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Regular Banking System versus Shadow Banking System. A Comparative Assessment of Evidence from Romania

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Abstract. *This study is determined by several factors that include: (1) increasing interest in the shadow banking system as a result of the consequences of the global financial crisis; (2) the links between the traditional banking system and the shadow banking system with regard to the impact on financial stability; (3) low interest rates on bank deposits in recent years that might drive the development of the shadow banking system and (4) the lack of extensive literature on similar studies regarding Romania. The period analyzed is 2008-2018, beginning with the year when the effects of the global financial crisis were felt in Romania and the macroeconomic conditions deteriorated. The results reveal that the shadow banking in Romania is small compared to the regular banking system that dominates the Romanian financial system. The European Union financial sector greatly impacts both the banking sector and the shadow banking system. The entities and the activities composing the shadow banking system are not complex and the links between the two financial sectors raise greater risks to shadow banking entities than to regular banks.*

Keywords: regular banking system, shadow banking system, Romanian financial system, global financial crisis

JEL Codes: *G21, G23*

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1. Introduction

The triggering of the financial crisis in 2007 has determined an intensive debate on the shadow banking system. The debate covers a large range of subjects including: the definition of the shadow banking system; the shadow banking determinants; the shadow banking system's entities and activities; the advantages and risks associated with the shadow banking system; connections between the shadow banking system and the regular banking system; the designation of the shadow banking system's regulatory

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framework. In addition, numerous studies are dedicated to assessment of shadow banking in different countries or group of countries.

It is widely considered that the term "shadow banking" was coined by Paul McCulley in 2007 (McCulley, 2007). Since then, defining the concept of shadow banking has encouraged discussions among economists around the world. A widely accepted definition of shadow banking is the broad definition established by the Financial Stability Board (FSB): "credit intermediation involving entities and activities outside the regular banking system" (FSB, 2011, p.1). Therefore, currently, in order to better understand and capture the shadow banking system, the specialty literature in the field monitors both the entities and the activities of the shadow banking system. See, for example, ESRB (2018) that performs both "entity – based monitoring" and "activity-based monitoring" related to the European Union (EU) shadow banking.

The rise of shadow banking was documented by Gorton and Metrick (2010). They point out the importance of regulatory and legal changes that gave advantages to money-market mutual funds, securitization and repurchase agreements – crucial institutions of the shadow banking system.

The benefits of the shadow banking system are recognized. For example, European Commission (2012) and Ghosh, Gonzalez del Mazo and Ötker-Robe (2012) mention that the shadow banking system is an alternative source both to bank deposits and bank funding. The shadow banking system provides risk diversification and responds to specific funding needs in a more efficient way.

The shadow banking assessment in the euro area is performed by Bakk-Simon et al. (2012) that investigate the size and structure of this financial sector and also the connections between the shadow banking in euro area and the regulated banking system. By referring to EU countries, the work of Barbu, Boitan and Cioaca (2016) investigates the relationship between shadow banking and some macroeconomic determinants. The recent study of Apostoaie and Bilan (2019) contributes to enhancing knowledge on shadow banking in Central and Eastern Europe (CEE). The authors conclude that economic growth strongly influences the expansion of the shadow banking sector there. Ghosh, Gonzalez del Mazo and Ötker-Robe (2012) documented shadow banking in some emerging markets and developing economies in East Asia and in Central and Eastern Europe, noting that the shadow banking sector, in these countries, is "relatively simple". Regarding the particular case of Bulgaria, Stavrova (2017) performs the comparative analysis of the "conventional" and the shadow banking sectors in the post-crisis period.

To my knowledge, there are few works focusing on the shadow banking in Romania. For example, Ghita - Mitrescu and Duhnea (2015) investigate the role of the shadow banking system in Romania, pointing its benefits and risks. From the financial stability perspective, Amza (2012) overviews shadow banking in Romania, focusing on non-bank financial institutions (NBFIs). The case study of Kubinschi (2015) refers to macroprudential tools for both NBFIs and investment funds in Romania. More recently, the market of NBFIs in Romania is assessed by Ionescu and Ţigănilă (2018). Instead, the Romanian banking

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system has received more attention. Zaman (2013), Zaman and Georgescu (2015) or Baicu and State (2012) are among these studies.

