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Financial Regulation as an Adjustment Screw in the Transformation of Global Capital Markets

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ABSTRACT

Globalization is typically understood as a process embracing complex economic, technological, socio-cultural and political forces which leads to progressive international integration at various levels. However, this increased interaction and interconnectedness experienced some significant drawbacks due to the global financial crisis (GFC). Although theory stresses that globalization stimulates the emergence of global financial markets leading to a significant transformation of global capital markets, the GFC clearly illustrated that the way forward is a bumpy one. Moreover, the substantial regulatory responses to the GFC led to the establishment of a complex new regulatory environment in the areas of banking and securities regulation in particular. Against this background, the contribution of this article intends to analyze this multiple transformation process by providing creative and provocative considerations on how adjustment screws could serve as a role model for future financial regulation.

Keywords: Global Financial Crisis, Financial Regulation, Law and Economics

JEL Classification: G20, G28, K20, K23

1. Introduction

One of the most complex processes of globalization is the transformation of global capital. Its complexity and dimensions have been illustrated by the financial turmoil caused in the wake of the global financial crisis (GFC)[1] when these happenings added an additional layer to the existing criticism of globalization by claiming that financial globalization can become a dangerous thrust reversal. The collapse of formerly prestigious financial institutions such as Lehman Brothers, Bear Stearns or Fortis and Dexia as well as rather domestically oriented banks such as Fannie Mae, Freddie Mac, Northern Rock, Kaupthing, Landsbanki or Banco Portugues de Negocios marked a watershed: the sudden collapse of housing markets starting in the U.S. and then spreading around the globe as well as the drying-out of liquidity in global financial markets leading to sovereign debt crises such as the one in Europe was unprecedented and demonstrated that globalization, when going into the wrong direction, can have disastrous effects on society. Not surprisingly, anti-globalization and anti-capitalism movements have been enjoying a strong tail-wind reflecting the increasing number of enraged citizens.[2]

Although the majority of commentators on the GFC and its aftermath concentrate on the dangers of financial markets

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[1] The uniqueness and complexity of the GFC is well described by Reinhart and Rogoff (2011).

[2] Such movements include "Occupy Wall Street" (http://occupywallst.org/), "Blockupy" (https://blockupy.org/) or the more established "Attac" organization (https://www.attac.org/). Moreover, such movements let to the neologism "*Wutbürger*" (enraged citizen) which was defined in *Der Spiegel* 41/2010 by *Dirk Kurbjuweit* as standing for someone who broke with the civil traditions.

and the reckless behavior of financial market participants, critical assessments of the role that regulation plays in the context of the transformation of global capital are outnumbered simply due to the fact that regulation is often considered as *the* answer[3] to avoid such (devastating) happenings in the future.

However, with a rough analysis of this prevailing popular view, it quickly becomes obvious that government actions are often constrained when attempting to regulate the transformation of capital. These constraints, combined with the naïve perception that regulation per se is the panacea, are worth to be examined in more details because they also seem to constitute significant obstacles for a smooth transformation of global capital markets. Such transformation of global capital markets has already been described as the next great transformation.[4] This contribution attempts to illustrate that the prospects of this next great transformation can be an opportunity rather than a threat, given that various conditions are met such as financial regulation becoming an adjustment screw of multi-level governance of international finance.

2. The Issue of Globalization

2.1. The Complexity of Globalization

The transformation of global capital is one striking result of globalization. Broadly speaking, globalization stands for

[3] Among others, Arestis and Basu (2003) and Schinasi (2005) are arguing that globalization and market liberalization are triggers for financial crises and therefore calling for more regulation and state intervention.
[4] Well-known in this context are the elaborations of Mishkin (2006).

international interaction and integration and thereby encompasses economic, technological, socio-cultural and political forces (Croucher, 2004)[5]. In spite of its very complex nature, the term globalization often reflects only what is commonly understood as economic integration in the sense that national economies integrate into an international economy through trade, foreign direct investment, capital flows, migration, and the spread of technology (Bhagwati ,2004). It is important to stress that globalization in this understanding is not a new phenomenon since it can already be derived back to the territorial and maritime expansion of Portugal, Spain, the Netherlands, France and the UK from the mid-14th century onwards. This trend of expansion continued in the 17th century and not surprisingly among others, the Dutch East India Company[6] emerged as one of the first multinational corporations featuring modern characteristics of risk sharing and joint ownership.[7] Increasing international interaction and trade led to the first pike of globalization which can be marked with the economic liberalizations of the 19th century. However, this phase was abruptly ended by the First World War and the collapse of the Gold Standard.

