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WORKING PAPER SERIES

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How Special Are They? – Targeting Systemic Risk by Regulating Shadow Banking

SAFE Working Paper No. 68

SAFE | Sustainable Architecture for Finance in Europe
A cooperation of the Center for Financial Studies and Goethe University Frankfurt

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How Special Are They? – Targeting Systemic Risk by Regulating Shadow Banking

(October 5, 2014)

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Abstract: This essay argues that at least some of the financial stability concerns associated with shadow banking can be addressed by an approach to financial regulation that imports its functional foundations more vigorously into the interpretation and implementation of existing rules. It shows that the general policy goals of prudential banking regulation remain constant over time despite dramatic transformations in the financial and technological landscape. Moreover, these overarching policy goals also legitimize intervention in the shadow banking sector. On these grounds, this essay encourages a more normative construction of available rules that potentially limits both the scope for regulatory arbitrage and the need for ever more rapid updates and a constant increase in the complexity of the regulatory framework. By tying the regulatory treatment of financial innovation closely to existing prudential rules and their underlying policy rationales, the proposed approach potentially ends the socially wasteful race between hare and tortoise that signifies the relation between regulators and a highly dynamic industry. In doing so it does not generally hamper market participants' efficient discoveries where disintermediation proves socially beneficial. Instead, it only weeds-out rent-seeking circumventions of existing rules and standards.

JEL classification: G21, G28, H77, K22, K23, L22.

Keywords: shadow banking, regulatory arbitrage, prudential supervision.

HOW SPECIAL ARE THEY? – TARGETING SYSTEMIC RISK BY REGULATING SHADOW BANKING

- Tobias H. Tröger* -

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1 INTRODUCTION

As a response to a request from the G-20 at the 2010 Seoul Summit, the Financial Stability Board (FSB) appointed a Task Force that should "develop recommendations to

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strengthen the regulation and oversight of the shadow banking system".[1] Eleven such recommendations were presented in a FSB report that also established five work-streams to further prepare the ground for an effective implementation of the final suggestions.[2] The priority areas and the way forward were endorsed at the following G-20 Cannes Summit that consigned the FSB in cooperation with the Basel Committee on Banking Supervision (BCBS) and the International Organization of Securities Commissions (IOSCO) to work out specific and effective policy proposals.[3] The latter were published in due course,[4] and subsequently synthesized in the FSB's general policy recommendations[5] that were submitted to public consultation[6] and will be implemented under FSB monitoring.[7]

This quest for global consistency documented by the pivotal role that the transnational standard setting bodies play in drawing up and implementing enhanced regulation that accounts for critical lessons learned from the financial crisis indicates—*inter alia*—that integrating the pertinent responses in the world's most important economies is seen as a high priority. Quite importantly, the underlying global consensus—also corroborated by trend-setting national reactions to perceived deficits in financial regulation[8]—seems to be that rule-makers

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[1] G-20, THE SEOUL SUMMIT DOCUMENT 10 (2010), http://www.g20.utoronto.ca/2010/g20seoul-doc.pdf.

[2] FSB, SHADOW BANKING: STRENGTHENING OVERSIGHT AND REGULATION 15-26 (2011), http://www.financialstabilityboard.org/publications/r_111027a.pdf.

[3] G-20, THE CANNES SUMMIT FINAL DECLARATION no. 30 (2011), http://www.g20.utoronto.ca/2011/2011-cannes-declaration-111104-en.html.

[4] IOSCO, POLICY RECOMMENDATIONS FOR MONEY MARKET FUNDS 11-18 (2012), http://www.iosco.org/library/pubdocs/pdf/IOSCOPD392.pdf; IOSCO, GLOBAL DEVELOPMENTS IN SECURITISATION REGULATION 48-51 (2012), http://www.iosco.org/library/pubdocs/pdf/IOSCOPD394.pdf; FSB, POLICY FRAMEWORK FOR ADDRESSING SHADOW BANKING RISKS IN SECURITIES LENDING AND REPOS (2013), http://www.financialstabilityboard.org/publications/r_130829b.pdf; FSB, POLICY FRAMEWORK FOR STRENGTHENING OVERSIGHT AND REGULATION OF SHADOW BANKING ENTITIES (2013), http://www.financialstabilityboard.org/publications/r_130829c.pdf. The interlinkages between banks and alternative credit intermediation entities were explored in a final report submitted to the FSB which led to amendments to the Basel standards regarding large exposure limits (BCBS, SUPERVISORY FRAMEWORK FOR MEASURING AND CONTROLLING LARGE EXPOSURES (2014), http://www.bis.org/publ/bcbs283.pdf) and banks' investment in funds (BCBS, CAPITAL REQUIREMENTS FOR BANKS' EQUITY INVESTMENTS OWN FUNDS (2013), http://www.bis.org/publ/bcbs266.pdf) and will also affect the scope of consolidation.

[5] FSB, AN OVERVIEW OF POLICY RECOMMENDATIONS FOR SHADOW BANKING (2013), http://www.financialstabilityboard.org/publications/r_130829a.pdf.

[6] FSB, Public responses to the August 2013 consultative document on the application of the Key Attributes of Effective Resolution Regimes to non-bank financial institutions, http://www.financialstabilityboard.org/publications/c_131025_1.htm.

[7] FSB, AN OVERVIEW OF POLICY RECOMMENDATIONS FOR SHADOW BANKING 7-8 (2013), http://www.financialstabilityboard.org/publications/r_130829a.pdf.

[8] It is a strong indicator that both the U.S. and the E.U. promulgated complex and detailed sets of rules to remedy precisely those perceived deficits in securitization transactions that were revealed during the financial crisis, *cf*. Dodd-Frank Wall Street Reform and Consumer Protection Act [hereinafter: Dodd-Frank-Act], Pub. L. No. 111-203, §§ 941-6, 124 Stat. 1375, 1890-8 (2010); Directive 2009/111/EC of the European Parliament and of the Council amending Directives 2006/48/EC, 2006/49/EC and 2007/64/EC as regards banks affiliated to central institutions, certain own funds

have to close loopholes in the existing frameworks with ever more detailed and complex regulation. This broad agreement is not called into question, where a functional approach to financial regulation is proposed: the envisioned recourse to functionally described objectives of regulation is mainly supposed to facilitate a swifter, more accurate amendment of existing rules by expert bodies whose operations could escape the political quagmire of the legislative process.[9] In fact, the approach only points to an arguably more effective way for achieving the (ever more detailed and complex) prudential rules, *i.e*. it does not deviate from the predominant mindset that underpins financial regulation.

To be sure, more radical departures from the now-prevailing regulatory approach have been championed prior to and through the financial crisis by both regulators[10] and academics.[11] Yet, even these alternatives dwell on the notion that a rule-based framework automatically commands a formalist interpretation of its narrow provisions. In this view, rule-based regulatory systems are conceptually inapt to react to innovation by well advised market participants. It thus requires law reform to change the pertinent paradigms in prudential supervision and to switch to alternatives that only impose general standards of conduct and leave discretion to supervisors in dealing with individual cases.[12] Quite similarly, approaches that seek to activate general private law concepts to limit the scope of potentially hazardous financial in-

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items, large exposures, supervisory arrangements, and crisis management, art. 1(30), 2009 O.J. (L 302) 97; Directive 2010/76/EU of the European Parliament and of the Council amending Directives 2006/48/EC and 2006/49/EC as regards capital requirements for the trading book and for re-securitisations, and the supervisory review of remuneration policies, 2010 O.J. (L 329) 3. On the general policy rationales see Christoph Kumpan, *Conflicts of Interest in Securitization: Adjusting Incentives*, 9 J. CORP. L. STUD. 261-94 (2009).

[9] Steven L. Schwarcz, *The Functional Regulation of Finance* 3-4 (2014), available at http://ssrn.com/abstract=2437544 (proposing ongoing monitoring and updating of financial regulation by technocratic expert bodies akin to the American Law Institute and the Uniform Law Commission).

