

## IS ROMANIA OVERBANKED?

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### **Abstract**

*During some debates within the Romanian financial environment, it is often stated that in Romania are too many banks when compared with the level of economy development and the gross domestic product. Taking this into consideration, we intend in the present article to answer the question: Is Romania overbanked?*

*In order to answer this question we performed a comparative analysis of the Romanian banking system. We analyzed development of the Romanian banking sector and put it against the banking sectors from EU, USA and Japan. The analysis was done taking into consideration several relevant indicators: bank assets/GDP, loans/GDP, the level of bank concentration, the financial structure of the economy. We also benchmarked the liabilities share in GDP and the leverage.*

*With the objective of determining if the Romanian banking system is oversized in relation with the real needs of the Romanian economy we analyzed the share of loans in total bank assets and in GDP. We compared the results with the values recorded in the EU banks and we drew the conclusions accordingly.*

*Our comparative analysis led us to the conclusion that the Romanian banking system is still underdeveloped and is below the needs of the Romanian economy. Romania needs the development of its banking sector but it is also required the specialization of some of its universal banks. There are too few specialized banks and too many universal banks.*

**Keywords:** banking system, banking asset, loan

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## **Introduction**

There are some debates on the Romanian financial environment regarding the oversized banking sector compared with the real economy needs and its size. It is often stated by various analysts that there are too many banks and that it is necessary to reduce their number because, given the size of the economy, there is no place for everyone on the market.

Starting from these assertions, the present study aims to analyze whether these opinions are based on the realities of the Romanian banking market or are determined by partisan interests of major banks.

Our study aims to respond to several questions, namely:

What is the optimal ratio between the size of the banking sector and the size and needs of the economy?

Which are the indicators that can measure the dimension and the depth of the banking sector in Romania?

What is the size and the depth of the Romanian banking sector compared to the same coordinates of the European Union's banking sector?

We believe that answering these questions may help us to conclude if the Romanian banking sector is oversized or not in relation to the needs of the Romanian economy.

### **1. What is the optimal ratio between the size of the banking sector and the size and needs of the economy?**

Prior to the financial crisis of 2007-2008, countless theoretical and empirical studies have highlighted the strong link between the size and the depth of the financial-banking sector and the economic growth and development, Rajan, R., and L. Zingales (1998), Hartmann, P et al. (2007), Levine R.(2015). This seemed to be true, both regarding the emerging markets and the developed economies. The conventional opinion used to be that the large and deep, complex and sophisticated banking financial sectors contribute decisively to the dynamism and economic development.

The idea that a functional and well-structured financial system plays an essential role in the development of the economy dates from Bagehot (1873) and Schumpeter (1911). The empirical studies on the relationship between finance and growth are more recent. Goldsmith (1969) was the first one to present a positive correlation between the size of the financial system and the

long-term economic growth. In the early 1990s, the economists began to identify a correlation link between the size and the depth of the banking financial sector and the economic development. King and Levine (1993) were the first to show that the financial depth leads to economic growth.

More evidence in this direction were brought by Levine, Loayza and Beck (2000), who have used various types of econometric tools and techniques in order to identify the presence of a direct correlation between finance and economic growth. Rajan and Zingales (1998) provided additional proofs for a causality link starting from financial to economic development, showing that industrial sectors which from technological reasons are more dependent on finance, are growing faster in the countries with a larger financial sector.

Jean-Louis Arcand, Enrico Berkes and Ugo Panizza show, there is by now a large literature showing that finance plays a positive role in promoting economic development (Levine, 2005), there are also a few papers that question the robustness of the finance-growth nexus. Demetriades and Hussein (1996) apply time series techniques to a sample of 16 countries and find no evidence of a causal relationship going from finance to growth. Arestis and Demetriades (1997) and Arestis et al. (2001) discuss how institutional factors may affect the relationship between finance and growth and warn against the one-size-fits-all nature of cross-sectional exercises.

Demetriades and Law (2006) show that financial depth does not affect growth in countries with poor institutions and Rousseau and Wachtel (2002) find that finance has no effect on growth in countries with double-digit inflation. De Gregorio and Guidotti (1995) show that in high-income countries financial depth is positively correlated with output growth over the 1960-1985 period but that the correlation between financial depth and growth becomes negative for the 1970-85 period.