The parallel between the shadow banking system and the traditional banking system is drawn by Noeth and Sengupta (2011). By explaining the mechanics of both systems, the authors reveal the similarities and differences of these financial sectors. Both the traditional banking system and the shadow banking system perform credit intermediation. What differs is the process to achieve maturity transformation that is "much more complicated" in shadow banking. Unlike the traditional banking system, that performs credit intermediation under "a single roof", the shadow banking system implies a chain of specialized entities. Pozsar et al. (2010) also documents the relation between shadow banks and traditional banks. They underline that shadow banks "conduct maturity, credit, and liquidity transformation without explicit access to central bank liquidity or public sector credit guarantees".

Due to their possible impact on financial stability, after the triggering of the global financial crisis, the interconnections between the traditional banking system and the shadow banking system has become an important topic of research. Abad et al. (2017), Bakk-Simon et al. (2012), Jeffers and Baicu (2013), FSB (2011) are among the works approaching this subject. The risks related to the interconnection between regular banks and shadow banking entities are provided by BCBS (2017).

The necessity to improve the financial regulatory framework has been one of the most important lessons of the global financial crisis. From the regulatory framework perspective, it is worth noting the relevant role played by the FSB in addressing the challenges that the global financial crisis revealed. To this end, in the first stage, strengthening the regulatory framework of traditional banking has been realized by adopting Basel III. Regarding the shadow banking system, the regulation efforts focus, mainly, on: (i)regulation of shadow banking entities and activities; (ii) regulation of interaction between regular banks and shadow banking entities; and (iii) macroprudential regulation (FSB 2011).

Against this background, the present paper contributes to the literature on comparative assessment of the regular banking system and the shadow banking system, by shining a new light on the Romanian experience. In order to achieve this goal, the paper asks several questions. What are the size and, implicitly, the importance of the regular banking system and the shadow banking system in Romania? How the regular banking system and the shadow banking system in Romania are regulated and supervised? What are the benefits and risks of both financial sectors? What are the activities they perform and who are their clients? What are the connections between the regular banking system and the shadow banking system in Romania? The analyses cover the period 2008-2018.

Starting from these considerations, the remaining of this paper is organized as follows:

- section 2 analyses the regular banking system in terms of size, structure, developments;

- section 3 is dedicated to the shadow banking system assessment in terms of size, structure, developments; a comparative approaches towards the regular banking system are also performed;
- section 4 focuses on interaction between the two financial sectors;
- section 5 includes remarks and conclusions.

2. Regular banking system - size, structure, developments

The regular banking system in Romania has the crucial role within the financial system, as the credit institutions dominate the Romanian financial system. In 2008, the credit institutions held 82.76 percent of the total net financial assets (NBR, *Financial Stability Report* 2009). Subsequently, the share of the credit institutions, in the total financial system assets, decreased from approximately 78 percent at end-2014, to 76.3 percent in December 2016 and 75.5 percent in 2018 Q3 (NBR, *Financial Stability Report* issues 2015, May 2017 and December 2018). Nevertheless, it is worth noting the declining trend of the banking sector's share within the financial system and the rise of other financial sectors, such as the private pension funds, which were introduced in Romania in 2007, and the investment funds.

The Romanian banking system is regulated and supervised by the central bank of Romania called the National Bank of Romania (NBR). Since the beginning of the modernization process of the banking system in 1990, the banking regulation has been improved in several stages. To this respect, one can mention the regulatory framework adjustments required by the privatization of state-owned banks or the accession to the EU. After 2008, the NBR has strengthened the banking regulatory framework according to the European and international post-crisis trends.

During the reviewed period, the Romanian banking system consolidated. Following the fusions and mergers processes, the number of the credit institutions decreased from 43 in 2008 to 34 in 2018 (table 1).

The banking system is overwhelmingly owned by foreign capital, mainly from the EU countries, which hold the dominant market share. However, during 2008-2018, the share of banks with majority foreign capital in total assets contracted. Regarding the structure of foreign capital, it is worth mentioning the decrease, starting with 2010, of the importance of banks with Greek capital. This was the result of the consequences of the global financial crisis and the sovereign debt crisis on Greek banks. Banks with Austrian majority capital remained on the top positions.