After the Second World War and its subsequent years of protectionism, people realized that the costs of protectionism were disproportionately high and opposition to international economic integration had no perspective. The Bretton Woods

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[5] A good and comprehensive overview of the various dimensions of globalization can also be found on the IMF website at www.imf.org/external/np/exr/key/global.htm.

[6] Originally the East India Company founded in 1600, it was then the Dutch East India Company established in 1602 which would become the largest (multinational) company for roughly 200 years.

[7] Other examples are the British East India Company, the Hudson's Bay Company or the Swedish Africa Company.

conference of 1944[8] which aimed to rebuild the international economic system marked the turnaround by re-activating the processes of globalization. The considerable and continuous removal of barriers to international trade[9] triggered (among others) by the Bretton Woods institutions laid the ground for what is commonly understood as economic globalization. Consequently, it was famously argued in a book by Friedman (2005) that the world has become increasingly flat due to the international leveling of business competition and the increasing interconnectedness of the world.

Due to the complexity of the process of globalization, encompassing its various dimensions including economic, technological, socio-cultural and political forces, the focus of this contribution shall be on financial globalization and its effects on the international financial system since both are crucial for the transformation of global capital markets.

2.2. Economic and Financial Globalization

When identifying the dimension of financial globalization, the general distinction has to be made between economic and financial globalization. Economic globalization is typically understood as the process leading to the opening of (national) economies to flows of goods and services, capital, and businesses from other nations that integrate their markets with those abroad (Mishkin, 2006). Contrary to this, financial globalization reflects the emergence of global financial

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[8] Among the exhaustive literatures on the Bretton Woods conference and its institutional changes, reference shall be made to Eichengreen (2006) or Kenen (1994).

[9] GATT of which particulars subsequently led to the establishment of the WTO predominantly shapes the world trading system. For a comprehensive analysis of its political economy see Hoerkman and Kostecki (2009).

markets and the better access to external financing for corporate, national and private borrowers. The differentiation between the respective scope and scale of these two dimensions becomes more visible when considering that economic integration *per se* constitutes a global phenomenon whereas financial globalization traditionally tends to be confined to industrialized countries.[10] Although acknowledging the controversial views on financial globalization[11], it has to be stressed that its proponents highlight the positive effects on the well-functioning of the financial system which is sometimes described as the brain of the economy due to its coordinating mechanism of allocating capital.[12]

This allocation of capital through the financial system in general and its well-functioning in particular has been subject of debate for the last decades and heated up in the context of the recent experiences of the GFC (Stiglitz, 2003; Bhagwati, 2004; Isard, 2005; Shiller, 2008; Friedman and Kraus, 2011). Typically, the field of tension in this respect stretches from the strand of view stressing the benefits of financial globalization to an economy such as the stimulation of

[10] The scope of financial globalization has always been discussed in a controversial manner. See already Bhagwati (1997) and the contrasting views of Obstfeld and Taylor (2004).

[11] A huge body of literature exists in this respect. Worth mentioning is the critical, theoretically argued perspective stressing the constraints of international investment law is provided by Schneiderman (2013). Baker, Hudson and Woodward (2005) lay out the multi-level governance challenges of financial globalization.

[12] See Mishkin (2006), p.8 who also points out that in case capital is wrongly or not channeled through the financial system, the respective economy will inefficiently operate resulting in low economic growth.

investment and growth triggered by cheaper capital or the improved allocation of capital because of foreign capital and financial institutions to the other strand of argumentation pointing out the remarkable regularity of financial crises over the last few decades[13] culminating in the GFC which drastically demonstrated its disastrous economic and social ramifications in case things go wrong (Greenspan, 2013). Although the described field of tension covers both pre- and post-GFC periods, it is noteworthy that pre-GFC literature typically concentrates on the economic dimension[14] of financial globalization whereas regulatory aspects have gained significantly more attention in post-GFC times (Buckley, 2008; Wymeersch, Hopt and Ferrarini, 2012; Andenas and Chiu, 2014).

