If this default causes the realization of systemic risk outside the CCP but would not endanger the viability of the CCP if the default took place within the CCP structure, then the entry requirements would prove too rigid. The simple postulation of a requirement of robust collateralization may reduce the likelihood of liquidity shocks. However, it will also drain away liquidity from the market if the collateralization is not risk-adjusted since the collateral could be used by the respective party to refinance itself by means of repos. As far as the proposal to repeal the insolvency privilege of OTC counterparties is concerned, it first of all has to be admitted that it will incentivize OTC counterparties to screen their contractual partners well. If they screen thoroughly, they will not enter into a derivative transaction with a non-credit worthy partner and hence will not see themselves exposed to an unexpected liquidity shock when this party defaults. Alternatively, they will enter into the

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14 *Duffie, D., Li, A. & Lubke, T.*, Federal Reserve Bank of New York Staff Reports – Policy Perspectives on OTC Derivatives Market Infrastructure – Staff Report no. 424, Jan. 2010, Revised Mar. 2010; for a general overview over the German and American regulatory status quo, see: *Lehmann, M.*: Reform der Derivatemärkte – transatlantischer Kampf um Wettbewerbsfähigkeit ("Derivative markets – transatlantic struggle for competitiveness"), in: Recht der Finanzinstrumente, 5.2011, 300-309.

15 See supra fn. 19.

16 See Roe, M.*, The Derivatives Market's Payment Priorities as Financial Crisis Accelerator*, Stan. L. Rev. 539.

transaction but take preparations for a potential default so as to be able to cope with an eventual default and not to suffer an unexpected liquidity shock which otherwise might force them to engage in fire-sales that would harm market participants with similar balance sheets and hence spread across the financial market rather swiftly. However, the abolition of the insolvency privileges for OTC counterparties may also result in many market participants seeking a counterparty failing to do so and hence to remain unhedged. Unhedged risk, however, endangers the market, especially so if the party failing to find a counterparty is itself of systemic importance. Three strategies should be pursued: incentivizing uncleared derivative parties to clear (**1.**), requiring the robust collaterlisation of those who refuse to clear (**2.**) and payment priorities (**3.**).

i. Incentivizing uncleared derivatives parties to clear

Both incentivizing uncleared derivative parties to clear and to require robust collateralization of uncleared derivative contracts has its justification: clearing results in the mutualization of realized counterparty credit risk through collateral accumulated in the CCP and hence avoids liquidity shocks suffered by an unpaid counterparty.[17] What is not yet fully appreciated is (i) the question of how to deal with CCPs who become systemically important themselves and (ii) the question of how to calibrate the CCP entry requirement. As far as (i) is concerned, it seems recommendable to establish a size limit to CCPs. Several smaller CCPs appear preferable over few big ones: if a small CCP fails, negative externalities may be restricted. This cannot be said in the case of the failure of a large CCP. Hence, regulation as to the splitting of CCPs is needed. As far as (ii) is concerned, proposals do not yet sufficiently appreciate that too high entry requirements may exclude counterparties that will fail and thereby cause the realization of systemic risk while too low entry requirements may endanger the CCP construct as a whole if the credit risk imported into the structure is sufficiently large. What is needed is a flexible CCP entry gate that allows the entry of counterparties that – in case of the refusal of entry – would be exposed to an eventually failing counterparty and

[17] For the alternative resolution approach which appears to operate at a much too late stage and is hence not touched upon, see: Squire, R., *Clearinghouses and the Rapid Resolution of Bankrupt Financial Firms*, forthcoming in: Cornell Law Review.

suffer a liquidity shock that would lead to the realization of systemic risk while not endangering the CCP's financial well-being if it is allowed entry.

a) REQUIRING ROBUST COLLATERALIZATION OF UNCLEARED DERIVATIVES CONTRACTS

The robust collateralization is supposed to ensure that the counterparty in the money does not suffer a liquidity shock if the other party defaults. At the same time, however, the posting of collateral drains liquidity from financial markets since it could be used for repo financing. Hence, only requiring robust collateralization is counter-productive. What is needed is a risk-adjusted requirement of collateral posting.

