Market Discipline in Russia: Evidence from Depositor Survey

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Abstract

Analyzing market discipline in the Russian market for personal deposits, we use the results of a survey of depositors at largest Moscow banks (September-October, 2009). We trace the diversification and monitoring strategies, reveal the degree of confidence added by deposit insurance system, highlight the role of financial instabilities in depositors' behavior. We find strong evidence of potential quantitative discipline and show statistically significant factors influencing the propensity to demonstrate incentives for either quantity-based discipline or maturity shifts. The factor influencing both is the demand for financial information about bank risks, provided directly to the depositor.

Keywords: Russia, banking, market discipline, depositors, deposit insurance, transparency.

JEL Classification: G21, O16, P2

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Introduction

Like any other financial service market, the market for bank deposits is exposed to information asymmetry problems: all deposits are characterized by some probability that the bank will not be able to repay due to default. Also, the depositors' abilities to change the characteristics of the deposit supply in response to excessive risk-taking by banks is questionable, as the information available to them may be difficult to interpret or insufficient. When personal deposits are owned by individuals rather than firms, this problem is of particular urgency, and therefore of particular significance for many Russian banks (the share of such deposits in banks' liabilities may amount to as much as 80 percent). If failing to exert effective market discipline, this type of clients may be particularly vulnerable to bank panics, which can plunge the entire banking system into crisis. At the same time, the market for personal deposits is traditionally tightly regulated in Russia, and most of the regulatory measures are related to additional depositor protections. It was in this market that legislators imposed a mandatory deposit insurance system.

Is this regulation necessary or it reduces the incentives to exert market discipline? Do the depositors exert the market discipline that The New Basel Capital Accord (Basel II) relies on? How can we test for the presence of market discipline and measure its intensity in the market for personal deposits? Our study aims to address these questions and contribute to the general knowledge of the Russian bank deposit market.

We understand market discipline to be a set of mechanisms through which depositors may implicitly control their banks by changing the characteristics of deposit supply. In other words, depositors may change their investment strategies in response to changes in the financial indicators of risks undertaken by banks. This phenomenon is usually studied using a regression analysis methodology. Outcomes that would suggest the existence of market discipline would be significant correlations between deposits or deposit growth (for quantitative mechanisms), shares of deposits of various maturity in total deposits (for quantitative mechanism based on maturity structure shifts) or average deposit interest rates (for price mechanism) and a number of financial indicators of banks' financial position and performance.

We studied market discipline using a completely different approach. We employed a survey methodology instead of regression analysis, and used questionnaires to directly address depositors. In fact, the rationale behind our approach was to switch from the type of quantitative analysis of financial statements that banks provide to an analysis of how real depositors act. This approach offers insight into depositors' financial behaviors and decision-making processes. This methodology provides a good opportunity to improve understanding of the factors that influence depositors' investment decisions.

An important factor to be emphasized is the deposit insurance system (DIS), as it may be a source of moral hazard. After the DIS was introduced, even those depositors who have the ability — i.e., the funds, time and expertise — to monitor banks effectively may stop doing so. After all, why bother monitoring banks if the insurance fund will repay the deposit in the case of bank failure? Some empirical studies support this hypothesis,[2] while others refute it.[3] So, in the Russian market for personal deposits, where this institution was recently introduced,[4] it seems to be very important to determine whether the DIS provides additional confidence to the depositors and reduces the incentive to exert market discipline.

In this paper we intend to achieve the following goals:

1) To find out what role information about banks' financial positions and performance plays in depositors' decision-making processes related to market discipline and whether the need of financial information, if satisfied, encourages disciplining? We analyze quantitative market discipline mechanisms: disciplining by quantity and by maturity shifts. This implies determining a) the changes in financial indicators that would result in withdrawing funds from a bank by depositors and b) the changes in financial indicators that would make depositors switch from long-term to short-term, or even to on-call deposits.

2) To reveal the other factors influencing the propensity to demonstrate incentives to market discipline (we call it potential market discipline). These factors include socio-demographical and economic factors, deposit characteristics and diversification, within a bank and interbank one, the confidence provided by deposit insurance, the financial turmoil, bank choice criteria.

Our study moves one step closer to answering the following questions, which are very important for Russian banking modernization and, in particular, for reforming the personal deposit market. Which disciplinary strategies are used by individual depositors, and to what extent do they use the financial information available to them? Is there a need to take measures to increase the volume of available financial information, or is it more important to improve the form in which it is

[2] For example, Ioannidou, de Dreu (2006) and Hosono (2004).
[3] For example, Davenport, McDill (2006)
[4] At the very end of 2003, the owners of personal deposits in Russian banks obtained the state guarantee that in the case of their bank's bankruptcy they would have an opportunity to get their funds replaced (but not more than 100,000 rubles). No earlier than two weeks after the bank's license is cancelled, the depositor applying for the reimbursement should send a request to the Deposit Insurance Agency. The amount of his or her deposit (taking the ceiling into account) must be repaid in three days. At the same time the Agency takes the depositor's place in the line of banks' creditors. Both on-call and time personal deposits are insured, but there is no insurance for firm deposits or bank deposits. The participation in the system is obligatory for all banks, which have a license for retail deposits acceptance. Banks are admitted on the basis of financial stability coefficients brought in line with the requirements. The set of coefficients is standard for capital adequacy, assets quality, management quality, earnings and liquidity, but the requirements are stricter than those for ordinal check-ups. In August 2006, the maximum amount of compensation was raised to 190,000 rubles (with 90 percent coverage for amounts more than 100,000 rubles). The ceiling was later increased to 400,000 rubles (Semenova, 2007). Finally, in October, 2008, the full coverage was increased to 700,000 rubles.

presented? For instance, should some initial processing mechanisms be introduced, making the data less complicated to interpret?

