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CHALLENGES AND EFFICIENCY MEASUREMENT ISSUES OF LEBANESE COMMERCIAL BANKS

The main goal of this paper is to identify the challenges and risks of the Lebanese banks, the need to perform an efficiency measurement study of the Lebanese banks, and the importance of using the Data Envelopment Analysis (DEA) to measure the efficiency of banks. To perform the goals of this paper, a review of the literature was conducted to examine the importance of using DEA to measure the efficiency of Lebanese banks. In addition, a secondary data were collected from the websites of the Lebanese ministry of finance, the Lebanese Central Bank, the international rating agencies, the International Monetary Fund, and from other economic journals. This paper proves that Lebanese banks are facing more challenges in recent years, the high exposure of the Lebanese banks to the public debt affected dramatically their credit rating, and there is a need to measure the efficiency of the Lebanese banks associated to their exposure to government bonds, and that DEA is a useful technique to perform the efficiency measurement of Lebanese banks.

Keywords: efficiency measurement; lebanese sovereign debt; credit risk; lebanese banks; data envelopment analysis; rating agencies; credit rating; national debt to gross domestic product; lebanese central bank; bank efficiency.

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ПРОБЛЕМЫ И ВОПРОСЫ ИЗМЕРЕНИЯ ЭФФЕКТИВНОСТИ ЛИВАНСКИХ КОММЕРЧЕСКИХ БАНКОВ

Основная цель данной статьи состоит в определении проблем и рисков, с которыми сталкиваются ливанские банки, в обосновании необходимости провести исследование измерения эффективности ливанских банков и целесообразности использования методики анализа оболочки данных (DEA) для оценки эффективности банковского сектора. Для исследования возможностей использования методики DEA при оценивании эффективности ливанских банков сделан обзор литературы. Кроме того, вторичные данные были собраны с сайтов ливанского министерства финансов, ливанского центрального банка, международных рейтинговых агенств, Международного валютного фонда, а также использовались научные статьи в экономических журналах. В статье показано, что в последние годы проблемы ливанских банков стали более серьезными: высокая зависимость функционирования банков от уровня государственного долга Ливана негативным образом сказалась на их кредитном рейтинге. В этой связи существует необходимость измерения зависимости эффективности функционирования ливанских банков от правительственных облигаций, а также, что методика анализа оболочки данных подходит для оценки указанной эффективности.

Ключевые слова: измерение эффективности; ливанский суверенный долг; кредитный риск; ливанские банки; анализ оболочки данных; рейтинговые агентства; кредитный рейтинг; отношение национального долга к внутреннему валовому продукту; ливанский центральный банк; банковская эффективность.

Introduction. The Lebanese banking sector is financially strong and stable. Banks play key roles in the Lebanese economy, they are providing the needed funds to individuals and businesses. The Lebanese banking system has several characteristics, in terms of ensuring protection for foreign capital and earnings, that differentiate Lebanese banks from other banks in the region and that promote Beirut historically as a financial center in its region. In spite of political instability and war, the financial system in Lebanon has proven resilient and was able to isolate itself from worldwide financial crises. Often in the absence of effective government policies, the central bank has maintained stability using stimulus packages

and initiating creative financial operations, the large deposits into the banks was the key that made the central bank policies to succeed. This situation has changed since 2016 when the central bank created some «financial engineering» tools to reduce the effect of the slow-down in non-resident inflows and to draw more dollars to its reserves. However, some of the central bank tools are becoming ineffective and unable to achieve the desired results which rise sharply Lebanon's risk profile. Confidence is critical to encourage the domestic and foreign investments into the financial system which would be boosted if the government moves quickly into reforms in the public sector.