At end-2008, the foreign capital invested in the Romanian banking system came mainly from: Greece (22.4 percent of total capital), Austria (18.4 percent) and The Netherlands (9.2 percent) (NBR, *Annual Report* 2008). In December 2017, the share of credit institutions with foreign capital was about 78 percent of the total bank assets (gross). The most significant share was held by banks with Austrian capital – with 25 percent of aggregate assets, followed by banks with French capital (13 percent), banks with Dutch capital (13 percent), banks with Italian capital – 10 percent and banks with Greek capital – 9 percent (NBR, *Annual Report* 2017).

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Table 1. Selected aggregate indicators for credit institutions in Romania

Date	Number of credit institutions		Assets of foreign-owned institutions *(% in total assets)*	Capital Adequacy Ratio (≥ 8%) *(%)*	Non-performing Loans Ratio *(%)*	Non-performing Loans Ratio (EBA definition) *(%)*
	Total *(No.)*	Foreign banks' branches *(No.)*				
Dec. 2018	34	7	75.00	20.71	-	4.96
Dec. 2017	35	7	77.00	19.97	-	6.41
Dec. 2016	37	8	91.30	19.68	-	9.62
Dec. 2015	36	7	90.40	19.16	-	13.51
Dec. 2014	40	9	89.90	17.59	-	20.71
Dec. 2013	40	9	90.00	15.46	21.87	-
Dec. 2012	40	8	89.80	14.94	18.24	-
Dec. 2011	41	8	83.00	14.87	14.33	-
Dec. 2010	42	9	85.10	15.02	11.85	-
Dec. 2009	42	10	85.30	14.67	7.89	-
Dec. 2008	43	10	88.20	13.76	-	-

Source: NBR, Interactive database, https://www.bnr.ro/Interactive-database-1107.aspx

The unsustainable credit growth in the pre-crisis period - stimulated by some relaxed regulatory requirements and fed by the rise of the external liabilities - caused several problems after the crisis triggered. These manifested in credit contraction and portfolio quality deterioration. Non-performing loans (NPL) ratio climbed from 7.89 percent in 2009 to 21.87 percent in 2013. Subsequently, following the measures to clean-up the balance sheets, the NPL ratio declined to 4.96 percent in 2018. Solvency indicators registered adequate levels during the entire period. The capital adequacy ratio reached the comfortable level of 20.71 percent in 2018, which suggests that banking sector proved good resilience (table 1).

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The balance sheet structure, of the credit institutions operating in Romania (Chart 1), highlights a number of aspects regarding the business model developed by the local banks. These include:

1) the loans to households were 28 percent of the total assets in 2018, respectively: loans in lei (the *leu* is the national currency of Romania) were 20 percent and loans in foreign currency were 8 percent. By comparison, the same indicator stood at 29 percent in 2008, of which loans in lei were 12 percent and loans in foreign currency were 17 percent. We note the increase of the share of loans in lei in 2018 compared to 2008;
2) the loans granted to non-financial corporations in 2018 represented 23 percent of the total assets (the component in lei was 14 percent and the component in foreign currency was 9 percent). In 2008, loans granted to non-financial corporations in lei registered 12 percent and loans in foreign currency granted to the same type of clientele, 16 percent. In the case of non-financial corporations, the same trend of decreasing the share of loans in foreign currency is noted in the analyzed period (from 16 percent in 2008 to 9 percent in 2018);
3) the claims on the government sector saw a significant increase, from 5 percent in 2008 to 22 percent in 2018;
4) conversely, the claims on the central bank (NBR) decreased in the respective period from 22 percent of the aggregate assets in 2008 to 8 percent in 2018;
5) throughout the period analyzed, the external assets maintained their low weight in the aggregate balance sheet of the credit institutions, representing 5 percent in 2008, respectively 7 percent in 2018;
6) the deposits attracted from households held the predominant weight in 2018, 41 percent, while the deposits attracted from the non-financial corporations owned the weight of 23 percent, which reinforces the traditional character of the business model promoted by the local banks. As for the structure, the deposits attracted in lei from both households and from the non-financial corporations exceeded, in terms of weight, the deposits attracted in foreign currency. Compared to 2008, the deposits attracted from households totaled only 24 percent of the total liabilities (15 percent were in lei and 9 percent in foreign currency). The deposits from the non-financial corporations accounted for 18 percent of the liabilities, of which the component in lei represented 12 percent and the component in foreign currency 6 percent;
7) an important characteristic of the credit institutions' liabilities during the analyzed period was the tendency to decrease the share of external liabilities following the post-crisis changes in the business model of parent banks. Against this background, parent banks decreased the funding granted to their subsidiaries in Romania. Therefore, the external liabilities had a significant decrease, from 31 percent in 2008 to 9 percent in 2018.

