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# POLISH COOPERATIVE BANKS AS NET LENDERS IN THE MONEY MARKET

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#### **Abstract**

Due to the traditional operational model of cooperative banks which is mostly based on financial intermediation, the range of a local bank's social influence in a given environment is highly dependent on the money transfer balance, that is using local money to satisfy local needs. A typical obstacle to this activity could be observed in Poland, in positive money transfers in those banks understood as the excess of deposits from customers over loans given to them. The purpose of the following paper is to examine this phenomenon in Polish cooperative banks in comparison to credit cooperatives in Europe together with its explanation on the basis of the selected group of cooperative banks in Poland. According to the sector data in the years 2004-2015 Polish cooperative banks are net lenders for the remaining entities of the financial sector. On the European market, on the other hand, groups of cooperative banks aim to balance money transfers. It is the activity of the biggest sector players that mostly influences the information concerning credit cooperatives, which is why more thorough research into the group of over 90 Polish cooperative banks was conducted in the years 2009-2016. In the examined group deposits exceed loans and the phenomenon continues to grow and it has been observed in over three quarters of the institutions in question since 2011.

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### Introduction

The notion of positive money transfers, that is the excess of deposits from customers over loans given to them, has been appearing in the practice of cooperative banks activity much more often than in scientific papers. The extent of balancing money transfers in practice depends on the managerial decisions concerning the applied specific business model. Polish regulations imposing the necessity of depositing the surplus money in the apex bank at the market price can result in limiting credit risk and encouraging being a net lender towards the other participants of the financial market.

The purpose of the following paper is to examine positive money transfers in Polish cooperative banks in comparison with European credit cooperatives and to conduct a thorough analysis of the phenomenon in question on the basis of a group of selected cooperative banks in Poland.

The overview of the literature on the specificity of cooperative banks and their function as financial intermediaries is the introduction to the following study. The comparison of aggregated value of loan and deposit activity in selected countries (and cooperative groups) was conducted on the basis of annual EACB data from the years 2004-2015. A more thorough analysis was based on the group of over 90 Polish cooperative banks. The selected group was examined within a shorter period of time - quarterly. This analysis of the performance of particular institutions was taken into consideration, which might result in a better assessment of particular entities.

### SPECIFICITY OF COOPERATIVE BANKS AS FINANCIAL INTERMEDIARIES

A very specific character of cooperative bank activity can be viewed either from the sector perspective - as banks of a special type - or from the point of view of the policy of a particular credit cooperative, which differs with regard to the range of their activity and their social roles.

The activity of cooperative banks is determined by their form of management which is related to the realization of principles and regulations stemming from their tradition together with the banking character of their services (Fonteyne, 2007, p. 6; Gniewek, 2016, pp. 43-45; Siudek, 2011, pp. 50-54). Cooperative banks as credit institutions are supposed to generate financial surplus, however, the major purpose of their activity is to accomplish the goals of cooperative members which might not necessarily be of an economic nature (Hudon & Perilleux, 2014, p. 147). A smaller scale of the cooperative bank's activity usually makes it possible to establish better relations with clients and shareholders. Because of that, cooperative banks can also make use of informal information in their loan activity, which eliminates information asymmetry (Alińska, 2008, pp. 257-265; Żółtowski, 2011, pp. 20-26). On the other hand, the restricted area covered by the bank's activity limits the possibilities of the credit portfolio diversification and the proper use of obtained financial resources due to a limited demand on the local market (Goglio & Leonardi, 2010, pp. 5-11; Becchetti, Ciciretti & Paolantonio, 2016, p. 226).

Cooperative banks, similarly to other credit institutions, are financial intermediaries, that is they obtain financial resources from entities with finance surplus and satisfy the needs of those entities which suffer from financial deficit (Boscia, Caretta & Schwizer, 2009, p. 16; Becchetti et al., 2016, p. 226). In comparison to commercial banks cooperative banks function within a traditional business model based on deposits and loans. Their economic performance is dependent upon the interest rates while an OTH (originate-to-hold) model is used with reference to loans, which differs from the OTD (originate-to-distribute) model which is characteristic of commercial banks. (Ferri, 2012, p. 8-9).