[10] The most pronounced statement was put forward by what was then the U.K. supervisory agency, *cf*. FIN. SERV. AUTH., PRINCIPLES BASED REGULATION: FOCUSING ON THE OUTCOMES THAT MATTER 6-8 (2007) *available at* http://www.fsa.gov.uk/pubs/other/principles.pdf; for the FSA's intention to follow through with its regulatory strategy in the crisis, *see* FIN. SERV. AUTH., THE FSA'S SUPERVISORY ENHANCEMENT PROGRAMME IN RESPONSE TO THE INTERNAL AUDIT REPORT ON SUPERVISION OF NORTHERN ROCK 1 (2008). The subsequent demise of the FSA may have wiped-out a prominent proponent of the approach, yet not necessarily the regulatory strategy itself.

[11] Julia Black, Martyn Hopper & Christa Band, *Making A Success of Principles-based Regulation*, 1 L. & FIN. MKTS. REV. 191, 200-4 (2007); Julia Black, *The Rise, Fall and Fate of Principles Based Regulation, in* LAW REFORM AND FINANCIAL MARKETS 3, 26-32 (Kern Alexander & Niamh Moloney eds., 2011). For critical discussion *see also* Steven L. Schwarcz, *The 'Principles' Paradox*, 10 EUR. BUS. ORG. L. REV. 175 (2009) (arguing that principles function as rules with unintended consequences where agents are risk-averse and meaningful sanctions are present); but see also Andreas Engert, *Warum lässt das Bankaufsichtsrecht Regulierungsarbitrage zu?* [*Why does Banking Regulation Permit Regulatory Arbitrage?*], 24 J. Banking L. & Banking 383, 384-7 (2012) (devising a stylized model that indicates that managerial risk-taking may be bolder under principles-based liability).

[12] For a description that invokes this typology of legal norms *cf*. Vincent Di Lorenzo, *Principles-Based Regulation and Legislative Congruence*, 15 N.Y.U. J. L. & PUB. POL'Y 45, 47 (2012); *see also* Andrew P. Moriss & Clifford C. Henson, *Regulatory Effectiveness and Offshore Financial Centers*, 53 VA. J. INT'L L. 417, 438 (2013) (comparing the radically diverging inputs between rules-based (U.S.) and principles-based (U.K.) approaches at the stage of rule-making).

novation, for instance the property law principle of *numerus clausus*,[13] assume that a change of existing prudential regulation would be needed to implement the alternative concepts. In sum, all the proposals mentioned tacitly share an understanding of jurisprudence, *i.e.* the interpretation and implementation of prudential rules that renders it impossible to make mileage out of the observation that financial regulation can be legitimized by—a few—very fundamental macro-economic considerations and is thus essentially functional.

This essay argues that at least some of the financial stability concerns associated with shadow banking could also be addressed by an approach to financial regulation that imports its functional foundations more vigorously into the interpretation and implementation of existing rules. It thus encourages a more normative construction of available rules that potentially limits both the scope for regulatory arbitrage[14] and the need for ever more rapid updates and an increasing complexity of the regulatory framework. By tying the regulatory treatment of financial innovation closely to existing prudential rules and their underlying policy rationales, the proposed approach potentially ends the socially wasteful[15] race between hare and tortoise

[13] The pertinent literature includes Edward J. Janger, *The Cost of Liquidity Enhancement: Transparency Cost, Risk Alteration, and Coordination Problems*, 4 BROOK. J. CORP. FIN. & COMP. L. 39 (2009); C.Y. Cyrus Chu, *The Regulation of Structured Debts: Why? What? And How?*, 19 S. CAL. INTERDISC. L.J. 443 (2009-2010); David A. Dana, *The Foreclosure Crisis and the Antifragmentation Principle in State Property Law*, 77 U. CHI. L. REV. 97 (2010); Jill E. Fish, *Rethinking the Regulation of Securities Intermediaries*, 158 U. PA. L. REV. 1961, 2030 (2010); Rashmi Dyal-Chand, *Useless Property*, 32 CARDOZO L. REV. 1369 (2011); Adam J. Levitin & Susan M. Wachter, *Explaining the Housing Bubble*, 100 GEO. L.J. 1177, 1255 (2012); Note, *The Perils of Fragmentation and Reckless Innovation*, 125 HARV. L. REV. 1799 (2012).

[14] The term is typically used to characterize a socially undesirable, race-to-the-bottom-like outcome in financial regulation if the addressees are free to choose between a set of diverging institutional frameworks, see *e.g.* Amir N. Licht, *Regulatory Arbitrage for Real: International Securities Regulation in a World of Interacting Securities Markets*, 38 VA. J. INT'L L. 563, 567, 636 (1998); Ethiopis Tafara & Robert J. Peterson, *A Blueprint for Cross-Border Access to U.S. Investors: A New International Framework*, 48 HARV. INT'L. L.J. 32, 52 (2007).

[15] One of the key disservices that a quest for regulatory arbitrage opportunities renders to society is that it engages talent in a largely non-productive endeavor and thus misallocates a resource that is among the most valuable to society, *cf*. generally William J. Baumol, *Entrepreneurship: Productive, Unproductive, and Destructive*, 98 J. POL. ECON. 893 (1990) (showing that the allocation of a given set of entrepreneurs between socially productive and unproductive (rent-seeking, criminal) activities depends on relative pay-offs offered by society); Kevin M. Murphy, Andre Shleifer & Robert W. Vishny, *The Allocation of Talent: Implications for Growth*, 106 Q.J. ECON. 503 (1991) (demonstrating that occupational choice between growth fostering and redistributive activities depends on compensation contracts). For general evidence that the financial industry employs an increasing share of high-quality human resources *see* Claudia Goldin & Lawrence F. Katz, *Transitions: Career and Family Life Cycles of the Educational Elite*, 98(2) AM. ECON. REV. 363, 366 (2008) (showing an increase of 16% (male) and 11% (female) among those U.S. elite college graduates ("Harvard & Beyond") between 1970 and 1990 who entered positions in finance and management and held them fifteen years later); Thomas Philippon & Arielle Reshef, *Wages and Human Capital in the US Financial Industry: 1906-2006*, 127 Q.J. ECON. 1551 (2012) (finding that deregulation is correlated with skill intensity, job complexity and wage levels across time, space and subsectors of the U.S. financial industry). In this spirit, then chairman of the U.K. Financial Services Authority (FSA) Lord Turner alluded to the financial sector domiciled in the City of London as "swollen" "beyond socially reasonable size" and posited that it engages in a good deal of "socially useless" activities, George Parker, *FSA Backs Global Tax on*

that signifies the relation between regulators and a highly dynamic industry.[16] In doing so it does not generally hamper market participants' efficient discoveries.

To make the key argument, section 2 of the essay traces the close connection between the rationales underpinning the current regulatory initiatives geared to alternative credit intermediation as well as traditional prudential banking regulation. It does so by looking at the definition of shadow banking that informs these advances and the regulatory challenges that follow from this understanding. The latter are then related to *in grosso modo* equivalent policy goals that motivate traditional prudential bank regulation. The analysis supports the view that existing regulation—at least in its substance—attempts to address the key concerns that reverberate in the debate on new rules to adequately cover shadow banking. Section 3 illustrates the problems of an overly formalist implementation of the policy goals that warrant regulatory intervention in banking. It shows that much of the potential for regulatory arbitrage is created by a specific understanding of financial regulation that arguably commands a narrow reading of existing rules. Section 4 discusses the merits, challenges and drawbacks of an alternative approach that integrates normative considerations more momentously into the application of prudential rules. The gist of such a normatively charged approach to supervision is its more aggressive stance *vis-à-vis* innovations that are mainly driven by an appetite for regulatory arbitrage. In doing so, one pivotal virtue of the proposed concept can be seen in its potential not to hamper efficient financial innovation. Instead, it only weeds-out rent-seeking circumventions of existing rules and standards. Section 5 concludes.

2 THE RATIONALE UNDERPINNING CURRENT REGULATORY INITIATIVES TO COVER NON-BANK CREDIT INTERMEDIATION

To highlight the remarkable dichotomy between the functional justification of banking regulation and the almost literalist application of existing prudential rules, this essay proceeds with a closer look at the definitions of shadow banking that inform the regulatory initiatives and dwell on the bank-like nature of shadow banking activities (*infra* 2.1). It then reiterates the most important ends of banking regulation (*infra* 2.2) in order to finally synthesize these findings with the concerns motivating regulatory efforts to cover shadow banking (*infra* 2.3).