Characteristics of lebanese banks. The main characteristics associated with the Lebanese banks are summarized as follows. A large number of banks of different sizes, nature, and ownership structure; over the last 50 years the number of Lebanese banks varied between 60 to 92 banks, they include commercial private banks of different sizes (small, medium, and large); they also include medium and long-term credit and investment banks; there are also few Islamic Banks; and finally there are Lebanese, foreign and mixed banks. Lebanese banks have significant openness to abroad, and highly qualified human resources; Lebanese banks expanded in Arab countries (Syria, Iraq, Egypt), Gulf region (United Arab Emirates, Saudi Arabia, Oman, Bahrain), Europe, Africa, Australia, and the United States, through branches, affiliated companies, subsidiaries, sister banks, and representative offices. Also, many Arab and Foreign banks have their presence in Lebanon through branches and representative offices. The financial sector is committed to international norms and standards; rules and regulations of Lebanese banks comply with world standards and guidelines set by the Bank for International Settlement (BIS), the International Monetary Fund (IMF), FATF/GAFI, and other international bodies. Lebanese banks have a strong ability to overcome shocks and crises, and regional safe haven for stable and profitable placements. Banks are largely integrated with the Lebanese economy; with highly qualified and experienced human resources, Lebanese banks comply the most recent developments in the world banking industry, they maintain favorable performance, sustainable growth, and provision of traditional and modern services of which they provide the financing needs of the domestic public and private sectors. Finally, Lebanese banks are the main channel for capital inflows into Lebanon, involved in financing a large part of the current account deficit, strong growth, high liquidity, well-capitalized and provisioned banking sector, and good return and risk measures.

Methodology. The goal of this paper is to discuss the main challenges and risks of the Lebanese banks, there will be also a discussion about the importance of using DEA to perform an efficiency measurement for banks and particularly for Lebanese banks. The methodology used to achieve the goal of this paper is based on secondary data collected from previous studies, journals, and annual reports. First, a review of the literature was conducted to examine the importance of using DEA to measure the efficiency of Lebanese banks. In addition, a secondary data were collected from the websites of the Lebanese ministry of finance, the Lebanese Central Bank, the international rating agencies, the International Monetary Fund, and from other economic journals, these data were used to discuss the main challenges and risks associated with the Lebanese banks and the need to measure the efficiency of the Lebanese banks associated to their exposure to the Lebanese public debt.

To analyze the growing risks of Lebanese banks and the need to measure the efficiency of these banks regarding their exposure to the public debt, the following objectives have been identified for the purpose of this research paper.

1. A review of the growing challenges of Lebanese banks.

2. A review of previous studies about the efficiency measurement of banks using DEA.

3. Discuss the importance of using DEA to measure the efficiency of Lebanese banks.

Review of literature. During the last decade, there have been a large number of international studies about banks' efficiency in European countries and the United States. Sherman

and Gold's study (1985) was among the first studies that used DEA (Introduced initially by Charnes, Cooper and Rhodes in 1978 [1]) to analyze banks' efficiency in 14 US banks [2]. Recently many studies have been performed about the efficiency of banks situated in the Middle East region. Oral and Yolalan (1990) performed a study to assess the efficiency of 20 branches of Turkish commercial banks [3]. Al-Faraj et al. (1993) used DEA to study the relative efficiency of 15 branches of the biggest bank in Saudi Arabia, using data for only one year with eight inputs and seven outputs [4]. In contrast, there are few empirical studies that dealt with the relative efficiency of the Lebanese banks and in particular using DEA, and no studies were performed regarding the risk of the Lebanese banks associated with their exposure to the national debt. In fact, there are few recent studies about the efficiency of Lebanese banks. First, Saad and Moussawi (2009) used the DEA and Stochastic Frontier Analysis to assess the efficiency of 43 Lebanese Commercial banks over the period 1992−2005 [5]. The result of this study showed that efficiency for commercial banks has increased between the years 1992 and 2005 using both the DEA method and the stochastic frontier method. The second study by Saad and Moussawi (2008) used the Lebanese banks' data over the period 1996−2005 to compare the efficiency of domestic banks versus foreign banks operating in Lebanon [6]. Their results showed that banks with majority foreign ownership increased efficiency when compared to domestic banks that recorded lower efficiency scores. Mouataz Zreika, et al. (2011), identified if Lebanese banks were working at full efficiency and the change in the level efficiency of the Lebanese banks operating after the 2007 financial crisis [7]. Mouataz Zreika and Nasser Elkanj examined the technical efficiency of 40 banks operating in Lebanon over the two sub-periods 2002−2006 and 2006−2009 using Data Envelopment Analysis (DEA). Ibrahim H Osman, et al. (2008), implemented a Data Envelopment Analysis (DEA) method, over the period 1997−2004, to measure the relative performance of Lebanese banks, this study has reached a conclusion that smaller banks tend to transform their inputs into outputs more effectively than larger banks [8].