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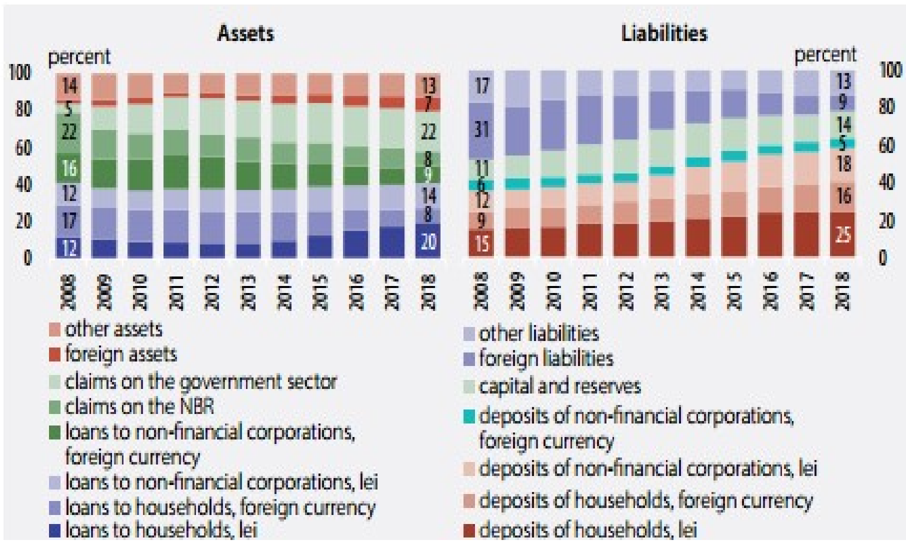

Chart 1. Balance sheet structure of credit institutions operating in Romania – 2008-2018

Source: NBR, *Annual Report* 2018, p. 106.

The changes in the banking business model promoted after 2008 were determined by the vulnerabilities of the pre-crisis business model. These vulnerabilities included a great reliance on wholesale external liabilities from parent banks and high share of loans denominated in foreign currency, which were risky for unhedge borrowers. Consequently, in order to address these vulnerabilities, banks increased the share of deposits from households and non-financial corporations and decreased the share of external liabilities. The share of loans denominated in national currency also increased. All these changes were accompanied by strengthening of the regulatory framework.

3. Shadow banking in Romania – size, structure, developments

Shadow banking in Romania "does not involve long, complex or opaque chains of intermediation" (Amza, 2012). From this perspective, shadow banking in Romania is similar to shadow banking in some emerging and developing countries in East Asia and in Central and Eastern Europe but opposed to how shadow banking often occur in advanced countries, as revealed in Ghosh, Gonzalez del Mazo, and Ötker-Robe (2012).

As the NBR highlights, according to the broader concept of the shadow banking system established by the FSB, the main entities that made up the shadow banking system in Romania are NBFIs, investment funds and money market funds. From financial stability perspective, money market funds are not "particularly relevant" (NBR, *Financial Stability Report* 2015).

The shadow banking activities are repo and securities lending (Amza, 2012). It is worth noting that securitization – an important activity of shadow banking that had a significant role in the global financial crisis – is not used in Romania. The banks developed the traditional "originate-to-hold" model and not the "originate-to-distribute" model. Nevertheless, the regulatory framework on securitization was established in 2006 through the Law no. 31 of March 1, 2006.

The size of the shadow banking system in Romania, in term of assets, is small compared to the regular banking system. NBFIs and investment funds accounted for 13 percent of total financial assets of the Romanian financial system in 2008 (Georgescu, 2017), for about 14 percent at end-2014 (NBR, *Financial Stability Report* 2015) and for about 13 percent at 2018 Q3 (NBR, *Financial Stability Report* December 2018).