2.1 IN SEARCH OF AN OPERATIVE DEFINITION

Despite the ostensibly global consensus to tighten regulation and the rather rapid progress in drawing up specific measures,[17] it should not be overlooked that the transnational initiatives were launched form epistemologically shaky ground. It is indicative, that the FSB-

Transactions, FIN. TIMES ONLINE, Aug. 27, 2009, http://www.ft.com/intl/cms/s/0/08943b5a-926a-11de-b63b-00144feabdc0.html#axzz3EEwNVzFF.

[16] The rapidly changing institutional structure of contemporary finance as main regulatory challenge is also highlighted in Wulf A. Kaal, *Evolution of Law: Dynamic Regulation in a New Institutional Economics Framework* 4 (U. St. Thomas Legal Studies Research Paper No. 13-17) available at http://ssrn.com/abstract=2267560; Iman Anabtawi & Steven L. Schwarcz, *Regulating Ex Post: How Law Can Address the Inevitability of Financial Failure*, 92 TEX. L. REV. 75, 85 (2013).

[17] *Supra* 1.

appointed group of high-level experts, led by FSA-chairman Adair Turner and Bank for International Settlements (BIS) General Manager Jaime Caruana, deemed it necessary to issue a "Background Note" which delineates the scope of the task-force's mandate and outlines the perceived perils that result from insufficient oversight and regulation in those parts of the financial system enigmatically referred to as "shadow banking".[18]

In its determination which activities constitute appropriate targets for regulatory intervention, the FSB task-force follows a two-pronged test to identify potential epicenters from which devastating waves for the global financial system could originate. In this view, the targeted endeavors belong to "a system of credit intermediation that involves entities and activities outside the regular banking system, and raises i) systemic risk concerns, in particular by maturity/liquidity transformation, leverage and flawed credit risk transfer, and/or ii) regulatory arbitrage concerns".[19] The definition has already shaped the perception of important regulators[20] and is mirrored in other influential contributions on the subject.[21] Where alternative descriptions of what constitutes shadow banking are proposed, they share the key insight of the FSB task force that the pertinent activities involve residual (undiversifiable) risks that raise financial stability concerns as a function of investors liquidity concerns.[22]

In spite of the task force's rhetoric which suggests that the expert group's approach casts "the net wide",[23] even the first prong of the definition—and the alternatives that conform with it in substance[24]—already excludes certain operations that are sometimes regarded as grave threats for the financial system's viability. This applies for instance to the activities of those hedge funds that do not themselves, directly or indirectly extend credit but follow strategies based on equity trading or foreign currency transactions.[25] Regardless of the merits of

[18] FSB, SHADOW BANKING: SCOPING THE ISSUES (2011), http://www.financialstabilityboard.org/publications/r_110412a.pdf

[19] FSB, *supra* note 18, at 3.

[20] The European Commission has adopted the task force's view without limitations, *cf. Commission Green Paper on Shadow Banking*, at 3-5, COM(2012) 102 final (March 19, 2012).

[21] The staff of both, the European Central Bank (ECB) and the N.Y. Fed., have published papers that rely on the FSB task force's definition or materially equivalent variations, *cf.* Klára Bakk-Simon et al., *Shadow Banking in the Euro Area* 8 (ECB Occasional Paper No. 133, 2012) *available at* http://www.ecb.europa.eu/pub/pdf/scpops/ecbocp133.pdf (adhering to the FSB definition); Zoltan Pozsar et al., *Shadow Banking* 6 (Fed. Res. Bank N.Y Staff Report No. 458, 2010) *available at* http://ssrn.com/abstract=2378449 (defining shadow banking as "credit intermediation activities that are implicitly enhanced, indirectly enhanced or unenhanced by official guarantees", *i.e.* run without direct access to the fiscal backstops of the regulated banking sector and are thus susceptible to massive withdrawals of funds when investors panic).

[22] See for instance Stijn Claessens & Lev Ratnovski, *What is Shadow Banking?* 4-6 (Int'l Monetary Fund Working Paper 14/25, 2014) *available at* https://www.imf.org/external/pubs/ft/wp/2014/wp1425.pdf (describing shadow banking as activities that require a private or public backstop to show that they can absorb risks that the ultimate claimholders do not wish to bear).

[23] FSB, *supra* note 18, at 3.

[24] *Supra* note 22.

[25] In an interview, then president of the German financial watchdog, Bundesanstalt für Finanzdienstleistungsaufsicht (BaFin), Jochen Sanio posited that excluding non-credit hedgefunds from the regulatory initiative would usher the next catastrophe as these entities constituted the most danger-

amending the institutional framework for other agents in global finance as well,[26] the task force's definition clearly indicates that its regulatory initiative is centered on the function that is traditionally served by depository institutions and is now partly absorbed by the disintegrated intermediation chain of the shadow banking sector. It thus pursues goals along the customary lines of prudential bank regulation, *i.e.* it seeks to foster the resilience of those agents, old and new, that provide the economy with (a beneficial amount of) liquidity.[27] From this point of view, it can be said—in a variation of an influential piece that summarizes the prevailing justifications for prudential banking regulation[28]—that shadow banking is not special at all *vis-à-vis* traditional credit intermediation when it comes to justifying regulatory intervention.

The contours of the prevailing "classical" approach become even more evident, once the second prong of the expert group's definition is taken into account and supplemented with context. It is worthwhile noting, that the two risks invoked as the cornerstones of shadow banking activities that are deemed relevant from the regulatory vantage, to wit that of systemic risk and that of regulatory arbitrage, do not constitute independent concerns. In fact, regulatory arbitrage marks less of an independent aspect when it comes to regulating shadow banking but more of an angle of the essential systemic risk problem: where prudential banking regulation promulgated to improve the financial system's safety is avoided by shifting certain potentially hazardous activities to arguably unregulated sectors, the original perils for the system re-arise.[29] Similarly, where activities that require a backstop are deliberately conducted in

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ous actors in the shadow banking sector, *cf.* BaFin Journal Nov.-Dec. 2011, at 20, 21-2. http://www.bafin.de/SharedDocs/Downloads/DE/BaFinJournal/2011/bj_1111-12.pdf;jsessionid=45A845C8C0ACB8A008CED072B0E223DD.1_cid234?__blob=publicationFile&v=5.

[26] (Non-credit) hedge funds typically have equity and debt withdrawable on relatively short notice and pursue long-term investment strategies, *i.e.* they spawn maturity and liquidity mismatches that make them susceptible to runs, Andreas Engert, *Transnational Hedge Fund Regulation*, 11 EUR. BUS. ORG. L. REV. 329, 343 (2010). An abrupt loss of confidence in their viability can compel non-credit hedge funds to liquidate their portfolio holdings, which in turn can destabilize the affected asset markets as a whole and through this channel bear on other financial and non-financial actors. It has to be noted though, that the reasons for regulating hedge funds are not necessarily rooted in financial stability considerations but may also relate to general efficiency concerns (investor protection, compliance etc.), *e.g.* Troy A. Paredes, *On the Decision to Regulate Hedge Funds: The SEC's Regulatory Philosophy, Style, and Mission*, U. ILL. L. REV. 975, 990-998 (2006); Jón Daníelsson, Ashley Taylor and Jean–Pierre Zigrand, *Highwaymen or Heroes: Should Hedge Funds Be Regulated?*, 1 J. FIN. STABILITY 522, 527-28 (2005); Ryan Sklar, *Hedges or Thickets: Protecting Investors from Hedge Fund Managers' Conflicts of Interest*, 77 FORDHAM L. REV. 3251 (2009).

[27] See *infra* 2.2.1.

[28] E. GERALD CORRIGAN, ARE BANKS SPECIAL? (Fed. Res. Bank. of Minneapolis ed., 1982).

