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ANALYSIS OF REGULATORY RESPONSE TO FINANCIAL CRISES GLOBALISATION AND ITS EFFECT ON THE WORLD FINANCIAL MARKET

Abstract. The article provides analysis of post crisis regulatory response worldwide as well as recent developments of regulatory policies in the financial field. It also compares trends in regulations with the profitability of financial sector to support or reject the idea that strict regulatory measures curtail the development of financial services.

Keywords: world financial market, international banking, financial globalization, regulatory policies, financial sector profitability

Formulas: 0, fig.: 2, tabl.: 3, bibl.: 12

JEL Classification: E44, F30, G21

Introduction. The article is devoted to the problem of trade off between financial regulations and profitability of financial sector. In the wake of recent financial crisis it is important what measures have been already taken to prevent or diminish future crises, what measures ought to be taken in the nearest future and how this new regulatory policies affected the world financial market. This is an acute and widely-discussed issue interest to which was reignited right after the world financial crisis in 2007-2008, as the need for tighter financial regulations became apparent. Post-crisis studies such as "The Effects Of Regulation And Supervision On European Banking Profitability And Risk: A Panel Data Investigation" [Faten 2014] and "Does Regulatory Supervision CurtailMicrofinance Profitability and Outreach?" [Cull 2009] have outlined the problem and stated that tighter supervision leads to both positive and negative influence depending on the type of measures [Faten 2014] and that enhanced supervision improves investors protection and financial stability but reduces the outreach [Cull 2009]. In this article the objective is to further this research and link the regulatory measures taken in the period from 2008 to 2016 with the financial sector macroeconomic indicators in US and EU and thus prove or reject the idea that increase in regulation leads to decrease in financial sector profitability which is crucial as it allows the policy makers to assess the possible outcomes of certain regulatory measures in a correct and comprehensive way.

Literature review and the problem statement. The topic of the article is widely discussed in a variety of scientific sources. Among the recently published research we ought to mention the works of following researchers: Hibiki Ichiue and Frederic Lambert [Ichiue, Lambert 2016], Stijn Claessens and M. Ayhan Kose [Claessens, Kose 2013], Jan Schildbach [Schildbach 2016], Dirk Schoenmaker [Schoenmaker 2017] and others. The latter two are mostly concerned with the regulatory issues while the former ones study financial crisis issue utilising a more comprehensive approach. The article aims at outlining the increase in regulatory activities and its effect on international banking in terms of key indicators changes as well as at comparing this changes with the overall financial sector efficiency indicators. This issue is of paramount importance as the result of such studies will shape the future of world financial market as it gives us better understanding of the nature and possible effects of various regulatory actions as well as possible adverse effects on financial market. As one of the recent research states: "Foreign bank lending has stopped growing since the global financial crisis. Changes in banks' business models, balance-sheet adjustments, as well as the tightening of banking regulations are potential drivers of this prolonged slowdown. The existing literature however suggests an opposite effect related to regulation, with tighter regulations encouraging foreign lending through regulatory arbitrage" [Ichiue, Lambert 2016]. So the effect can be both negative and positive in regard to different aspects and it is important to understand the overall dynamics of this process. Another study views this problem as follows: "In the literature, the investigation of the relationship between regulation, supervision, profitability, and stability is not very well developed, although the relative literature has increased, particularly after the recent global financial crisis. In addition, previous studies have provided mixed results (Barth et al., 2001, 2004, 2008, 2010; Leaven & Levine, 2009; Pasiouras et al., 2009; Klomp & De Haan, 2011; Chortareas et al., 2012; Lee & Hsieh, 2013)" [Faten 2014]. With the help of such studies we can thoroughly plan future development of financial sector in all countries as well as international treaties in this regard. The novelty of this particular research lies in comparing new set of data namely stability indicators with annual volume of financial services exports in order to study if there exists a correlation and the nature of it.

Research results. Financial crisis is not a new issue. It had happened throughout our history in various forms. Its features changed in accordance with the evolutionary path of the human society. However, such events in remote past were not as prominent because of underdeveloped economic system and general environment of wars and insecurity. Therefore, for the purpose of economic and not historical research it seems prudent to limit the history of financial crises to the last 300 years with the last 150 years being of bigger interest.