It is the large and stable deposit base which is crucial for financial performance of cooperative banks. Deposits are the primary source of financing their loan activity due to the fact that their access to other sources of finance is quite limited (Fonteyne, 2007, p. 11). Although it is possible, under certain conditions, for cooperative banks to issue securities, in practice only the largest entities make use of such financial instruments. Cooperative banks are also limited in terms of obtaining own funds and face problems connected with managing their capital. The latter is due to the fact that the major characteristic of cooperatives is changeability of share capital - there is no market valuation, there is no possibility of share disposal, the rights of shareholders are limited to the face value of their shares, there is higher uncertaintity related to the obtained dividend, there are restrictions in terms of gathering own funds in the sudden need of raising

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capital (for example, due to prudential regulations or the increase in the activity range), which is connected with the creation of capital buffers. (Borgen, 2004, pp. 383-384; Brown & Davis, 2009, pp. 443-447). The significance of the deposit base results from the lack of possibility to use financial resources from the interbank market and it needs to be stressed that the secondary source of capital for these institutions are apex banks. Affiliation to cooperative structures constrains the relations to the wholesale money market and plays a significant role in the investment policy as, for example in Poland, cooperative banks that have free financial resources are obliged to deposit them in apex banks (Czopur, 2012, p. 162).

Functioning of cooperative banks in a specific environment together with the regulatory restrictions regarding the covered activity area make traditional banking intermediation gain additional significance for a particular community - it enables money transfers within a particular area of activity. Unlike large international commercial banks which transform obtained funds (Golec, 2016, p. 18; Iwanicz-Drozdowska, Jaworski & Zawadzka, 2010, pp. 20-21), cooperative banks can realize the historical cooperative principle "local money for local needs" balancing deposits with the volume of loans (Szambelańczyk & Ławrynowicz, 2003, p. 393; Szambelańczyk, 2006, pp. 111-113). However, if the cooperative bank does not balance its money streams, it means that it is characterized by:

- 1) positive net balance when the volume of deposits exceeds the value of liabilities of non-financial entities (or, in the narrower sense credit portfolio); that means that the bank "exports" the obtained resources;
- 2) negative net balance if the difference between the deposits and loans is negative, the institution is an "importer" of money.

In the case of positive money transfers the "export" of deposits means depositing money in the apex bank, which, in turn, means depositing money on the wholesale money market. Similarly, in the case of capital deficit, according to the subsidiary principle, a cooperative bank can use the finance from the apex bank. The optimum would be to balance streams of deposits and loans making adjustments of surpluses and deficits resulting from temporary situations. However, in groups of cooperative banks, there are those of a credit and those of a deposit nature (Siudek, 2011, p. 171). Recognizing the imbalance in this area together with the indirect access to the wholesale money market results in the possibility of

influencing the financial performance of cooperatives by apex banks.

When the bank increases the scale of making resources available in its region of activity, even if that means raising finance on the secondary market, it has a positive effect on the economic growth of the local community. On the other hand, the situation of long-term fund export, especially if it is connected with the bank playing the role of the sole financial institution in a given region, can lead to its economic downturn (Szambelańczyk & Ławrynowicz, 2003, p. 393). From the point of view of the policy of a single institution a cooperative bank will realize its social function to a greater extent if it satisfies the financial needs, including credit needs, of local communities (Kozłowski, 2016, p. 68; Rzerzycka & Golanowska-Witkowska, 2005, p. 105).

It is emphasized in the literature that the depositloan structure of cooperative banks is characterized by deposits outweighing credits and the ratio of credits to deposits is below one (Fonteyne, 2007, pp. 11-13). It is the major market players whose performance influences the assessment of all the participants of a given sector, including cooperative banks. However, one needs to bear in mind that groups or sectors of cooperative banks are highly differentiated, as, minor players can be several hundred times smaller when compared with the major players determining the sector's appearance. For example, in Poland the largest cooperative bank in 2015 was Podkarpacki Cooperative Bank in Sanok with the balance sheet totals of 2.757 billion PLN, 79 branches and 650 employees, while the smallest one was a cooperative bank in Konstantynowo (Lubelskie voivodship) with assets of 22 million PLN - 125 times less in comparison to the largest player, and it employed only 8 people (81 times smaller workforce) (Gostomski, 2015).

