Darvas Tamás:
Ten Years after the Financial Crisis – Lessons from Leverage Regulation

If I could sum up the catastrophe in one word, it would be "leverage." (...) Unfortunately, Wall Street mistook leverage for genius.

Steve Eisman[1]

1. Introduction

Try to roughly outline how the Basel framework was created (mainly from the aspect of the regulation of leverage) as an answer to the the financial crisis of 2008 ('Financial Crisis'). I also try to evaluate the current status of the framework and present some current challenges, partly by showing some of the regulation's criticisms and weak points.

The capital and the leverage regulation (these two are very interrelated) of banks is not a new concept. The history of this kind of regulation, being prudential, the "safety and soundness of banks" goes back for more than one and a half century.[2] During and after the crisis the regulation of the leverage of banks has come up again, gained more importance and fame.[3] It can be considered as a third element of the new Basel III standards of the Basel Committee on Banking Supervision ('Basel III') besides the capital requirements and the liquidity requirements.[4] However, the academic standpoint is that the leverage ratio belongs to the first pillar ('Pillar 1') of capital requirements. Therefore the Basel regulation is still consists of two parts, capital and liquidity, and the regulation of capital stands on three pillars.[5]

Pillar 1 is the Minimum Capital Requirements (including the minimum capital requirements and risk coverage) the second pillar ('Pillar 2') is the Supervisory Review (risk management and the evaluation of banks' internal capital adequacy assessment, and if banks do not hold enough capital, supervisors must intervene) and the third pillar ('Pillar 3') is Market Discipline (includes public disclosure of capital structure and adequacy). Later, in Part III the systematic location of the leverage ratio in this structure will be revealed.

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[1] Steve Eisman: *Don't Break Up the Banks. They're Not Our Real Problem.* The New York Times, Feb. 6, 2016, available at https://nyti.ms/2kpstxS (downloaded: 2018. 11. 24.).
[2] Heidi M. Schooner: Top-Down Bank Capital Regulation. *Washburn Law Journal*, Vol. 55, 2016, 330.
[3] Seregdi László: *A szavatoló tőke szerepe a hitelintézetek prudenciális szabályozásában,* 2015, 5. Available at https://www.mnb.hu/letoltes/a-szavatolo-toke-szerepe-a-hitelintezetek-prudencialis-szabalyozasaban-1.pdf (downloaded: 2018. 11. 24.).
[4] Szombati Anikó: Bázel III. rendszerszintű hatásai itthon és Európában. *MNB-Szemle*, Dec. 2010, p. 34-35, available at https://www.mnb.hu/letoltes/szombati.pdf (downloaded: 2018. 11. 27.).
[5] For a schematic summary of the structure see: Basel Committee on Banking Supervision reforms - Basel III, Summary table, available at https://www.bis.org/bcbs/basel3/b3summarytable.pdf (downloaded: 2018. 11. 24.).

2. The Financial Crisis and the Lesson Learned

The main lesson from the Financial Crisis was that banking on leverage itself could be a dangerous practice. Certainly, the reasons behind the Crisis were rather complex, however, this section will show that one of the main reasons were the high leverage of banks. To find this causal link one has to understand the main mechanisms behind the Financial Crisis. Therefore I will make a simplified explanation about the main mechanisms behind the Crisis. Then I will show the causal link, and describe how important leverage is among the other reasons.

The story of the Financial Crisis can be separated into three components: the actors, the scenario, and finally the underlying reasons. The starting point of the Crisis was the collapse of the housing bubble in the US in which the main actors were the following: (mostly house) owners, investors, investment banks, mortgage banks, the Federal Reserve System ('Fed'), credit rating agencies ('CRAs').[6] The scenario was this: the mortgage banks gave loans to the house owners and sold these loans in the form of mortgage bonds to the investment banks.[7] The investment banks created new, complex financial products, probably the most well-known of these are the collateral debt obligations ('CDOs') and synthetic collateral debt obligations ('synthetic CDOs') and paid their investors from these derivatives for which the investors assumed the risk.[8] Meanwhile the CRAs rated the upper *trenches* of these CDOs and synthetic CDOs *AAA* which means that therefore these derivative products seemed to be safe investments (these products are divided into *trenches* from which the upper ones are the safer, and the lower are the riskier).

Underlying processes were the following: the Fed kept the interest rate low for federal funds, which resulted in high liquidity at the investor level (the investors turned to the services of investment banks instead of government bonds.).[9] The CDOs and synthetic CDOs (a CDO consisting of credit default swaps, basically a CDO on the short side) were cheap investments and since the mortgage banks could not loan any more on the housing market (most people who could afford buying a new house already did) they started to turn on subprime loans with high possibilities for default.[10] Meanwhile credit standards were lowered to the point where "anyone with a pulse could get a loan".[11] A lot of times homeowners got "underwater" on their mortgages, meaning that they owed more than their homes were worth.[12] With time the derivative market of CDOs and synthetic CDOs grew much larger than the market of mortgage bonds, multiplying the losses when the housing prices collapsed (a derivatives seller might happily sell $1,000,000 in CDS

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[6] To see main ponts: Gyarmati Ákos – Medvegyev Péter: Válság és hitelderivatívák – A szintetikus fedezett adósságkötelezettségek (CDO-k) árazása és kockázataik. *Közgazdasági Szemle*, LVIII., 11, 2011, 950-953.
[7] *Ibid.*.
[8] *Ibid.*
[9] *Ibid.*
[10] Eisman: i.m., Gyarmati – Medvegyev i.m.
[11] Eisman: i.m.
[12] Brent T. White: Underwater and Not Walking Away: Shame, Fear and the Social Management of the Housing Crisis. *Wake Forest Law Review*, Vol. 45, 2010, 971-975.

contracts on a $100,000 bond).[13] As prices started to fall the bubble started to collapse and the whole chain of the earlier mentioned actors started to break. People were either unable or unwilling to pay their loans or keep their property. They either *'walked away'* or simply suffered under the huge amount of debt.