Even the global financial crisis is not as new an issue as we could have thought. "By the mid-19th century the world was getting used to financial crises. Britain seemed to operate on a one-crash-per-decade rule: the crisis of 1825-26 was followed by panics in 1837 and 1847. To those aware of the pattern, the crash of 1857 seemed like more of the same. But this time things were different. A shock in America's Midwest tore across the country and jumped from New York to Liverpool and Glasgow, and then London. From there it led to crashes in Paris, Hamburg, Copenhagen and Vienna. Financial collapses were not merely regular—now they were global, too" [The Economist "The slumps that shaped modern finance"].

Even though it is not a completely new issue dramatic acceleration in both globalization processes as well as frequency of global banking crises makes the problem of maintaining global financial stability of great importance. Thus, the resilience of global banking system is the keystone of global financial stability.

First we have to clarify what is crises globalisation and what does it have to do with global banking. Financial crises globalisation is a process which results in increased influence of financial crisis in one country on the financial situation in other countries. Last 50 years are characterised by ever-increasing speed of globalisation processes including financial globalisation. As a result, financial systems of countries all over the world become more and more interconnected and reliant upon each other. Thus, financial failure in one country have much higher chance of undermining the financial systems of other countries and has much greater impact. Therefore, it is prudent to develop global financial regulations which would limit the potential negative impact in case of a single country financial system underperformance. Such measures are currently being developed and implemented in the majority of countries. However, the question of unity of those measures and their exact parameters remains open to debate.

The 2007-2009 global financial crisis fallout has shown the interdependence of modern international banking system and urged everyone to question the current system and its regulations. There are many important figures to be discussed with regard to the post-crisis international banking and new regulations. The main question is how have banking regulations been changed after the crisis both for local and foreign banks in the developed countries and how has it affected global banking. If we compare the data on foreign banking claims, portfolio investment assets and GDP for 2007 and 2012 it is easy to see that in 2007 all three parameters were about equal in proportion (GDP measured on another scale). However in 2012 GDP and portfolio investment assets remained in the same proportion while foreign banking claims have dropped vastly in proportion [Ichiue, Lambert 2016].

What are the reasons for this decline in foreign banking claims? There are various factors which could have influenced such change. However, the main reason seems to be regulatory changes. "Banks have been pressed by supervisors to shore up capital and to avoid a decline in the domestic supply of credit. Financial reforms, such as those aiming at restricting certain types of operations by banks, as well as new capital and liquidity standards, may have curtailed bank activities and reduced foreign bank lending" [Ichiue, Lambert 2016].

Let us look at the situation right after the crisis. Prior to the crisis in the Euro-area banks the tendency was to reduce domestic landing and increase foreign lending to EMU and EU banks. Right after 2007-2008 we can clearly see the opposite tendency. Figure 1 supports this statement.

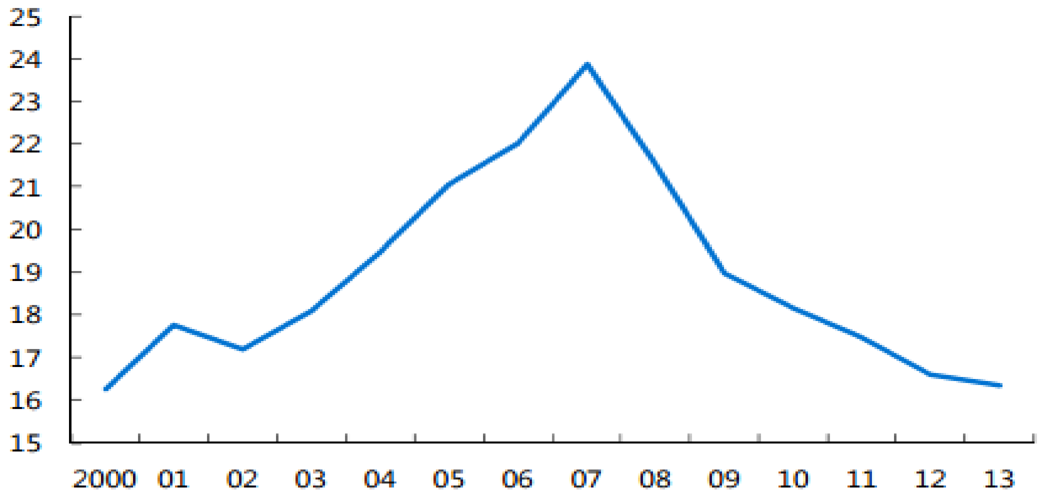

Figure 1 - Foreign banking claims relative to total banking assets of host countries, percent

Source: [Ichiue, Lambert 2016]

Figure 1 shows that after the crisis banks limited foreign lending and focused more on the domestic operations. However, the incentive for such behaviour comes not from the maximization of profits perspective but from the restrictive measures enforced by the regulatory institutions all across Europe. The recent financial crisis has shown once again the truism known for decades: unlimited financial risks and leverage while maximise the profits of financial institutions in a short-term also brings financial collapse in a long-term. So, for now at least, regulators are occupied with installing the standards which could limit risk taking and help to contain leverage within reasonable boundaries.