[29] It is precisely this interdependency that the FSB task force delineates when it argues that regulatory arbitrage could increase leverage in the financial system to undesirable levels and points to the well-known examples of how banks avoided capital requirements for regular bank lending by resorting to asset backed commercial paper financing, FSB, *supra* note 18, at 5. For detailed descriptions of the (allegedly) off-balance sheet structures used in these transactions *see* Viral V. Acharya, Philipp Schnabl & Gustavo Suarez, *Securitization Without Risk Transfer* 7-9 (AFA 2010 Atlanta Meetings Paper, 2011) *available at* http://ssrn.com/abstract=1364525; William W. Bratton & Adam J. Levitin, *A Transactional Genealogy of Scandal: From Michael Milken to Enron and Goldman Sachs*, 86 S. CAL. L. REV. 783, 836-41 (2013); but see also Steven L. Schwarcz, *The Future of Securitization*, 41 CONN.

entities and through transactions without direct access to the pertinent facilities, the perils for financial stability constitute the ultimate concern, whereas regulatory arbitrage is one important way to conjure up the specter.

As a consequence, the task force's and other players' self-conceived regulatory aims focus on risks that threaten the macro-economically important provision of liquidity, insofar as these risks originate from non-bank credit intermediation broadly understood.[30] With this in mind, it becomes an important query, why despite the functional rationale for prudential bank regulation that has been well-established for a long time, important bank-like activities arguably fall outside the scope of current rules and standards promulgated to serve these very ends.

2.2 GOALS OF BANKING REGULATION REVISITED: SUBSTANCE

This paragraph carves out in more detail why credit intermediation deserves regulators' specific attention (*infra* 2.2.1) and where the potential for systemic crises in private sector money creation ultimately originates (*infra* 2.2.2).

2.2.1 SAFEGUARDING THE SUPPLY OF LIQUIDITY AS THE PARAMOUNT END IN PRUDENTIAL BANK REGULATION

The rationale that underpins any specific prudential regulation of banks follows from these institutions' pivotal macroeconomic function in a money based economy. Where prices do not immediately adjust to changes in money supply—like they would in a *Walras*-world of pure price takers[31]—securing the steady and reliable provision of liquidity becomes an important assignment for the sovereign who holds the monopoly of money. In reality, plausibly as a result of grave information gaps and the consequential reliance on experience, prices and wages adjust to new developments only fractionally in small steps and equilibrium is reached only with inertia.[32] Under these conditions, a (sharp) diminution of liquidity will also affect

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L. REV. 1313, 1316-24 (2009) (discussing the flaws in securitization transactions prior to the financial crisis without regarding the specific use of off-balance sheet vehicles as one of them). See also *infra* 3.1.

[30] This overarching theme should not be blurred despite some contributions narrow understanding of credit intermediation as deposit-taking and lending, *cf. e.g.* Claessens & Ratnovski *supra* note 22, at 4. In their economic substance, securitization, repo, and securities lending transactions represent the extension of credit.

[31] If prices of goods adjust immediately even to the most abrupt changes in money supply, exogenous shifts in liquidity will only alter the nominal value of market transactions but will not impact on the real economy. Hence, the massive destruction of liquidity that signifies a bank-run remains a purely private event and does not impound on economic activity.

[32] The general idea of nominal rigidity or stickiness of prices and wages is introduced in JOHN MAYNARD KEYNES, THE GENERAL THEORY OF EMPLOYMENT, INTEREST AND MONEY 197-208 (Signalman Publishing, 2009) (1936); stylized New Keynesian-models seek to further formalize the notion either with agents who adapt prices over time according to exogenously determined patterns (*e.g.* John B. Taylor, *Aggregate Dynamics and Staggered Contracts*, 88 J. Pol. Econ. 1 (1980); Guillermo Calvo, *Staggered Prices in a Utility-Maximizing Framework*, 12 J. MONETARY ECON. 383 (1983)) or in reaction to altered market conditions (*e.g.* Michael Dotsey, Robert G. King, *Alexander L. Wolman, State-Dependent Pricing and the General Equilibrium Dynamics of Money and Output*, 114 Q.J. ECON. 655

transaction levels in the real economy and thus create depressive effects that bring about the necessary adaptation of wages and prices only over time and after severe losses in social welfare.[33]

On the assumption that a constant and dependable supply of liquidity is critical for any economy's prosperity, public authorities—beyond directly providing money themselves—rely on private agents to create liquidity: by accepting deposits banks take in funds and create liabilities that are commonly perceived as money (liquidity) by their customers. Furthermore, they use large fractions of these funds to acquire claims (receivables) on the asset side of their balance sheets by lending liquidity to borrowers who value it higher than the depositors. Hence, on balance, banks' credit intermediation leads to an increase in liquidity available to the economy.[34] Of course, the maturity and liquidity transformation conducted in the process leaves banks with assets on their balance sheets that cannot be liquidated at all times at their nominal value.

Banks' conflicting short-term and long-term needs can be reconciled in normal times by an internal liquidity management that capitalizes on the law of large numbers. Yet still, it is the structure of private sector money creation that precipitates the hazard of a sudden and massive destruction of liquidity. At the outset, a bank will fail if its customers withdraw their deposits in great numbers after they lost confidence in the institution's financial viability, *i.e.* if they fear that their cash-like deposits will in fact not be repaid, for instance after the bank had to take hard hits in its lending business that were only insufficiently absorbed by its equity capital. To be sure, as long as bank failures remain limited to individual institutions, they do not pose a concern for society because the remaining intermediaries would immediately fill the void or the destroyed liquidity could be replaced by manageable amounts of money created directly by central banks. If, however, a multitude of adverse developments or pervasive shocks unsettle depositors' general trust in banks, customers as a class will no longer be willing to hold (only) quasi-liquid claims against banks and run for cash.[35] As a consequence,

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(1999); Mikhail Golosov & Robert E. Lucas, Jr., Menu Costs and Phillips Curves, 115 J. Pol. Econ. 171 (2007); for the related strand of research that deviates from the assumption of nominal rigidity of prices and explains inertia with information constraints *see* Stanley Fischer, *Long-Term Contracts, Rational Expectations, and the Optimal Money Supply Rule*, 85 J. POL. ECON. 191 (1977) (showing that certain agents will base their choice of wages/prices on outdated information); Gregory Mankiw & Ricardo Reis, *Sticky Information Versus Sticky Prices: A Proposal to Replace the New Keynsian Phillips Curve*, 117 Q.J. ECON. 1295 (2002); for empirical evidence see Edward S. Knotec, *A Tale of Two Rigidities: Sticky Prices in Sticky-Information Environment*, 42 J. MONEY, CREDIT & BANKING 1543 (2010).

[33] Vice versa, the (drastic) increase in liquidity breeds overheated transaction-levels in the real economy that again result in losses to society as a consequence of doubts that pertain to the reliability of money as a measure of value.

[34] To be sure, radical proposals that seek to eliminate the described form of money creation through bank credit by requiring a 100% reserve backing of deposits had been advanced during the Great Depression of the 1930s and have been revived as a reaction to the ongoing crisis, see Jaromír Beneš & Michael Kumhof, *The Chicago Plan Revisited* (Int'l Monetary Fund, Working Paper No. 12/202, 2012) *available at* http://ssrn.com/abstract=2169748.

[35] For the seminal model see Douglas W. Diamond & Philip H. Dybvig, *Bank Runs, Deposit Insurance and Liquidity*, 91 J. POL. ECON. 401 (1983).

such a change in bank customers' behavior would lead to an overall annihilation of liquidity because the banking sector as a whole could not fulfill depositors' short-term claims from called-in demand deposits. Ultimately, governments were left as the only agents who could substitute banks in providing liquidity. Yet, they would face severe incertitude in deciding how much money to provide to the economy, which in turn would invoke the risk of welfare-losses in the period of transition.

As a consequence of this scenario, prudential bank regulation provides the institutions that relief the social planner from having to supplant private sector liquidity supply ad hoc. Simply put, they are supposed to avert that banks enter confidence crises in the first place and thus establish own funds and liquidity requirements, corporate governance prescriptions and transparency duties to induce market discipline.[36] Where this goal cannot be achieved they ensure that viable going-concern entities are supported by a lender of last resort and depositors have no incentive to run because the government guarantees their claims. Secondary reasons for regulating banks (*e.g.* using them as transmission belts for the central bank's monetary policy, providing payment services etc.) certainly exist,[37] yet in the contemporary capitalist economy, securing liquidity supply is the champion among the regulatory ends.