Moreover, one can observe that in post-GFC times, financial globalization and the regulation of the international financial system, often described as global financial regulation, have increasingly been subject of scholarly attention in the area of law. This is important to stress since until the GFC this subject matter was rather under-reflected by legal scholars but had been dominated by economists and

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[13] These crises range from the 1994-95 Mexican Crisis to the 1997 Asian currency crisis, the 1998 Russian financial crisis to the Argentine economic crisis of 1999-2002. For a good overview of the past crises, see Buckley and Arner (2011). Reinhart and Rogoff (2011) demonstrate the uniqueness of the GFC compared to past crises.

[14] In this respect, Mishkin (2006) argues that financial globalization has substantial benefits if done right which has also been subject of numerous empirical studies. King and Levine (1993) show that countries with larger financial sectors in 1960 experienced greater economic growth over the subsequent thirty years which is a result that had been confirmed by other studies, such as the one by Khan (2000).

political scientists. This shift in scholarly attention can be explained by the fact that the GFC triggered substantial questions about the role, impact and importance of economics as a science.[15] Another conclusion is that the happenings of the GFC doubtlessly revealed the interdisciplinary nature of financial globalization (and its regulation) (Weiss and Kammel, 2015; Tanzi, 2011).[16]

3. The Ambiguity of Financial Globalization

3.1. General Remarks

As the reflections above demonstrated, the issue of financial globalization has been subject to an ambiguous scholarly treatment which also radiates to respective public policies. The obvious lack of comprehensive reflection and contrasting ideological strands[17] cause significant interdisciplinary shades between economic and regulatory theory.

In principle, economic theory tends to predict optimistic outcomes of financial globalization, although in many of

[15] This discussion went beyond academic borders. See the article in The Economist of July 16, 2009 entitled "What went wrong with economics."

[16] This is in particular triggered by the changing relationship between governments and markets.

[17] From an ideological point of view two schools of thought dominate the discussion: on the one hand the pro-interventionists associated with the works of John Maynard Keynes and on the other side the market liberals linked to the works of Friedrich August von Hayek. Although this simplification ignores the complexity of the respective economic theory, material reductions are made in order to assess which theory is to be favored over the other. Very representative in this respect is Wapshott (2011).

those economies that opened their markets in order to globalize them, struggles have shown that wrongly guided (financial) globalization has a negative boomerang effect.[18] This can be underscored by the experiences of the Asian Crisis and more recently, the GFC. The macroeconomic fundamentals of the Asian Crisis had been extensively addressed in literature by highlighting the respective significant declines in economic growth combined with a substantial increase in current account deficits resulting in large external debts and/or a massive appreciation of real exchange rates (Tornell, Westermann and Martinez, 2003). According to Pauly (2009), such macroeconomic imbalances have also been one of the roots of the GFC but unfortunately a financial crisis of the dimension of the GFC is characterized by its complexity. Consequently, broader and multi-dimensional approaches[19] are needed which also take into consideration that the general assumption of people (and consequently) markets acting rational needs to be rejected.[20]

[18] One should consider the struggling economies in Latin America, Africa or the Middle East. As these experiences, in particular in Africa and the Middle East have shown, struggling domestic economies are likely to be target of political instability, often leading to fundamentalism and failed states.

[19] One such approach is offered by Imansyah and Kammel (2009) who further developed the so-called “Temple Model of Financial Crises” against the background of practical experiences in Indonesia.

[20] A comprehensive, logically derived analysis that human behavior is not necessarily rational has been provided by von Mises (1998). Moreover, and although approaching it from a different angle, Shiller (2000) underscores irrational exuberance in human behavior.

3.2. Ambiguity of Multi-Level Governance

Financial globalization is not only a challenge from an economic but also from a governance point of view. This means that its governance structure and associated politics is often the product of an ongoing complex process of historical evolution.[21] This evolution has been struggling with the ambiguity that market developments have increasingly become global whereas its governance and regulation remained predominantly domestic.

The role of the nation-state as a historical given[22] and the lack of a body of international financial law lead to a dichotomy between the market reality and its governance structure (Weiss and Kammel, 2015; Brummer, 2011b). Nevertheless, the creation of new (global) institutions[23] which apparently is acknowledging this discrepancy and the creation of new regulatory concepts[24] beyond traditionally

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[21] See Power, markets and accountability by Philip G. Cerny in Baker, Hudson and Woodward (2005).