Even though the results in a long-term expected to be better due to crash avoidance and lessened systemic risks the results in short-term are open to debate. As we can see, the gradual increase in foreign banking claims can be tracked back to year 2000 and it had been stopped only by the crisis in 2007. Afterwards, it is the reverse tendency. Once again we see clearly that post-crisis banking lean towards cautiousness in foreign lending while thriving for development within home country. Nonetheless, countries with less strict regulations may become a valuable target for regulatory arbitrage: "In fact, Houston, Li, and Ma (2012) and Ongena, Popov, and Udell (2013) find evidence for regulatory arbitrage with data until 2007 or 2008. Bremus and Fratzscher (2015) show that regulatory arbitrage is still an important driver evenin recent years" [Ichiue, Lambert 2016].

Even though regulatory arbitrage is an important element of current international banking system, which we should bear in mind, it still does not change the whole picture described above. Developed countries are trying to limit foreign claims in order to curtail potential losses in case of financial instability. Let us see how the situation described above has evolved since 2009. If we examine the difference between US and EU banks it will become apparent that while pre-crisis US banks where on par with large European banks having close results, right after the crisis the situation has changed dramatically [Schildbach 2016].

European banks struggled to regain their previous profits and seem to be unable to achieve the per-crisis level because of tighter regulations. Meanwhile US banks recovered relatively quickly and increased their total revenues gaining pre-crisis level of net income. Certainly the reasons for such recovery are open to debate. It may seem very plausible that one of the main reasons was the difference in approach to post-crisis banking regulations. However, such claims are not sufficiently supported by facts. To the contrary, the difference in regulations is relatively small. At the same time, US banks recovered much faster after the crisis and now have much better and secure position. To support this claim there is data in Table 1 and Table 2.

Table 1 - Leverage ratios based on IFRS assets in 2015 (Only biggest banking groups of the regions were taken into consideration)

Banks(area)	Tier 1 Capital, US$ billions	Original assets, US$ billions	Self-reported leverage ratio	IFRS assets, US$ billions	Computed leverage ratio
Total euro area	598	13,192	4.5%	13,192	4.5%
Total United States	907	10,303	6.6%	13,661	6.6%
Total China	878	11,577	7.1%	11,577	7.6%
Total UK	396	7,092	5.0%	7,092	5.6%
Total Japan	289	6,086	4.5%	6,120	4.7%

Source: [Schoenmaker 2017]

Table 1 shows that US banks in fact have much better leverage ratio than most euro area banks. At the same time euro area banks have exactly the minimum ratio required to comply with Basel 3 (rules on leverage ratio will become mandatory in 2018-2019) [Bank for international settlements, "Basel III: international regulatory framework for banks"]. To better understand this information let us look into the Table 2.

Table 2 - Comparative data about changes in leverage and geographical asset distribution in 2007 and 2015 of the Global systemically important banks

2007					
Region (№ of G-SIBs)	Total assets	T1 Capital	Home	Region	World
Euro area (10)	16,213	2.70%	48%	28%	24%
United States (8)	9,329	3.90%	71%	6%	23%
China (4)	3,639	6.00%	92%	4%	3%
United Kingdom (5)	10,823	2.70%	49%	17%	34%
Japan (3)	4,344	3.70%	72%	5%	23%
2015					
Region (№ of G-SIBs)	Total assets	T1 Capital	Home	Region	World
Euro area (10)	13,192	4.50%	49%	30%	22%
United States (8)	10,303	6.60%	75%	3%	22%
China (4)	11,577	7.60%	90%	6%	4%
United Kingdom (5)	7,092	5.60%	53%	9%	38%
Japan (3)	6,086	4.70%	65%	9%	27%
Change 2007-2015					
Region (№ of G-SIBs)	Total assets	T1 Capital	Home	Region	World
Euro area (10)	-19%	1.80%	1%	1%	-2%
United States (8)	10%	2.70%	5%	-3%	-2%
China (4)	218%	1.60%	-3%	2%	1%
United Kingdom (5)	-34%	2.90%	4%	-8%	4%
Japan (3)	40%	1.00%	-8%	4%	4%

Source: [Schoenmaker 2017]

Table 2 shows that Europe had more problems dealing with the crisis aftermath. European banks lost significant portion of their assets while US banks managed to reach a slight increase. Asian banks were not so involved in the crisis, therefore they gained much more. However, the most noticeable feature is that all regions managed to deliver major increase in tier-1 capital ratio. It is very important as it indicates the results of new regulatory changes across all regions. It is yet to be seen how effective in banking crisis prevention it will be. Still it is undoubtedly an important step in the direction of crisis avoidance.