The range of money transfers among Polish cooperative banks was examined by Szambelańczyk and Ławrynowicz (2003). With the use of full sets of quarterly data from 5 periods in the years 2000-2001 they determined the difference between the values of deposits and loans and they also identified the interdependence between the direction and scale of money transfers and the bank's activity profile. Almost half of the examined cooperative banks (49%) exhibited transfer balance, a deficit was detected in 13% of the banks, while the remaining institutions where characterized by positive money transfers (Szambelańczyk & Ławrynowicz, 2003,

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pp. 400-402).

In the study by A. Szyguła regarding the loan-deposit structure of the cooperative bank sector in the years 2006-2011 a surplus of deposits over loans was discovered. The Loan-To-Deposit Ratio was at the level of 0.71-0.79, while the imbalance was observed mainly in the household sector and non-commercial institutions (Szyguła, 2012, pp. 35-39).

# MONEY TRANSFERS ON THE BASIS OF SELECTED COOPERATIVE BANK SECTORS IN EUROPE

From the point of view of cooperative structures or sectors of credit cooperatives in particular countries the range of money transfer balancing can be diverse. In order to estimate money transfers in cooperative bank sectors across Europe annual reporting data from the European Association of Co-operative Banks were used. This organization has been representing, promoting and defending the interests of European cooperative banks since 1970. In 2016 it comprised 27 cooperative groups with almost 80 million members, 210 million clients and 4050 cooperative banks (Groeneveld, 2017, p. 5).

A two-fold increase in the range of cooperative banks' activity was observed on the basis of the data from 2004-2015 (joint balance increased from 3742.9 mld euro in 2004 to 6957.1 mld euro in 2015 and the number of members increased from 44.5 mln to 79.4 mln). It is

also the deposit and loan activity that increased within the considered time horizon, although it happened at a different pace. Loan portfolio rose by 110%, while deposits by 80%. On the basis of aggregated EACB data a Loan-To-Deposit Ratio (LTD) was calculated at the end of each year (Table 1). A considerable balancing of loans and deposits was observed in 2004-2015 as the obtained ratio value is close to one. Only in 2008 and 2015 the ratio in question had a value of over 1.1, which might indicate a deficit in European cooperative bank sectors.

However, sectors of cooperative banking in various countries can exhibit different approaches towards the use of debt finance obtained from their clients for loan activity - thus, the obtained aggregated value of LTD Ratio can only be used as the reference. Information concerning the structure of cooperative bank sectors in four countries was used (Poland, Germany, Spain and in Austria - banks from Raiffeisen Group). The significance of the analyzed sectors of credit cooperatives differs among the examined countries. German banks have the biggest share in the market - 20% (25% in 2004-2005), while Austrian banks have a much smaller significance - 5% market share. Spanish credit cooperatives account for 3% of the European market, while Polish cooperative banks are of marginal significance with the market share of less than 1% (it must be noted, however, that the share is continuously rising: from 0.3% in the first years to 0.5-0.6% in 2013-2015). While considering the loan/deposit structure one comes to a conclusion that German banks are the most stable in the considered group, as the LTD

Table 1: Deposits and loans in cooperative banks in Europe in years 2004-2015

Year	Deposits	Loans	Loan-to-Deposit Ratio	
	(mln euro)	(mln euro)		
2004	1 943 795	1 868 900	0,96	
2005	2 065 079	2 021 700	0,98	
2006	2 429 708	2 369 563	0,98	
2007	2 689 309	2 741 158	1,02	
2008	2 736 460	3 043 204	1,11	
2009	2 852 038	3 102 311	1,09	
2010	3 111 306	3 308 306	1,06	
2011	3 932 516	4 033 568	1,03	
2012	4 073 848	4 045 686	1,08	
2013	3 652 179	3 934 553	1,08	
2014	3 792 978	3 975 446	1,05	
2015	3 499 584	3 933 592	1,12	

Source: Own calculations based on EACB data, http://www.eacb.coop/en/cooperative-banks/key-figures.html
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Ratio has the value of around 0.95 (with the minimum value of 0.9 and the maximum - 0.97) (Table 2). A similar situation can be observed in the Spanish sector of cooperative banks, however in this group in 2014-2015 deposits slightly exceed loans which is inferred from LTD Ratio values of 0.8 in 2015 and 0.14 in 2014.