Leverage comes into discussion in the above mentioned process in this way: during the course of these events the banks increased their leverage by excessive lending and the use of derivatives, off-balance sheet items ('hidden leverage').[14] The exact mechanisms of leverage and the clear definition will be discussed in the following sections of this paper. There is a well-understood consensus that unreasonably high leverage in order to increase risk-taking for the potential of higher payoff had an important role in the Financial Crisis. A causal link exists between such externalities and the gearing of banks confirmed by several authors, such as Alan Adkins, Heidi M. Schooner, Matthias Haentjens, Pierre de Gioia-Carabellese, the Basel Committee on Banking Supervision ('BCBS'), and even Stefan Ingves, the chairman of the BCBS itself (also Governor of Sveriges Riskbank).[15] Case studies on Bear Stearns, AIG, and Lehman Brothers show how high leverage contributed to the failure of these giants. Lehman Brothers was leveraged at 44 to 1.[16] Bear Stearns operated at a leverage ratio of 36 to 1.[17] Today none of these ratios would be enough to comply with regulations. Bear Stearns also became the 'poster child' of this highly aggressive, irresponsible financial behaviour, appearing as the example, often alongside Lehman Brothers, AIG, or Citigroup (other weakly capitalized institutions with less than 4% of their value in equity).[18] In order to illustrate how markets perceived such practices: there is a story (or more accurately: rumour) on James Cayne, the CEO of Bear

[13] Lynn A. Stout: Derivatives and the Legal Origin of the 2008 Credit Crisis. *Harvard Business Law Review*, Vol. 1, No. 10, 2011, 23-28.; Financial Crisis Inquiry Commission: *The Financial Crisis Inquiry Report*, 2011, 145. Available at: https://fcic.law.stanford.edu/report (downloaded: 2018. 11. 24.).

[14] Heidi M. Schooner: The Dogma of Capital Regulation as a Response to the Financial Crisis. In Friedl Weiss – Armin Kammel (eds.), *The Changing Landscape of Global Financial Governance and the Role of Soft Law.* Brill Martinus Nijhoff Publishers, Leiden, 2015, p. 61; Mark J. Roe – Michael Tröge: *Taxing Banks Properly: The Next Regulatory Frontier*, Columbia Law School, Feb., 20 2016, 1. Available at http://web.law.columbia.edu/sites/default/files/microsites/law-economics-studies/taxingbanksproperly_feb_20_2016_v5.2.pdf (downloaded: 2018. 11. 29.).

[15] Schooner 2016 i.m. at 338-339; Schooner 2015 i.m. at 61; Alan Adkins: The Regulatory Leverage Ratio. In Francesco Cannata – Mario Quagliariello (eds.), *Basel III and Beyond – A Guide to Banking Regulation after the Crisis*, Risk Books, London 2011, 185-186.; Stefan Ingves: *Banking on leverage.* Basel Committee on Banking Supervision, Bank for International Settlements, Feb., 25-27 2014, 1. Available at http://www.bis.org/speeches/sp140226.pdf (downloaded: 2018. 11. 27); Matthias Haentjens – Pierre de Gioia-Carabellese: *European Banking and Financial Law.* Routledge, London, 2015, p. 105; Basel Committee on Banking Supervision *Basel III leverage ratio framework and disclosure requirements*, January 2014, 1. ['Basel III 2014 paper']] Available at http://www.bis.org/publ/bcbs270.pdf (downloaded: 2018. 11. 24.).

[16] William Ryback: *Lehman Brothers: Too Big to Fail?* Toronto Leadership Centre, 8. Available at http://siteresources.worldbank.org/FINANCIALSECTOR/Resources/J3-LehmanBrothersCaseStudy.pdf (downloaded: 2018. 11. 24.).

[17] William Ryback: *Case Study on Bear Stearns* Toronto Leadership Centre, 5. Available at http://siteresources.worldbank.org/FINANCIALSECTOR/Resources/02BearStearnsCaseStudy.pdf (downloaded: 2018. 11. 24.) .

[18] Such examples include: Heidi M. Schooner – Michael W. Taylor: *Global Bank Regulation – Principles and Policies.* Academic Press, London 2010, 15, 29, 42-44.; Imad A. Moosa: *The Myth of Too Big to Fail.* Palgrave Macmillan, London 2010, 52.; Roe – Tröge i.m.

Stearns on his three and a half day golf courses, being out of office for bridge tournaments and while back at the office his failure to diversify and betting the firm on risky home loans.[19] This story is weakly confirmed if at all, however even the existence of it shows that there were concerns on how these firms operated.

From this observation it has become clear that leverage (especially high leverage) of banks can be dangerous. We saw that Steve Eisman considered leverage as the one main cause of the crisis.[20] Heidi M. Schooner, Professor of Law at the Catholic University of America writes that leverage is like uranium.[21] Under perfect conditions both leverage and uranium create opportunities for economic growth and prosperity. Under less than perfect conditions, both leverage and uranium can destroy economic gains and undermine welfare.Of course the reasons behind the Financial Crisis were very complex. But based on this, it is not an exaggeration to say it was one of the main factors.

After the crisis the regulatory leverage ratio has become more important and (non-risk based ratio) has become part of the discussion again.[22] And even though Imad A. Moosa, Professor of Finance at RMIT, emphasizes its importance and promotes the regulation of leverage as the most important element of regulation after the Crisis, saying that regulation should be based on leverage,[23] the majority of scientists considers the regulatory leverage ratio as a supplementary tool besides capital regulation and liquidty regulation.[24] The BCBS in the Basel III framework also introduced and maintains "a simple, transparent, non-risk based leverage ratio to act as a credible supplementary measure to the risk-based capital requirements".[25] The United States has incorporated supplemental leverage ratios since the Financial Crisis, consistent with the Basel III reforms.[26]

On the social and economic costs: based on an estimation by the Federal Reserve Bank of Dallas, the Financial Crisis of resulted in an output loss of $6 to $14 trillion, and that is only in the US.[27] Another report carried out by the Government Accountability Office affirms this statement and also states that the 2008 financial crisis all-in-all cost the U.S. economy more than $22 trillion. According to this report, the Dodd-Frank Act, that aims to prevent another crisis, by contrast, will cost a fraction of that. Government Accountability Office does not forget to emphasize the role of the excessive build-up in