[22] This is stressed by Cerny in Power, markets and accountability in Baker, Hudson and Woodward (2005) who describes the background and the changes for the nation-state in relation to embedding financial systems.

[23] Most notably the formation of the Group of Twenty (G20) as the premier forum for international economic cooperation and decision-making as well as the establishment of the Financial Stability Board (FSB) as the new body to coordinate, develop and promote the implementation of effective regulatory, supervisory and other financial sector policies to ensure financial stability, have to be mentioned here.

[24] The most striking and highly controversial concept is the regulation of so-called “shadow-banking” which intends to cover financial services provided by non-bank financial intermediaries. However, rarely any other regulatory concept has been lacking that much clarity in terms of its meaning and scope.

regulated banking activities could be understood as a way forward towards a system of multi-level governance (Fein, 2013). However, reality shows that thousands of pages of regulatory measures have been produced which have more in common with an uncoordinated “sprinkler system” of regulatory actions than with a coordinated multi-level governance concept for international finance (Weiss and Kammel, 2015). Nevertheless, when observing the international efforts in this respect, one gets the impression that at least the GFC caused some awareness for the need of multi-level (international) financial governance.

However, multi-level governance for international finance can only work if it is understood as a corresponding (and not opposing) tool which encourages the globalization of financial markets and shapes a range of formal and informal transnational and trans-governmental institutions, networks and private regime (Cerny, 2005). Such system or environment has to be transparent and apply the rule of law (Dam, 2006; Tamanaha; 2004).

3.3. Ambiguity of Regulatory Action

An essential part of the governance system of international finance has always been regulatory actions which in most instances have been respective reactions to financial globalization and financial innovation. More precisely, such reactions were typically specific individual measures taken in response to particular incidents, threats or ideas. This ranges from introducing controversial risk-based approaches in international banking regulation and short-selling bans of stocks to the establishment of integrated financial supervisors.

Such measures reflect the general understanding that there is a need for financial regulation which is typically grounded in economic rationales with market failure being the main rationale in this respect. In literature, market failure as the main rationale is typically accompanied by so-called associated rationales (Kammel, 2015). The multiplicity of such rationales requires a proper infrastructure to deal with the various facets they imply. However, it is more than questionable if such infrastructure in the sense of a coherent governance system even exists, both a national as well as international level. When considering the last two decades of financial regulation and crises response, one detects numerous ambiguities, ranging from the (international) trend of creating integrated financial market supervisory authorities at the turn of the millennium which is currently either discussed to be reversed at national level[25] or fundamentally amended at supranational level[26]. Aside from such structural aspects, fundamental ambiguities have been paving the legal frameworks over the last decades. The already mentioned controversial risk-based approaches in banking regulation which first required a significant reliance on external ratings provided by credit rating agencies (CRAs) which, after the GFC, was identified as one of its triggers serves as one example. Another one would be the intention to reduce risk in the financial system by creating centralized institutions such as central clearing parties (CCP) which by their nature,

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[25] Among various examples, the ongoing discussion about the split of competencies between the Austrian National Bank (OeNB) and the integrated financial supervisory authority (FMA) have to be mentioned.

[26] The creation of the banking union in the EU has significantly re-shaped the supervisory landscape of banking regulation in the EU by shifting competencies from the national authorities to the ECB. For further details on the banking union and its mechanisms see http://ec.europa.eu/finance/general-policy/banking-union/index_en.htm.

with or without substantial funding, create concentration risks. Against this background and despite all, often well-intended efforts of the last years, the lack of a clear, efficient framework of financial regulation is still prevailing.

3.4. Ambiguity leading to Ambivalence

The ambiguities in the context of financial globalization, the ambiguities related to multi-level governance of international finance and the obvious ambiguities in financial regulation together create an environment of ambivalence. This can be explained by some semantic insights since ambiguity is typically defined as "[...] an indecision as to what you mean, an intention to mean several things, a probability that one or other or both of two things has been meant, and the fact that a statement has several meanings" (Empson, 1930). This multi-level ambiguity has led to substantial legal uncertainty for market participants, which had to adapt to continuously changing requirements and governance action and thereby have even had to bear the implementation costs, either as financial institution in a direct or as consumer in an indirect manner.