2.2.2 Risk-insensitive funding as the core problem

Quite importantly, even if macro-economic theory establishes that private sector credit intermediation indeed play's a critical role for society, this observation alone does not warrant government intervention. Where market discipline sufficiently stabilizes the relevant activities, regulators have plausible grounds to abstain from interference. Hence, the general macro-economic considerations have to be complemented by a detection of market failures that destabilize the system of private liquidity supply.[38]

Agency theory generally describes the incentives for equity-holders who benefit from limited liability to enhance risk *ex post* to the detriment of debt-holders, *i.e.* to make firms more crisis-prone after raising debt capital.[39] These incentives for *ex post* risk-shifting are

[36] On these three pillars that support the Basel regime since the 2003 amendments *cf.* Jan H. Dalhuisen, *Financial Services, Products, Risks and Regulation in Europe After the EU 1988 Action Plan and Basel II*, 18 EUR. BUS. L. REV. 819, 1032–39, 1081–82 (2007); Razeen Sappideen, *The Regulation of Credit, Market and Operational Risk Management Under the Basel Accords*, 2004 J. BUS. L. 59, 90.

[37] For an overview of the theoretical foundations of banking regulation *cf.* Sudipto Bhattacharya, Arnoud W.A. Boot, Anjan V. Thakor, *The Economics of Bank Regulation*, 30 J. MONEY, CREDIT AND BANKING 745 (1998).

[38] See also Steven L. Schwarcz, *Regulating Shadows: Financial Regulation and Responsibility Failure*, 70 WASH. & LEE L. REV. 1781, 1793-5 (2013) (surveying market failures identified by banking law scholars).

[39] *Cf.* the seminal analysis of agency costs in the relation of debtholders (principals) to equity-holders (agents) as a consequence of limited liability-induced moral hazard *Michael C. Jensen & William H. Meckling*, Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure, 3 J. Fin. Econ. 305, 334-7 (1976); *Clifford. W. Smith, Jr. & Jerold B. Warner*, On Financial Contract-

rooted in the fact, that residual claimants benefit without limits from higher profits riskier projects may yield, while typical creditors with fixed interest and redemption claims do not participate in the increased upside of more volatile investment opportunities but are confronted with a higher probability of default and a higher loss ratio. Without adjustment they provide inadequately cheap funding for the actual risks taken with investment decisions.[40]

The potentially shattering effect of this general conflict of interests between debt- and equity-holders is amplified in banking because firms in the financial sector typically operate with high leverage. Moreover, debt-holders have only limited ability to protect themselves because the banking business lacks sufficient external transparency.[41] In addition, a further weakening of autonomous debt-governance results from deposit guarantee schemes[42] and all variations of implicit government guarantees (*too big/complex/important/interconnected to fail*)[43] that effectively insure bank creditors against default.

Both observations can be merged into the key argument for prudential banking regulation. Government intervention is needed to safeguard the essential macro-economic function of private sector liquidity supply (credit intermediation), because risk-insensitive funding by investors—broadly understood—leads to excessive risk taking and leverage and thus potentially creates systemic risk. This pivotal interconnection is well established in the banking

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ing: An Analysis of Bond Covenants, 7 J. Fin. Econ. 117, 118-9 (1979); FRANK H. EASTERBROOK & DANIEL R. FISCHEL, THE ECONOMIC STRUCTURE OF CORPORATE LAW 52 (1991).

[40] For the standard analysis *see* RICHARD A. BREALEY, STEWART C. MYERS & FRANKLIN ALLEN, PRINCIPLES OF CORPORATE FINANCE, 481-2 (10TH ED., 2011).

[41] MATHIAS DEWATRIPONT & JEAN TIROLE, THE PRUDENTIAL REGULATION OF BANKS 141- (1994) (establishing the so called representation hypothesis to legitimize prudential bank regulation). Recent empirical research on the financial crisis corroborates the theory. In particular, strong evidence suggests that certain tools of equity governance are indeed apt to align managerial and shareholder interests to enhance volatility to the detriment of debt-holders and/or tax payers, Rüdiger Fahlenbach & René Stulz, *Bank CEO Incentives and the Credit Crisis*, 99 J. FIN. ECON. 11 (2011) (showing that banks in which managerial incentives were closely aligned with shareholders' general objective function through high powered incentive compensation fared worse during the crisis); Luc Laeven & Ross Levine, *Bank Governance, Regulation and Risk Taking*, 93 J. FIN. ECON. 259 (2009) (finding a stronger risk appetite in banks in which shareholders had stronger influence on firm governance).

[42] Ross Levine, *The Corporate Governance of Banks: A Concise Discussion of Concepts and Evidence* 10-11 (World Bank Pol'y Res. Working Paper No. 3404, 2004) *available at* http://elibrary.worldbank.org/content/workingpaper/10.1596/1813-9450-3404; Jonathan R. Macey & Maureen O'Hara, *The Corporate Governance of Banks*, 9 FED. RES. BANK N.Y. ECON. POL'Y REV. 91, 98-9 (2003); Johan Devriese et al., *Corporate Governance, Regulation and Supervison of Banks*, 2 Nat'l Bank Belgium Fin. Stability Rev. 95, 98 (2004), http://www.nbb.be/doc/oc/repec/fsrart/FSR_2004_En_95_120.pdf. See also *infra* note 44.

[43] Peter O. Mülbert, *Corporate Governance of Banks*, 10 EUR. BUS. ORG. L. REV. 411, 426 (2009). For empirical evidence of the effect *see* Zoe Tsesmelidakis & Robert C. Merton, *The Value of Implicit Guarantees* (Working Paper, 2012), available at http://ssrn.com/abstract=2231317 (estimating the funding advantage of 74 U.S. financials benefiting from implicit government guarantees to sum up to $365 bn.); Frederic A. Schweikhard & Zoe Tsesmelidakis, *The Impact of Government Interventions on CDS and Equity Markets* (Am. Fin. Ass'n 2012 Chicago Meetings Working Paper, 2012) available at http://ssrn.com/abstract=1573377 (showing how model-estimated risk premiums for bank debt deviated significantly from actual market premiums charged for major U.S. banks in CDS-markets through the financial crisis).

literature, primarily in analyses of mispriced deposit insurance,[44] but also in more general models.[45] As a result, when it comes to a functional justification of banking regulation the focus rests on several sources of risk-insensitive funding. The latter can result either from the presence of mispriced explicit[46] or implicit[47] (government[48]) support or information asymmetries between financial firms and investors, the latter potentially exacerbated by malfunctioning information intermediaries (credit rating agencies).[49]

2.3 SYNTHESIZING THE DEBATES

Simply put, shadow banking establishes a credit intermediation chain that disintegrates the traditional function deposit institutions fulfill in allocating liquidity in the real economy.[50] The critical aspect from a regulatory vantage is that non-deposit instruments such as mutual money market fund (MMMF) shares/participations, short term commercial paper (CP), ABCP, short term borrowing in repo-markets or taking of cash collateral against securities

[44] The literature starts with Robert C. Merton, *An Analytical Derivation of the Cost of Deposit Insurance and Loan Guarantees*, 1 J. BANKING & FIN. 3 (1977) (developing a model to estimate the costs of deposit insurance for the guarantor that should ultimately be borne by the covered depositors); for an extension *see* Robert C. Merton & Zvi Bodie, *Deposit Insurance Reform: A Functional Approach*, 38 CARNEGIE-ROCHESTER CONFERENCE SERIES ON PUB. POL'Y 1 (1993). See also *supra* note 42.

[45] See especially Tobias Adrian & Adam B. Ashcraft, *Shadow Banking Regulation* 8-10 (Fed. Res. of N.Y. Staff Reports No. 559, 2012) available at http://www.newyorkfed.org/research/staff_reports/sr559.pdf.

[46] Besides deposit insurance, access to a lender of last resort constitutes an important form of (liquidity) support.

