IJARBM – International Journal of Applied Research in Business and Management
Vol. 03 / Issue 1, pp. 49-61, February 2022
ISSN: 2700-8983 | an Open Access Journal by Wohllebe & Ross Publishing GbR

This paper is available online at
www.ijarbm.org

This essay is part of IJARBM's special issue "Contemporary Applied Business Research in Light of Standard Academic Literature".

Implications of "The Growth of Finance" on Financial Regulation

Manuel Rolf Adler
manuel.adler@ymail.com
Hungarian University of Agriculture and Life Sciences,
Kaposvár Campus, Hungary

https://doi.org/10.51137/ijarbm.2022.3.1.7

Abstract – This essay aims at connecting the findings of Greenwood and Scharfstein, authors of "The Growth of Finance", and my research topic "Quantification of Regulatory Risk and Impact of New egulation on Business Models". The exercise focuses on how developments in the financial subsectors credit intermediation and asset management, for which a sound regulatory framework is needed, can be connected to prudential regulation. Prudential regulation, i.e. capital and liquidity regulation, primarily mitigates the weaknesses of the financial sector, which are pointed out by Greenwood and Scharfstein. Understanding the implications of prudential regulation, including societally beneficial as well as negative aspects, is the key aspect of my research topic. The outcome of this essay is that aspects such as financial macroeconomics, welfare considerations, and consumer protection issues might be worth adding.

Keywords – Financial Regulation, Growth of Finance, Greenwood, Scharfstein, Regulatory Risk

1 Introduction

"During the last 30 years, the financial services sector has grown enormously". Greenwood and Scharfstein introduce their article "The Growth of Finance", which was published in 2013 in the "Journal of Economic Perspectives"[1], with this sentence. The authors' goal is to gain a better understanding of how the financial sector has developed with regards to the most important sub-sectors, i.e. the securities and the credit intermediation industries. In this context, Greenwood and Scharfstein analyze data on fee generation and economic output from 1980 to 2007. In a second step, the authors assess to which extend the developments are socially beneficial and to which the financial sector captured economic rents. The following section provides a full overview of the article's findings.

The goal of this essay is to demonstrate how Greenwood and Scharfstein are connected to the research topic "Quantification of Regulatory Risk and

[1] Ranked "Q1" according to Scimago (2020).

Impact of New Regulation on Business Models". Additionally, the essay highlights and discusses relevant findings in the context of financial regulation.

2 Own Research Topic

The full title of my research topic is "Quantification of Regulatory Risk and Impact of New Regulation on Business Models". Regulatory risk describes a risk type that is generally defined as the "adverse impact of regulation on the economic value and performance of an institution".[2] Regulatory risk is understood as part of a firm's non-diversifiable risk, which is inherent to the firms business model decisions. Being able to quantify regulatory risk as well as business model impacts arising from financial regulation is of high value for academics research in this field and for practitioners who are concerned with management and implementation of regulation. The focus of my research currently lies on prudential regulation, i.e. liquidity and capital regulation of financial institutions such as banks or asset managers. One of the central research questions of my research is:

"Does the announcement of regulatory measures have a statistically significant impact on global bank's stock performance?"[3]

The chosen topic is relevant as the regulatory environment became more complex compared to before the financial crisis, for example, through the introduction of new prudential regulation such as Basel III[4] and "Basel IV"[5]. Prudential regulation aims at increasing financial stability by mitigating financial institutions' risks. In some cases, prudential regulation is not designed well enough to meet the demands of all institutions and reduce overall risk (Véhel & Walter, 2015, 2018). This is an example of "regulatory risk" which my research tries to better understand.

Greenwood and Scharfstein's article discusses the downside of a growing financial sector such as, for example, financial instability, extraction of economic rent through the financial sector, information asymmetry between

[2] URL: https://www.pwc.com/la/en/risk-assurance/regulatory-risk-management.html (last access on May 25th, 2021).

[3] The answer can be found by applying the "event study methodology" to a set of stock-listed global banks. Hypothesis H1: "Announcement of prudential regulatory measures has a negative impact of global banks' stock performance." H2: "Hypothesis 2: Announcement of deferral/ alleviation of prudential regulatory measures has positive impact on global banks' stock performance." The event study methodology is concerned with assessing impact of regulation prior to implementation.