This paper is organized as follows. We start by briefly reviewing the relevant literature to demonstrate the most common way of measuring the market discipline. In the next section, we discuss in detail the results of a survey of individual depositors of Moscow banks. In the final section, we discuss our results and emphasize the most important conclusions.

Measuring Market Discipline: regression analysis

Most of the early papers on market discipline mechanisms concentrate on the experience of the United States' commercial banks and saving and loans associations (S&Ls)[5] in the 1980s to 1990s. These studies can be divided into three groups, according to the nature of the mechanisms examined. The results of the first group of studies support the hypothesis that uninsured depositors charge higher interest rates to riskier banks because these interest rates contain risk premia (*e.g.*, Hannan, Hanweck, 1988; Ellis, Flannery, 1992). In a second set of studies (*e.g.*, Jordan, 2000; Goldberg, Hudgins, 1996), a quantity-based approach is used. If bank fundamentals demonstrate greater risks, depositors tend to withdraw their funds. As such, it becomes more difficult for the bank to raise additional deposits. Some authors combine both approaches (*e.g.*, Park, 1995; Park, Peristiani, 1998) and demonstrate that riskier banks offer higher deposit interest rates while also accumulating smaller amounts of uninsured deposits.

The case studies dedicated to identifying the presence of market discipline in other countries have proliferated in recent times. The existence of market discipline was substantiated for developed countries like Switzerland[6] and Japan[7], as well as for some developing countries: Argentine, Chile, Mexico[8], Bolivia[9], Colombia[10], India[11], Turkey[12] and Uruguay[13]. Notably, they show that market discipline exists even in the market for small insured deposits. "All-around-the-globe" studies (Demirgüc-Kunt, Huizinga (1999), Hosono, Iwaki, Tsuru (2004)) allow for some cross-country comparisons. They demonstrate that a quantity-based approach is the most appropriate for developing economies, where, due to information asymmetry and a lack of transparency in financial markets, interest rates are unlikely to reflect information about bank risks. Conversely, a mixed approach is best when studying developed countries.

[5] For simplicity, hereafter they are called "banks," although legally they are not.
[6] Birchler, Maechler (2001)
[7] Murata, Hori (2006)
[8] Martinez Peria, Schmuckler (1999), (2001)
[9] Ioannidou, de Dreu (2006)
[10] Barajas, Steiner (2000)
[11] Ghosh, Abhiman
[12] Ungan, Caner
[13] Goday, Gruss (2005)

Another way to discipline banks might be called a maturity shift: depositors may switch from riskier long-term deposits to less risky short-term or even on-call deposits when faced with additional risk-taking by banks (Murata, Hori, 2006, Semenova, 2007).

In addition to the above-mentioned criteria, it is worth distinguishing papers on this topic by the econometric models they estimated. This classification is important because it helps to understand why the model presented in this paper was chosen. Before the papers by Martinez Peria and Schmuckler (Martinez Peria, Schmuckler 1999, 2001) were published, the authors estimated dependent variables in two steps. In the first step, they determined the probability of bank failure. In the second, they constructed the estimate of dependent variables according to the failure probability and some other factors, which were unrelated to bank fundamentals. Martinez Peria and Schmuckler noted that this approach failed to explicitly demonstrate whether the changes in the dependent variables were mostly caused by a particular bank fundamental, so they reverted to a one-step model. This approach has been adopted by most of their followers; as such, our study contains an econometric model that explicitly demonstrates the relationship between the dependent variable and bank fundamentals, as well as macroeconomic characteristics.

However, this approach, when applied to data from the financial statements of Russian banks, provides ambiguous results. Some authors conclude that there is no market discipline—either quantitative or price – in the Russian market for bank deposits.[14] On the other hand, some authors demonstrate the existence of market discipline by quantity and by price, even in the market for personal deposits.[15] That is the reason why we turn to survey methodology, basing on depositor-level data, not on bank-level one.

Data Characteristics: The Survey

We use the results of a survey of Moscow bank depositors. The empirical stage was performed in September-October 2009. The survey covered the depositors of the largest banks registered in Moscow. Taken together they have approximately 65 percent of the market for personal deposits. The questionnaire was offered to individual depositors who were not owners of pension deposits (as pension deposits function as accounts to obtain pension payments, not as deposits). One thousand and one questionnaires were completed by individual depositors at nine Moscow banks. The information about the banks that agreed to participate in the project is

[14] For example, Hosono, Iwaki, Tsuru (2004) (based on 1995-2002 data)

[15] For example, Karas, Pyle, Schoors (2006) (based on 1999-2002 data), Peresetsky, Karminsky, Golovan (2007) (based on 2002–2004 data), Semenova (2007) (based on 2006-2006 data).

presented in Table 1. To use the data in regression analysis mean we re-weighted the results obtained for each of the banks. The weights were proportioned to the market share of each bank[16].

Table 1. Banks, number of the respondents and weights.

Bank name	Number of respondents	Number of offices	Position in the rating	Weights	Notes
Bank of Moscow	100	5	3	3,6031%	Controlled by local authorities
Gazprombank	101	5	4	3,0586%	Owned by largest Russian gas company Gazprom
My bank	100	5	106	0,1154%	Private domestic bank
OTP Bank	100	5	30	0,5829%	Owned by OTP Group (Eastern Europe)
Raiffeisen	100	5	5	3,0550%	Owned by Raiffeisen Centrale Austria
Rosbank	100	5	7	2,4440%	Partly owned by Societe Generale (France)
Sberbank	200	9	1	77,5378%	Controlled by the state
Societe Generale Vostok	100	5	32	0,5581%	Owned by Societe Generale (France)
VTB24	100	5	2	9,0449%	Owned by the bank VTB controlled by the state

Market Discipline

Now we turn to the analysis of "potential market discipline." We use this term to emphasize that the survey does not reveal depositors' observed actions. We can only hope to uncover what their intentions are and how would they react to various information signals. We chose some simple bank fundamentals to ask the respondents about (we dealt with the most unsophisticated category of depositors). They were as follows: bank capital, bad loans, risky assets, profit. To control the size of the bank we introduced assets as well. We included both variants of change in bank fundamentals (positive and negative) to give the depositor the opportunity to demonstrate financial competence. We analyzed only quantity-based mechanisms of market discipline and the maturity shifts. The respondents were asked to answer the following questions (the set of answers is the same for both):

Q: "What information could make you withdraw you money from this bank?"

