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Modeling the relationship between bank efficiency, capital and risk in Albanian banking system

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Abstract

Bank efficiency is considered to be very important in the relationship between risk and capital. It affects both capital and risk and it is seen as one of the factors that determine them. On the other side, capital regulation and risk-taking behaviour influenced by it have an impact on efficiency. This paper gives an overview of theoretical and empirical studies that are going to be used on modelling the relationship between efficiency, capital and risk-taking behaviour of commercial banks operating in Albania during the period 2002-2014. Based on previous works worldwide, a three stage model is found to be a proper one for such analysis about Albanian banking system. According to this model: *first*, the regression of efficiency and variables indicating risk and capital has to be analysed, *second* capital will be regressed against variables indicating efficiency and risk and *in the third stage* risk-taking will be regressed against variables indicating efficiency and capital. Based on previous studies related to this issue there are findings of a positive trade off between inefficiency and bank risk-taking (such as US evidences) and also negative one (such as European banks that seem to hold more capital and take on less risk in case of inefficiency). Defined independent factors of efficiency, capital and risk-taking are going to be used on an empirical study, subject of prospective research. To my knowledge there is no previous study on this issue for Albanian banking system. This model enables testing of different hypotheses about risk, capital, efficiency and relationship between them. It is going to respond to the effects that reduction in cost efficiencies might have on future risks of Albanian commercial banks. Furthermore, this model gives the possibility to test the bad management hypothesis and efficiency version of moral hazard hypotheses for targeted banks and banking system. It also responds to the questions whether bank cost efficiency makes the foundation of banks' capital position and risk-taking and also whether there is an evidence of relationships between capital and risk-taking in line with moral hazard hypothesis.

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1. Introduction

Current Albanian banking system has his roots in 1992 after the collapse of a centralized economy. In 1992 Albanian banking system started its operation in two levels. In 2015 there are 16 banks operating in Albania which provide services like: deposits, accounts, transfers, loans, e-banking, etc. in a competitive environment. Banking sector is the main pillar of financial intermediation in Albania and a very important service industry. During 2014 assets of banking sector constitute 91.7% of Gross Domestic Production and 5 banks (out of 16) that dominate this sector account for 68.4% of system credit portfolio and 73.4% of deposits. Being such a dominant part of the financial system makes its efficiency very crucial. In terms of providing country's financial services, banking system has a monopoly position. The second component of the financial system is still in developing phase. Banking assets constitute for more than 95 percent of financial system's assets. They work according to the traditional business model and based on this they ensure simple financial structure and offer plain products and services. Their activity is exercised in a stringent and conservative regulatory environment strictly supervised by Bank of Albania. Furthermore, efficient bank operation contributes to financial stability and ensures higher-quality services at low costs for enterprises and households. In this context, analyzing the efficiency and its determinant factors is important for both supervisory authorities and bank management. The first ones use it for the designation of regulatory framework while the second for drawing their business plans. In the frame of European banking industry, the process of financial integration is associated by the debate on the benefits of strengthened competition on credit markets and greater efficiency. Increase of competition in the banking sector forces banks to operate closer to the efficiency production function or in other words, closer to the "best practice". Besides this, competition is linked with risk-taking. Increased competition reduces the market power, decreases their charter value and so may lead banks to greater risk-taking. Regulators have tried to address this possible incentive of taking higher risks by capital requirements and appropriate supervision. Capital adequacy has taken a prominent role in the prudential regulatory process.

Regarding these developments, there are a number of studies on the impact that capital, business models and operating efficiency have on bank risk. The recent credit crisis rises up the necessity of analyzing bank risk in the frame of enhanced bank efficiency and lower bank capital. Based on this, it is very important to assess firstly the impact of efficiency on bank risk. It can happen that because of low levels of efficiency, banks have the incentive to improve their performance by neglecting intensive monitoring of credit. From another perspective, changes on bank risks may influence backwards the efficiency levels. An increase on bank risk may lead to a decline on efficiency (cost efficiency) which results in reduction of credit screening.

Secondly, it is very important to assess the impact that bank capital has on the relation between risk and efficiency. The level of capital might affect this relation. For instance, because of moral hazard problems banks might increase the incentives of lowering capitalization and undertake more risks that mean higher non-performing loans in the future. In the case of well-capitalized banks moral hazard problems may be lower and they can be both more efficient and prudent than low capitalized ones. In the frame of capital costs, which are higher in the case of highly capitalized banks, maximization of revenues through increase of risk-taking level has to be taken in consideration.

The Albanian financial system is based mainly on the banking sector. Non-bank financial sector is left in shadow and intermediation through it continues to be weak and unstructured. Based on this and also on the fact that banks in Albania stand in a monopoly sector position, the competition within financial system in Albania is more an intra sectorial rather than inter sectorial one. Albanian banking system has undergone 20 years of restructuring and during this period of time none of the banks has gone out of market. The study of bank sector efficiency makes it possible to find out what are the reasons for this. It is because of the system's high efficiency or because it has been paid more attention to protection than efficiency. Studying the relationship between risk-taking, capital levels and efficiency in the case of Albanian banking system is very important. While there are studies on the relationship between capital and risk for the Albanian banking system, to my knowledge, there is no study on the impact that