[4] According to Chia et al. (2015) "Basel III aims to: a) improve the banking sector's ability to absorb shocks arising from the financial and economic stress, b) strengthen the risk management, and c) promote the banks' transparency and disclosures."

[5] "Basel IV" includes "substantial amendments to the capital treatment of credit risk, operational risk and the credit valuation adjustment, the imposition of an output floor, revisions to the definition of the leverage ratio and the application of the leverage ratio to global systemically important banks." URL: https://assets.kpmg/content/dam/kpmg/xx/pdf/2018/12/basel-4-an-overview.pdf (last access on May 25th, 2021).

IJARBM – International Journal of Applied Research in Business and Management
Vol. 03 / Issue 1, pp. 49-61, February 2022
ISSN: 2700-8983 | an Open Access Journal by Wohllebe & Ross Publishing GbR

investors and financial institutions, etc. The connection to financial regulation and prudential regulation in particular can be made easily. According to Agoraki et al. (2020) a regulatory framework has three goals: "(a) financial stability;[6] (b) transparency and consumer's protection; and (c) competition." The article "The Growth of Finance" clearly shows the increasing demand for regulation and also shows why regulatory authorities increasingly focus on regulating credit intermediation and asset management.

Therefore, fully understanding Greenwood and Scharfstein's article and putting the findings into the context of financial regulation is a valuable exercise, which also confirms the relevance of the proposed dissertation topic. See below.

3 Understanding "The Growth of Finance"

Greenwood and Scharfstein (2013) calculate the value added share of GDP for the insurance, securities and credit intermediation subsectors from 1929 to 1947.[7]

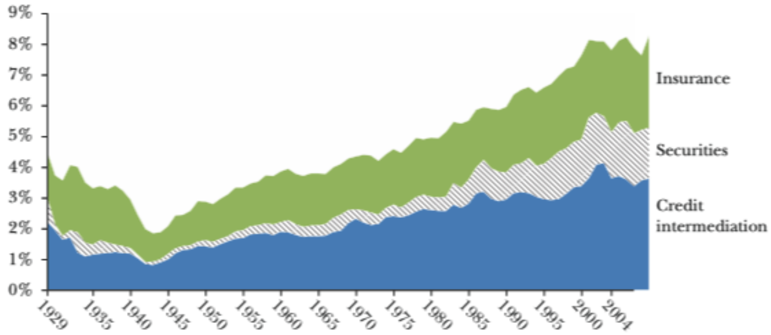

Figure 1: Development of financial services subsectors insurance, securities, and credit intermediation from 1929 to 2009

Figure 1: Development of financial services subsectors insurance, securities, and credit intermediation from 1929 to 2009

The authors focus on (1) the subsector securities, which comprises investment banking activities such as trading, market-making, underwriting, professional asset management, and (2) credit intermediation, i.e. lending activities, as well as deposit-taking and financial transaction processing.[8] Of course, the positive growth accelerates overall economic growth, which is considered favorable by, for example, Schumpeter (1991)[9]: "A vibrant financial sector is critical to capital allocation and economic growth". Other voices

---

[6] One of the central goals of prudential regulation.

[7] The authors' calculations are done based on National Income and Product Accounts as well as National Economic Accounts data (Greenwood & Scharfstein, 2013).

[8] The subsector insurance is out of scope as it developed continuously at a certain growth rate.

[9] Greenwood and Scharfstein analyse literature which indeed is dating back to Schumpeter (1911).

are more critical. Greenwood and Scharfstein cite Adair Turner (2010) and Philippon (2012), who are of the opinion that financial growth leads to extraction of economic rents and higher cost of intermediation. Greenwood and Scharfstein have a critical opinion themselves as their main goal is to assess to what extend the financial sector growth is societally beneficial.