This characteristic of the Romanian financial system could also be noticed in other CEE countries. Apostoaie and Bilan (2019) highlight that the traditional banking system dominates the financial system in all CEE countries excluded Hungary, where shadow banking institutions held 54.4 percent of the financial system in 2017. In all other CEE countries, shadow banking institutions held between approximately 6 percent and approximately 21 percent of the national financial system's total assets.

Even if during this period, the shadow banking system in Romania remained small and little changed in terms of weight in total financial assets, after 2008, some changes occurred within the structure of the shadow banking system. More precisely, NBFIs diminished their share, while investment funds grew in the Romanian financial sector.

3.1. Investment funds

In 2008, the investment funds in Romania held only 1.8 percent of the total financial assets (Georgescu, 2017). Subsequently, investment funds expanded, accounting for 7.9 percent of total financial assets at end-2014, 7.7 percent at end-2016 and 6.8 percent, as for 2018 Q3 (NBR data, *Financial Stability Report*, issues 2015, May 2017 and December 2018).

Investment funds are supervised by the Financial Supervisory Authority, the national authority established to regulate and supervise the non-banking market (the capital market, the insurance sector and the private pension system).

But, unlike bank deposits, which benefit from the Bank Deposit Guarantee Fund, investments in investment funds are not guaranteed. According to the *Law no. 311/2015 on Deposit Guarantee Schemes and the Bank Deposit Guarantee Fund* - article 61, paragraph (3) -, the maximum level of coverage per guaranteed depositor is the leu equivalent of 100,000 euros. However, currently, against the increase of inflation and the very low profitability of bank deposits, investment funds could be an alternative for investments. Under these circumstances and against the raise of financial education compared to 1990 -

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when the Romanian financial system has started the modernization process - at least the lesser conservative part of the population headed towards investment funds.

Depending on their risk profile, investors could chose among equity funds, bonds funds, mixed funds, and other funds. Over the considered period, investment funds developed rapidly.

3.2. Non-bank financial institutions sector

In 2008, NBFIs were the most important component of the shadow banking system in Romania. NBFIs held 11.18 percent of the total net assets of the Romanian financial system (versus, as above mentioned, the 82.76 share of credit institutions and the 1.8 percent share of investment funds). After 2008, the share of NBFIs in the financial system diminished. Consequently, the share of NBFIs in the total financial system assets accounted for 5.9 percent at the end of both 2014 and 2016 and 6.1 percent in 2018 Q3 (NBR data, *Financial Stability Report* issues 2009, 2015, May 2017 and December 2018). This development was similar to the banking system's evolution, that registered contraction of its weight in the financial system, but different to the investment funds, which developed. It is to be noted that, unlike 2008, when NBFIs were the first component of the shadow banking system, in 2018 Q3, NBFIs ranked second, with only 6.1 percent in total financial assets. Investment funds, on the other hand, held 6.8 percent, which ranked first, even though the difference between them is small.

The specialty literature reveals that regulatory arbitrage is an important reason for shadow banking development. The low or nonexistent prudential requirements for the shadow banking sector determined the traditional banking sector to transfer, to this financial segment, part of its credit activity in order to escape the strict requirements that affected its profitability.

Over time, the Romanian banking system has followed the trend of using the shadow banking system, more precisely NBFIs, to escape some regulatory requirements. Consequently, the lending activity of NBFIs was regulated in 2006. The OG no. 28/2006 (Guvernul României, 2006) establishes the conditions that the NBFIs have to fulfill in order to carry out lending activities. These conditions include the minimum level of capital and the regulations that the NBFIs managers have to fulfill. An important section of this document specifies the criteria of NBFIs registration in the Special registry. The law establishes that the NBFIs entered in the Special register are supervised by the NBR.

The Law no. 93 of April 8, 2009 on non-bank financial institutions establishes the activities that NBFIs have the right to carry out. The granting of consumer loans, mortgages, discounting, factoring and financial leasing, as well as the issuance of guarantees are among the activities allowed to NBFIs, according to the article 14 of the aforementioned law. The same regulation clearly stipulates that NBFIs are not entitled to attract deposits from the public (article 15). This highly differentiates them from the banking sector that traditionally finances a large part of its activity by attracting public deposits.