Q: "What information could make you switch from long-term to short-term or even on-call deposits in this bank?"

1 bank assets decreased
2 bank assets increased
3 bank capital decreased
4 bank capital increased
5 overdue loans granted to bank clients decreased
6 overdue loans granted to bank clients increased
7 bank profit decreased
8 bank profit increased
9 bank invests into less risky projects
10 bank invests into riskier projects
11 nothing from mentioned above

[16] The weights are obtained from the Interfax bank rating according to the amount of personal deposits accumulated by banks (October 1, 2009).

The depositors demonstrated strong sensitivity to changes in some of the indicators of the financial position and performance of their bank, independent of the source of the information about the changes. The quantity-based disciplinary mechanism (the prospective of withdrawing funds) is characterized by the following:

- Thirty-two percent of bank clients would close their deposits if they became aware of a decrease in their bank's profits.
- The growth of bad loans would result in the withdrawal of 31.5 percent of depositors' funds.
- If a bank's capital is reduced, 29 percent of respondents would be ready to withdraw their money.
- If a bank invests in risky projects, 22.7 percent of depositors would withdraw their funds,
- If the assets of the bank decrease, 22 percent of the depositors preferred to withdraw their funds.
- Only 5.3 percent of the respondents would not withdraw their funds in response to changes in financial indicators.

Market discipline by maturity shifts – i.e., the change of deposit maturity structure – is quite well articulated too:

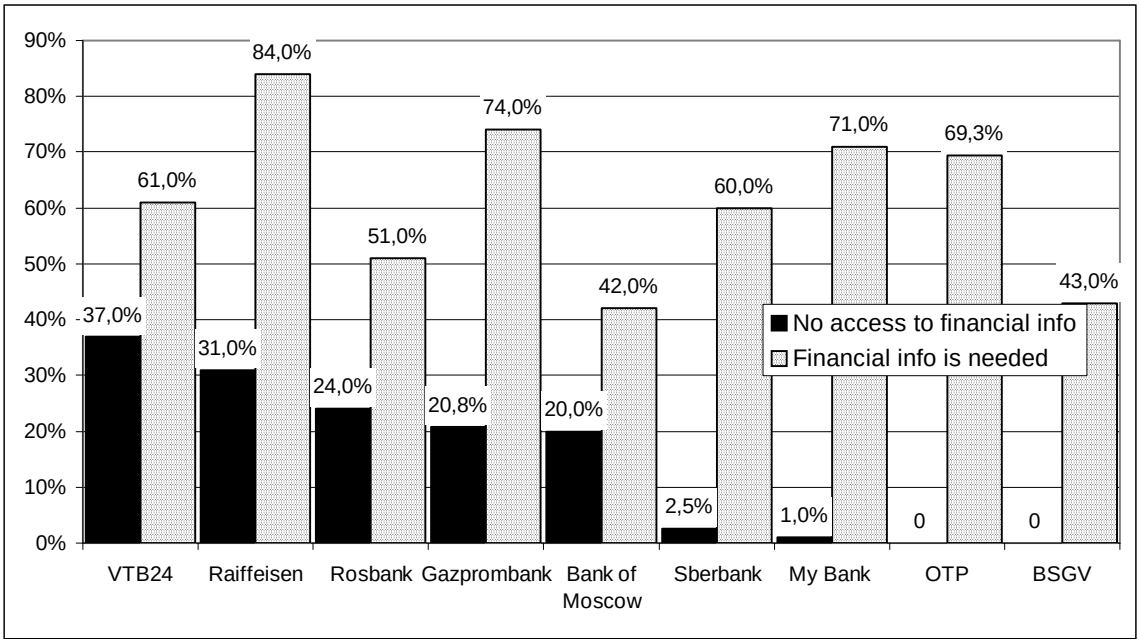
- One out of three depositors would switch to short-term deposits if there were a decrease in bank profits.
- If a bank's capital decreases, 31.5 percent of the respondents would change the maturity structure of their deposits.
- The growth of bad loans would result in the withdrawal of 30 percent of depositors' funds.
- If there were a decrease in bank assets, 19 percent of the depositors would prefer short-term investments.
- 17.6 percent of respondents would shift from long-tern to short-term deposits if their bank invested in riskier projects.
- Finally, only 6.6 percent of the depositors would not switch to a short-term maturity structure under any circumstances.

Bank Reliability Monitoring

More than 70 percent (71.4 percent) of the depositors claim that they regularly – at least once in a half a year - monitor information that may indicate the reliability of their bank, using different sources of information. The place of financial information is however rather modest: only 14.5 percent of the depositors study some financial statements using the web-site of their bank, 13.1 percent use the Central bank's web-cite for this purpose. The incentives to monitoring using

financial information is reduced by the fact that some depositors are sure that financial statements are somewhat secret for them and they have no legal right to have a look at them (according to banking legislation it is not true). The proportion of these depositors is 14 percent; it is the highest for VTB24 depositors (37 percent) and equals to zero for OTP and BSGV clients (see Figure 4). In the same time the depositors demonstrate the need of this kind of information. When asked about whether this data, if provided to them directly, will be useful and incorporated into decision-making processes, 60 percent of the respondents give positive answer. We expect these depositors to demonstrate more incentives to market discipline, as they are ready to base their decisions on financial information.