Greenwood and Scharfstein confirm with their data analysis that asset management has the largest share within the securities subsector. Asset management (AM) includes "fees from investment advisory and management services, administration of mutual and pension funds, and trust and custody services.". The authors find, in line with findings from French (2008), that average AM fees have not declined, despite the fact that the volume of assets under management has increased fourfold between 1997 and 2007.[10]

The authors analyze and evaluate the two subsectors separately. Greenwood and Scharfstein refer to the standard competitive model, according to which the growth of an industry implies an increased value to consumers. In the given AM example, the authors point out several important aspects which need to be considered. Firstly, the benefits are not necessarily beneficial to the consumer[11], and the assessment of how beneficial AM services (i.e. assessment of the quality level) is difficult for consumers. Looking at performance data of the past years, Fama and French (2010) find out that many products surprisingly underperform passive benchmarks. Greenwood and Scharfstein explain that, on average, not even active AM is beneficial to investors. One of the explanations is the high AM fees.[12] The authors try to find answers on why it is possible for asset managers to constantly attract new funds, given the fact that the average performance is poor. According to Capon et al. (1996) and Alexander et al. (1998) the majority of private investors do not comprehend the products they invest in. Frazzini and Lamont (2005) find out that investors are biased towards certain funds (e.g. shares) "they want to own rather than allocating capital to its best". The astonishingly high level of uneducated and irrational investors might be the reason why topics such as consumer protection are central to regulation.

On the positive side, Greenwood and Scharfstein point out that (a) the household participation in financial markets, which allows them to earn premia for financial market assets, and (b) the diversification effect (e.g. through mutual funds) are beneficial to society. Additionally, the higher participation rate mentioned under (a) translates into cheaper rates of returns which positively impact the cost of capital to corporations. In this context, especially "young entrepreneurial firms" profit.

The second subsector which Greenwood and Scharfstein analyse and evaluate in detail is credit intermediation. The authors count lending, which is a fee-generating business[13], to traditional banking services. According to the authors' analysis both corporate and household credit (mainly mortgag-

[10] Interestingly, many households more in 2007 vs. 1980 have their assets under professional AM which indicated a higher participation of households in financial markets.

[11] As the financial sector extracts economic rents.

[12] On average direct cost of 1.3% per annum.

[13] Interest earned – interest from treasury and agency securities = revenues from lending.

IJARBM – International Journal of Applied Research in Business and Management
Vol. 03 / Issue 1, pp. 49-61, February 2022
ISSN: 2700-8983 | an Open Access Journal by Wohllebe & Ross Publishing GbR

es) grew significantly from 1980 to 2007. Greenwood and Scharfstein mention in this context that "in 2002, in particular, residential loan origination fees spiked as part of the largest mortgage-refinancing wave in the US". This is astonishing and now knowing what happened during the US financial crisis shows clearly that credit regulation and adequate consumer protection were not in place back then. The fact that banks began to securitize loans (i.e. create bundles of asset-backed securities) put additional weight on the financial system stability. Additionally, transactional services (e.g. credit cards, alternative loan products, etc.) grew significantly as well as shadow banking.[14] According to Pozsar et al. (2013) the developments regarding the increased offering of securitization and the growth of shadow banking are correlated.

Taking all developments mentioned above into account, it is not surprising that overall credit and consumption levels rose significantly. The fact that more individuals have access to credit is positive to a certain extent. For example, credit product allows individuals and households investments and also allows them to smooth consumption which again boosts the economy. In simple terms, again referring to the standard competitive model, increased supply indicates a higher level of welfare.[15] However, these positive effects come at a price. According to Laibson (1997), individuals who cannot control their consumption are often indebted due to loans, credit cards, and other credit (shadow banking) products, making them worse off. Regarding personal mortgages Mian and Sufi (2012) point out that a high percentage of financed property defaulted due to the financial crisis. [16] The examples of personal financing show the need for more robust consumer protection and education in financial regulation.

Greenwood and Scharfstein conclude that besides certain benefits, which came from the growth of finance, there are significant negative impacts on society and welfare. Negative impacts include instability of the financial system, indebtedness of households, non-efficient allocation of capital, lack of education and awareness of risk vs. rewards of financial products, as well as extraction of economic rents through the financial sector. Many of those points are addressed by financial regulation, which is discussed in greater detail below.

[14] Shadow banks are "financial intermediaries that conduct maturity, credit, and liquidity transformation without explicit access to central bank liquidity or public sector credit guarantees."

[15] The authors refer to the standard competitive model several times. However, they challenge the simple assumptions and come up with their own evaluations.