They suggest that high-income countries may have reached the point at which financial depth no longer contributes to increasing the efficiency of investment. Rousseau and Wachtel (2011) also find a vanishing effect of financial depth and show that credit to the private sector has no statistically significant impact on GDP growth over the 1965-2004 period.

Despite all these views contrary to the mainstream, the conventional idea was that the size and the depth of the banking financial sector is decisive in influencing the economic growth and the GDP.

The 2007-2008 crisis generated processes that invalidated many of the previous empirical research and led to more refined analysis in order to demonstrate that beyond a certain threshold, on the long term, the influence of the banking system on the economic growth may fade or even become negative. Questions began to be asked referring to the optimal size of financial sector in accordance to the needs and the size of the economy. Which is the optimal or the appropriate size of the financial sector? On what does its size depends? How does it respond to changes in the economic conditions? How deviations from optimal size affect the economy?

The recent crisis led to the concern that some countries may have “too big” financial system in relation with the national economy size. The idea that there might be a certain threshold beyond which the financial development generates negative social returns is strongly supported.

Easterly, Islam, and Stiglitz (2000) empirically show that there is a convex and non-monotone relationship between financial depth and the volatility of output growth.

Their point estimates suggest that output volatility starts increasing when credit to the private sector reaches 100% of GDP.

A special attention is paid to the influence that features like: the size of financial system, the concentration of financial market, the diversity of systems, the size of the institutions, the type and mandate of financial institutions have on the results such as: the access to finance for companies, the cost of financing, the financial stability and the provision of sustainable funding.

Recent works have found non-linearities in the relationship between the financial depth and economic growth. Arcand et Al. (2015) considers that the relationship between financing and growth becomes negative for high-income countries, with the 110% to GDP of private credit amount being the approximate turning point. The negative relation between funding and economic growth becomes relevant at roughly 150% of GDP. Some high-

income countries have reached such levels in the 2000s. Likewise, Cecchetti and Kharroubi (2012) find that “the level of financial development is good only up to a point after which it becomes an obstacle to growth”.

In addition they state that “a fast growing financial sector is detrimental to increased aggregate productivity” in high-developed countries. In another paper (2015), they show that “by disproportionately benefiting from projects with a high level of guaranty/ low productivity, an exogenous increase in funding reduces the increase in factor productivity”.

In addition, they provide empirical proof that “financial growth disproportionately damages businesses dependent on financial and research-development system”. The nonlinear view is also supported by recent IMF research: Sahay et. Al (2015) notes that “the effect of financial development on economic growth is in the form of a bell: it weakens to higher levels of financial development”. They attribute this weakening effect to a fall in the investment efficiency at higher levels of financial development. An additional explanation of the negative effects of an oversized financial system is rent search. As Zingales (2015) points out, “without appropriate regulations, funding can easily degenerate into a search for rent.”

In their paper “Too Much Finance?” Jean-Louis Arcand, Enrico Berkes and Ugo Panizza, show that the marginal effect of financial depth over the production growth becomes negative when the private sector lending reaches a level of 80-100% of GDP. They show, that in tranquil periods financial depth has a positive and statistically significant effect on GDP growth when credit to the private sector is below 60% of GDP, becomes negative at 80% of GDP and is negative and statistically significant at 180% of GDP.

However, the threshold at which the marginal effects of financial depth on economic growth become negative seems to differ for the time period used. For example, for the time period 1960-1995 the threshold is 144%, while for the period 1960-2005 and 1960-2010 the threshold is 100% and 90% respectively (Arcand *et al*, 2012). It is difficult to explain why the threshold at which the marginal effect becomes negative has come down over the last 15 years.

The crisis made us realize that the size of banking sector may exacerbate the compromise between economic efficiency and financial stability. Also funding per se is necessary in order to generate economic growth, an oversized financial industry may work against the real economic activity. In fact, literature on bank crises provided evidence of a casual link between rapid credit growth and systemic banking suffering long before the global financial crisis outburst. The economies with large, dynamic and complex financial sectors are not immune to severe macroeconomic contractions, and the cost of these contractions is around 5 to 7% of GDP.

Of course, the question of determining what constitutes an optimal financial sector, “oversized” or undersized in correlation with economy is complex and providing a straight answer is difficult.

