CAPITAL ADEQUACY RATIOS AND COMPLIANCE WITH BASEL III: EVIDENCE FROM ALBANIA

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Abstract:

The capital adequacy regulations are safety mechanism for regulators and banks' shareholders/depositors to minimize expected and unexpected risks from the solvency point of which arise as a result of liquidity risk and the credit risk in daily operations. National bank regulators are responsible to set capital adequacy requirements while international mandate is given to the Bank for International Settlement. The capital requirements of Bank for International Settlement are mandatory for their members while other regulatory authorities have competence to set independent requirements. In practice all of them are adopting prudent requirements similar to international standards. The study covers 12 banks in Albania for the period 2010-2018 examining the capital adequacy ratios and compliance of capital with international requirements. The result of our study show that banking system is well-capitalized and capital ratios are above the national and international capital requirements proving healthy banking system from the capital adequacy perspective.

Keywords: *capital adequacy ratio, Western Balkan, national & international regulators, banking, commercial banks*

JEL Classification: *E58, F68, G28*

Introduction

The study aims to examine the capital adequacy and adequacy ratios in Albania in relation with national and international capital standards. Banking entities operating in the financial market as the intermediary financial entities are focused toward maximization of their profits and the safety of depositors' interests which is the regulatory and supervisory objective.

Financial system has faced a lot of changes in countries which are under the process of transition. Banks have to operate and carry out its activities in compliance with national and international prudential regulatory requirements. Regulatory and supervisory authorities are in charge of adoption of sound banking prudential regulations, licensing process and supervision responsibilities.

After the foundations for supervision of internationally active banks capital adequacy quickly became the main objective of the Basel Committee. The BIS regulations on capital adequacy standards are known as Basel I, Basel II and Basel III (newest standard).

Albania has transformed from one of the poorest countries in Europe to an upper-middle-income country. The country is implementing important reforms to revitalize growth and job creation, while advancing the European Union integration agenda

Albania's economic transformation during the past decades has worked to build on the country's huge potential and opportunities. However, the country's growth model needs to adapt to the new global economic reality and shift from consumption-fueled to investment- and export-led growth.

The Albanian banking sector is well capitalized and liquid, and the main risks to financial stability are on a decreasing trend. Capitalization and liquidity buffers in the Albanian banking sector are

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well above regulatory minima and have further increased in the past two years. Profitability has improved in recent years, mainly on account of a decline in loan-loss provisioning associated with NPLs. The main risks to financial stability stem from having the highest NPL level in the region and from the large share of unhedged forex borrowers. However, both have been on a declining trend recently, partly owing to regulatory initiatives.

In a regional comparison, Albania has the lowest loan-to-deposit ratio and the lowest ratio of banking system assets to GDP, with credit growth mostly subdued or even negative for a number of years. Evidence suggests that it is mostly supply factors that contribute to anemic credit growth as banks restrict lending to the corporate sector. The bank lending survey by the Bank of Albania shows that lending standards for corporates (both SMEs and large enterprises) have almost constantly tightened since the beginning of 2016, while the demand for loans has increased in most quarters. Gradual deleveraging by foreign-owned banks might have contributed to lower banking sector competition. Albania's banking sector has traditionally been dominated by foreign-owned banks. The purpose of the study is to research national capital adequacy legislation and capital ratios and compare with international capital adequacy standards.

Literature Review

The capital adequacy aspect has challenged many interests within financial stakeholders. The rational for the adoption and implementation of capital adequacy by national regulators and/or international bank regulators haven't been studied in the literature in the adequate level. Papers which examine how banks adjust their balance sheets when their capital ratios are constrained by regulation are varied in their conclusions. This is not surprising since the approach banks take to adjusting capital ratios is likely to depend on the business cycle and the bank's financial situation.

Keeley & Furlong (1989) and Rochet (1992) who argued that if banks possessed diversified portfolios, the effects of capital requirements would be a reduction in risk taking. Sheldon (1996) performs a somewhat similar analysis of the equity and asset volatilities of 219 banks from several G-10 countries over the period 1987 to 1994 in which the Basle regulations came into force. His results suggest that bank asset volatility in US banks rose and that this was the case both for banks which increased their capital ratios and for those which did not.