(1) Designing payment priorities

Leaving the payment priorities as they currently are will only incentivize counterparties not to screen the credit worthiness of their derivative partners and hence being exposed to liquidity shocks, at least to reallocate the economic loss resulting from insufficient screening from themselves to the non-privileged creditors of the defaulting party. This dis-incentivizes creditors to extend credit to a debtor who has entered into numerous and voluminous derivative transactions upon which it is likely to be out of the money. Fully repealing the payment priorities, by contrast, may result in less risk hedging endangering financial stability. A regulatory alternative is the granting of priorities for counterparties that prove that they have screened. What they have to screen, how they have to do it and how they may prove what they did are questions that have to be answered when designing such a regulatory intermediary mechanism that neither leaves the payment priorities as they are, nor fully repeals them but grants them to those who deserve them since they undertook an effort to reduce systemic risk by screening their counterparty.

Money Market Funds

> "*Given the continuing role of MMFs in financial markets, and the inadequacy of the 2010 reforms, additional steps are needed to address the systemic risk posed by MMFs*".[18]

Money market funds are prone to bank-like runs: the investors are equity holders of the fund which invests into certain assets. Should the assets decrease in value, the shares do so as well. Hence, the rumor of decreasing asset values will incentivize money market fund shareholders to run.

The current proposals involve regulating the composition of the fund portfolios so as to avoid assets deteriorating to a degree that incentivizes runs; installing capital buffers signaling to fund equity holders that they will be paid no matter the value of the fund's assets and that they thus have no reason to run; creating gates or redemption fees; mandating floating instead of constant net asset value ("NAV") and requiring a form of minimum balance at risk ("MRB").[19]

A floating NAV, i.e. one that does not adhere to the so-called penny rounding rule, will not be able to avoid bank-like runs: the chief driver of MMF run risk is the response of safety-seeking MMF users in circumstances that threaten full payment of principal, not the desire to capture the small permitted spread between one dollar and 99,5 cent of the actual NAV. Furthermore gates and redemption fees are likely to exacerbate the run risks of MMFs by injecting a new source of uncertainty and instability.[20] The requirement of a floating NAV should only be accompanied with liquidity and capital requirements: MMFs act fully like banks but for the legal difference that the capital they receive is by way of equity rather than a loan and but for the economic difference that their "deposits" may decrease

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18 Greene, E. & Broomfields, E., *Promoting risk mitigation, not migration: a comparative analysis of the shadow banking reforms by the FSB, USA and EU*, 8 CMLJ, Number 1, 6-53, 49.

19 Summarized at: Greene, E. & Broomfields, E., *Promoting risk mitigation, not migration: a comparative analysis of the shadow banking reforms by the FSB, USA and EU*, 8 CMLJ, Number 1.

20 Both criticisms can be found in Jeffrey Gordon's letter to the SEC of 17 November 2013 as well as the article *Gordon, J./Gandia, C.*: Money Market Funds Run Risk: Will Floating Net Asset Value Fix the Problem?, in: Columbia Law School Draft 3.0, Aug 2013.

in value once the buck is broken. The core question will be whether a system comparable to Basel III can be adopted and if so how it is to be designed.

ii. The regulation of the shadow banking sector as a whole

> "*Shadow banking operations tend to evolve quickly to meet new market conditions, compounding the difficulties of tracking their development through data collection or supervisory monitoring efforts that are based on stable definitions and concepts*".[21]

What appears more disturbing than the technical weaknesses of the regulation of the individual shadow banking sector components, however, is the implicit assumption of the absence of market volatility in most of the concepts presented: OTC derivatives, ABS, MMFs, ABCP and Repos are examined individually and regulatory approaches are presented in respect of each of them. The regulatory answers to the crisis are hence monolithically designed for the existent components and do not anticipate changes, thus leaving the regulator in a defensive position in which it may fail to adapt quickly to new market changes in order to be able to tame new sources of financial risk so as to prevent negative externalities.[22] What is needed is the design of a mechanism capable of coping with the development of new, i.e. yet unregulated shadow banking components that arise from volatile markets and bring about new kinds of risk to financial stability: the monolithic regulatory strategies are confronted with volatile market mechanisms. The case-by-case approach of regulation will leave the regulator in a reactionary and hence defensive position, unable to adapt to new sources of systemic risk in a timely manner so as to avoid its realization in the form of a new financial crisis. [23] At least three regulatory strategies seeking to address the problem

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21 *FSB*, Shadow Banking: Scoping the Issues – A Background Note of the Financial Stability Board, April 12, 2011.