Consequently, the multitude of ambiguities creates an environment of ambivalence at multiple levels of decision-making in both organizations and markets. As the term is traditionally coined, it reflects a state of having simultaneous conflicting reactions, beliefs, or feelings towards something (Kaplan, 1972). Therefore, the mentioned ambiguities cause ambivalence in the perceptions of both financial globalization and financial regulation by regulators and policy-makers, industry participants and consumers.

4. Financial Regulation and Its Possible Role as an Adjustment Screw

4.1. Financial Regulation as a Possible Adjustment Screw

Financial globalization and in particular its detriments have demonstrated the need for multi-level governance of international finance which emerged before the GFC already as a response to the (increased) globalization of financial activities.[27] The GFC has revealed that multi-level governance of financial globalization, although becoming a growing phenomenon, is in need of a functioning environment of financial regulation. Thus, financial regulation could serve as a crucial adjustment screw for multi-level governance. However, as any adjustment screw, financial regulation also needs to pass a necessary quality-check due some of its inherent problems because only knowing and adapting to its potentially intrinsic weaknesses leads to its proper and efficient usage.

4.2. Inherent Weaknesses of Financial Regulation

Financial regulation is confronted with some inherent weaknesses which have been pointed out in literature at some length (Kammel, 2015; Niemeyer, 2001). They are typically clustered into six categories which concurrently – and there is a certain degree of irony to it – modify principles and objectives of (financial) regulation set up by international regulators.[28]

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[27] See Conclusions: financial globalization, multi-level governance and IPE in Baker, Hudson, Woodward (2005), 215.

[28] The best example in this context are the so-called “Objectives and Principles of Securities Regulation” issued by IOSCO which are available at

a) The first category concerns the ability of the regulator which related to its capacities and knowledge to impose regulations. This covers both the availability of information as well as the enforceability of regulation which requires the existence of clear and objectively stated responsibilities of the regulator to operate independently and be accountable when exercising its functions and powers. This requires adequate powers, proper resources and the capacity to properly perform its functions. Hereby, the regulator needs to adopt consistent regulatory processes which are carried out by a staff of highest professional standards, including appropriate standards of confidentiality.
b) The second category addresses the challenge of moral hazard which in (micro-) economic theory describes a situation where the behavior of one party (in this context the market participant) may change to the detriment of another (being another market participant or the regulator) after a transaction (such as the implementation of a new regulation) was made. In other words, one party takes more risks which are borne by another one which could be caused by implicit "safety net"-considerations of imposed financial regulation which potentially makes individual agents less careful and taking higher risks.
c) The third category refers to the issue of enforceability which targets the necessity that the respective regulator has comprehensive powers of inspection,

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https://www.iosco.org/library/pubdocs/pdf/IOSCOPD323.pdf.
These principles, last revised in 2010 replaced the pre-GFC-principles of 2003 and therefore incorporate new methodologies and lessons learned from the GFC.

investigation surveillance and enforcement tools in place. From a regulatory theory perspective, this means incorporating the so-called "DREAM framework" (Baldwin, Cave and Lodge, 2012).[29]

d) The fourth category and likely to be the most controversial one concerns the topic of consumer overprotection. As this controversial term indicates, it refers to the meaning and scope of consumer protection which, in many instances, is not clear. This is triggered by the fact that since the GFC, basically each and every implementation of (new and amended) financial regulation is justified with consumer protection. However, this inflationary justification conceals the principal purpose of financial regulation which is not to protect investors (consumers) against making losses, taking risks or making mistakes[30] but to put them in the position to be able to take an informed investment decision.
e) The fifth category addresses the issue of time which is subject to recurring strictures of the regulatory authorities because they are typically reactive than proactive. However, it has to be taken into consideration that both, the speed of financial globalization and fizzy financial innovation leave financial regulation at least a step behind.
f) The sixth category is described with conflicts since financial regulation is inherently subject to potential conflicts with respect to its flexibility and predictability, its harmonized or competitive nature or

[29] The "DREAM framework" describes the primary regulatory tasks of detecting, responding, enforcing, assessing and modifying.
[30] This was stressed already by Niemeyer (2001).

in more general terms the request for consumer protection and its efficiency and comparability.[31]

4.3. Ambivalence Triggers Agitation

The described weaknesses of financial regulation have a spillover effect that became visible during the GFC being the causal connection between ambivalence and agitation. As illustrated, ambiguity leads to ambivalence but when advancing this nexus, one can observe that ambivalence can trigger agitation, in particular during emergency situations.