In practice most of the banks hold a capital to asset ratio above the required minimum set by the Basel I-capital adequacy regulation. Lindquist (2004) using bank level data from Norway studied the importance of the risk, the buffer as an insurance, supervisory discipline, the competition effect and economic growth. It was found a negative or non-significant risk effect whish show that launching a more risk-sensitive capital regulation – Basel II is likely to impact Norwegian banks. Study argue also that buffer capital serves as provider of insurance against failure to meet capital requirements.

Lin, Penm, Gong and Chang (2005) studied the index of insolvency-risk to the failure risk in Taiwan banking industry. Study covers period of 1993-2000 to examine various effects prior the revision of legislation on capital adequacy and after revision (end of 1998). The study results indicated a positive relationship between the capital adequacy and the insolvency risk index. It resulted also in significant positive relationship between the capital adequacy and different financial performances.

In 1988 was introduced Basel I by the Basel Committee on Banking Supervision setting the minimum capital requirement at 8% of Risk-Weighted-Assets (RWA). Central Bank of Egypt in 1991 increased the minimum capital requirement for the banking institutions in compliance with Basel I. Naceur and Kandil (2009) researched the effects of capital regulations on cost of intermediation and profitability. The study indicated that the interest of banks' shareholders for managing banks' portfolio have increased therefore higher capital adequacy resulted with higher profitability and higher cost of intermediation.

Akhter and Daly (2009) in their study have used panel data investigating potential relation of financial intermediaries across 50 countries resulting with analysis which show strong impact of

business cycle, inflation and real effective exchange rates, and size of the industry on capital adequacy as main indicator of banks' financial soundness.

The financial global crises of 2007-2009 prove that many big banks' losses were absorbed by their government regardless these banks have been in compliance with capital adequacy based on Basel standards. One key cause was the bank supervisors' confidence on book equity measures whereas accounting data did not catch the true potential to absorb losses. Flannery and Giacomini argued that the aggregate value of government guarantees over period 1997-2011 extended to the 25 biggest European banks amounts nearly to 1.4 million EUR or an average of 28.5% of the banks' equity market values and indicated that the early regulatory warnings to equity drop value can ease significantly costs cope with with bank losses.

Roman and Sargu (2015) in their research for the assessment of the liquidity risk of the banks functioning in Romania and Bulgaria in the context of EU accession investigated the effect of financial indicators for the capital adequacy, assets quality, management quality and profitability have on the liquidity risk for period 2003-2011. Results highlight that the capital adequacy ratio and the ration of impaired loans to gross loans have a statistically significant effect on the liquidity risk.

Czech banks and Slovak banks in the period from 2009 to 2013 increased for 3% respectively for 4.55% the average capital adequacy. Matejasak (2015) objective of study was to determine which strategies these banks adopted in manner to increase their capital ratios using 9 largest Czech and 4 Slovak Banks. Effects indicated that for Czech banks increase of average capital adequacy has basis in capital increase while Slovak banks average capital adequacy was impacted by reducing considerably their risk.

In their study how should we measure bank capital adequacy for triggering Prompt Corrective Action, Chernykh and A.Cole (2015) in identifying U.S. bank failures during crisis period tested the predictive power of different alternative measures of bank capital adequacy. Findings proved that the non-performing asset coverage ratio (NPACR) performs better than the Basel based ratios including Total Capital Ratio, Tier I ratio and the leverage ratio during crisis period. The results prove that NPACR performs better than other ratios at some aspects as are: combination of capital and credit risks in one measure, easing calculation than the Tier I and Total capital ratios, it lets to account for different time periods and cross-country provisioning rules and it performs better than all other frequently used capital ratios in forecasting bank failures.

Mizanur Rahman, Zheng, Ashraf and Morshedur Rahman (2018) using a panel data over period of 2000-2014 of 32 commercial banks in Bangladesh examined relationship of capital regulation on the cost of intermediation and bank conduct in risk taking. The research showed positive relationship between capital adequacy ratio with the cost of intermediation and a negative relationship with risk-taking variables. The study indicated same results when was used equity to total assets ratio as a different indicator of bank capital.