22 For a flavour of the monolithic approach, see some of the component tailored FSB proposals: Strengthening Oversight and Regulation of Shadow Banking – Policy Framework for Addressing Shadow Banking Risks in Securities Lending and Repos, 29 August 2013; Consultative Document – Strengthening Oversight and Regulation of Shadow Banking – An Integrated Overview of Policy Recommendations, Nov 18 2012; acknowledging the danger of shadow banking system volatility but not drawing any conclusions herefrom: *FSB*, Shadow Banking: Scoping the Issues – A Background Note of the Financial Stability Board, 12 April 2011.

23 Emphasizing the need for a flexible regulatory approach but not drawing any specific policy conclusions therefrom: supra fn. 23.

of market volatility in the field of shadow banking are conceivable and shall only be briefly sketched so as to provide further gr1ounds for discussion: a numerus clausus (**I.**), a general anti-abuse rule (**II.**) and an abstract-functional rule (**III.**).

a) NUMERUS CLAUSUS

The *modelling* of a numerus clausus of the already existent shadow banking phenomena requires a thorough analysis of the features of the latter given that they will have to be precisely described in order to be able to effectively enforce the ban of new ones so as to relieve the regulator from hastily having to identify and react to them and so as to ensure that there is no unregulated phenomenon. The *discussion* of this strategy should focus on the need of financial markets for adaptability to new financing needs of the real economy on the one side and the social need for the limitation of systemic risk on the other.

b) A GENERAL ANTI-ABUSE RULE

The strategy of the general anti-abuse rule would – as the numerus clausus approach – leave the selective shadow banking legislations unaltered and supplement them by a rule according to which the creation of new financial phenomena which the reasonable man would reasonably understand to have the goal of circumventing the existent rules is forbidden, hence allowing only those new phenomena that result from the legitimate market interest of new financing models and banning the ones that are only inspired by arbitrage interests. The precise *modelling* will have to draw from the making of anti-abuse rules in other fields of the law, most notably the UK GAAR[24], and to debate the extent and modalities of their transferability to shadow banking regulation. Its *discussion* should focus on the potential reproach of new non-arbitrage based phenomena remaining unregulated.

c) AN ABSTRACT-FUNCTIONAL RULE

This strategy seeks to replace the existent selective legislation by a rule that is functional, i.e. focusing on the transformation processes of shadow banks, and

[24] On the functioning of the UK GAAR: *Lee* Revenue Law, Principles and Practice, 3.75-3.81; *Loutzenhiser*, Revenue Law: Introduction to UK Tax Law, pp. 98, 105-106, 119, 122, 125, 127.

abstract so as to be able to catch new, currently unknown shadow banking forms that exhibit the same risk potential as the currently existent ones. Its *modelling* will seek to distil from the current phenomena a functional lowest common denominator that may be able to catch new ones and it will focus on the adequate risk reducing rules that a caught phenomenon should be subject to. Its *discussion* should seek to answer the question whether the currently existent phenomena are a suitable pool for distilling such a denominator or whether new phenomena may be of such a fundamentally different nature that even this kind of an abstract-functional rule would fail to catch them.

Conclusion

As a response to the latest financial crisis, legislators around the world have implemented rules to address the risks associated with the phenomenon of shadow banking whose largely unregulated status quo ante is perceived to have been at the origin of the crisis.[25] These rules selectively deal with OTC derivatives, ABS, repos, commercial paper and MMFs instead of creating a cohesive regulatory framework capable of dealing with new shadow banking phenomena that may come into existence in the future as a result of new needs of financial markets and that would – once they exist – due to the selective and piece-meal character of the current regulatory approach remain unregulated until the regulator becomes aware of them and implements a further selective response.[26] It is this time between volatile financial markets giving birth to a new shadow banking phenomenon and the implementation of a regulatory response which creates the danger of the realization of – potentially systemic – risk and which the current selective approach is incapable of addressing. A coherent framework could be accomplished by

[25] An overview of the shadow banking reforms can be found at Greene, E. & Broomfields, E.: *Promoting risk mitigation, not migration: a comparative analysis of the shadow banking reforms by the FSB, USA and EU*, 8 CMLJ, Number 1, pp. 6 et seq.

[26] This purely selective approach can best be exemplified by reference to European Union law: Regulation (EU) No 648/2012 on OTC *derivatives*; Regulation 2015/2365 on transparency of securities financing transactions and of reuse (i.e. *repos*); Proposal for a Regulation laying down common rules on securitization and creating a Eureopan framework for simple transparent and standardized securitisation; Proposal for a Regulation on *Money Market Funds*.

supplementing the currently existent selective approach by a numerus clauses, a general anti abuse rule or an abstract-functional rule.