Austrian cooperative banks from Raiffeisen Group usually balance their loan/deposit structure well, however, in their case there is a slight deficit as the LTD Ratio has values exceeding 1 or even 1.1 (restricting influence of the world crisis onto the loan activity is being considered in this group). In contrast, Polish cooperative banks exhibit much lower values of LTD Ratio - it does not exceed 0.8 (the most commonly obtained value is 0.7). Thus, it may be stated that Polish cooperative banks are stable in their surplus deposits.

The phenomenon of imbalance between deposits and loans has been widely described in the subject literature, however, the modern approach of European sectors of cooperative banks gives a different image. Most of the considered sectors balance their finance structure well. It is only Polish cooperative banks in which deposits exceed loans.

#### **Excess OF DEPOSITS** AND **ITS** DIFFERENTIATION IN **SELECTED COOPERATIVE BANKS IN 2009-2016**

Observations concerning the balance of money transfers in different sectors of cooperative banking will be described with reference to the differentiation of credit cooperatives. The image of the sector presented only by means of financial reports can be distorted due to the influence of the data from the largest market entities. Therefore, a study on loan/deposit balance on the basis of data from 95 cooperative banks in Poland was conducted (the number of banks sharing the data changed slightly during the study - the detailed information on the number of banks is presented in Table 3), which means that the results are based on the sample comprising 16% of all the entities of the cooperative banking sector in Poland. Quarterly data for the period between December 2009 to March 2016 were used. Access to the data was granted by one of the three Banking Cooperative Audit Unions in Poland - the Banking Cooperative Audit Union in Poznań (pol. Związek Rewizyjny Banków Spółdzielczych w Poznaniu, ZRBS).

In order to present the differentiation of the activity of the examined entities quantile grids of assets, deposits

Austria (Raiffe-**EACB** Poland\* Year Germany Spain isen Group) 2004 0.76 0.96 0.92 1.00 0.92 2005 0.71 0.98 0.91 1.04 0.94 2006 0.98 0.69 0.90 1.04 0.94 2007 1.02 0.76 0.90 1.10 0.98 2008 1.11 0.76 0.97 1.15 1.02 2009 1.09 0.79 0.95 0.93 0.97 2010 1.06 0.74 0.94 1.09 0.97 2011 1.03 0.73 0.94 1.06 1.00 2012 1.08 0.72 0.94 0.94 1 10 2013 1.08 0.73 0.95 1.13 0.99 2014 1.05 0.69 0.94 1.09 0.84 2015 1.12 0.68 0.95 1.02 0.80

Table 2: Loan-to-Deposit Ratio in selected sectors of cooperative banks in Europe in 2004-2015

Source: Own calculations based on EACB data, http://www.eacb.coop/en/cooperative-banks/key-figures.html

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<sup>\*</sup>Data concerning Polish cooperative banks in 2008 and 2012-2013 were revised on the basis of a Polish Financial Supervision Authority Office publication.

for non-financial sector and loans for non-financial sector were prepared (Figures 1-3). The examined banks constitute a very diverse group of credit cooperatives. When taking into consideration the value of their assets and the division into peer groups applied by the Polish Financial Supervision Authority, half of the examined institutions belong to the group of medium and small banks. Until the end of 2014 a quarter of them belonged

to the group of small institutions while only 5-10% were in the group of large institutions with assets exceeding 500 mln PLN. Smaller institutions are quite similar to each other, while in the group of larger banks right-skewed distribution is observed. During the 6 years of the study the range of the activity of the examined institutions rose by around 100% and this increase was similar in all groups of banks.