The strengthening of the regulatory framework of the NBFIs was achieved in 2017 as a result of the increasing importance of this financial segment in the lending activity and for ensuring financial stability. To this end, the NBR Regulation no. 1/2017 was issued.

In order to address vulnerabilities related to excessive household indebtedness through both banks and non-bank financial institutions, the NBR improved the macroprudential tools in the field, by revising the conditions for the granting of loans. In 2018, the NBR adopted the Regulation no. 6/2018 amending and supplementing the Regulation of the NBR no. 17/2012 regarding some loan conditions. The new regulation stipulates a maximum level of debt-service-to-income (DSTI) ratio; specifically, the value of the monthly payment obligations arising from loans can not exceed 40 percent from the debtor's monthly net income. This regulation also applies to non-bank financial institutions, the Romanian legal entities registered in the General register.

IMF (2018) stresses that DSTI limit, as a macroprudential tool, has been implemented in several countries, including Poland, The United Kingdom, Cyprus, Portugal, Slovakia, and Slovenia.

Similar to banking system, the NBFIs sector is linked to the EU financial system through foreign capital and external liabilities. At end-2008, the weight of domestic capital in total share capital of NBFIs accounted for 41.74 percent (NBR, *Annual Report* 2008). The table below reveals the shares of foreign capital by country of origin held by the NBFIs registered with the Special register at end-2008. In this context of great impact of the EU financial system on the NBFIs in Romania it is to be noted that the share of external debt of NBFIs in total of their debt exceeded 80 percent (NBR, *Financial Stability Report* 2009). Also, it is worth mentioning that the concentration of foreign capital was high. The Netherlands, France and Italy provided approximately 70.0 percent of the total foreign capital.

The share of domestic capital in total capital of NBFIs listed with the Special register accounted for 64.6 percent at end-2018. Five European countries held 68.5 percent of total foreign capital: United Kingdom - 19.6 percent, Germany - 15.8 percent, Cyprus -11.3 percent, Sweden - 11 percent, France - 10.8 percent and The Netherlands - 9.2 percent (NBR, *Annual Report* 2018).

Compared to 2008, the distribution of share capital by country of origin manifested some changes. The share of United Kingdom in total foreign capital of NBFIs registered with the Special register grew considerably.

The main clients of NBFIs are non-financial corporations. Loans granted to non-financial corporations accounted for 75 percent of total loans at end-2008 and for 77 percent at end-2018 Q3. The main important activity that they perform is financial leasing, which accounted for 80 percent in total loans at end-2008. Companies preferred to borrow from NBFIs in EUR-denominated loans (78.3 percent of total loans granted as at September 2018), while households predominately borrowed in Romanian national currency (*lei*) denominated loans (89 percent of total loans) (NBR, *Financial Stability Report* 2009 and December 2018).

Table 2. Non-bank financial institutions' share capital by country of origin (end-2008)

Country of origin	**Participations of foreign capital (%)**	
	in total foreign capital	**in total capital**
The Netherlands	47.31	27.56
France	12.87	7.50
Italy	8.90	5.18
Sweeden	7.57	4.41
Cyprus	6.43	3.74
Austria	5.01	2.92
Belgium	4.11	2.39
Greece	3.74	2.18
USA	3.14	1.83
Germany	0.37	0.22
Hungary	0.36	0.21
The United Kingdom	0.10	0.06
Switzerland	0.06	0.04
Ireland	0.03	0.02

Source: NBR, *Annual Report* 2008, p. 76.

As noted by Deloitte Romania (2014), financial leasing offers several advantages to small and medium enterprises and newly established companies that are not eligible to get loans from commercial banks (lack of credit history, lack of collateral). Moreover, companies that access financial leasing get the benefit of fiscal deductions. This explain why corporate clients are the main clients of the financial leasing market and not retail clients.

In the context of these advantages and benefiting from this specialization, over 2008-2018, NBFIs played an important role on the financial leasing market in Romania.