Figure 4. Access to and needs of information from bank financial statements



What are the other factors, which may influence depositors' propensity to exert potential market discipline? We outline the following groups of factors:

- Socio-demographic and economic characteristics
- Deposit type and diversification
- Trust in deposit insurance
- Attitude to risk
- Financial instability influence
- Bank choice criteria

We will analyze these characteristics one by one.

Socio-demographic and Economic Characteristics

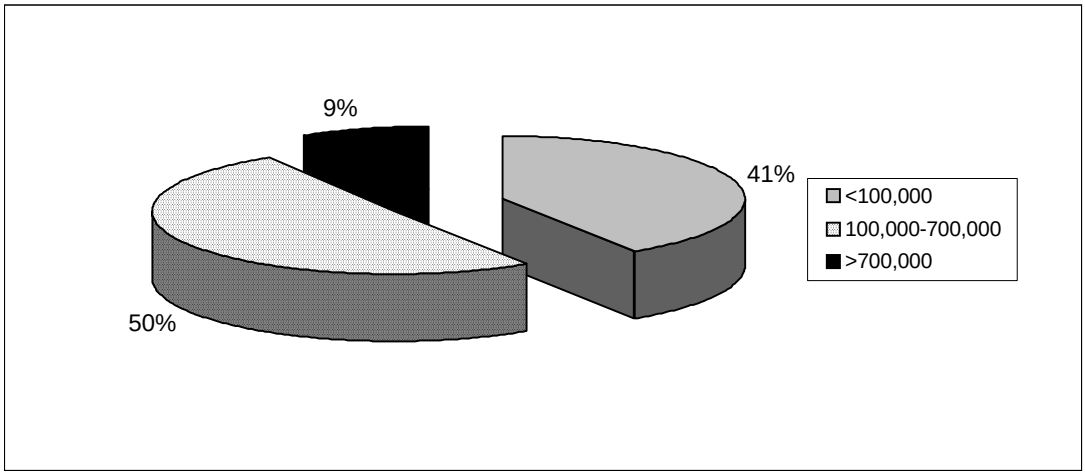
The socio-demographic and economic characteristics of the respondents are the following. The respondents are 38.2 percent female and 61.8 percent male; the highest proportion of female respondents is among Raiffeisen depositors (52 percent), the lowest – among clients of Societe General Vostok Bank (BSGV) (30 percent). The average respondent age is 39 (with a standard deviation 10.8 years). 63.4 percent have a higher education. The highest proportion of the depositors with higher education is among Raiffeisen clients (77 percent), while the lowest was among BSGV ones (that is not surprising as the proportion of the depositors younger than 25 is the highest for BSGV – 13 percent with 8 percent for the sample as a whole). For 23.3 percent of the respondents the average of the last month's income per family member is less than 20,000 rubles, for 28 percent - 20,000-40,000 rubles, for 19,5 percent - 40,000-60,000 rubles, and for 14,7 percent it exceeds 60,000 rubles.

Deposit Diversification

We start by analyzing how depositors distribute their investments in bank deposits. We consider total amount of deposits, deposit maturity structure, distribution among different bank products and distribution among different banks.

We expect large partly uninsured depositors to demonstrate more incentives to market discipline. Considering the total amount of money invested in different deposit accounts within one bank, the diversification structure is as follows. 41 percent of the depositors own the smallest deposits that do not exceed 100,000 rubles (see Figure 1). The overall deposits of 91 percent of respondents do not exceed 700,000 rubles, and thus will be fully compensated by the Deposit Insurance Agency in the case of a bank's inability to repay the funds.

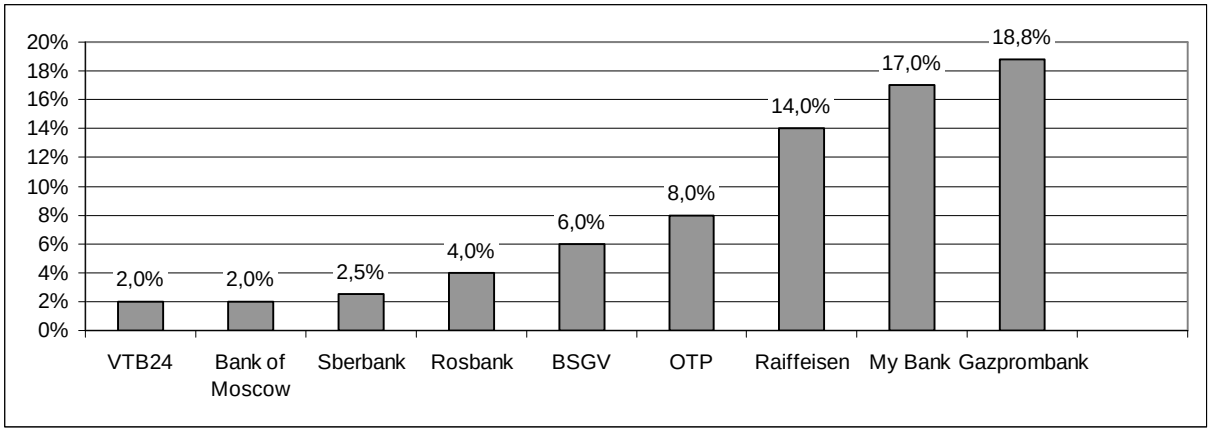
Figure 1. Total amount of deposits in one bank, rubles



The proportion of large, partially uninsured depositors is thus 9 percent. This proportion is the highest for Gazprombank depositors: one out of five clients owned deposited funds of more than

700,000 rubles**.** In general the proportion of large depositors is the lowest among state-owned banks and the highest for those, which are at least ambiguously national private[17].

Figure 2. The share of large depositors in different banks.



Notably, one can see positive relationship between respondents' income and the total amount of deposits he has in a particular bank (see Table 2).

Table 2. Total amount of deposits in different income groups.