[16] Especially US households are biased towards buying real estate due to the US tax code. Cheap access to financing opportunities leads many households to buy a property they could not afford (Sinai & Gyourko, 2004).

4 Discussion and Findings in the Context of Financial Regulation

The connection between the proposed topic, which essentially deals with financial regulation and its effects on financial institutions, and the article "The Growth of Finance" has been made above. The financial sector has grown drastically in the past years, especially in the sector AM[17] and credit intermediation.[18] The growth comes with positive effects for some individuals and firms (see above) but also comes with negative effects which should not be neglected. Being aware of recent regulatory developments, it is clear that regulatory agendas were influenced by exactly those negative effects and developments. Research of Véhel (2018), who also research regulatory risk in the European Union, revised the regulatory framework and agenda as a consequence of the financial crisis.

Recalling the developments in the subsector credit intermediation, the revision of the regulatory framework makes sense. The credit business is much larger compared to 1980, and risk is higher due to product innovations and larger credit product portfolios (offered by banks, non-financial institutions, and others such as shadow banks). With regards to prudential regulation, the Basel Accords (especially Basel III and IV)[19] are a core element of the regulatory agenda. As the Basel regulation has implications on the capital and liquidity of large financial institutions, they also impact the credit business. Also, Chia et al. (2015) confirm that "the Basel Accord designed with the preliminary goal of making capital requirements reflect bank risk exposures" indicating that many banks were working above sustainable risk levels. Without going into great detail, the Basel Accords, for example, require banks to hold more liquidity, deleverage and hold more capital as well. This makes credits more expensive as banks need to hold more assets to offer the same amount of product. As a consequence, banks might increase prices (which is difficult beyond a certain threshold due to competitive aspects) or select their credit counterparties more carefully. The increased scrutiny deleveraged the credit bubble to a certain extent and, therefore, increased and continues to increase financial stability. From this example, the close connection between the chosen article and the chosen dissertation topic becomes obvious. Prudential financial regulation is changing, becoming more demanding, which is very relevant to nowadays financial markets. My dissertation proposal goes a step further and asks the question of how financial institutions are impacted. Are they suffering due to decreased mar-

[17] The AM output totals dollar 341.9 billion in 2007, which is four times over the output in 1997.

[18] The industry "grew in a value-added basis from 2.5 percent of GDP in 1980 to 3.4 percent in 2007, having peaked at 4.1 percent of GDP in 2003." This reflects the growth of 25 percent of overall financial sector growth.

[19] "The Basel Accords are a series of three sequential banking regulation agreements (Basel I, II, and III) set by the Basel Committee on Bank Supervision (BCBS). URL: https://www.investopedia.com/terms/b/basel_accord.asp (last access on June 4th, 2021). Basel IV is the unofficial phrase referring to the latest changes of Basel II.

gins? Are they able to extract less economic rent (compared to statements of Greenwood and Scharfstein on the extraction of economic rent above)?

The article also reveals that consumers need to be protected due to information asymmetry reasons. The information asymmetry is increased by a lack of education of individuals on financial markets and products. Therefore, many individuals demonstrate irrational investment behavior and cognitive weaknesses, which leads to uninformed investment decisions. Additionally, Greenwood and Scharfstein show that indebtedness over sustainable levels and disproportionately high cost for financial products should be prevented. Therefore, financial regulation has a crucial stake, and regulators choose an interventionist approach to ultimately protect consumer's welfare (Akinbami, 2011). According to Duke (2009) financial consumer protection does not only concern the individual as it impacts the stability of the economy as a whole. As financial consumer protection issues receive significant attention from regulators and policymakers for the aforementioned reasons, it might be interesting to research new consumer protection regulation (e.g. the impact of the PSD2, the second European Payment Services Directive).[20] [21] If consumer-related topics are included in the planned dissertation the trade-off between tighter regulation and impact and cost for financial institutions would be central. Igan & Mirzaei (2020), for example, find positive effects of stricter consumer regulation, such as operational resilience. Gaganis et al. (2020) find that for the insurance sector, the level of supervisory control and scrutiny seems to reflect directly in the pricing of the insurance products, which can be evaluated as an additional burden for the companies. Further research could be based on the studies of Igan and Mirzai (2020) or Gaganis et al. (2020). We learned from Greenwood and Scharfstein that it is important to keep track of developments in the markets as they have strong implications on regulation. Fletcher et al. (2021) analyse bitcoin[22] regulation. Bitcoin is a crypto currency and is not clear whether bitcoin is a "currency" per se, which would require financial regulation, or a "technology" in the broader sense. If bitcoin will be classified as technology, then private sector regulation would be required. If, on the contrary, bitcoin will be classified as currency, it will become important to design an adequate regulatory framework to prevent issues such as terrorist financing and money laundering. Of course, studying the impact of such regulation will be very relevant and in-