First, it is necessary to clarify the set of indicators to assess the size and the depth of the banking financial sector, and then to determine the threshold that once exceeded by these indicators may determine the reversal of the positive effects on the economy.

## **2. Indicators for assessing the size and depth of the banking sector in economy**

Determining the size of the banking sector and all the more so its optimal size is a difficult operation. The determination process must start from the foundation of banking activity that serves the real needs for funding the economy, the households, the companies and the state.

There are two main views regarding the size of the banking system. The first view argues that the size of the banking sector should be related to the capacity of the country. This means that, for the government to be able to rescue troubled banks, the size of the sector should not be too large compared to the size of the country. The consequence of this view will be that small countries cannot have a large banking sector.

In this vision, a prime measure of the size of the banking sector is represented by the share of bank assets in GDP (e.g. World Bank, 2005; Beck, Demirgüç-Kunt and Levine, 2010).

The second yardstick puts banks' book value of equity over GDP (e.g. Dermine, 2000; Dermine and Schoenmaker, 2010). Both measures have their advantages and disadvantages.

The second vision, based on the customer follow-up principle, states that the banking sector should support its clients (Grosse and Goldberg, 1991; Brimmer and Dahl, 1975). According to this opinion, the size of the banking sector should be in line with the financial needs of the households and companies. The indicators for measuring the size of the banking sector according to this vision are:

- a) The size of the private sector; the share of private credit in GDP (Grosse and Goldberg -1991) and
- b) The share of banking sector added value in GDP (Beck, Degryse, and Kneer (2012); Beck, Demirgüç- Kunt and Levine (2010)).

There is also another vision regarding the indicators that measure the size of the banking sector in relation with the economy. According to this vision there are traditional indicators that measure:

1. The size of the banking sector by the ratio of bank assets to GDP, central bank assets to GDP, bank deposits to GDP, money supply to GDP
2. Banking intermediation through the ratios: private credit an GDP, private credit and total credit, private credit and bank deposits

It is considered that these indicators do not accurately quantify the level of banking intermediation, the quality of credit allocation, the extent of access to bank financing by the individuals and companies, the quality and the efficiency of banking services. In general, the quality and the availability of the indicators showing the financial stability is limited, and the documentation of the institutional framework supporting the banking sector is not robust. These indicators have limits that ask for the use of new indicators able to better highlight, both qualitatively and quantitatively, the size and depth of the banking sector.

For this purpose, the following indicators for measurement can be used:

- The general access to banking market: branch and ATM density, average loan and deposit size, loan and deposit accounts per capita;
- The access on banking market for:
  - Households - % of people with bank account;
  - Firms - collateral needed for loan, % of firms with financing constraints;
- Banking System Efficiency: Profitability, Return on assets, Net interest margin, Operating costs, Lending spread Days to clear check;
- **Competitiveness** - Concentration ratio, Ownership,
- **Stability** - Capital adequacy, Capital adequacy ratio,
- **Asset quality** - (a) Lenders, Non-performing loans, Real credit growth, Loan concentration, Large loan exposures to capital (b) Borrowers - Firm leverage, Interest coverage ratio, Household debt to GDP;
- **Liquidity** - Liquid asset ratio
- **Other**- Net FX position-to-capital, Default probability of banks.

The size and the depth of the banking system can be assessed with a certain degree of relativity by using these indicators. Their use and interpretation may vary from country to country, depending on the level of banking sector complexity and sophistication.

### **3. Is the Romanian Banking Sector oversized?**

We have shown above what are the indicators that are taken into consideration when assessing the size of the banking sector against the economy and what is the optimal level of this dimension. Below we will try to answer this question. In this respect, we analyze the size of the Romanian banking sector through several indicators as shown in the following table.