Risks facing lebanese banks. The main challenges facing Lebanese banks are political factors at both domestic and regional levels. These challenges also result from worrying about economic factors in terms of growth, the damage of many economic sectors (tourism, real estate, etc), and the deterioration of public finances. This paper investigates the effect of Lebanese public debt on the efficiency of the Lebanese banks, and these bank risks are the main factors that affect banking efficiency in this sense. In other words, this paper examines the bank risks associated with their exposure to the public debt and to what extent maintaining a lower level of these risks can protect Lebanese banks in times of financial distress and the government's ability to repay its loans.

The banking sector is considered to be resilient and the backbone of the Lebanese economy, but its performance was affected in 2018 by the political instability, economic deterioration in major sectors and turbulence in key foreign markets. As such, Banks need to attract deposits and find new lending opportunities, in the future, which can be triggered by both the monetary and fiscal policies and new investment projects.

Despite the fact that the Lebanese bank fundamentals remain good, there are many risks facing the banking sector and most of these risks are macroeconomic risks. The first risk is the slowdown in the Lebanese economic activities, economic growth has significantly dropped from around 10 % in 2008 to less than 2 % in 2018, this drop covers the main sectors including the tourism sector, the commercial sector, the real estate sector, the foreign direct investment, while exports contracted significantly, and simultaneously the balance of payments turned from a surplus to a deficit.

The second risk facing the Lebanese banks is associated with the deterioration of public finances and the growing public debt, the biggest challenge for the banks that have negative impact on their credit rating is their high exposure to sovereign debt (banks hold about 59 % of the government bonds, or approximately $39,2 billion), as well as on interest rates

and the confidence of investors and depositors. The international rating agencies (Moody's, Standard and Poor's S&P, and Fitch) warned that the major credit risk for Lebanese banks is the high exposure of these banks to the growing public debt in Lebanon. Moody's maintained its negative outlook in its new report about the rating of Lebanese banks, reflecting the expectations of sustained weak economic growth that will slow credit expansion and raise asset quality pressure for banks, driven by the conflict in the region countries and a domestic political deadlock that discourages private investment and impairs the government's ability to enact structural reforms and approve capital spending; high and growing credit exposure to the weakened Lebanese sovereign will leave the banks' modest capital buffers vulnerable to sovereign event risk.

Lebanese banks are divided into four groups by size, the Alpha Group are the banks with customer deposits above $2 billion, Beta Groups are the banks with customer deposits between $500 million and $2 billion, the Gamma Group are the banks with customer deposits between $200 million and $500 million, and the Delta Group are the banks with customer deposits below $200 million. The Alpha Group's shares remain highly dominant at 90 % of the sector's consolidated assets, followed by the Beta Group with 7,5 %, the delta group with 1,5 %, and the Gamma group with 1 %.

The analysis of sovereign exposure by Lebanese banks' groups in 2018 suggests that sovereign exposure seems to be almost inversely related to the size of banks. The group with the highest exposure to the government's Lebanese pounds bonds is the Delta Group with a ratio of Lebanese Treasury bills in LL to deposits in LL of 59 %, followed by the Beta Group with 43,2 %, the Alpha Group with 30 %, and the Gamma group with 26,6 %. In parallel, the group with the highest exposure in foreign currency in 2018 is the Gamma Group with a ratio of Lebanese sovereign Eurobonds to deposits in foreign currency of 32 %, followed by the Delta Group at 22,4 %, the Beta Group with 13,7 % and the Alpha Group with 10 %. Nonetheless, large banks tend to have the largest Central Bank exposure in relative terms.