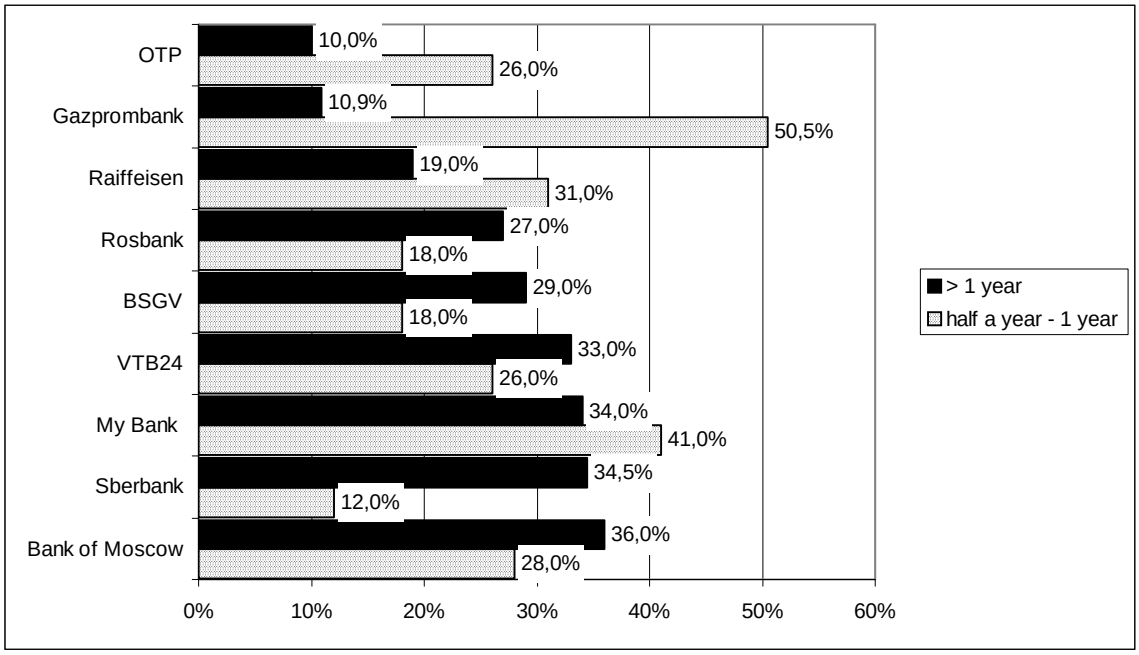
	Total amount of deposits, rubles			
Income, rubles	*<100,000*	*100,000-700,000*	*>700,000*	**Total**
<20,000	50,23%	47,47%	2,30%	100,00%
20,000-40,000	50,78%	44,57%	4,65%	100,00%
40,000-60,000	36,26%	53,85%	9,89%	100,00%
>60,000	17,56%	58,78%	23,66%	100,00%

Then we should analyze the types and therefore the maturity of the deposits. We expect the depositors owning more long-term deposits to be more probable to exert market discipline.

More than a half of the depositors own long-term time deposits (51.7 percent), if we consider a deposit to be a long-term one if the maturity exceeds half a year. The proportion of depositors holding the most long-term – with the maturity over one year – is the highest for state-owned banks (see Figure 3). However the proportion of the owners of the deposits with the maturity from half a year to one year is the highest for Gazprombank and My Bank.

[17] One can argue that Gazprombank is also associated with the state as the state has a certain control over Gazprom, bank's mother company.

Figure 3. Proportion of long-term deposit owners



Some depositors have different types of deposits in one bank, including simultaneous ownership of short-term or on-call products and long-term ones (see Table 3). We expect those depositors to be less probable to exert market discipline as they already apply some effort to diversify the risks at least within one bank.

Table 3. Proportion of depositors owning al least two products (out of 1001 respondents)

Product type	*on-call deposit*	*debit card*	*wage card*	*time deposit, less than half a year*	*time deposit, from half a year to 1 year*	*time deposit, more than 1 year*
on-call deposit	17,28%	4,50%	4,50%	2,50%	3,40%	2,80%
debit card	4,50%	19,98%	8,09%	2,90%	3,60%	4,80%
wage card	4,50%	8,09%	33,17%	5,19%	5,99%	4,50%
time deposit, less than half a year	2,50%	2,90%	5,19%	19,78%	0,90%	1,00%
time deposit, from half a year to 1 year	3,40%	3,60%	5,99%	0,90%	26,77%	1,30%
time deposit, more than 1 year	2,80%	4,80%	4,50%	1,00%	1,30%	26,27%

With respect to interbank diversification, 70 percent of respondents did not have deposits in other banks. We expect these depositors to demonstrate more incentives to market discipline as they will concentrate their attention to one bank. For those owning deposits in different banks market discipline may be more complex to exert.

Deposit Insurance System

Before moving on, we should emphasize the role the deposit insurance system plays in forming and supporting depositors' confidence in the banking system and, consequently, reducing the incentives to monitor and engage in market discipline.