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[19] Moosa: i.m.
[20] Eisman: i.m.
[21] Schooner 2015: i.m. at 59.
[22] Seregdi: i.m.; Schooner 2016: i.m. at 339-341.; Schooner 2015: i.m. at 71.
[23] Moosa: i.m. at 179.
[24] Schooner 2016: i.m. at 339-341; Szombati: i.m.; Mérő Katalin: A bankszabályozás kihívásai és változásai a pénzügyi-gazdasági válság hatására, In Valentiny – Kiss – Nagy (eds.) *Verseny és Szabályozás 2011.* MTA KRTK Közgazdaság-tudományi Intézet, Budapest, 2012, 143.
[25] Basel III 2014 paper i.m.
[26] Schooner 2016 i.m. at 340.
[27] Tyler Atkinson – David Luttrell – Harvey Rosenblum: How Bad Was It? The Costs and Consequences of the 2007-09 Financial Crisis. *DallasFED Staff Papers* No. 20, July 2013, 3-6.

leverage as one of the causing factors of the crisis.[28] After reading such numbers it is unimaginable that it did not have serious and long-lasting impact on the communities and nations of the world. And it is important to remember what Steve Eisman wrote: leverage is a key component to understand these institutions and their failure. One more important note is that Richard H. Thaler showed that social situations, psychological impacts have massive effects on people's behavior; including financial decisions. He argues, that choice architecture, government intervention is therefore unavoidable. Thaler and Sunstein introduces the expression of libertarian paternalism, a political concept, where "choice architects" preserve freedom of choice while also "nudging" people in directions that will improve their lives.[29] Thaler thinks that this will improve many spheres of life and many communities, such as workplaces, corporate boards, universities, religious organizations, clubs, and even families might be able to use, and to benefit from libertarian paternalism. They also take into account the current polarized state of society and politics and also other challenges: the complexity of modern life, and the astounding pace of technological and global change.

This lesson shows us that leverage is here to stay for a reason and has to be discussed (the story of the Financial Crisis is similar to the story of the near collapse of Long-Term Capital Management, ('LTCM') a hedge fund that became infamous for being a very highly leveraged fund).[30]

3. Sources of Leverage Regulation

To understand the regulation of leverage, first, one has to take a look at all the sources of bank regulation (and its levels), then, as a second step, look at the *lex specialis*, the specific sources regulating bank leverage.[31] In this section I try to point out the relevant information regarding the sources of leverage regulation. The exhaustive presentation of the sources of international and national regulation is not the goal: nor it would be possible in the dimensions of this article.

The regulation of banks - and the legal subject of financial law generally - mainly, to a very large extent (but not exclusively) falls into the domain of public law, that is, the law that addresses the relationship between the government and individuals.[32] The levels of banking law can be divided into two levels: the national level (sources of domestic law regulating banks) and the international level (sources of international law that regulate

[28] United States Government Accountability Office: *Financial Regulatory Reform - Financial Crisis Losses and Potential Impacts of the Dodd-Frank Act*, January 2013, p. 1-22 available at: https://www.gao.gov/products/GAO-13-180 (downloaded: 2018. 12. 03.).
[29] Richard H. Thaler – Cass R. Sunstein: *Nudge: Improving Decisions About Health, Wealth, and Happiness.* Yale University Press, New Haven, 2008, 252-253.
[30] For more see: Joanna Benjamin: *Financial Law.* Oxford University Press, Oxford, 2007, 154-155.
[31] Besides the specific pieces of legislations and regulations, the following books meant significant assistance: Haentjens – de Gioia-Carabellese, i.m.; Schooner – Taylor , i.m.
[32] Schooner – Taylor: i.m. at 73-74; Simon István: *Pénzügyi jog I.* Osiris Kiadó, Budapest, 2007, 25, 41-58, 412.

banks).[33] In addition to these two levels, I would add another level of analysis: the law of the EU. Even though that there is a consensus that the law of the EU did not create another level of source in international law, it is clear that "such regional organizations have added to the developing sophistication of international law by the insertion of 'regional–international law sub-systems' within the universal framework and the consequent evolution of rules that bind only member states".[34] My observation is that this statement is very much true in the domain of financial law and banking law too. Therefore the European level has to be separated and deserves special attention.

As to the sources of international law, these are the following: international conventions, international custom, the general principles of law (also judicial decisions and the teachings of the most highly qualified publicists of the various nations, as subsidiary means for the determination of rules of law).[35] These also serve as sources of international financial and banking law.[36] However there are some specific characteristics: international conventions are not as important and common in international financial law as they are in international public law, rather, soft law and international standards have a much bigger role.[37] The full discussion of these standards and international organizations goes beyond the scope of this article, however one, the Basel Committee on Banking Supervision bears utmost importance, therefore has to be discussed.

The BCBS is the primary global standard setter for the prudential regulation of banks and provides a forum for cooperation on banking supervisory matters. Its mandate is to strengthen the regulation, supervision and practices of banks worldwide with the purpose of enhancing financial stability.[38] The Basel Committee on Banking Supervision was created in the 1970s similarly to the G-7, in response to the new risks and challenges brought upon by a rapidly changing banking industry (oil prices and exchange rate volatility, and the failure of the Herstatt Bank).[39] The exchange rate volatility was strongly connected to the cancellation of the direct convertibility of the dollar to gold.[40] These challenges showed the world that the resilience of the financial system has become an international matter. Since then, membership has been expanded to include members of the G-20.[41] The committee's initial legislative achievements were conservative, its first legislative act, the Basel "Concordat," articulated broad principles that central banks should follow in bailing out banks facing imminent failure.[42] The committee is also active in improving the exchange of information on national supervisory arrangements, in