[47] Particularly the U.S. experience during the financial crisis proved that entities without prior access to traditional safety nets (deposit insurance, Federal Reserve discount window) were backstopped with ad hoc facilities, see e.g. Adrian & Ashcraft *supra* note 45, at 11-2 (describing the backstops put in place to stabilize the asset backed commercial paper (ABCP)-market); Tobias Adrian, Christopher R. Burke & James J. McAndrews, *The Federal Reserve's Primary Dealer Credit Facility*, 15(4) CURRENT ISSUES ECON. & FIN. (2009), http://www.newyorkfed.org/research/current_issues/ci15-4.pdf (describing the special facilities that stabilized the repo-market in 2008); Marcin Kacperczyk & Philipp Schnabl, *When Safe Proved Risky: Commercial Paper during the Financial Crisis of 2007-2009*, 24(1) J. ECON. PERSP. 29, 41-45 (2010) (describing the various facilities put in place to stabilize short-term funding markets with a particular view to money market mutual funds). The experience prompted lawmakers to promulgate a clear-cut rule which outright prohibits future bail-outs of financial firms, Dodd-Frank-Act § 214.

[48] The shadow banking sector has developed certain mechanisms to substitute for the lack of government credit or liquidity enhancements, *cf. infra* 3.1.

[49] See *e.g.* Edward J. Kane, *Ethical Failures in Regulating and Supervising the Pursuit of Safety-Net Subsidies*, 10 EUR. BUS. ORG. L. REV. 185 (2009) (positing that supervisors who suffered from a politically generated conflict of interest outsourced prudential oversight of securitized investments to credit rating agencies and accounting firms prior to the crisis of 2007/2008); Lawrence J. White, *Markets: Credit Rating Agencies*, 24(2) J. ECON. PERSP. 211-6 (2010) (showing how the market dominance of three players combined with the outsourcing of regulatory judgment and the "issuer pays" business model inevitably bred adverse systemic consequences).

[50] This functional description concurs with the alternative definition that points to a backstop requirement as the critical hallmark for shadow banking, Claessens & Ratnovski *supra* note 22. The latter requirement follows from term and liquidity transformation that characterize any form of alternative credit intermediation.

lending etc. are used to raise liquidity from various kinds of suppliers like households, corporates and financial institutions in order to finance assets with longer maturity and lower liquidity (figure 1).[51]

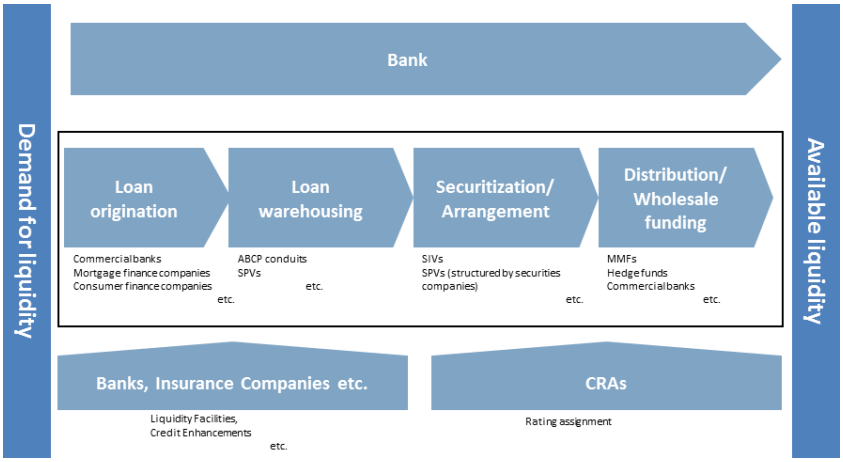

figure 1 – alternative credit intermediation

Just like bank deposits, the instruments used by shadow banking entities to raise funds are usually treated as cash-equivalent by those who provide liquidity. Yet if confidence in the financial viability of shadow banking entities dwindles,[52] these instruments are also prone to "modern bank-runs".[53] The usual regulatory institutions that seek to attenuate the risk of a sudden and massive withdrawal of liquidity (deposit insurance, lender of last resort support, micro-prudential regulation such as liquidity buffers and capital requirements) do not immediately apply because they hinge on the qualification of the respective entity as a regulated bank.[54]

As a consequence, not only because spill-over effects from shadow banking may compromise the traditional credit-intermediation function of banks,[55] but also because shadow

[51] For a granular presentation of the shadow banking sector *see* Pozsar et al., *supra* note 21, at 10-24 and exhibit 1.

[52] For instance, the problem for certain conduits was rooted in the fact that already a slight increase in haircut-rates applied to the financial instruments they held (*e.g.* collateralized debt obligations, CDOs) made it impossible to obtain sufficient short-term refinancing for their portfolio and sustain the term and liquidity transformation the vehicles ran. Instead they were compelled to sell-off some of their assets to meet their imminent liquidity needs, an operation which triggered the dynamics of a run, *see* Enrico Perrotti, *The Roots of Shadow Banking*, 3 (Ctr. for Econ. Pol'y Res., Pol'y Insight No. 69), http://www.cepr.org/sites/default/files/news/PolicyInsight69.pdf 3; for a stylized model of the roots of this kind of instability *see* Antoine Martin, David Skreie & Ernst-Ludwig von Thadden, *Repo Runs*, 27 REV. FIN. STUDIES 957 (2014).

[53] Gary Gorton & Andrew Metrick, *Securitized Banking and the Run on Repo*, 104 J. FIN. ECON. 425 (2012) (finding that concerns about the liquidity of markets for securitized bonds led to increases in the amount of collateral required for repo-transactions that entailed the collapse of this pivotal short-term funding market which in turn rendered the U.S. banking system effectively insolvent); Daniel Covitz, Nellie Liang & Gustavo A. Suarez, *The Evolution of a Financial Crisis: Collapse of the Asset Backed Commercial Paper Market*, 68 J.FIN. 815 (2013) (showing a massive withdrawal of liquidity in more than 100 ABCP-programs that affected roughly one third of the market in 2007); Adrian & Ashcraft *supra* note 45, at 21-22 (describing the run on constant net asset value (CNAV) MMMF in the U.S. in the wake of Lehman Brothers' bankruptcy).

[54] But see also *supra* note 47.

banking itself represents an important source of credit for the real economy, the policy goals that legitimize regulatory intervention in either sector are identical: they seek to avoid risk-insensitive funding of credit intermediaries. In fact, some regulatory initiatives intentionally produce intrinsically intertwined effects for both regulated banks and shadow banking entities that can be reconstructed with a view to this general policy prescription. For instance, the amendments to accounting standards that tighten consolidation requirements for conduits[56] and thereby seek to end regulatory arbitrage with regard to the risk-based calculation of prudential own funds requirements and liquidity buffers[57] affects both banks and shadow banking affiliates: they ultimately compel all entities involved to obtain risk-adequate funding.

3 LEGISLATORS' AND SUPERVISORS' "FORMALIST" IMPLEMENTATION OF THE POLICY PRESCRIPTIONS

A largely unexplored potential for an effective implementation of the functionally defined policy goals in prudential regulation lies in the application of existing rules in a more normative manner that aggressively limits the scope for regulatory arbitrage. The underlying query becomes what it is exactly that allows financial innovation to escape regulation in the first place. It seems quite plausible, that at least some of the problems of the recent past could have been avoided by an approach that deviates from the quasi-literalist paradigm and does not construe existing rules narrowly by strictly adhering to their wording. If this hypothesis was true, the observation also teaches an important lesson for future challenges that will inevitably originate from the financial industry's insatiable appetite for innovation. To illustrate that a more normatively charged approach to the implementation and enforcement of prudential regulation is needed, this essay revisits briefly the treatment of special investment vehicles in securitization transactions (*infra* 3.1) and looks at U.S. MMMF emerging activities in short-term funding markets (*infra* 3.1).

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[55] Regulated banks may be affected by adverse developments in the shadow banking sector, either because they are part of the credit intermediation chain, or because they lend support to entities that engage in liquidity/maturity transformation. Besides banks' direct or indirect participation in shadow banking, they are also exposed to risks originating from the sector, because they invest in financial instruments issued by shadow banking entities. Hence, they may be exposed to risks through holdings of critical assets and derivative positions. Finally, the generation of additional leverage within the shadow banking sector also leads to pro-cyclical effects in times of crisis, for instance, a devaluation of collateral securities will lead to abrupt deleveraging and asset fire sales (supra note 52).