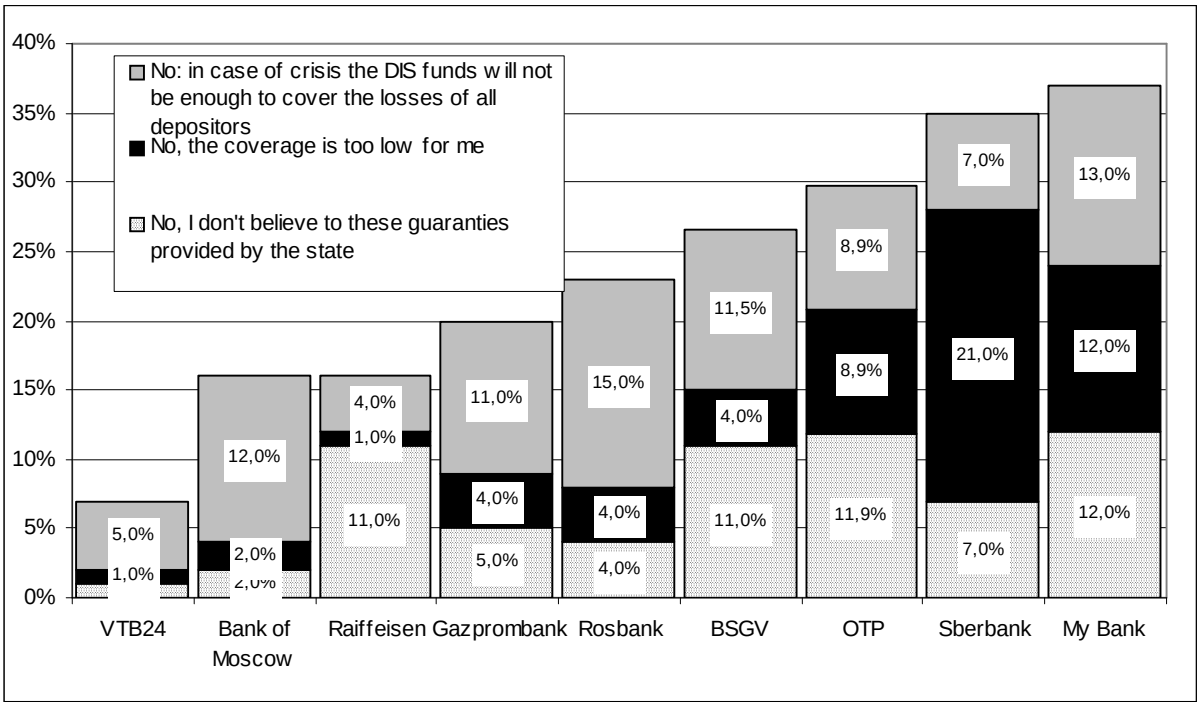
The membership of banks in the deposit insurance system seems to add confidence in the safety of the deposits for many bank clients. A bit less than half of them (47 percent) noted that they obtained a 100 percent guarantee that all their funds will be repaid in case of bank failure. A substantive proportion of respondents, 17.4 percent, indicated that their total deposits exceeded the maximum coverage, but that a sizeable proportion of their deposits would be repaid anyway. However, some depositors are not aware of the details of deposit insurance compensation mechanisms even if they claim they are (see Table 4). In fact, 12.5 percent of depositors who own deposits of less than 100,000 rubles were certain that the compensation would not be enough for them or they would obtain no compensation at all. This proportion of the owners of deposits from 100,000 to 700,000 rubles is even higher and amounts for 22.4 percent. In the same time according to the DIS compensation scheme, these deposits would be fully compensated in the case of a bank's inability to repay the deposits. On the other hand, 13 percent of the large depositors, who are not fully insured claim they are.

Table 4. Misunderstanding the DIS repayment scheme

Q: "Does DIS insure your deposits in full?"	**Total amount of deposits in a bank**			
	<100,000	*100,000-700,000*	*>700,000*	*No answer*
Yes, I am fully insured	53,12%	49,02%	12,99%	39,58%
No, I'm partially insured	7,59%	18,08%	58,44%	18,75%
No, I'm not insured at all	4,88%	4,36%	5,19%	0,00%
I don't know	20,87%	11,98%	7,79%	16,67%
No answer	13,55%	16,56%	15,58%	25,00%
Total	100,00%	100,00%	100,00%	100,00%

Another issue is the confidence provided by deposit insurance. In the period of financial instability the confidence may decrease providing additional incentives for market discipline. Only 43.6 percent of the respondents are sure that in the situation of financial instability Russia is facing DIS is a good tool to provide and guaranty the banking system stability. Notably the proportion of those, who do not rely on DIS, is high not only for private My Bank, but state-owned Sberbank (see Figure 5). Most of them think that the coverage provided by DIS is too low. The depositors of foreign-own Raiffeisen, OTP and BSGV are the most frequent to say they do not believe in state guaranties in principle. The proportion of those depositors understanding that if numerous banks go bankrupt simultaneously, DIS will not be able to compensate all the liabilities is the highest among state-owned banks' as well as private domestic banks' depositors.

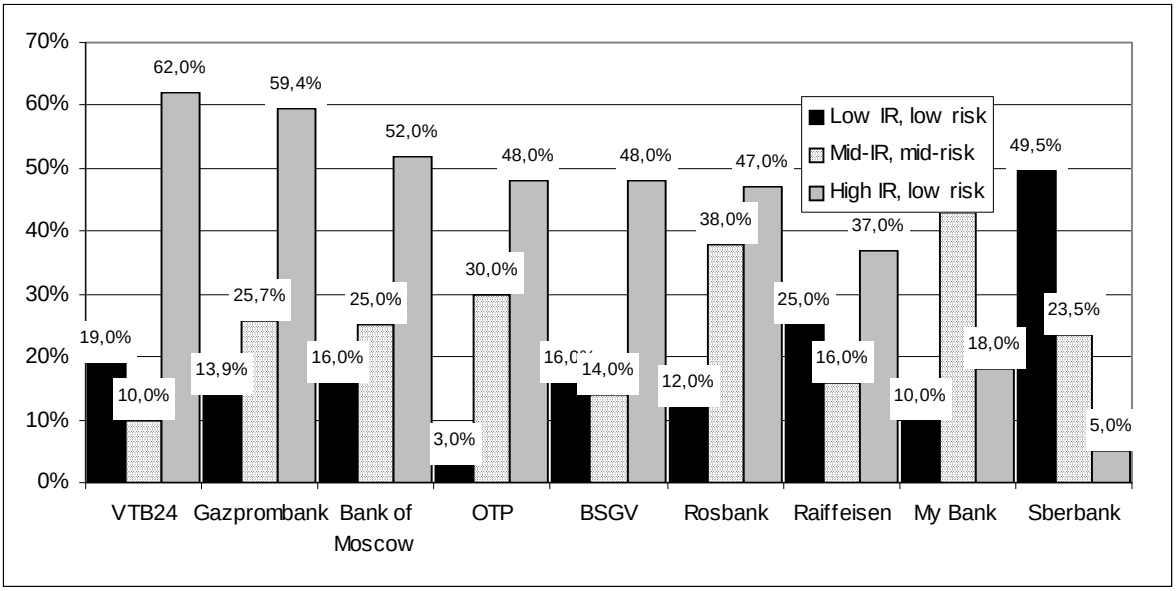
Figure 5. Reasons for not relying on DIS during financial instability