[33] Schooner – Taylor: i.m. at 73-77.
[34] Malcolm N. Shaw: *International Law.* Cambridge University Press, Cambridge, 2008, 48.
[35] *Ibid.* at 70; Article 38(1) of the Statute of the International Court of Justice
[36] Schooner – Taylor: i.m. at 79.
[37] Schooner – Taylor: i.m. at 79; Chris Brummer: *Soft Law and the Global Financial System - Rule making in the 21st century.* Cambridge University Press, New York, 2015, 62-118.
[38] Basel Committee Charter I. 1. available at https://www.bis.org/bcbs/charter.htm (downloaded: 2018. 12. 03.) ['Basel Committee Charter']
[39] Brummer: i.m. at 77-78.
[40] Robert Triffin: Gold and the Dollar Crisis: Yesterday and Tomorrow. *Essays in International Finance* No. 132, International Finance Section, Department of Economics. Princeton University, 1978, 3, 8-9.
[41] Brummer: i.m. at 78.
[42] *Ibid.*

promoting the effectiveness of techniques for supervising international banking business, and in setting minimum supervisory standards in areas of interest.[43] The BCBS is perhaps best known for its 1997 Core Principles for Effective Banking Supervision, which has been used by countries as a benchmark for assessing the quality of their supervisory systems and for identifying future work to be done to achieve a baseline level of sound supervisory practices and its 1988 accord on capital adequacy (Basel I), the agreement was ultimately adopted by each member and nearly one hundred non-members.[44] These rules were refined in a new round of negotiations in 2004 (Basel II), and in 2010 (Basel III). It is very important from a legal perspective that the Committee does not possess any formal supranational supervisory authority, and its conclusions do not, and were never intended to, have legal force.[45] Rather, it formulates broad supervisory standards and guidelines and recommends statements of best practice in the expectation that individual authorities will take steps to implement them through detailed arrangements which are best suited to their own national systems. In this way, the Committee encourages convergence towards common approaches and common standards without attempting detailed harmonisation of member countries' supervisory techniques.
On the European level there are different forms of regulations.[46] First, there are the Regulations, which are binding in all EU Member States without the need for any national implementing legislation. Then there are Directives, which bind Member States to achieve certain objectives within a time frame but leave the national authorities the choice of form. Directives must be implemented in national legislation in accordance with the procedures of the individual Member States. There are also Decisions, which are binding on those to whom they are addressed. The Recommendations and opinions are not binding. The general sources of financial law in the European Union are the so called "treaties", the Treaty on European Union ('TEU') the Treaty on the Functioning of the European Union ('TFEU'), the Charter of Fundamental Rights of the European Union. Then, the First Banking Directive and the Second Banking Directive were also important milestones, but already replaced (will be discussed later).[47] Reports are also important in the process of creation of the law of the EU, in case of banking these are the Lamfalussy Report and the De Larosiére report.[48]

The last level of the analysis of sources of bank regulation is the national level. Each country has its own laws and hierarchy of laws - on the top of this hierarchy is a

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[43] Basel Committee Charter I. 2.
[44] Brummer: i.m. at 78.
[45] Basel Committee Charter I. 3.
[46] See Article 288 of the Treaty on the Functioning of the European Union; Blutman László: *Az Európai Unió joga a gyakorlatban.* HVG-ORAC Lap- és Könyvkiadó Kft., Budapest, 2014, p. 155-158
[47] First Council Directive 77/780/EEC of 12 December 1977 on the coordination of the laws, regulations and administrative provisions relating to the taking up and pursuit of the business of credit institutions; Second Council Directive 89/646/EEC of 15 December 1989 on the coordination of laws, regulations and administrative provisions relating to the taking up and pursuit of the business of credit institutions and amending Directive 77/780/EEC
[48] Report of the High level group on financial supervision in the EU, chaired by Jacques de Larosière (Brussels, 25 February 2009) available at https://ec.europa.eu/info/files/report-high-level-group-financial-supervision-eu-chaired-jacques-de-larosiere_en; Final Report of the Committee of Wise Men on the Regulation of European Securities Markets (Brussels, 15 February 2001) available at http://ec.europa.eu/internal_market/securities/docs/lamfalussy/wisemen/final-report-wise-men_en.pdf.

country's constitution.[49] In common law countries other sources are: case law based upon the principle of *stare decisis*, and most bank regulation is derived from statutes enacted by the legislative body.[50] Examples include the National Bank Act of 1864, which created the Office of the Comptroller of the Currency in the United States. In civil law jurisdictions the *stare decisis* doctrine does not exist, they look for codes, acts and statutes to determine the law that has to be applied. On the national level, several actors are active in financial affairs: heads of state, legislatures, courts and most importantly: the national "regulatory agencies".[51] Regulatory agencies are largely responsible for establishing the day-today rules that govern market participants' activities, for policing the market for violations of these laws, and, in some cases, for adjudicating conflicts. The basic legal status of regulatory agencies is usually determined by domestic legislators who "delegate" authority to agencies.[52] This means the following in practice: much of the regulation of banks is derived from statutes, often statutes are written in fairly broad terms and require implementation by the agencies.[53] For example, the United Kingdom's Financial Services and Markets Act 2000 (FSMA) provides a general framework for the regulation of the financial industry. The FSMA's structure envisions that the Financial Services Authority will fill in the details, and it might even make other regulations.[54] This does not mean that agencies have unfettered discretion in writing regulations, final regulations are subject to review by court and decisions made by agencies can be subject to review by court in specific litigation cases as well.[55] Chris Brummer, law professor at Georgetown University Law Center states that national regulatory authorities will continue to play important roles in a constantly evolving regulatory architecture.[56] According to him, national law will remain important *"...because national governments and regulatory agencies are ultimately responsible for coordinating international policy and implementing it, a point that we explore in the following chapters. It is also because national regulatory authorities can, under the right circumstances, leverage their own capital markets and formal legal dictates in ways that export their own regulatory preferences, allowing them to become unilateral sources of international financial law. Their ability to do so informs as a result both how and when regulators coordinate policies with foreign counterparts."*[57]

Additional information has to be added to these levels from the viewpoint of bank leverage regulation, especially its implementation. With respect to the international level, the main parts were already discussed. However, the EU, US and national implementations have not yet been presented and their differences are of special importance.

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[49] Trócsányi László – Schanda Balázs: *Bevezetés az alkotmányjogba: Az Alaptörvény és Magyarország alkotmányos intézményei.* HVG-ORAC Lap- és Könyvkiadó Kft, Budapest, 2014, 54-60.
[50] Schooner – Taylor: i.m. at 74-75.
[51] Brummer: i.m. at 24.
[52] *Ibid.*
[53] Schooner – Taylor: i.m. at 74-75.
[54] *Ibid.*
[55] *Ibid.*
[56] Brummer: i.m. at 326.
[57] Brummer: i.m. at 23.