The study of Hadjixenophontos and Christodoulou-Volos (2018) analyses the Cypriot banks determinants of capital adequacy mostly in the period of financial crisis using multiple linear regression. It examine influence of risk, liquidity, and return of banks in the volatility of capital adequacy. The study has resulted with evidence of a statistically significant negative relationship of bank size with risk and a positive relationship of the level of provisions and percentage of NIM (Net Interest Margin). The study show that out of many factors the increase in credit risk and nonperforming loans, excessive leverage, increased requirements by regulatory authorities for the implementation and fulfillment of the Basel III rules by 2019 have influence on capital adequacy ratio in Cyprus commercial banks.

Data, Methodology and Empirical Results

To analyze and examine capital ratios and legislation on capital adequacy requirements study has used available data from the central bank and international financial institutions (BIS, FSI). The Albania data are most recent data available (in force in 2019) by the financial institutions which could be provided and collected by the research. Period covered from 2010-2018 are data used to

assess capital adequacy ratios and compatibility with national and Basel III requirements. Studying compliance with national and international prudential standards and capital adequacy ratios is of highly important for the financial stability and protection of interests of depositors and bank shareholders.

Our study examined all prudential regulations which are in force during the 2019 and which regulates bank capital adequacy. Study has included Regulation "On granting the license and the exercise of banking activity of banks and branches of foreign banks in the Republic of Albania" last amended on 03.07.2019, Regulation "On the bank's regulatory capital" last amended on 09.01.2019 and Regulation "On capital adequacy ratio" last amended on 02.05.2018.

The Regulation has set limits on the regulatory capital indicators as follows:

a)6.75% of Common Equity Tier 1 capital against risk weighted exposures;

b)9% of Tier 1 capital against risk weighted exposures;

c)12% of Regulatory Capital against risk weighted exposures.

Table 1:

Albania CAR for 2010-2018 period

ALBANIA	2010	2011	2012	2013	2014	2015	2016	2017	2018
Regulatory Capital to Risk-Weighted Assets	**15.4**	**15.6**	**16.2**	**18.0**	**16.8**	**16.0**	**15.7**	**16.6**	**18.2**
Regulatory Tier 1 Capital to Risk-Weighted Assets	**14.6**	**14.4**	**14.6**	**14.9**	**13.9**	**13.7**	**13.8**	**15.1**	**17.0**
Return on Assets	0.8	0.2	0.4	0.7	1.0	1.2	0.7	1.5	1.2
Return on Equity	7.6	0.8	3.8	6.4	10.5	13.2	7.1	15.7	13.0
Liquid Assets to Total Assets (Liquid Asset Ratio)	8.5	9.9	11.1	10.1	10.5	10.9	12.8	13.0	14.8
Equity	97,602	99,841	108,216	111,330	117,653	135,092	144,515	156,578	156,329
Total Assets	1,012,070	1,152,774	1,235,866	1,300,471	1,354,708	1,365,628	1,446,049	1,462,991	1,453,177
Total Loans	501,557	579,934	598,546	593,625	614,230	613,283	637,885	631,258	586,281
Loans to Assets ratio	49.56	50.31	48.43	45.65	45.34	44.91	44.11	43.15	40.34
Leverage ratio (total equity to total assets)	9.64	8.66	8.76	8.56	8.68	9.89	9.99	10.70	10.76

Table 1 reflects regulatory capital adequacy ratios and it indicates that the regulatory Tier 1 capital to risk-weighted assets and regulatory capital to risk-weighted assets are in level above minimum requirements set by the regulatory authorities in Albania. Important data shows that the there is increasing trend of regulatory capital ratio for both indicators for examined period 2010-2018. Results indicates sound banking system form capital adequacy prospective.

Capital indicators shown in Table 1 compare to capital adequacy requirements set by Basel III reflected in Table 2 indicates that the capital adequacy ratios of banking institutions in Albania are in compliance with Basel III requirements and even significantly above minimum requirements.

The study except CAR indicators examined the capital requirements for credit risk, market risk, operational risk, leverage and capital buffers shown in Table 2.