[20] Further information on the PSD2: URL: https://ec.europa.eu/info/law/payment-services-psd-2-directive-eu-2015-2366_en (last access on May 30th, 2021). PSD2 requires enhanced business models from a consumer data and technology perspective (Polasik et al., 2020). Consumer reactions and habits vary, especially regarding their level of readiness for the new services provided (Bijlsma et al., 2020).

[21] Including a full analysis of consumer protection issues is probably out of scope for the planned dissertation, which focuses on prudential regulation primarily.

[22] "What is Bitcoin?" URL: https://www.investopedia.com/terms/b/bitcoin.asp (last access on May 30th, 2021).

IJARBM – International Journal of Applied Research in Business and Management
Vol. 03 / Issue 1, pp. 49-61, February 2022
ISSN: 2700-8983 | an Open Access Journal by Wohllebe & Ross Publishing GbR

This paper is available online at
www.ijarbm.org

teresting for my own research.[23] More information on topics directly and indirectly related to consumer protection in the context of financial regulation can be found in my short paper “A Literature Review: Consumer Protection in the Context of Financial Regulation” (Adler, 2021).[24]

Greenwood and Scharfstein highlight the importance of developments in the AM sector (see above). Also, this aspect can be connected to my own research very well. Very soon, in June 2021, the new Investment Firm Directive (IFD) will become binding.[25] The IFD is “the new prudential regime that better reflects risks” for AM firms. Currently, regulation which was designed for global banks (CRD and CRR) also covers AM firms.[26] Consequently, the AM firms will have to fulfill the requirements of the new regulation very soon to meet the prudential obligations which are relevant for them from June 2021 onwards. As my proposed topic focuses on the impact of new (prudential) regulation, analyzing the IFD[27] makes perfect sense. Content-wise a paper on the proportionality of the IFD would be very relevant, as the new IFD brings certain advantages for all investment firms but also burdens certain investment firms (i.e. small asset managers) over-proportionally.

All in all, I learned and received confirmation from this exercise that financial regulation is a function of growth and development of the financial sector, as well development of certain financial subsectors and product categories. The points made above show clearly that my current research is relevant and going in the right direction and there are certain opportunities for expanding the research agenda including macroeconomic considerations such as extraction of economic rents, welfare considerations, consumer regulation issues, and latest developments in the financial sector such as crypto currencies.[28] Therefore, the article is a reminder to keep always informed about financial market developments as they might translate into revision of regulation or new types of regulation. The latest developments of

[23] Financial regulation of crypto currencies is expected in medium-term which is the reason why it is out of scope for the planned dissertation. Despite, the topic has a high relevance for a further research agenda.

[24] Written as assignment for the module Consumer Behavior. Prof. Viktória Szente encouraged me to publish this paper.

[25] URL: https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32019L2034&rid=1 (last access on May 30th, 2021).

[26] URL: https://www.wolterskluwer.com/en/solutions/onesumx-for-finance-risk-and-regulatory-reporting/onesumx-regulatory-reporting-for-investment-firms?utm_medium=cpc&utm_source=google&utm_campaign=grc_frr_onesumx-frr_rmi-submit_RegRepIFR-PPC_20.11&wkcid=20.11_EU_frr_EN_PDSR_RegRepIFR-PPC&gclid=Cj0KCQjwktKFBhCkARIsAJeDT0iwbHgjInkxJUx5sUSz6oPvxljY4i3lAd0nwLqvT31JfkWo-4KQyzYaAvW7EALw_wcB (last access on May 30th, 2021).

[27] Or the new “WpFG” for Germany (IFD transposed into German law).