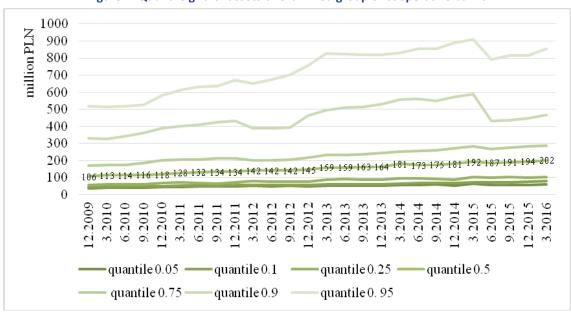


Figure 1: Quantile grid of assets of examined group of cooperative banks

Source: Own calculations based on Database from ZRBS

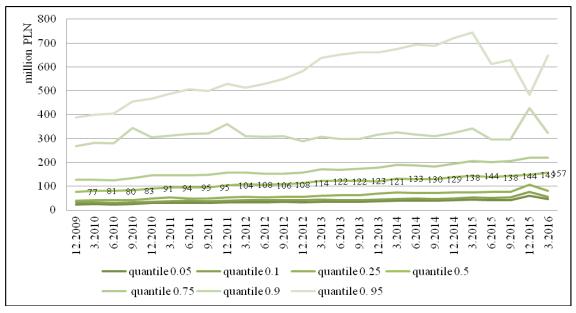


Figure 2: Quantile grid of deposits of non-financial sector of examined cooperative banks

Source: Own calculations based on Database from ZRBS

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700 million PLN 600 500 400 300 200 100 0 2010 2010 12.2012 3.2014 2.2009 3.2013 6.2012 9.2012 6.2013 9.2013 2.2013 quantile 0.05 — quantile 0.1 — quantile 0.25 — quantile 0.5 quantile 0.9 quantile 0.75 quantile 0.95

Figure 3: Quantile grid of loans of non-financial sector in examined group of cooperative banks

Source: Own calculations based on Database from ZRBS

Group differentiation in terms of loans and deposits in comparison with the asset differentiation is of a similar character - it is also skewed (to a greater extent with regard to larger entities). In the case of deposits, the average value increases by almost 100, however, it needs to be emphasized that larger institutions keep the scale of raising resources at the same level. For example, the average value of the upper quartile increases in the examined period by only 0.7. The differences in the average values of upper quantiles can be explained with regard to the changes concerning particular entities. The

average value of loans, on the other hand (and also the value of the remaining quantiles) rises at a slower pace - it changes by around 50% during the 6-year period of study.

In order to assess the scale of money transfers of cooperative banks gross loans ratio was used, while to assess the deposits of the non-financial sector the LTD Ratio was used. Values of deposits and loans of the government and self-government sectors were excluded from the analysis due to the fact that they play a marginal role in the loan/deposit activity of a credit cooperative

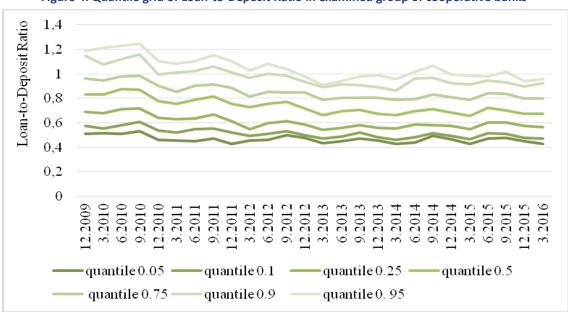


Figure 4: Quantile grid of Loan-to-Deposit Ratio in examined group of cooperative banks

Source: Own calculations based on Database from ZRBS

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together with the fact that credit cooperatives more often take deposits from municipalities than grant them loans. Deposits and loans of the financial sectors were treated as secondary as they usually supplement the banks' service activity. Calculations concerning other measurements were also conducted, for example the gap indicator (deposits of the non-financial sector - gross loans for the non-financial sector) and with reference to assets - the indicator of net loans. The obtained results were quite similar, and the LTD Ratio is much more often represented in the literature, which is why in the course of the study it is this indicator that was mainly taken into consideration. This indicator is a relative measurement which has not been normalized, however, it can be assumed that the values different from one will indicate instability of net

money transfers. It was assumed that if the value of the indicator is:

- 1) (0-0.9> deposits exceed loans in the examined bank.
  - 2) (0.9-1.1> the bank balances deposits and loans,
  - 3) over 1.1 there is a deficit.

In the whole examined period half of the banks under study exhibit deposit surplus, while, since 2011, 75% of the institutions do not exceed the value of 0.9 (Table 3). A few institutions have a deficit activity (over 0.95 quantile, until September 2011, later it concerns only isolated institutions). Median slightly decreased from 0.8 to 0.7, which indicates growing imbalance in the examined group of banks.