The following figure breakdowns the holders of the Lebanese public debt in domestic currency between the years 2008–2018.
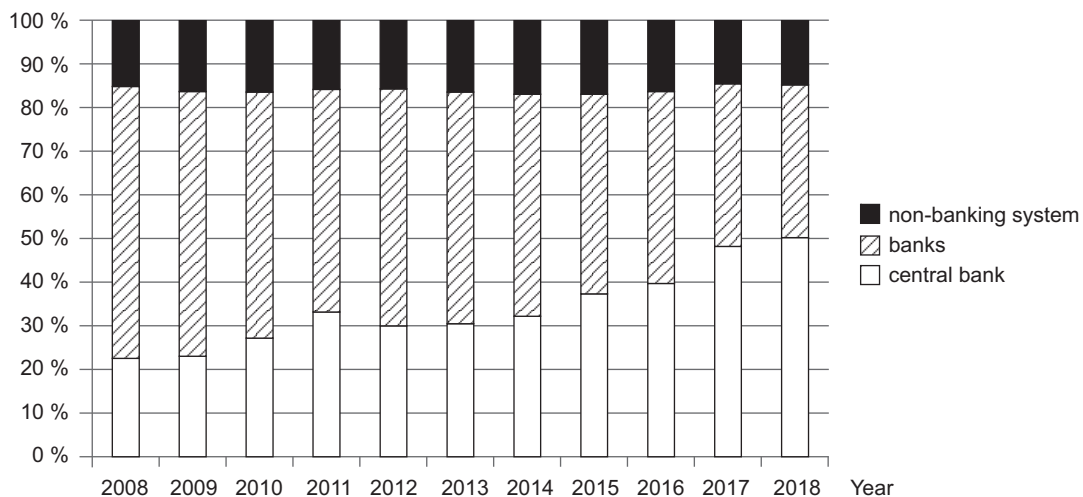
Data the holders of the Lebanese public debt in domestic currency between the years 2008–2018

Another challenge aroused that might have a heavy impact on the Lebanese banks arises from the American sanctions on Hezbollah (Lebanese party classified as terrorist by US government). The main objective of the sanctions aimed to cut off Hezbollah's funding, the sanctions now include individuals as well as institutions related to Hezbollah. These new factors throw a new burden on the Lebanese banking sector because eleven Lebanese banks were accused by lawsuits filed by hundreds of US citizens in New York for aiding Hezbollah and knowingly providing financial services to this group that is classified terrorist by the US government. The plaintiffs claimed the banks facilitated Hezbollah's access to the US financial system, helping Hezbollah to wrap on US sanctions, launder money and finance terrorist acts.

In 2011, «The Lebanese Canadian Bank SAL» together with its subsidiaries (LCB) was identified by the U.S. Department of the Treasury as a financial institution that facilitates money laundering, they accuse the bank for its role in facilitating the money laundering activities of an international narcotics trafficking and money laundering network, and criminal activity through which the militant group Hezbollah was funded.

According to U.S. authorities, Lebanese Canadian Bank was involved in shipping cocaine from Colombia and Panama and retailed in Europe and the Middle East. They alleged that the proceeds were deposited with LCB in Beirut, wired to U.S. accounts and used to buy second-hand cars that were resold in western Africa.

On 3 March 2011, it was announced that the bank was to merge with Societe Generale, Frensh bank operationg in Lebanon. The sale was perfromed by a transfer of most its assets to Societe Generale's Lebanese unit.

The United States on 29 August 2019 sanctioned also the Lebanon-based Jammal Trust Bank SAL and its subsidiaries for allegedly facilitating the financial activities of Hezbollah, according to the Treasury Department, which said the bank funnels money to the families of suicide bomber, on September 19, Lebanese central bank agreed to a request from Jammal Trust Bank to liquidate itself.

Measuring Banks' Efficiency Using DEA. During the worldwide crisis in 2008, the banks were forced to restructure their risk management activities and strategies to be able to survive. Banks start to search for more accurate credit scoring models to assess precisely the creditworthiness of their counterparties, these models should accurately detect the ability of these banks to meet the capital adequacy requirements while facing severe economic conditions. The main task of today's risk managers is to look after new methodologies that may lead to better estimation of credit risk and other risks, banks can reduce their loss and overcome crises only if they can create a model that detect quickly the undesirable situations. Production and intermediation are the two main approaches used to measure the banks' efficiency. Production approach emphasized at the service part that banks play in the form of transactions, in this sense banks are seen as producers of loans and deposits using the main production factors (capital, land, and labor). The intermediation approach used to evaluate the efficiency of banks from the perspective of collecting funds then transform them into loans and other investment assets, that is banks are seen as an intermediary between savers and investors (borrowers).