With regards to the EU implementation the European Parliament approved the package of legislation commonly referred to as 'CRR-CRD IV', which included a new Capital Requirements Regulation (Regulation 575/2013) and a Capital Requirements Directive (Directive 2013/36/EU), also amending and replacing previous banking directives.[58] Unlike previous legislative actions, (the banking directives) which depended on national regulators to interpret and implement, the CRR-CRD IV as partly being accepted in the form of a Regulation will have a more immediate effect on member states: requirements brought in by the CRR are similar to national law and is directly applied by member states. In a change from earlier administrative practice, the European Banking Authority ('EBA') will additionally be empowered to develop standards elaborating on the capital charges included in CRR-CRD IV.[59] For the most part, the package adheres to Basel III, with some differences (unlike the United States implementation which is stricter). Unlike Basel III which categorizes common equity Tier 1 as either retained earnings or common shares, the EU has adopted a broader, flexible principles-based approach.[60] CRR-CRD IV also introduces new leverage and liquidity requirements, which in turn were prepared by the European Commission in consultation with the EBA.[61] The EU similarly imposed its first-ever leverage ratio in CRR-CRD IV (the US previously had one).[62] As in Basel III, a leverage ratio of 3% (of Tier 1 Capital over total exposures) was imposed, and banks would furthermore have to report the ratio to their authorities and disclose it to the public.[63] According to professor Brummer, *"the EU approach defines the ratio's denominator in a way that minimizes some of the differences between IFRS and US GAAP, with the exception of the measurements of derivatives, written credit derivatives and securities financing transactions, including repos. As such, it may play a role in helping to identify what kind of bail-in capital requirements should be required to facilitate bank rescues."*[64]

The United States implementation of the Basel III rules has its own characteristics. In the US, the capital and leverage regulation has its own history with partial implementation of Basel II after an adequate and full implementation of Basel I, Basel III was implemented through a series of proposals issued in 2012 and finalized the following year (and updated in 2014 as Basel III rules on leverage and liquidity were introduced), the Board of Governors of the Federal Reserve System and other agencies issued rules codifying capital into what authorities hoped would be a single, comprehensive regulatory framework - and Basel III was implemented while the country's banking regulators already enjoyed such authority.[65] US banks are required to adhere to the Basel III

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[58] Regulation (EU) No 575/2013 of the European Parliament and of the Council of 26 June 2013 on prudential requirements for credit institutions and investment firms and amending Regulation (EU) No 648/2012 ['Regulation 575/2013']; Directive 2013/36/EU of the European Parliament and of the Council of 26 June 2013 on access to the activity of credit institutions and the prudential supervision of credit institutions and investment firms, amending Directive 2002/87/EC and repealing Directives 2006/48/EC and 2006/49/EC ['Directive 2013/36/EU']

[59] Brummer: i.m. at 283.

[60] *Ibid.*

[61] *Ibid.*

[62] Article 429 of Regulation 575/2013; Schooner 2015: i.m. at 65.

[63] Brummer: i.m. at 283.

[64] *Ibid.*

[65] Brummer: i.m. at 280-281.

standards and to maintain common equity equal to at least 7% of risk-adjusted assets (as well as to meet a new 4.5% capital ratio for Tier 1 common equity plus a 2.5% capital conservation buffer), furthermore, an additional common equity surcharge applies on top of these rules for eight US bank holding companies that the FSB has identified as being global systemically important banks ('G-SIBs').[66] As to the leverage ratio, the US has even more stricter rules than Basel III: A well-capitalized bank (the biggest ones) must have a 5% or greater leverage ratio, because on top of the a minimum supplementary leverage ratio of 3% the largest banks would need to maintain a leverage of additional 2%.[67]

4. Criticism and the Future of Basel III

4.1. Categories of Criticisms, Notable Critics

Basel III generally received criticism after its introduction. Brummer divided the criticism into three categories.[68] The first category of critics are the ones who argue that the Tier 1 capital ratio is not high enough to cope with a downturn of a magnitude similar to the Financial Crisis. Bailouts by national governments would be required again. Other observers have criticized that risk weighting itself as a largely ineffective approach to regulation. The second category are the ones who criticise with the implementation dates of Basel III. The third and last ones are the ones who criticise the scope and flexibility of Basel III. The previous section, concerning the leverage ratio's counterproductive incentive, is also put into this category by Brummer: some commentators fear that high capital requirements counterproductively incentivize banks to take more risks to compensate for decreased returns on capital, in order to satisfy potential investors. Brummer also mentioned the shadow banking system, I personally would also like to mention criticism about the corporate governance changes brought about by the new regulations that were largely discussed.[69]

In addition, to these categories, it was also mentioned by the OECD and the Institute of International Finance, ('IIF') that beyond the possible bad incentives, proposals such as the Basel III would "hurt" economic growth by decreasing annual GDP growth by a visible proportion.[70]

Other, more ambitious proposals were also put on the table. For example, the top-down bank capital regulation proposal by Heidi M. Schooner, supports a view of higher capital

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[66] *Ibid.*

[67] *Ibid.;* Schooner 2015: i.m. at 65.

[68] Brummer: i.m. at 254-255.

[69] For more, see Haentjens – de Gioia-Carabellese: i.m. at 106-107; Roe – Tröge: i.m. at 21-23.

[70] Timo Köffer: *Basel III – Implications for banks' capital structure: What happens with hybrid capital instruments?* Anchor Academic Publishing, Hamburg, 2014, 11-12.; D. Muraleedharan: *Modern Banking: Theory and Practice.* PHI Learning, Delhi, 2014, 421.; Philip Suttle: *Measuring The Cumulative Economic - Impact of Basel III.* Institute of International Finance, 2011, available at https://www.iif.com/system/files/measuringthecumulativeeconomicimpactofbaseliii_philsuttle.pdf (dowloaded: 2018. 02. 03.).