Table 3: Net transfers characteristics of the examined group of cooperative banks

Table 3. Net transfers characteristics of the examined group of cooperative banks										
Period	Number of banks	Median	Min	Max	Interquar- tile range	Variation	Skewness	Kurtosis		
12.2009	91	0,83	0,31	2,3	0,28	0,26	2,01	10,84		
3.201	94	0,83	0,34	1,89	0,26	0,23	0,98	3,74		
6.201	94	0,88	0,34	2,15	0,27	0,25	1,37	6,33		
9.201	95	0,88	0,34	2,15	0,27	0,25	1,37	6,33		
12.201	95	0,78	0,29	2,09	0,26	0,23	1,88	10,37		
3.2011	95	0,75	0,3	1,88	0,23	0,22	1,47	7,02		
6.2011	95	0,78	0,32	2,02	0,27	0,23	1,54	7,7		
9.2011	95	0,81	0,32	2,13	0,25	0,24	1,76	8,64		
12.2011	95	0,75	0,29	1,84	0,27	0,22	1,17	4,89		
3.2012	92	0,76	0,3	1,82	0,27	0,22	1,45	6,02		
6.2012	93	0,75	0,32	1,99	0,26	0,23	1,79	8,81		
9.2012	93	0,77	0,32	2,08	0,24	0,23	2,14	11,64		
12.2012	95	0,71	0,32	1,97	0,26	0,21	2,14	11,69		
3.2013	95	0,67	0,31	1,6	0,25	0,18	1,29	5,62		
6.2013	95	0,7	0,31	1,64	0,25	0,19	1,27	5,48		
9.2013	95	0,71	0,34	1,58	0,19	0,18	1,15	4,33		
12.2013	95	0,68	0,28	1,54	0,19	0,19	0,99	3,64		
3.2014	95	0,66	0,28	1,48	0,2	0,19	0,89	2,62		
6.2014	95	0,69	0,31	1,49	0,21	0,2	0,75	1,76		
9.2014	95	0,71	0,3	1,46	0,19	0,2	0,7	1,4		
12.2014	95	0,68	0,27	1,42	0,19	0,19	0,59	1,33		
3.2015	95	0,65	0,3	1,33	0,19	0,19	0,57	0,76		
6.2015	95	0,73	0,32	1,45	0,2	0,19	0,5	1,38		
9.2015	95	0,7	0,32	1,52	0,19	0,19	0,77	2,55		
12.2015	95	0,67	0,25	1,44	0,19	0,19	0,63	1,7		
3.2016	95	0,68	0,27	1,43	0,2	0,19	0,69	1,69		

Source: Own calculations based on Database from ZRBS

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In the following quarters the variation of the ratio decreases, and the interquartile range diminishes from 0.28 to 0.19 (since the second half of 2013). The statistical analysis of the variation of the indicator in question confirms, similarly to assets, deposits and loans, a rightskewed distribution. This skewness diminished in the following quarters (Table 3).

In the initial periods the examined group of banks is more diverse, in time this diversity diminishes and stabilizes. Since 2013 the variation ratio does not exceed 0.2. Additionally, kurtosis was used to assess the variation of the examined sample. Its positive values for all the study periods indicate the existence of clusters around the mean and a higher probability of extremely high or low values. This phenomenon is observed in selected quarters, for example the 3rd and the 4th quarters of 2012, since 2014 it gets stabilized.

### **Conclusions**

The role of a financial intermediary is realized by cooperative banks when they manage to balance their money transfers. At present, European cooperative banks manage to balance their deposits and loans, while in Poland deposits exceed. The conducted study proves that the number of cooperative banks with this problem increases. This might indicate that the banks realize the set in advance targets that assume surplus deposits. From the economic point of view this phenomenon does not constitute an obstacle in the market activity and its assessment should refer to its social aspect only.

The surplus of deposits might result from the regulations obliging cooperative banks to deposit excess money in the apex bank. The set market price of such deposits does not promote seeking alternative, often more risky investments. Additionally, limiting loans, that is making funds available to only the less risky borrowers, improves the financial situation of the bank (including its good-quality loan portfolio, limited provisions, lower capital requirements due to credit risk). All the abovementioned causes are definitely not conclusive and it is necessary to conduct a much more thorough analysis of the deposit/loan imbalance in Polish cooperative banks with reference to their individual policies.

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