[56] In 2009 the U.S. Financial Accounting Standards Board (FASB) announced Financial Accounting Standard (FAS) 166 and 167 which require consolidation of vehicles if their sponsors have the power to direct the activities that most significantly affect performance and are either obliged to absorb significant losses or are entitled to receive significant benefits. Similarly, the International Accounting Standards Boards (IASB) issued International Financial Reporting Standard (IFRS) 10 which mandates consolidation if an investor has power over the vehicle to direct activities that affect its returns and has exposure/rights to the vehicle's variable earnings.

[57] *See supra* note 29. For an account of the specific German angle of the scheme where particularly government-owned banks ("*Landesbanken*") invested in CDO-markets through off-balance sheet vehicles at a very late stage and also provided credit-enhancements for these vehicles *see* Kenneth W. Dam, *The Subprime Crisis and Financial Regulation: An International Perspective*, 10 U. CHI. INT'L L.J. 581, 607-11 (2010); Tim Florstedt, *Finanzkrise als Krise der Normbehauptung* [*Financial Crisis as Crisis of Self-Assertion of the Law*], 25 J. BANKING L. & BANKING 81 (2013).

3.1 SECURITIZATION AND OFF-BALANCE SHEET CONDUITS

By way of rough abstraction, prudential capital and liquidity requirements can be conceptualized as a type of Pigovian tax because the pertinent regulation does not only attenuate deficits in debt-governance but also prices access to safety nets.[58] To be sure, this price-tag is by no means an accurate estimation of the costs society incurs if banks fail. Yet, the simile indicates that contracting out of capital requirements etc. through securitization transactions without actual risk-transfer represents a clear cut example of regulatory arbitrage.

The recognition of the pertinent transactions as a valid relief from the requirement to hold regulatory capital against the exposures depended on a very narrow, quasi-literalist reading of specific rules, *i.e.* the applicable accounting standards in order to treat the vehicles as off-balance sheet entities[59] and the prudential rules for calculating the risk-weights[60] for off-balance sheet exposures to ultimately lower the own funds requirements. In the European context it was critical in the latter regard that sponsoring banks' liquidity enhancements for off-balance sheet conduits were treated as "low risk" (zero risk-weight) credit facilities instead of "full risk" (100% risk weight) guarantees (credit substitutes) within the meaning of the applicable prudential rules.[61] As a consequence, liquidity facilities were deliberately limited to a maturity of less than a year—as prescribed by the wording of the Directive—although funding the liquidity and maturity transformation that the conduits ran required an automatic roll-over of the facilities which routinely occurred in practice.[62] Hence, a look at the inherent economic logic of the transactions reveals that the liquidity facilities *de facto* imposed (full) credit risk of the conduits' portfolios on the sponsors.[63] In turn, this finding leads to the conclusion that with a view to the functional objectives of prudential regulation, regulatory capital should have been held against the exposures where these sponsors were banks.

It is indicative that insofar as rule makers reacted to the perceived loopholes in the regulatory framework by tightening the applicable accounting standards,[64] some securitization conduits are now structured in a way that again seeks to avoid consolidation under the new rules: some ABCP-vehicles have been set up so that a first-loss tranche is sold to a third-party

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[58] The concept of internalizing external effects through taxes originates with ARTHUR CECILE PIGOU, WEALTH AND WELFARE 164-5 (1912).

[59] *Supra* notes 29 and 57.

[60] The risk-weighting of assets means that a bank's assets and its off-balance sheet exposures are valued according to the risk of depreciations. Asset classes with lower risk of devaluation can be deducted accordingly, the simplest example being a riskless (0% possibility of depreciation) asset that can be deducted entirely from a bank's risk-weighted assets. For a brief discussion of the concept *cf.* Sonali Das & Amadou N.R. Sy, *How Risky are Banks' Risk Weighted Assets? Evidence from the Financial Crisis* 3 (Int'l Monetary Fund, Working Paper WP/12/36, 2012), *available at* http://www.imf.org/external/ pubs/ft/wp/2012/wp1236.pdf.

[61] Directive 2000/12/EC of the European Parliament and of the Council of 20 March 2000 relating to the taking up and pursuit of the business of credit institution, Annex II, 2000 O.J. (L. 126) 1.

[62] Engert *supra* note 11, at 383; Florstedt *supra* note 57, at 84-5, 89-91.

[63] Acharya, Schnabl & Suarez *supra* note 29, at 26-7 (showing that before the crisis losses in the conduits' CDO-portfolios were borne by their sponsors not their investors).

[64] *Supra* note 56.

in order to avoid consolidation.[65] The strategy depends again pivotally on the quasi-literalist paradigm of rule interpretation that allows well-counseled parties to formally comply with prudential regulation regardless of their transaction's actual risk-structure and the law's functional foundations.

Quite similar, where minimum retention requirements for sponsors of securitization vehicles have been put in place to cure incentive problems of originate-to-sell business models ("skin in the game"),[66] commentators already predict that sponsors will use law's leeway to choose inefficient forms of risk retention in order to minimize the amount of regulatory capital they have to hold.[67]

3.2 Mutual Money Market Funds and Repo

One of the key lessons from the financial crises lies in the observation that run-like panics can occur just as well on short-term wholesale funding markets where liquidity is traded against collateral if confidence in the posted securities dwindles.[68] As a regulatory reaction, the Securities and Exchange Commission (SEC) limited MMMF's ability to engage in repo transactions to avoid that MMMF's were left with collateral in times of crises that they were not allowed to hold and thus had to sell immediately into an already downward spiraling market.[69] U.S. banks who depend on MMMF as a critical source of short-term funding through repos immediately developed an "alternative" by setting-up special purpose entities (SPEs) which issue CP. The latter arguably constitutes a liquid investment regardless of its maturity and thus can be held by MMMF in unlimited amounts. However, the SPE subsequently use the proceeds to engage in a reverse repo-agreement with the bank's broker-dealer.[70] As a result of these collateralized commercial paper (CCP) transactions, and despite the compliance with the wording of the applicable law, MMMF again carry a good deal of the risk that the value of the collateral posted in the repo transactions depreciates because the redemption of the SPE's CP ultimately depends on the value of the repo-contracts.

4 Enhancing prudential regulation's assertiveness in a normative approach

[65] Adrian & Ashcraft *supra* note 45, at 38.

[66] Dodd-Frank Act, § 941. The implementing rules have not been adopted so far.

[67] Adrian & Ashcraft *supra* note 45, at 50 (predicting that banks will rather retain fractions of every tranche of the securitized loan portfolio instead of holding a first loss position which would create efficient incentives).

[68] Gary Gorton, *The Panic of 2007*, in Maintaining Stability in a Changing Financial System 131-262 (The Federal Reserve Bank of Kansas City ed., 2009); Gary Gorton, *Information, Liquidity, and the (Ongoing) Panic of 2007*, 99 Am. Econ. Rev., Papers & Proc. 567-72 (2009); see also *supra* note 53.

[69] The first relevant amendment to the rules governing MMMF under the Investment Company Act reclassified investments of a maturity of more than seven days as illiquid, 17 C.F.R. § 270.2a-7(a)(19) and thus affects repo-agreements of more than seven days. Second, the final rule limits the amount of illiquid investments the funds can hold to 5% of their total assets, 17 C.F.R. § 270.2a-7(c)(5)(i).

[70] On the deal structures Adrian & Ashcraft *supra* note 45, at 44.

This final section draws the conclusion from the aforesaid and spells-out how law's self-assertion can be bolstered in the face of regulatory arbitrage with a normatively-charged approach to the application of prudential rules (*infra* 4.1). It also addresses some of the challenges such an approach faces and looks into its potential limits (*infra* 4.2).