In addition to targeting corporation clients, NBFIs in Romania also target retail clients, especially individuals that are not eligible for bank credit. The requirements for credit providing are minimum and the procedures are very rapid. Therefore, the credits value is relatively low and the costs are high. For example, according to the official site of Provident, one of the most known NBFI in Romania (https://www.provident.ro/credite-rapide/credit-la-domiciliu, accessed September 5, 2019), to obtain a standard loan from Provident, a person has to meet the following conditions: to have Romanian citizenship and minimum 18 years; the address of residence to be in Romania; to have a very low minimum monthly income - 300 lei / month (namely an amount lower than EUR 100) - ; and a valid phone number. The loan rate is weekly or monthly. In order to increase the attractiveness of its loans, the company offers the clients the possibility of managing the loans at home, which allows them to receive the money at home in maximum 48 hours and to pay the installments at their own home, without having a bank account. The fast non-bank loan provided by Provident has small values, between 500 and 15,000 lei, does not require guarantees, and the weekly or monthly rates are fixed.

Similar to bank institutions, NBFIs in Romania expanded their activity in the pre-crisis period, but starting with 2008 Q4 these institutions were negatively impacted by the global financial crisis, which caused the contracting of the activity and the increase of non-performing loans. The share of NBFI loans in total non-government loans dropped from 18 percent at end-2008 to 11 percent in June 2011 (NBR, *Financial Stability Report* 2011). Nevertheless, since 2014, the NBFI lending has resumed the upward trend; the NBFI loan stock increased by 27 percent - December 2014 through September 2017 (NBR, *Financial Stability Report* December 2017).

Because of the improvements to the NBFIs business model and regulatory framework, the loan portfolio quality improved. Consequently, similar to banking sector, the NBFIs' non-performing loan ratio registered a downward trend: 23.1 percent - 2014 H1; 8.6 percent - end-2016; 6.5 percent - Sept. 2017; 3.9 percent - Sept. 2018 (NBR data, *Financial Stability Report* issues 2014, June 2018, December 2018).

The comparative assessment of regular banks and NBFIs in Romania allows pointing out the similarities and differences between them. First of all, both financial sectors realize credit intermediation, but, while funds source of regular banks come, mainly, through deposits attracted from population and non-financial corporations, loans from financial institutions played the most important role for NBFIs. NBFIs are not allowed to take deposits from the public. Moreover, the bank deposits are guaranteed. Regarding the weight of each sector in total financial assets, the banking system dominated the financial system. The weight of NBFIs was much smaller. Nevertheless, after 2008, both sectors registered assets reduction in total financial assets. The NBR strictly regulates and supervises the banking system. Starting with 2006, the NBFIs registered in the Special register are also supervised by the NBR. Since then, the regulatory framework of NBFIs has strengthened. The EU financial system has a great impact on both the banking system and NBFIs. However, the conditions for access to the personal loans granted by NBFIs are less strict than those to the loans granted by banks. Generally, the NBFIs personal credit involve very lax requirements (quick access, without many conditions, without guarantees) and small values, but also high costs. The main clients of NBFIs were non-financial corporations and financial leasing was their most important activity, underling their increased specialization. By contrary, banks paid more attention to households than to non-financial corporations.

4. Interconnectedness between the regular banking system in Romania and the shadow banking system

Since the triggering of the global financial crisis, the interconnectedness between the regular banking system and the shadow banking system represents a matter of concern from the financial stability perspective. In the context of these links, the risks arising in the shadow banking system could propagate to the regular banking system. Therefore, interaction between regular banks and shadow banking entities are documented and monitored.

The FSB (2011) points out the ways regular banks could interact with shadow banking entities. One way is when regular banks are part of the shadow banking system chain. Regular banks could provide support to the shadow baking system (for example, funds) or invest in products issued by the shadow baking system. On the other hand, regular banks could be funded by the shadow baking system entities. Regular banks may also indirectly be exposed to shadow banking entities “through their common exposures to assets” (Abad et al., 2017). Reputational risk should be taken into consideration too.

The links between the regular banking system and the shadow banking system in Romania are fed by several channels, more visible when regular banks and shadow entities are part of a financial or banking group. These connections could raise contagion and reputational risks. Moreover, due to strong links between the financial system in Romania and the EU financial system, the interconnectedness between the regular banking system and the shadow banking system in Romania should be monitored by also taking into account this cross-border dimension.