Another important piece of information in the Table 2 is that as was mentioned earlier in the article banks tend to redirect part of their capital within home country. However, it is not the case for Asian region. While Europe and US increased the percentage of their fund within the home country China and Japan increased their foreign assets. Still, it is easy to explain as their initial part in foreign assets was extremely small so such increase was long overdue.

Throughout the article we have discussed the possible effects of the global financial crisis on the international banking system using the example of the 2007-2009crisis and the impact of regulatory measures on key banking indicators. Now we ought to move from one example to a broader picture in front of us and study how does the increase in bank's reserves and liquidity ratios corresponds with the earnings of financial sector worldwide.

Theoretically, stricter regulatory policy in US and EU should have led to lower profitability of financial institutions. To support or reject this hypothesis we have to make one more step and relate the overall efficiency (in macroeconomic sense) of financial sector with the amount of financial services exported by each country. Therefore, we will compare the UNCTAD data on this subject with the increase in banking restrictions (e.g. increase in tier-1 capital).

For this purpose corresponding statistics was collected at reliable sources (The World Bank and UNCTAD databases) and presented in the Table 3 below. It shows us that between 2008 and 2016 the overall banking standards for liquidity and capital have risen significantly. According to the Table 3 the amount of financial services exports have also increased significantly in designated regions.

Table 3 - Comparative table of banking stability indicators and financial services exports change in recent years in US, Euro Area and worldwide

	Bank liquid reserves to bank assets ratio (%) [4]		Bank capital to assets ratio (%) [4]		Financial services exports by BPM5* standard, USD millions [5]		Financial services exports by BPM6* standard, USD millions [5]	
	2008	2016	2010	2016	2008	2016	2008	2013
Euro Area	1.4	4.2	6.5	7.8	121380	131630	85130	92730
US	6	12.2	12.7	11.6	63027	96752	63027	83862
World	17.1	21.3	9.6	10.1	353370	420270	298620	334930

* BMP5 and BMP6 are two different methods (standards) used by UNCTAD when calculating this figure based on the available data.
Source: [The World Bank, Databank (Online statistics database); UNCTAD, UNCTADSTAT (Online statistics database)]

Data presented in Table 3 allows us to see, that despite drastic increase liquid reserves to assets ratio and increase in capital to assets ratio which means raise in regulatory standards, financial services exports still grew over the same period. However, the first question we have to ask is how did the financial services exports react to the different stages of Basel accords implementation year by year. To answer this question the article offers Figure 2 below in which gradual change of financial exports over the years can be seen step by step.

Basel 3 requirements are introduced gradually so first real steps of implementing them were taken in 2014 and 2015 with the introduction of minimum capital requirements and liquidity coverage ratio (LCR) respectively. With this in mind, let us look closer at Figure 2 below [Bank for international settlements, "Basel III: international regulatory framework for banks"].