Table 2:

Comparison between Albania and Basel III standards

	CAR	Common Tier 1 equity capital/risk weighted	Tier 1 capital/risk weighted exposure	Regulatory capital/risk-weighted exposure	Credit risk	Operational risk	Market risk	Leverage ratio	Capital buffers
Albania		6.75%	9.00%	12.00%	Standardised approach	BIA approach (BIS II) and Stadardised Approach	Banks shall calculate the capital requirement for market risks as the sum of: a) capital requirements for trading book positions, b) capital requirements for all of credit institution's	NA	NA
Basel III		4.50%	6%	8%	Standardised approach and IRB Approach	BIA approach (BIS II), Standardised approach and Advanced Approach	Market risk-weighted assets (RWA) would account for 5% of total RWAs average	3%	Capital buffers: for capital preservation, systematically important banks, counter-cyclical buffer, systemic risk, for a GSIB

For calculation of capital requirements for credit risk the bank when calculating the amount of risk weighted exposures shall apply the standardized approach. For the requirements of calculation of capital requirements for credit risk, exposures towards investment companies from third countries and exposures towards banks shall be treated as exposures towards institutions only if the third country is, applying regulatory and supervisory requirements that are approximately equal to the ones being applied in the European Union. For these requirements the Agency shall apply the decision of the European Commission on whether a third country is applying regulatory and supervisory requirements that are, at the minimum, approximately equal to the ones being applied in the European Union.

In process of capital requirement for market risk the trading book of a bank shall cover all items in financial instruments and commodities that are held with intent to trade or for the purpose of protection from risk of other items in the trading book. Positions in the trading book must not have limitations to their marketability or they are possible to be hedged from risk. The trading book shall cover all items that are, in compliance with applicable accounting standards, classified in the category of financial assets or liabilities under fair value through the income statement of the bank (items intended for trading).

Operational capital risk shall be calculated using Basic Indicator Approach and Standardised Approach. Banks shall calculate the capital requirement for operational risk under the Basic Indicator Approach, which takes into account the net income from banking activities for the last three years of the bank's activity, and an α coefficient equal to 15%.

Banks shall use the following formula to calculate capital requirements for operational risk:

Capital requirement for operational risk = {(Net Income indicator of T-1) * (15%) + (Net Income indicator of T-2) * (15%) + (Net Income indicator of T-3) * (15%)} / 3

With the condition that:

- oThe Net Income indicator of year T -1 > 0; and
- oThe Net Income indicator of year T -2 > 0; and
- oThe Net Income indicator of year T -3 > 0; and T is considered the reporting year.

Banks shall calculate the capital requirement for operational risk under the Standardized Approach, which takes into account the indicator of the net income from banking activity for the last three years according to business lines and the respective coefficient β. In each given year, a negative capital requirement in one business line, resulting from a negative relevant indicator may

be imputed to the whole. However, where the aggregate capital charge across all business lines within a given year is negative, then the input to the average for that year shall be zero.

Banks in Albania are not required to comply with any financial leverage ratio because there is no any legal requirements adopted in 2019 by the regulatory authority.

Capital buffers required by Basel III are planned to be adopted in the future activities of regulatory authority. As of year 2019 (see webpage of Bank of Albania) no any legal requirement are in force.

Conclusion

National bank regulators or central banks in their course of prudential activities are requiring the minimum capital adequacy ratios. The study indicated that banking institutions in Albania hold higher capital adequacy ratios than the level required by the national legal requirements. The same indication is valid for capital adequacy ratio of banks which is higher than levels required by the Basel III. Analysis positive indicator is the continuous increasing trend of regulatory capital ratio for both indicators of CAR for examined period since 2010 to 2018. Results indicates sound banking system form capital adequacy prospective.

Prudential capital requirements set by the regulatory authorities of Albania shown in Table 2 compare to legal capital adequacy requirements set by Basel III indicates that the legal capital adequacy requirements of banking industry in Albania are mainly in compliance with Basel III requirements.

Results indicate that the Bank of Albania's strategy is to adopt capital adequacy requirements for banking sector which are in compliance with Basel III requirements. As a consequence of not being a member of Basel Committee and irrespectively that Basel requirements are not compulsory for banks in Albania except for banks which are affiliates of internationally active banks, the Bank of Albania has adopted more rigorous capital adequacy ratios compare to Basel III requirements. Regulatory authority in Albania is pretending to accomplish and adopt in the future other capital requirements including financial leverage and capital buffers.

Capital calculation for credit risk and operational risk banking entities are using only standardized approach. Capital buffers are not in force in the examined period as of the end of 2019.

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