Such extended causal connection can be explained by what had been labeled as “sprinkler system” of regulatory actions which means that in emergency situations human behavior is less rational. Consequently, the GFC has revealed two characteristics in this context being that first a need for action is detected but due to a lack of precision, the principle “the more, the better” applies. Only such behavioral characteristics can explain the regulatory response to the GFC which culminated in thousands of pages of regulatory measures which still leave the impression to remain only inconsistent, overlapping and non-coherent patchwork (Kammel, 2015).

4.4. The Efficiency of Adjustment Screws

When reading the operating manuals of tools, model kits or hardware, the role of adjustment screws is typically

[31] In this context it has to be taken into consideration that the likelihood of such conflicts increases with the complexity and the number of layers of regulation. Consequently, a supranational environment such as the one in the EU is prone to such conflicts. Moreover, when addressing (financial) regulation at international level, all these kinds of conflict have to be addressed as well due to the diverging domestic environments.

described as being an integral and essential part which ensures the application of certain motions. Moreover, each screw requires a nut made of the respectively needed specific material which has to have a certain length and class. All this should ensure the proper and essential functioning of each adjustment screw.

Aside from such technical specifications, another characteristic of adjustment screws is their deliberate use. Unlike spikes, adjustment screws are not plentifully deployed which implies their inherent efficiency based on its deliberate use. Consequently, any unnecessary adjustment screw used reduced its marginal utility.

5. The Suitability of Financial Regulation as Adjustment Screws for Multi-Level Governance

5.1. Proof of Suitability

The metaphor of adjustment screws can be applied to financial regulation since it can be well-suited to serve as such adjustment screws for the growing phenomenon of multi-level governance of international finance. When further considering the efficiency of adjustment screws, the aspects of rigorously calibrated high-quality material and its deliberate use are striking. The status quo of financial regulation in the current post-GFC environment has at first sight not much in common with these two aspects because, as described, its main features are rather inflationary and uncoordinated activism leading to an increasingly inconsistent, overlapping and non-coherent patchwork of regulations. Nevertheless, when dissecting particular areas of financial regulation, one will detect some deliberately well-designed and appropriately calibrated regulations which also take into consideration market realities or innovation.

Against this background, one has to conclude that financial regulation per se passes the proof of suitability despite all of its current shortcomings.

5.2. Focal Point: Calibration

Given the provided general evidence of suitability but also taking into account the inflationary accumulation of financial regulation which seems to have directly been coming off a band-conveyor, the way forward needs to be contemplated because it seems to become more evident that "enough is enough"[32]. Moreover, there seems to be a majority view that some of the implemented post-GFC regulations were good and necessary although from an overall perspective, this view would not be shared by many with the exception of regulators and policy makers themselves.

Consequently, the way forward has to reflect on the enormous amount of existing and recently introduced regulation by assessing its suitability and appropriateness[33] as

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[32] This has been clearly articulated, among others, by the recently outgoing CEO of Credit Suisse, Brady Dougan. For further details see www.bloomberg.com/news/videos/2015-06-08/dougan-says-enough-s-enough-on-banking-regulation. Interestingly enough, also senior financial regulators and policy-makers – at least off the records – agree with this assessment.

[33] Some regulatory frameworks, for example the Market in Financial Instruments Directive (MiFID) in the EU obligate a financial firm to apply the criteria of suitability and appropriateness when providing services to their clients. For further details on the MiFID framework which is currently in the process of shifting to the new MFID II rules, see http://ec.europa.eu/finance/securities/isd/index_en.htm. Therefore, a not only provocative thought could be the one of why not applying the same criteria to financial regulation itself?

well as in particular on the calibration of financial regulation in general by critically assessing its inherent weaknesses against the insights regulatory theory and market reality provide.

However, calibration of the focal point has to be a joint effort of all parties involved and not a one-sided imposition, top-down from ambivalent and agitating regulators and policy makers. Furthermore, only such proper calibration of financial regulation will also ensure that its marginal utility is in place.