Traditionally, banks have evaluated their performance using many profitability measurement techniques. Ratio analysis was the most used technique that focused on different aspects of bank operations. However, ratio analysis doesn't relatively provide significant information when the effects of the economies of scale are considered, and when the overall performance measurement of firms is considered.

Based on a detailed review of previous studies, there are numerous studies that used Data Envelopment Analysis in their methodology, DEA is widely used for evaluating efficiency and productivity throughout the world by different academics and researchers of different organizations operating in sectors like banks, universities and hospitals, and in dif-

ferent countries. The frontier analysis is considered an effective alternative to traditional bank management tools, it allows management to perform an objective analysis in complex operational environments. Compared to other techniques, Data Envelopment Analysis (DEA) is a good way to organize and analyze data since it allows efficiency to change over time and it doesn't require assumption in advance on the specification of the best practice frontier. In addition, DEA allows managers to include random errors into the model if needed.

Banks as financial intermediaries facilitate the transfer of financial resources effectively and efficiently for a return. As banks perform this service, depositors and investors are both interested to receive information about bank performance, following this, there is a need to measure the efficiency of banks and DEA is the most popular model used to perform such studies. Many modifications to the basis CCR-DEA have been done through a linear programming equation to suit each research.

Conclusion. The highest risk facing the Lebanese banks is the government itself. The biggest customer for loans and for the banking sector in Lebanon is the public sector, and it is very important for the banks that the government keeps control of its finances and that they manage their debt and their deficit. In spite of political instability and war, the financial system in Lebanon has proven resilient and was able to isolate itself from worldwide financial crises. However, Lebanon struggles to attract enough foreign currency to stabilize its foreign reserves, S&P Global Ratings may cut the ranking of Lebanon's sovereign into junk in 2019, if this cut happens the government bonds will fall under vulnerable to nonpayment category.

To keep the stability of the financial system and to defend the Lebanese pound peg against the dollar, the central bank relies on bank deposits and uses «financial engineering» tools to keep up an inflow of hard currency mainly from Lebanese people living abroad. While the central bank strategies in late June 2019 have helped to increase the reserve of foreign assets, deposit growth turned negative in May 2019 for the first time in more than a decade.

Despite the successful long history of the banking sector in Lebanon, there are limited measurement performance studies about the relative efficiency of Lebanese banks, and specifically, there are no studies that focus on the banking sector risk associated with its high-exposure to the Lebanese public debt. In addition, according to a literature review performed in this paper, there are few studies performed about the Lebanese banking sector using the Data Envelopment Analysis DEA, which is considered a very efficient tool in measuring relative efficiency, particularly in the financial institution's sector. These studies used banks' data between the years 1992–2009, this data doesn't reflect the current risks associated with Lebanese banks neither regarding the bank risks nor regarding the country risk.

The current situation of the Lebanese economy, the increasing risk facing the Lebanese banks, and the lack of previous studies require to perform an efficiency measurement of the Lebanese banking sector, and the widely used technique «DEA» is an effective tool to perform this analysis.

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HARMONIZED TAX POLICY OF THE INTEGRATING STATES

The article examines the issues of coordinated tax policy in the conditions of different integration associations. It is determined that a coherent policy is an essential condition for economic integration. The main approaches to tax harmonization are analyzed.

The article identifies the problems of coordination procedures at different stages of economic integration. Conclusions are drawn about the need to equalize the tax burden on the territory of the common market and the use of a common tax mechanism.

Keywords: *tax legislation; harmonized tax policy; tax harmonization; tax unification.*

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СОГЛАСОВАННАЯ НАЛОГОВАЯ ПОЛИТИКА ИНТЕГРИРУЮЩИХСЯ ГОСУДАРСТВ

В статье исследуются вопросы согласованной налоговой политики в условиях разных интеграционных объединений. Определено, что согласованная политика является неотъемлемым условием экономической интеграции. Проанализированы основные походы к налоговой гармонизации.

В статье обозначены проблемы проведения процедур согласования на разных этапах экономической интеграции. Сделаны выводы о необходимости выравнивания налоговой нагрузки на территории общего рынка и применения общего налогового механизма.

Ключевые слова: *налоговое законодательство; согласованная налоговая политика; налоговая гармонизация; налоговая унификация.*

Введение. Современные государства активно влияют на экономические процессы через налоговые инструменты путем проведения научно обоснованной налоговой политики.