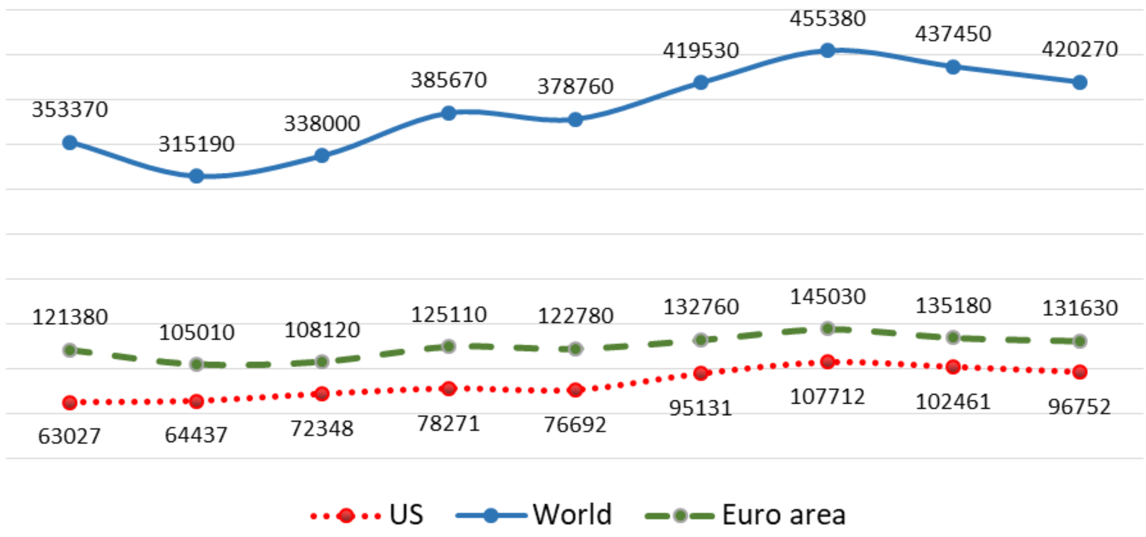

Figure 2 - Yearly exports of financial services from 2008 to 2016 by BPM5* standard, USD millions (UNCTAD database)

Source: [UNCTAD, UNCTADSTAT (Online statistics database)]

As can be seen, right after the crisis exports of financial services began to grow over time. Yet in 2014 started the decline which can be attributed to the first stages of Basel 3 implementation in 2014 and 2015. The future steps in Basel 3 implementation will show if this trend continues. However, it should be noted that there may have been other reasons for the decline which were not included in this research and further research is required to evaluate their significance.

It is important to understand that financial globalisation is constantly increasing. And with it comes financial crisis globalisation and increase in international banking interconnectedness. It is disturbing to realise that the more connected the banking systems of various countries are, the more they rely upon each other to function undisrupted and the harder would be the blow if one of them were to collapse. Thus, post-crisis regulations are aimed at preventing banks from spreading their financial activities too much and their capital too thin. And this measures are currently implemented more or less successfully. Nonetheless, in future the situation may change. Because what we now see as tightening regulations had already happened before. Just one example the regulatory measures enacted after the Great Depression, which were then gradually diluted over the years creating favourable environment for the new boom and the new crash. The history is known for repeating itself. Therefore, it is highly possible that the current preoccupation with regulatory tightening will be then replaced with new recklessness in global finance which could fuel new global crisis. Which would be much more powerful due to deeper connection between the parts of global financial system. In order to prevent this from happening we ought to discover and thoroughly study the nature of financial crisis phenomenon and its modern forms in the highly globalised economic environment.

Conclusions. In this article the connection between implementation of higher banking standards and financial sector results have been analysed.

The article`s initial question of whether exists the correlation between regulatory activities and financial sector development have been answered. The data provided in the article suggests that there is a negative correlation. Which means that it is advised for regulatory bodies worldwide to take even more cautious approach to installing additional regulatory restrictions. It required several steps to reach such conclusion.

Firstly, we conclude that according to the available data there is significant increase in indicators associated with the stability of banking sector all over the world (in the article we looked at the data for US, Japan, Chida, UK and Euro Area). Moreover, banks worldwide reduced the foreign landing in favour of domestic landing due to regulatory changes which may help in maintaining global financial stability at the same time limiting financial institutions in their freedom to some extent.

Secondly, the data presented in the article suggests that as the first steps towards Basel 3 accords were taken in 2014 and 2015 it may have led to the decline in the exports of financial services. Whether this trend will continue in future remains to be seen.

Thirdly, in recent years (2014-2016) there appears to be a negative correlation between the regulatory tightening and financial sector results. This conclusion is supported by the corresponding data in the article. We compared banks liquid reserves to assets ratio (and capital to assets ratio) with the annual volume of financial services exports. It appears that latest steps towards Basel 3 accord may have had an adverse effect on the financial sector. Further research is required to ascertain this claim.

Moreover, the article delves into the question of a trade off between measures aimed at maintaining financial stability and the freedom of financial sector essential to its profitability and further development. It raises the question of the cost of avoiding the next financial crisis. On one hand, stricter regulatory measures may help in avoiding or postponing future crises. On the other hand, the cost of such measures may be even higher than that of the actual crisis over the years. What is better for any given country: establish tight regulation and curtail all sorts of activities on financial market or allow free financial market development and suffer inevitable financial crisis? It seems that there is no simple answer to this question. Common ground being the idea of finding balance between those two extremes, which is easier said than done. To solve this issue and answer all the questions addressed in the article further extensive research is required. It is advised that the issues discussed in the article be under constant monitoring and future research to be solved efficiently and timely.

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