ratios through the top-down mechanism, similarly to the first category by Brummer, where the starting point is a maximum level of capital that has to be held by banks and regulators can give discounts based on prudential operation.[71] According to Schooner, there is a problem with the minimum requirements when it comes to the topic of standards. The problem is that it places heavy burdens on supervisory authorities, because too much depends on their effectiveness, furthermore it places heavy burdens on smaller firms too, larger firms are often more leveraged (as it was mentioned earlier). Therefore, a top-down regulation with higher requirements seems better (Schooner calls the current system as a bottom-up approach). In this system, banks and financial firms can apply for the lowering of the requirements, based on their safe and effective operation (a certification of safe operation is required).[72] This would also create the basis of personal liability of members of the management board, since they are the ones that can apply for lowering. This would place less burden on the supervisory authorities and place a lot more on management boards. Schooner does not go into detail any further, however this proposal forces the reader to think: what would be the nature of personal liability? Is the thought of more burden on managements a good one? Is the top-down system a good one? To answer these questions perfectly is an impossible task, however, we have some information to at least partly answer them. The nature of personal liability should not be a too harsh, too strict one. It should be connected to the thought of placing more burden on management boards, in order to appropriately incentivize managers, because that seems to be a good direction: that is what the EU tries to do with the regulation of corporate governance and remuneration. Therefore, the nature of personal liability should be harsh enough to incentivize, but light enough to avoid being too vengeful on unsafe firms. The top-down system, while looks like an interesting idea and certainly is a creative one, I think one cannot be fully sure about it being the right idea. It is not too convincing mostly because Professor Schooner's proposal is not detailed enough. More information would be required in order to at least consider some of its elements or to integrate some of its elements into legislation or to apply them in practice. One more problem is that it only addresses certain faulty elements and causes of the Financial Crisis. It tries to fix the burden on authorities, the lack of personal liability, and the inequality of smaller and larger firms. But, it does not fix any of the other elements. And one thing is for sure, the Financial Crisis was more complex than this. It was the huge collection or cumulation of many elements, and the Basel III framework does not try to fix them one-by-one. The Basel III framework tries to create a framework that keeps the banks afloat. The complex collection of problems are just symptoms: if one wants to fix the problem has to go deeper and cure the real "sickness". The Basel III framework and the BCBS tries to do that, and tried to do this for decades in the Basel I and Basel II framework. Maybe even this will not be enough. Maybe the creation of frameworks, the creation of international standards is not enough. To really go deeper is to go to the principles. The roots of the system, the very beginnings of the branches of law. The idea that I tackle and I, personally try to present is a principle-based approach. It is one that tries to find a collection of basic principles that can serve as a true beginning when regulating financial firms in order to prevent another Crisis that destroys the product and profit of hard work done in the financial firms and banks.

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[71] See Schooner 2016: i.m.

[72] Schooner 2016: i.m. at 351-355.

Another proposal would eliminate the tax bias that goes together with bank operation.[73] Professor Chris Brummer, while examining and thinking about the possible future of international financial law, mentions the call by critics for a so-called "World Financial Organization", similar to the current World Trade Organization ('WTO').[74] There are also other versions of this concept: such as empowering current organizations, for example the International Monetary Fund ('IMF'), or the creation of a global financial authority. This idea emerged from the thought that the Financial Crisis made it evident that more legal formality is needed to adequately regulate banks (since currently the role of soft law is very strong). However, as Brummer points out, international financial law is currently in a paradox situation: the interconnectivity of banks and firms is evident, and yet, national regulation is still very strong - regulation is divided between national hard law and international standard making.[75] Therefore, according to Brummer, but also in my opinion, in this situation, a global authority or international regulation in a binding form is almost impossible. This means that the culmination and change of power into a global leadership (envisioned by many great thinkers) following the accumulation of capital that began in the 16th century is still going on in a not-so-fast pace.[76]

Marc Levinson, similarly to the aspects mentioned by Chris Brummer, emphasizes the role of national governments, in a more radical manner (and also contradicts himself a bit while doing so). First he states that with the rules in force set out in Basel III the Financial Crisis could have been forestalled.[77] Then goes on in his argument, and concludes that such international standard setting and bargaining is meaningless and that the next Financial Crisis cannot be avoided with international diplomatic means. According to Levinson only national governments have the ability to establish and enforce regulations on banks operating in their territory, and only national governments can be held politically accountable for regulatory failures.[78] Therefore he states explicitly, that a step back needs to be done for international safety: a step that might seem impossible to the reader, and therefore might seem as wishful thinking.[79] As already mentioned by Brummer, national actors remain powerful, but this does not mean that the adequate conclusion is to disregard the huge amount of soft law already existing and functioning, taking back the competence and power acquired by the international actors would be unfair and almost impossible and would deny and destroy the achievements of the historical development of international financial law. Yet, Levinson's extreme proposal has to be mentioned for a broad perspective.

Professor Moosa, even though being very critical in tone, shows a moderate approach when it comes to proposals. He also emphasizes the importance of national legislation and international standards, but also formulates a need for a principle-based regulation,

73 See Roe – Tröge: i.m.
74 Brummer: i.m. at 326-327, 345.
75 *Ibid.*
76 Szmodis Jenő: A globális állam teoretikus vízióiról. *Valóság* 12, 2016, 3.
77 Marc Levinson: Faulty Basel: Why More Diplomacy Won't Keep the Financial System Safe. *Foreign Affairs*, Vol. 89, No. 3, May/June 2010, 85-86.
78 *Ibid.*
79 *Ibid.* at 87.

with special regard to the replacement of the "too big to fail" principle with another principle that can be summarized the best as "so big" or "so inefficient it has to fail".[80] He also goes on to state that banks are very much unregulated (which I do not agree with). Even though the creation of new principles and considering the principle of "too big to fail" a myth seems to be a good idea, it seems like Professor Moosa provides an underwhelming proposal.

4.2. The Future is Here, New and Broad Challenges Emerge

Looking at the bigger picture, looking at things on a larger scale shows us that the job done during the marathon of regulatory reform that started after the crisis is still half done, and this marathon was a long way: the crisis broke out ten years ago.

The Basel III framework, the global capital standards drawn up after the crisis, at last are complete, but meanwhile regulators, including the European Commission are constantly pushing ahead several other fronts, and opening up these new fronts were very much necessary. It took regulators ten years to figure out a new framework. And it is evident that the future is here, new solutions are at our door, and it seems like regulators finally managed to figure out the new Basel III framework just in time where their knocking started to become unbearably too loud. And this view seems to be shared by other commentators as well.[81]

Besides Basel III the other fronts are the following: the MiFID II and MiFIR, which makes trading more transparent and oblige banks to charge clients separately for research;[82] PSD2 fragments the market by exposing banks to more competition from technology companies, and each other, from payment services ("PISP", Payment Initiation Service Providers) to budgeting advice ("AISP," Account Information Service Providers).[83] A new accounting rule, the EU adopted version of IFRS 9 has also been created.[84] Some say, the fourth, missing piece in the regulatory front is a common European deposit-insurance scheme ('EDIS'), even though a lot of work has been done to build up the banking union through the Single Supervisory Mechanism ('SSM'),

[80] Moosa: i.m. at 197-200.