5.3. The Adjustment Screw for Multi-Level Governance of International Finance

When concurring with the opinion that financial globalization will result in advanced multi-level governance of international finance[34] and given the experiences of the GFC and its aftermath, the calibration of financial regulation becomes an overriding aspect when intending to position it as adjustment screw for such multi-level governance.

Given that the post-GFC years had been years of enormous regulatory output but (global) financial regulation per se remaining a patchwork at best, the outlook can only be calibration in order to make sure that financial regulation can serve as an adjustment screw for multi-level governance. In this respect, the challenge will be to design multi-level governance as an analytical framework which is able to make explanations and prediction on which market participants in the broad sense can rely on. Therefore, an efficient institutional environment ensuring efficiency and legal certainty needs to be created. Unfortunately, the current infrastructure incorporates a mixture of hard law and soft law

[34] This is the overall hypothesis laid out already by Baker, Hudson and Woodward (2005).

(See Brummer (2011a) for a comprehensive analysis) which is difficult to understand and cranked with legal uncertainty that clearly contradicts such requirements.

Against this background, a change in perception regarding the role and function of financial regulation in times of financial globalization is needed. This could lead to a broad awareness about the necessary quality (not quantity) of financial regulation which could justify the attempted metaphor of financial regulation being an adjustment screw for multi-level governance of international finance.

In order to succeed in making the transformation of financial regulation from a non-orchestrated agglomeration of spikes to deliberately used adjustment screws, five principles derived from the nature and functioning of adjustment screws shall be applied:

- *Adjustment screws are made of high-quality material:* Consequently, financial regulation needs to consist of high-quality measures which by its nature (ideally) justify its existence.
- *The calibration of adjustment screws determines their purpose:* Therefore, financial regulation needs to be rigorously calibrated which means its effectiveness and the efficiency are keys to stressing holistic high-quality standards.
- *The use of adjustment screws is deliberate:* Consequently, financial regulation should (only) serve as a set of tools and guidelines which ensure the proper functioning of financial markets.
- *Adjustment is a key functionality of adjustment screws:* Accordingly, financial regulation can and sometimes needs to be adjusted in order to ensure the proper functionality and stability of financial markets. However, as in the case of its metaphor, such adjustments need to be done deliberately.

- *Adjustment screws are not substitutes of spikes*: Such non-substitutability should become an axiom of financial regulation in the sense that it should not serve any other purposes than the proper functioning of financial markets.

6. Conclusions

Financial globalization has been the key driver of the transformation of global finance which due to the impact and the still lingering consequences of the GFC is at the crossroads. Already the Asian Crisis but even more so the GFC have undoubtedly revealed that there is a significant mismatch between the increasing interconnectedness of (global) financial markets and the constraints of financial regulation. These constraints are not exclusively a result of the domestic nature of regulation but also the global patchwork approach that can be witnessed over the last few years.

The current distance to the outbreak of the GFC allows the first assessment of the regulatory responses of the last few years which can be described as often well-intended but either poorly executed or badly calibrated due to the described causal connection of ambiguity, causing ambivalence and leading to agitation. Moreover, it is striking that apparently no lessons have been learned from previous crises, in particular the Asian currency crisis which led to a significant academic debates and scholarly publications (See Kammel, 2015).[35]

[35] The scholarly discourse was predominantly focusing on what had been labeled as New International Financial Architecture (NIFA) which was, among others, extensively discussed by Eatwell and Taylor (2000) or Norton and Yokoi-Arai (2001).

Since the calls for a proper international financial regulation were not heard and apparently most of the literatures of the early Millennium on financial crises need to be dusted off, this – admittedly provocative – contribution will hopefully stimulate some deeper and unrestricted discussions on the subject matter. The stressed metaphor of the adjustment screws should serve as a reminder to keep focused on the essentials of financial regulation. Although regulation is often presented as the panacea, it can only serve as an adjustment screw for multi-level governance of international finance because – and to conclude with the famous Austrian economist Ludwig von Mises - “[t]he effect of [state] interference is that people are prevented from using their knowledge and abilities, their labor, their material means of production in the way in which they would earn the highest returns and satisfy their needs as much as possible. Such [state] interference makes people poorer and less satisfied” (Mises, 1998).

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