Loans extended by credit institutions' in Romania to NBFIs registered modest values over the reviewed period. At end-2008, credit institutions exposure to NBFIs through financing loans accounted for only 2.5 percent of their total non-government loans (NBR, *Financial Stability Report* 2009). At end-2010, NBFIs loans from credit institutions in Romania registered about 1.1 percent of total non-government loans granted by credit institutions (NBR, *Financial Stability Report* 2011). According to the NBR *Financial Stability Report* 2014, the exposure of banks towards NBFIs sector totalized approximately 1.0 percent of total assets. These figures suggest that banks' exposures to NBFIs do not raise significant risk to the banking sector.

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On the contrary, NBFIs exposures to the banking sector are higher. NBFIs exposure to the banking sector (calculated as the share of exposures to credit institutions in the assets) accounted for 11.5 percent in 2012 and 10.2 percent in 2014 (NBR, *Financial Stability Report* 2015). These reveal that NBFIs are more exposed to the banking sector than the banking sector to NBFIs in case adverse developments occur. From this perspective, interaction between banks and NBFIs is more intense.

The funds raised by NBFIs from the banking sector are also an indicator. At end-2010, the share of loans taken by NBFIs from credit institutions in Romania accounted for about 10 percent of their total loans, while loans from international markets were prevalent (NBR, *Financial Stability Report* 2011). The NBR *Financial Stability Report* 2014 reveals that about 10 percent of the liabilities of NBFIs came from credit institutions (capital and loans). The level of these indicators shows that NBFIs sector is financed by credit institutions in Romania only to a small extent.

As underlined by Kubinschi (2015), investment funds in Romania could generate systemic risk both through direct contagion and indirect contagion (fire sales and reputational risk).

The interconnectedness between investment funds and the regular banking system – indicator calculated as exposure of investment funds to the local banks in total assets (exposure to local banks/total assets) - reveals that investment funds industry was significantly exposed towards the local banks in September 2018. The NBR data regarding the interconnectedness indicator for this period presented as follows:

- total investment funds – 29.6%
- equity funds – 22.6%
- bond funds – 37.0%
- mixed funds – 23.2%
- other funds – 40.9% (NBR, *Financial Stability Report* December 2018).

These data highlight that the bond funds and the other funds category are the most exposed funds to the local banks.

The interconnection between the banking sector and investment funds is also determined by the fact that banking groups owns investment management companies. However, as the NBR reveals in *Financial Stability Report* June 2019, the share of banks' exposure to these entities indicates a low contagion risk.

The data concerning both the interconnections between banking system and non-banking financial institutions sector and the interconnections between banking system and the investment funds sector suggest that links between the regular banking system and the shadow banking system in Romania raise greater risks to the shadow banking system compared to the regular banking system.

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5. Conclusions:

- the size of the shadow banking in Romania is relatively low, by tradition, the Romanian financial system being dominated by credit institutions;

- the banking sector is regulated and supervised by the central bank – the National Bank of Romania - that also regulates and supervises the NBFIs listed with the Special register; investment funds are regulated and supervised by the Financial Supervisory Authority, in charge with non-banking capital regulation and supervision;

- both the entities composing shadow banking in Romania and activities performed by this financial sector are simple, not sophisticated;

- the share of both credit institutions and NBFIs in total financial assets decreased, while investment funds developed;

- both the regular banking system and the shadow banking system are strongly linked with the EU financial system through their external liabilities or foreign capital held by large European groups;

- the banking lending and the NBFIs lending experienced the same trend both in the pre-crisis period and after; the rapid pre-crisis period growth was followed by contraction and quality portfolio deterioration; nevertheless, lending activity has resumed and non-performing loans improved;

- similar to other countries, the shadow banking in Romania is considered an alternative to the regular banking system, targeting clients that are not eligible for banking lending and offering alternative fund sources; besides, the regulatory arbitrage was also a driving factor;

- the exposure of the banking sector to the shadow banking system is low. Nevertheless, there are some potential vulnerabilities regarding the exposure of NBFIs and investment funds toward the banking system that should be monitored. Reputational risk might also be a matter of concern.

Due to the complexity of the approached topic and in the limit of available date, this paper does not cover all the aspects imposed by such a research. Therefore, among future research directions one can mention: comparison of banking sector profitability to NBFIs sector profitability; analyzing the dynamics of NPL ratio in both sectors; a better insight on investment funds, the most important component of the shadow banking system in 2018; a deeper analyze of the NBFIs regulatory framework aimed to identify improvement measures.

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