[81] *Europe's banks are stronger than they were, but not strong enough.* The Economist, Nov 30th 2017, available at https://www.economist.com/news/leaders/21731836-marathon-regulatory-reform-has-further-run-europes-banks-are-stronger-they-were (downloaded: 2018. 11. 30.).

[82] Investment services and regulated markets - Markets in financial instruments directive (MiFID) available at https://ec.europa.eu/info/business-economy-euro/banking-and-finance/financial-markets/securities-markets/investment-services-and-regulated-markets-markets-financial-instruments-directive-mifid_en (downloaded: 2018. 11. 30.).

[83] The Payment Services Directive II, that is Directive (EU) 2015/2366 of the European Parliament and of the Council of 25 November 2015 on payment services in the internal market, amending Directives 2002/65/EC, 2009/110/EC and 2013/36/EU and Regulation (EU) No 1093/2010, and repealing Directive 2007/64/EC.

[84] Commission Regulation (EU) 2016/2067 of 22 November 2016 amending Regulation (EC) No 1126/2008 adopting certain international accounting standards in accordance with Regulation (EC) No 1606/2002 of the European Parliament and of the Council as regards International Financial Reporting Standard 9.

empowering the European Central Bank (ECB) and the European Banking Authority ('EBA'), and also through the Single Resolution Mechanism ('SRM') establishing the Single Resolution Board ('SRB').[85] Yet, not so much work has been done to adopt the proposed concepts, and the banking union, similarly to the Capital Markets Union remains only half-built.[86]

Seeing this regulatory tendency shows us that Pandora's box is already open, reform and more work has to be done, the current banking union cannot remain a house that should be built on three pillars, yet only two is ready and the planning and executing is already not so well-done. Finishing consolidation of the plans and strengthening further is essential.

Broadening our perspective results in the emergence of even more challenges. For example, the hype around blockchain and cryptocurrencies especially the example of the rise and fall of Bitcoin. The very fast growth of the market of virtual currencies is a challenge for regulators and it already seems like that this is a challenge that has to be dealt with fast: market behavior suggests that these new, special currencies will continue to spread and grow on a very fast rate whether market actors and regulators are ready or not.[87] In my opinion, the technology of blockchain is also as likely (if not more) to spread fast as cryptocurrencies. What is more concerning is that cryptocurrencies' prices are capable to increase and decrease in a magnitude that was never seen before. Take the example of Bitcoin, which was compared to every economic bubble of history: tulipmania, the dot-com craze, roaring twenties. Bitcoin increased nearly 60-fold during the past three years which means that it outran the Mississippi and South Sea bubbles of the 1700s and the Dutch tulipmania of the 1630s.[88] Large investing leaders say that since Bitcoin has no clear fundamental value, has a largely unregulated market, and is paired with a storyline conducive to delusions of grandeur, makes the market of the currency a typical a bubble.[89] The "burst" or "crash" (the biggest ever fall in the price of Bitcoin) raises the question whether the concept of cryptocurrencies is a valid one.[90] Luckily, there were fast reactions from the regulator side: for example the EU and the UK Treasury emphasised the importance of imposing regulation on Bitcoin because of the

[85] Economist: i.m.

[86] François Villeroy de Galhau: *Twenty years after the introduction of the euro, what are the economic prospects for Europe?* Basel Committee on Banking Supervision, Bank for International Settlements,, 10 January 2019, 5. available at https://www.bis.org/review/r190111a.pdf (downloaded: 2019. 01. 15.).

[87] For discussion on regulatory challenges see: Louise, Parsons: Bitcoin: Consumer protection and regulatory challenges. *Journal of Banking and Finance Law and Practice*, Vol. 27 No. 3, 2016, 184-202.; Andres Guadamuz – Chris Marsden: *Blockchains and Bitcoin: Regulatory responses to* cryptocurrencies. *First Monday*, Vol. 20, No. 12, 2015; Rob Urban – Benjamin Bain: *Bitcoin Heads to Wall Street Whether Regulators Are Ready or Not.* Bloomberg, December 1 2017, https://www.bloomberg.com/news/articles/2017-12-01/bitcoin-futures-to-start-trading-as-regulators-rush-to-catch-up (downloaded: 2018. 12. 04.) .

[88] Eric Lam – Mathieu Benhamou – Adrian Leung: *Did Bitcoin Just Burst? How It Compares to History's Big Bubbles.* Bloomberg, January 17, 2018, available at: https://www.bloomberg.com/news/articles/2018-01-17/did-bitcoin-just-burst-how-it-compares-to-history-s-big-bubbles (downloaded: 2018. 12. 03.).

[89] *Ibid.*

[90] Douglas Heaven: The great bitcoin crash. *NewScientist*, Volume 240, Issue 3208, 15 December 2018, 24-25.

concerns that the digital currency is being used for money laundering and tax evasion, however, as we saw in this section, plans and concepts are not enough: real work has to be done.[91]

5. Conclusion

The story of the Financial Crisis, bank leverage is a hard one. But this story is here to remind us of an important lesson. For decades and decades, there were all kinds of efforts to regulate financial firms, to "fix" the financial system, to make banks safer, to safeguard prudential operation. With Basel III, the leverage ratio has come to the spotlight and gained a new kind of popularity. And this new tool brings new expectations. Hoping that with this new element the whole financial system will be renewed, of course, would be naive. Nonetheless, it is a kind reminder: even if it is a small development, by small proportions things can be made better.