Attitude to Risk

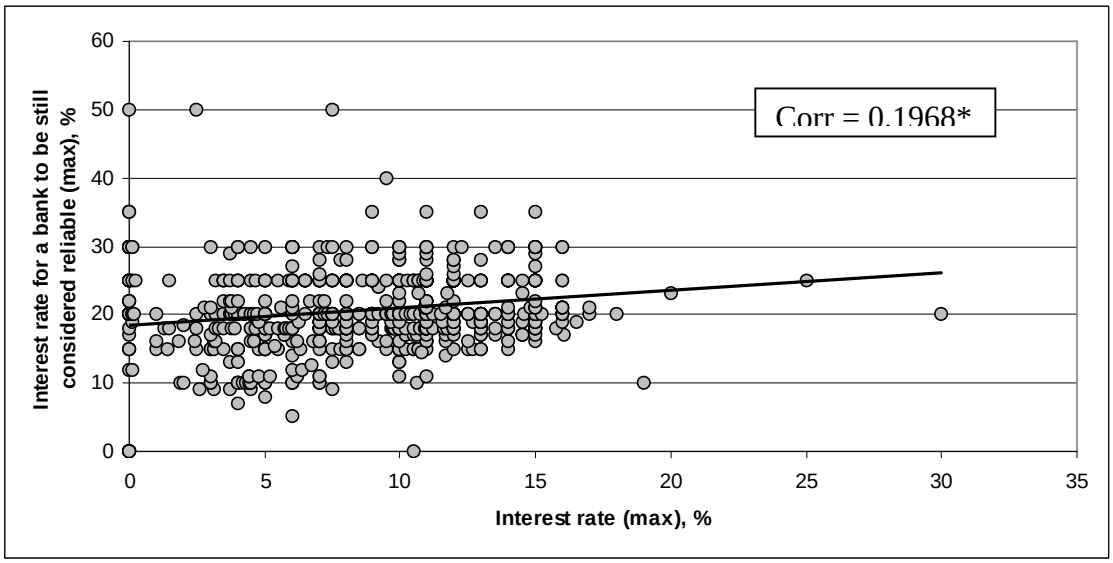
Forty percent of the respondents, when asked whether their bank offer higher reliability or higher interest rates, state their bank offers both. This proportion is the highest for VTB24, but is rather low for other state-owned bank – Sberbank (see Figure 6). These depositors cannot be considered taking "risk-return" dilemma seriously. One quarter of the respondents think that their banks offer medium interest rates and are reliable to some medium degree. Finally for 21.4 percent the interest rates are quite low but this is compensated by bank's reliability.

Figure 6. Risk-return dilemma



However the respondents usually correspond their choice of interest rates with the highest possible rate for a bank to be considered as a reliable one. The higher this hypothetic rate the higher is the highest actual interest rate the depositor's product is characterized by (see Figure 7). We expect the depositors with higher hypothetical interest rate to be less probable to exert market discipline.

Figure 7. Hypothetical and actual interest rates



*- significant at 0,1% confidence level

Financial Instability

The period of survey followed the period of financial instability Russia entered into in mid-2008. So we controlled for the actions the depositors undertook in that period as well as for the changes in their circumstances and attitudes and expectations related to the banking system.

Among the deposits we observe large proportion of those opened more than half a year and even a year ago. The proportion of the latter is 33 percent. When asked about some actions during recent instability period – changing banks, products and so on – 53 percent of the depositors answered they made nothing. We can expect these depositors to exert market discipline with lower probability, as they do not react on the overall negative moods.

Forty two percent of the depositors state the crisis in the banking system did not touch them at all. We expect them to be less cautious and less sensitive to the changes in financial situation of their banks. The same is true for those, who faced no difficulties with their working places or wage decreases. These problems touched 41 percent of the respondents.

Potential Market Discipline: Regression Analysis.

What are the determinants of potential market discipline? What determines whether the depositor would use various mechanisms in response to information signals obtained from various sources? To answer these questions we estimate the following Probit regression model:

$$MD = a + g_1' SDE + g_2' DEP + g_3' DIS + g_4' CRISIS + g_5' AR + g_6' FI + g_7' BC + g_8' Bank + e$$

where *MD* stands for market discipline Dummy variable, *SDE* – for social, demographic and economic characteristics, DEP characterizes deposits' types, and diversification, *CRISIS* controls for crisis influence, *AR* characterizes attitude to risk, *FI* stands for need-of-information variable and *BC* - for a group of bank choice variables, *Bank* includes bank-specific Dummy-variables. Tables 5a and 5b describes all the variables in details.