**Table no. 1. Indicators for measuring the size and depth of the banking sector**

INDICATORS								
The system size	Romania	EU 28	USA	Japan	Poland	Hungary	Czech Republic	Bulgaria
Number of banks	36	7067	7357	586	670	122	57	28
Total bank assets to GDP %	52,9%	296,6%	93%	105%	90,0%	101,2%	121,2%	99,0%
Deposits/banking assets	63,2%	51,4%	71,81%	67,4%	65,1%	59,6%	62,7%	69,8%
Loans/Deposits	98,0%	120,9%	76,5%	110%	107,2%	102,0%	98%	100,2%
Bank loans to GDP %	37,8%	160,6%	49,3%	89,5%	62,8%	74,64%	61,6%	83,5%
<b>Bank intermediation</b>								
Private credit to deposits	83,8%	115,3%	50,53%	70%	91,2%	68,61%	87,2%	69,45%
Private credit to GDP	30,5%	123,7%	55%	89,5%	53,6%	36,1%	52,7%	58,2%
Private credit to total credit	79,1%	77,0%	na	na	85%	69,9%	85,5%	69,2%
Private credit to total bank assets	51,7%	41,7%	na	na	53,4%	43,8%	52,0%	58,9%
<b>Access</b>								
Citizens /bank employee	346	175,4	161	428	216,9	259,6	257,7	234,2
Citizens/banks (thousand)	555,5	700,9	500,6	883,8	567,2	185,3	68,8	256,4
ATM density/100000 adult	68,59	70,36	na	127,64	68,51	50,64	57,31	117,5
Commercial branch bank/ 100,000 adults	28,7	27,5	32,9	34,1	31,1	23,6	15,1	60,4
<b>Efficiency</b>								
ROA	1,2%	0,29%	1,03%	0,4%	0,7%	0,1%	1,2%	0,97%
ROE	11,8%	4,7%	9,20%	8,1%	6,6%	0,2%	12,9%	7,35%
Cost/income	53%	62,8%	58,9%	62,45	58,6%	83,1%	44,3%	48,2%
<b>Competitiveness</b>								
<b>Concentration ratio</b>								
Top 5 banks' assets, % of GDP	59,0%	47,9%	44%	108%	50,1%	48,6	67,4%	56,5%

Source: Table made with data from reports, EBA, ECB, Bancscope, Central Banks. Date as of 2015

In order to answer the question if the Romanian banking sector is oversized, I chose to put it in comparison with the ones from EU, USA, Japan, Poland, Czech Republic, Hungary and Bulgaria. All the data was available for the year 2015.

Analyzing comparatively the size of the Romanian banking system through the table 1's indicators, the conclusion is that its size is still at a low level when compared with the needs and the level of economy. The share of the

banking assets in GDP (52,9%), of bank loans granted to private sector (30.5%) is well beyond the standard level considered by the specialty literature (80%).

Also, the depth of the Romanian banking sector, relevant through the intermediation, access, efficiency and competitiveness indicators, is at a low level compared both to the needs of the Romanian economy and to the countries analyzed. The Romanian banking sector still has a lot to recover against the EU average both in size and depth.

Taking into consideration that the Romanian banking system provides 90% of the financing of the economy, its development and stability are of great importance in order to sustain economic growth. Both banking assets and the loans granted to the sector are reduced in relation to the real needs of economic development.

When we take into consideration other indicators such as: the degree of digitization in terms of online banking users (4% in Romania vs. 44% EU average), the percent of adults with a bank account (61% in Romania vs. 62% world average and 94% in OECD countries), we can say that the Romanian banking system is underdeveloped. In Romania there are too many universal banks and too few specialized banks

## **Conclusions**

The specialty literature highlights a set of indicators through which one can measure the size and the depth of the banking system. The indicators are grouped by indicators that measure:

- **the dimension:** the central bank's assets and GDP, bank deposits and GDP, monetary mass and GDP;
- **bank intermediation** through the ratio of: private loans and GDP, private loans and total credit, private loans and bank deposits;
- **the general access to banking market:** branch and ATM density, average loan and deposit size, loan and deposit accounts per capita;
- **the banking sector efficiency:** profitability, return on assets, net interest margin, operating costs, lending spread days to clear check.

Taking into consideration these indicators we may raise the question of the optimal dimension in relation with the size and needs of the economy. The specialty studies revealed that when the loans granted to the private sector exceeds 80% of GDP, the relationship between the size of the banking sector and the size of the economy becomes negative. A banking sector in which the private credit exceeds 100% of GDP is considered to be oversized. From this perspective, the Romanian Banking sector in which the private credit is at 30.5% of GDP is by no means oversized but undersized.

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