4.1 THE IDEA OF AN INTERNAL SOLUTION WITHOUT PERMANENT LAW REFORM

The key idea how to best address the challenges of regulatory arbitrage in banking regulation is to seek an internal solution that limits the need to permanently update and amend the regulatory framework. It thus also reflects the observation that regulating *ex post* in a cumbersome legislative process will indeed come too late most of the time.[71] The approach favored in this essay instead brings to bear the functional foundations of prudential regulation in interpreting and enforcing the law. This promises to be a fruitful shift in paradigms also because the general policy goals of prudential regulation remain constant over time,[72] even in the face of dramatic changes in the financial landscape. Hence, the spirit of existing rules certainly applies also to innovative transactions.

A more normative and less literalist stance *vis-à-vis* financial and/or legal innovation is apt to prevent regulatory arbitrage more vigorously because it bases the supervisory treatment of specific transactions first and foremost on their substantive risk structure. In doing so, it does not require precise knowledge of the actual risks involved. Supervisors only have to assess if a "traditional" equivalent to the transaction exists and how that would be treated under existing prudential regulation. Innovating parties would carry the burden of proof to demonstrate that the transaction is not only driven by regulatory arbitrage opportunities but implicates efficient improvements in liquidity supply.

With the latter divide, the approach does not necessarily constrain efficient financial innovation.[73] This essay thus does not express a position as to whether society was better off with less innovation, tighter regulation etc., or even what constitutes the optimal amount of risk in the financial system. Yet, it clarifies the role of supervisors who, in applying prudential rules, are *de facto* put in the position to assess the potentially hazardous character of any invention they are confronted with. They cannot be content with the determination that a transaction falls outside the scope of existing rules if the latter is gauged only by a narrow reading of the pertinent provisions' wording. To be sure, in contrast to significantly more far reaching propositions,[74] the risk assessment of new transactional structures advocated here is limited to the appraisal—pre-shaped by effective rules—whether they involve the type of risk the existing regulation seeks to address.

[71] Schwarcz *supra* note 9, at 3-4.
[72] *Supra* 2.2 and 2.3.
[73] See also *infra* 4.2.
[74] See e.g. Eric Posner & E. Glen Weyl, *An FDA for Financial Innovation: Applying the Insurable Interest Doctrine to 21st Century Financial Markets*, 107 NW. U. L. REV. 1307 (2013) (arguing for pre-screening of financial innovations through a Federal Drug Authority like agency).

4.2 ACTUAL AND ALLEGED LIMITS OF A NORMATIVE APPROACH

The normatively charged supervisory approach advocated in this essay does not intrinsically augment the peril of regulatory capture.[75] To be sure, if agency personnel are vested with considerable leeway in decision-making, their potential to deliver rulings that are more favorable to certain constituents seems larger at first glance. Of course, the primary goal should lie in establishing governance structures that effectively prevent supervisory agencies from being captured and incentivize bureaucrats to discharge their duties diligently.[76] Apart from this, the normative approach seems generally less of a problem in pertinent respect. It gives supervisors a one-way option to expand the reach of existing rules. Hence, it does not create a camouflaging justification for being more forbearing in the application of existing rules than supervisors would be under the quasi-literalist paradigm anyway.

A more valid counter-argument that has been leveled against similar judgment-led supervisory approaches as well,[77] could look at the input a normative stance in supervision arguably required and highlight the limits to hiring sufficiently skilled personnel. Yet, to a certain degree the argument only points to variations in the distribution of resources allocated to the realm of prudential bank regulation: it is highly questionable, if permanently updating and enforcing an ever more complex regulatory framework indeed requires fewer and less skilled bureaucrats. In that sense, what may be saved in enforcement has to be spent in rule-making or *vice versa*.[78]

Finally, it is not necessarily true that the normatively charged approach leaves the (shadow) banking sector with less of the desired certainty on what constitutes permissible conduct, *i.e*. which form of credit-intermediation can indeed be conducted outside of the existing prudential framework.[79] In fact, the approach takes away the certainty that designing transactions in a way that they fall outside the narrowly-read wording of prudential rules will suffice to avoid the application of the pertinent rule. Yet, in the view of this essay that is not a bad thing! More importantly, the relevant information on what drives the transactional structure (regulatory arbitrage opportunities or efficiency gains) resides with the parties who thus should not be surprised if an alert supervisor reacts according to their plans.

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[75] The concept describes how and when interest groups dominate regulatory decision processes Jean-Jacque Laffont & Jean Tirole, *The Politics of Government Decision Making: A Theory of Regulatory Capture*, 106 Q. J. ECON. 1089, (1991); with a particular view to banking regulators Daniel C. Hardy, *Regulatory Capture in Banking* (Int´l Monetary Fund, Working Paper No. 34, 2006), *available at* http://www.imf.org/external/pubs/ft/wp/2006/wp0634.pdf.

[76] For an analysis *see* Luca Enriques & Gérard Hertig, *Improving the Governance of Financial Supervisors*, 12 EUR. BUS.ORG. L. REV. 357 (2011).

[77] *See* the discussion in Black, Hopper & Band *supra* note 11, at 200; Christie Ford, *Principles Based Securities Regulation in the Wake of the Global Financial Crises*, 55 MCGILL L.J. 257, 289-90 (2010).

[78] Cf. Moriss & Henson *supra* note 12, at 438 (2013) (showing how rule-making is significantly more costly in a permanently updated, very detailed rule-based system (U.S.) compared to principles-based (U.K.) approaches).

[79] For the similar criticism *vis-à-vis* principles-based regulation Black, Hopper & Band *supra* note 11, at 196-7.

Clearly, the approach advocated in this essay does not cover all, maybe not even most of the phenomena of shadow banking. In particular, it has nothing to say on how to deal with efficient structures of alternative credit intermediation. Dramatic changes in the technological landscape make it plausible that disintermediation in significant part follows along the well-established lines of the theory of the firm:[80] shrinking transaction costs may well open the opportunity to perform the tasks of private sector liquidity supply more efficiently in a market-based system of credit intermediation than within an integrated entity/group (hierarchy) that is at the center of the regulated banking-sector.[81] Clearly, the observation that non-bank banks in certain remits and under certain preconditions can have comparative advantages does not automatically imply that they do not pose a challenge for policy makers. Yet, where idiosyncratic market failures impend,[82] a different kind of regulation is probably needed for these alternative forms of credit-intermediation although the policy makers' ultimate goals remain identical.[83]

5 CONCLUSION

This essay argued that at least some of the financial stability concerns associated with shadow banking can be addressed by an approach to financial regulation that imports its functional foundations more vigorously into the interpretation and implementation of existing rules. It showed that the general policy goals of prudential banking regulation remain constant over time despite dramatic transformations in the financial and technological landscape. Moreover, these overarching policy goals also legitimize intervention in the shadow banking sector. On these grounds, this essay encouraged a more normative construction of available rules that potentially limits both the scope for regulatory arbitrage and the need for ever more rapid updates and incremental increases in the complexity of the regulatory framework. By tying the regulatory treatment of financial innovation closely to existing prudential rules and their underlying policy rationales, the proposed approach potentially ends the socially wasteful race between hare and tortoise that signifies the relation between regulators and a highly dynamic industry. In doing so it does not generally hamper market participants' efficient discoveries where disintermediation proves socially beneficial. Instead, it only weeds-out rent-seeking circumventions of existing rules and standards.

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[80] The literature starts with Ronald H. Coase, *The Nature of the Firm*, 4 ECONOMICA 386 (1937).

[81] On the polar modes of resource allocation (market v. hierarchies) and the intermediate forms see e.g. G.B. Richardson, *The Organisazion of Industry*, 82 ECON. J. 883 (1972); OLIVER WILLIAMSON, MARKETS, HIERARCHIES - ANALYSIS AND ANTITRUST IMPLICATIONS (1975). For similar observations (short-term alliance v. consolidation) from a sociological perspective, Mark J. Granovetter, *Coase Revisited: Business Groups in the Modern Economy*, 4 INDUS. & CORP. CHANGE 93, 95 (1994); Mark J. Granovetter, *Business Groups and Social Organization*, *in* THE HANDBOOK OF ECONOMIC SOCIOLOGY 430, 430 (Neil J. Smelser & Richard Swedberg eds., 2d ed., 2005).

[82] On the critical importance of market failure to legitimize regulatory intervention, *supra* 2.2.2.

[83] *Supra* 2.2.

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