[28] It might be unrealistic to include considerations on all related aspects in the proposed dissertation. Nevertheless, it is important to have a full understanding of the interconnectedness of the topics which might pose important questions for further research, probably after the PhD.

prudential regulation in the AM subsector (i.e. the planned implementation of the Investment Firm Directive) were already in scope of my ongoing research.

5 Conclusion

The article "The Growth of Finance" can be connected to the research topic "Quantification of Regulatory Risk and Impact of New Regulation on Business Models" very well. Firstly, the three key topics, regulation of the securities subsector and the AM subsector through prudential regulation, provide valuable starting points (see above). The findings of Greenwood and Scharfstein are based on a data analysis, which includes data until 2007, around the financial crisis. The findings help to explain why certain structural and regulatory developments (i.e. increases scrutiny of financial regulators, new types of prudential regulation, etc.) have happened. Therefore, I find the article very relevant, even from today's perspective. Finally, I can say that I learned the value of keeping up with recent macroeconomic and financial sector related developments. The reason is that regulation reflects the requirements of such developments. Regulation is designed to mitigate, for example, consumer issues or instability of the financial system. However, it can also always translate into negative impacts for financial firms. The negative effects include cost, structural or business model impacts, which is the key concern.

6 References

Adler, Manuel R. (2021). A Literature Review: Consumer

Protection in the Context of Financial Regulation.

Agoraki, M.-E. K., Kouretas, G. P., & Triantopoulos, C. (2020). Democracy, regulation and competition in emerging banking systems. Economic Modelling, 84, 190–202. https://doi.org/10.1016/j.econmod.2019.04.009

Ahnert, T., Forbes, K., Friedrich, C., & Reinhardt, D. (2020). Macroprudential FX regulations: Shifting the snowbanks of FX vulnerability? Journal of Financial Economics. https://doi.org/10.1016/j.jfineco.2020.10.005

Akey, P., Heimer, R. Z., & Lewellen, S. (2021). Politicizing consumer credit. Journal of Financial Economics, 139(2), 627–655. https://doi.org/10.1016/j.jfineco.2020.07.017

Akinbami, F. (2011). Financial services and consumer protection after the crisis. International Journal of Bank Marketing, 29(2), 134–147. https://doi.org/10.1108/02652321111107620

Alexander, Gordon J., Jones, Jonathan D., Nigro, Peter J.

(1998). Mutual fund shareholders: characteristics, investor knowledge, and sources of information. Financial Services Review, 7(4): 301-316.

Asteriou, D., Pilbeam, K., & Tomuleasa, I. (2021). The impact of corruption, economic freedom, regulation and transparency on bank profitability and bank stability: Evidence from the Eurozone area. Journal of Economic Behavior & Organization, 184, 150–177. https://doi.org/10.1016/j.jebo.2020.08.023

Bijlsma, M., van der Cruijsen, C., & Jonker, N. (2020). Consumer Propensity to Adopt PSD2 Services: Trust for Sale? SSRN Electronic Journal. https://doi.org/10.2139/ssrn.3531010

Calem, P., Jagtiani, J., & Lang, W. W. (2016). Regulating consumer credit. Journal of Economics and Business, 84, 1–13. https://doi.org/10.1016/j.jeconbus.2016.02.008

Capon, N., Fitzsimons, G. J., & Alan Prince, R. (1996). An individual level analysis of the mutual fund investment decision. Journal of Financial Services Research, 10(1), 59–82. https://doi.org/10.1007/BF00120146

Chia, J. L. (2015). The Impact of Basel III on Malaysian Stock Performance. 14.

Chia, J. L., Yahyam, M. H., & Muhammad, J. (2015). The Impact of Basel III on Malaysian Stock Performance. Pertanika Social Sciences & Humanities.

Cimon, D., & Garriott, C. (2019). Banking regulation and market making. Journal of Banking & Finance, 109, 105653. https://doi.org/10.1016/j.jbankfin.2019.105653

Corbet, S., Larkin, C., Lucey, B., & Yarovaya, L. (2020). KODAKCoin: A blockchain revolution or exploiting a potential cryptocurrency bubble? Applied Economics Letters, 27(7), 518–524. https://doi.org/10.1080/13504851.2019.1637512

Duke. (2009). Elizabeth A Duke: The systemic importance of consumer protection. 5. https://www.bis.org/review/r090615d.pdf

Fama, E. E., & French, K. R. (2010). Luck versus Skill in the Cross-Section of Mutual Fund Returns. 34.