To fix the financial system and to come up with a viable standard of regulation is not an easy task, however, as it was shown, the future might not be easy either. What matters, is to take responsibility and to go down the chosen path in its entirety. We know, that we already at disposal of advices on what path might be the best, even radical ones. Famous political commentator and professor, Robert Reich went as far as calling for the breakup of banks.[92] And with this, we are back at where we started: Steve Eisman in his article, from which this paper got its initial quote, suggests that this thinking is very short minded.[93] It would not solve the real problem. In another writing he also notes that the world is very different from what it was pre-crisis: it is safer.[94]

In 2017 and the beginning of 2018 a new concept, called Basel IV emerged, and also the "finalised, reformed" version of Basel III was introduced (it is dealt with in this paper). McKinsey before the final introduction of these concepts already considered it as a very important step which will have a big impact and also will lover return on equity.[95] They call it a game changer for the European banking industry and they think it will have much greater impact than initially anticipated. What is even more important is the paradox

[91] Julia Kollewe: *Bitcoin: UK and EU plan crackdown amid crime and tax evasion fears* The Guardian, 4 December 2017, available at: https://www.theguardian.com/technology/2017/dec/04/bitcoin-uk-eu-plan-cryptocurrency-price-traders-anonymity (downloaded: 2018. 12. 03.).
[92] Robert Reich: *Wall Street is Still Out of Control, and Why Obama Should Call for Glass-Steagall and a Breakup of Big Banks.* October 25, 2011, available at http://robertreich.org/post/11930107240 (downloaded: 2018. 12. 04.).
[93] Eisman: i.m. 1
[94] Will Martin: *Big Short' investor Steve Eisman says the financial system is 'safe,' but he's worried about Europe's banks.* Business Insider UK, Jul. 31. 2017, available at http://uk.businessinsider.com/big-short-investor-steve-eisman-warns-on-european-banks-2017-7 (downloaded: 2018. 12. 04.).
[95] Sebastian Schneider – Gerhard Schröck – Stefan Koch – Roland Schneider: *Basel "IV": What's next for banks? Implications of intermediate results of new regulatory rules for European banks.* McKinsey&Company, 2017, 9-12. https://www.mckinsey.com/~/media/mckinsey/business%20functions/risk/our%20insights/basel%20iv%20whats%20next%20for%20european%20banks/basel-iv-whats-next-for-banks.ashx (downloaded: 2018. 12. 04.).

atmosphere which lingers through the market. We saw both criticism and praise of Basel III, and without reiterating what already has been said, it can be concluded, that Basel III was a very important step in the process that made the financial system safer. However, there is a "nervous anticipation" of something new, and I suppose that it has a lot to do with the new challenges such as the cryptocurrencies, and also with the current political and economic situation both in the United States and the European Union. There is an incoming economic slowdown, especially in case of the European Union.[96] The economic questions are strongly linked to the problem (and possible negative fiscal effects compared to temporary solutions) of immigration.[97] Furthermore, our knowledge on FinTech and RegTech is constantly evolving and this will naturally continue as time passes.

The retrospect analysis has also proved to be useful: we have knowledge and data on the causing factors of the Financial Crisis. Out of all these factors, as mentioned, leverage was one of the main ones. However, as seen, leverage, even though, it is a dangerous tool, it is currently inevitable. It is part of the bank operation created with fractional-reserve banking and a certain amount of leverage is desirable in the interest of economic growth. It is here to stay, and our task is to tame it. This task should not be impossible and should be done without any radical acts. Other challenges have already emerged, therefore it would be clever to start as soon as possible. I believe, that those, who call for a more efficient bank regulation are not against banks in general. Prudent behavior and maintenance of solvency is in the interest of everyone. Regulation of banks and the regulation of the leverage ratio and capital requirements is not an ideological question. Authors, commentators, academics, professionals cited in this paper are coming from a very diverse political background and bear very different viewpoints. What is common in all of them is that they are willing to participate in the discussion about the future of the financial system, and are willing to communicate in order to make things better. They acknowledge the evident and are brave enough to stand up for what is necessary: the leverage is important but has to be regulated. This, of course, does not mean that any ideological allegation is inappropriate.

It seems like moving beyond Basel III and this common and universal frame seems more urgent as time goes on. The new challenges mentioned, the new manias and panics are here again, and these challenges can easily prove large enough so that it won't be possible to solve them with the current framework that we have at hand. The teachings of Richard H. Thaler shows us that the real problem of financial breakdowns and crisis can only be solved by a psychological transformation and reformation of the current standards of policy-making, and not with our current set of tools (including the Basel frameworks). It seems like psychological factors, such as greed, hubris, overconfidence, an aching desire to get rich, and - in case of cryptocurrencies – anti-establishment overtones are playing a more important role in the process of financial transactions and a lot of times can create a deadly mixture, leading to a catastrophe. This might seem as

[96] de Galhau: i.m. at 3.

[97] Christian Dustmann – Tommaso Frattini: The Fiscal Effects of Immigration. *The Economic Journal*, vol. 124. Issue 580. November 2014, 23.; Dani Rodrik: *Feasible Globalizations* NBER Working Paper No. 9129 September 2002, 3-5.

wishful thinking at first, but as it was shown, the current foundations of international financial law is rather primitive: it is still based on diplomacy and vast amount of soft laws. Establishing a more principle-based approach would result in the achievement of the level that has already been reached in many other branches of law. Creating stable and solid principles is essential and indispensable for a system that should be safe and sound, should never break, and more importantly, should never lead to the deterioration of social structures, families and people. By this, the current atmosphere that generates the feeling of experimenting in the dark would be wiped out. If we correctly use the methods and processes already known, during such a new endeavor, then the analysis will most certainly will prove efficient. This can easily lead to a situation where definitions and principles of such regulations and frameworks become cleaner, and this can lead to the progression and evolution of academic discussion and international financial law as a whole, and then, through this, to the development of the practical domain: a better financial system.

I think, we should do two things with the knowledge acquired and written down in the above: appreciate what we have and do more work to better what we have. What we have is a banking system that can be regarded as safe. At least for a while: until a new crisis emerges. We should use our time to prevent that, make it clear what principles we would like to build on in the upcoming future, instead of looking at the work done and consider it finished. The Basel III standards already took much time to polish off. Before the Financial Crisis, people chose willful blindness and false safety, they were too naive to realize that everything is going to fall down: doing the exact opposite, calling for a too radical change, a break up, would be counterproductive, and would only let more problems to emerge.[98] In short, it would raise hell. And if we know one thing, is that hell is not what we need.

[98] The role of willful blindness and false safety is also mentioned here: Hans Rosling – Ola Rosling – Anna Rosling Rönnlund: *Factfulness.*Sceptre, London, 2018, 49.