Fletcher, E., Larkin, C., & Corbet, S. (2021). Countering money laundering and terrorist financing: A case for bitcoin regulation. Research in International Business and Finance, 56, 101387. https://doi.org/10.1016/j.ribaf.2021.101387

Frazzini, A., & Lamont, O. A. (2005). DUMB MONEY: MUTUAL FUND FLOWS AND THE CROSS-SECTION OF STOCK RETURNS. 60.

French, K. R. (2008). Presidential Address: The Cost of Active Investing. The Journal of Finance, 63(4), 1537–1573. https://doi.org/10.1111/j.1540-6261.2008.01368.x

Gaganis, C., Galariotis, E., Pasiouras, F., & Staikouras, C. (2020). Bank profit efficiency and financial consumer protection policies. Journal of Business Research, 118, 98–116. https://doi.org/10.1016/j.jbusres.2020.06.033

Gaganis, C., Hasan, I., & Pasiouras, F. (2020). Cross-country evidence on the relationship between regulations and the development of the life insurance sector. Economic Modelling, 89, 256–272. https://doi.org/10.1016/j.econmod.2019.10.024

Greenwood, R., & Scharfstein, D. (2013). The Growth of Finance. Journal of Economic Perspectives, 27(2), 3–28. https://doi.org/10.1257/jep.27.2.3

Igan, D., & Mirzaei, A. (2020). Does going tough on banks make the going get tough? Bank liquidity regulations, capital requirements, and sectoral activity. Journal of Economic Behavior & Organization, 177, 688–726. https://doi.org/10.1016/j.jebo.2020.04.025

Laibson, D. (1997). Golden Eggs and Hyperbolic Discounting. The Quarterly Journal of Economics, 112(2), 443–478. https://doi.org/10.1162/003355397555253

Mian, Atif R., Sufi, Amir (2012). What Explains High

Unemployment? The Aggregate Demand Channel. National Bureau of Economic Research. http://www.nber.org/papers/w17830

Philippon, Thomas (2012). Has the U.S. Finance Industry

Become Less Efficient? On the Theory and Measurement of Financial Intermediation. National Bureau of Economic Research. http://www.nber.org/papers/w18077

Polasik, M., Huterska, A., Iftikhar, R., & Mikula, Š. (2020). The impact of Payment Services Directive 2 on the PayTech sector development in Europe. Journal of Economic Behavior & Organization, 178, 385–401. https://doi.org/10.1016/j.jebo.2020.07.010

Pozsar, Z., Adrian, T., Ashcraft, A., Boesky, H. (2013).

Shadown Banking. FRBNY Economic Policy Review, 458.

Schumpeter, Joseph A. (1911). The Theory of Economic

Debelopment. An Inquiry into Profits, Captal, Credit, Interest, and the Business Cycle. Harvard Economic Studies 46. https://www.hup.harvard.edu/catalog.php?isbn=9780674879904

Shrestha, P., Arslan-Ayaydin, Ö., Thewissen, J., & Torsin, W. (2021). Institutions, regulations and initial coin offerings: An international perspective. International Review of Economics & Finance, 72, 102–120. https://doi.org/10.1016/j.iref.2020.10.014

Sinai, T., & Gyourko, J. (2004). The (Un)changing Geographical Distribution of Housing Tax Benefits: 1980 to 2000 (Nr. w10322; S. w10322). National Bureau of Economic Research. https://doi.org/10.3386/w10322

Turner, Adair (2010), What Do banks Do? Why do Credit

Booms and Busts Occur and What Can Public Policy Do about It? Chap. 1 in The Future of Finance, edited by Adairr Turner et al. London School of Economics.

Véhel, J. L. (2018). A simple isochore model evidencing regulation risk. Annals of Actuarial Science, 12(2), 233–248. https://doi.org/10.1017/S174849951800009X

Vehel, J. L., & Walter, C. (2015). Prudential regulation: Is there a danger in reducing the volatility? 21.