Table 5a. Dependant variables (Dummy-variables for market discipline)

Variable for quantitative discipline (maturity shifts)	Description	Notes
QD (MS)	any signal	1 – if the depositor marked any information signal, 0 – otherwise
QD_AS (MS_AS)	reduction of assets	1 – if the depositor marked this information signal, 0 – otherwise
QD_CAP (MS_CAP)	reduction of profit	1 – if the depositor marked this information signal, 0 – otherwise
QD_BLOAN (MS_BLOAN)	riskier investments	1 – if the depositor marked this information signal, 0 – otherwise
QD_EARN (MS_EARN)	reduction of capital	1 – if the depositor marked this information signal, 0 – otherwise
QD_RISK (MS_RISK)	increase in bad loans	1 – if the depositor marked this information signal, 0 – otherwise

Table 5b. Independent variables

Variable	Description	Notes
	SDE	
SEX		1 – if the depositor is male, 0 – female
AGE		depositor's age, years
EDU		1 – if the depositor has higher education, 0 – otherwise
INCOME2	depositor's income (month average per family member)	1 – if the depositor is in the second income group (20,000-40,000 rub.), 0 – otherwise
INCOME3		1 – if the depositor is in the third income group (40,000-60,000 rub.), 0 – otherwise
INCOME4		1 – if the depositor is in the forth income group (>60,000 rub.), 0 – otherwise
	DEP	
DEP_OC	on-call deposit	1 – if the depositor own this type of deposits, 0 – otherwise
CARD	debit card	1 – if the depositor own this type of deposits, 0 – otherwise
WCARD	wage debit card	1 – if the depositor own this type of deposits, 0 – otherwise
SHORT_DEP	time deposit with maturity less than half a year	1 – if the depositor own this type of deposits, 0 – otherwise
MID_DEP	time deposit with maturity from half a year to 1 year	1 – if the depositor own this type of deposits, 0 – otherwise
LONG_DEP	time deposit with maturity over than 1 year	1 – if the depositor own this type of deposits, 0 – otherwise
DEP_SUM2	total amount of deposits	1 – if the depositor is in the second group (100,000-700,000 rub.), 0 – otherwise
DEP_SUM3		1 – if the depositor is in the third group (>700,000), 0 – otherwise
IR	interest rate	the most long-term deposit's interest rate,%
FLEX	flexibility of withdrawal	0 – if the depositor has the deposits with the posibility of partial withdrawal, 0 – otherwise
DIV	deposit diversification	1 – if the depositor has at least two types of deposits in this bank, 0 – otherwise
OTHER_BANKS	deposits in other banks	1 – if the depositor has deposits in some other banks, 0 – otherwise
	DIS	
DIS2	depositor's reasons not to be satisfied with DIS during financial instability (compared	1 - for answer "No, I don't believe to these guaranties provided by the state", 0 - other answers
DIS3		1 - for answer "No, the coverage is too low for me", 0 - for other answers

DIS4	with depositors, feeling confident with DIS)	1 - for answer "No: in case of crisis the DIS funds will not be enough to cover the losses of all depositors", 0 - for other answers
DIS5		1 - for answer "I don't know about the details of DIS compensation scheme", 0 - other answers
CRISIS		
OLD_DEP	old deposit	1 – if the depositor opened his last deposit more than a year ago, 0 – otherwise
PATIENT	depositor's patience	1 – if the depositor made no changes in his deposits' structure during financial instability period, 0 – otherwise
CRISIS	the influence of crisis	1 - if difficulties related to banks touched depositor somehow, 0 - otherwise
WORK_WORSE	working conditions deterioration	1 - if the depositor lost his job, changed it to worse one or faced wage reduction during crisis, 0 - otherwise
AR		
MAX_IR		the highest interest rate that a reliable bank may offer, %
NO_RISK	no risk-revenue dilemma	1 - if the depositor states his bank offers high interest rates and is highly reliable, 0 - otherwise
FI		
USE_FI	need of financial information	1 - if the depositor would incorporate the information from financial statements into his strategies if he was given this information at no cost and no effort to apply, 0 - otherwise
BC		
BANK_SERV	the most important criteria of bank's choice	1 - if the depositor chose a bank with high-quality service and/or conveniently located offices, 0 - otherwise
BANK_REL		1 - if the depositor chose large bank and/or state- or foreign-owned, and/or admitted to DIS, 0 - otherwise
BANK_REP		1 - if the depositor chose a bank his relatives or friend had positive experience to collaborate with and/or work in, 0 - otherwise
BANK_IR		1 - if the depositor chose a bank higher interest rates, 0 - otherwise
BANK		
VTB		Dummy for VTB24
BM		Dummy for Bank of Moscow
OTP		Dummy for OTP
ROS		Dummy for Rosbank
BSGV		Dummy for BSGV
RAIF		Dummy for Raiffeisen
MYB		Dummy for My Bank
GAZ		Dummy for Gazprombank

Results

We start from quantitative market discipline, the results of regression estimation are presented in Table 6. We can observe no common relationships for all bank fundamentals, they differ not only for different fundamentals but for separate bank fundamentals and *QD*. Among socio-demographic characteristics education proves to be significant. Depositors with higher education are more probable to react on negative information signals (the same is true for assets but for capital the effect is negative). The age is significant for profit decrease and increased investments into riskier projects: older depositors withdraw with lower probability after the former signal and with higher probability after the latter one. Depositors with higher income are less probable to withdraw in response to negative information. The possible explanation is that higher income reduces relative value of the deposits. The depositors who do not own wage cards demonstrate the incentives for potential market discipline with higher probability: definitely, they chose the bank themselves (an employer played no role in this choice) and this can make them more attentive to the banks financial situation. For bad loans the wage card ownership even has negative effect. The total amount of deposits is important for assets and capital reduction as well as for higher investments into riskier projects. Larger depositors are more probable to withdraw in response to the first and the second signals, but surprisingly less probable – to the last one. The

owners of more profitable deposits are less sensitive to assets' decrease but more – to profit decrease. As we expected, those, who diversify the deposits within one bank are less probable to exert market discipline. However this is not true for interbank diversification: the owners of deposits in different banks react to negative information more frequently. That may be explained by low switching costs: the money withdrawn from one bank may be easily deposited in another; as the deposit there is already opened one may simply increase it without any efforts spent on other bank search and choosing. The deposit insurance system has quite ambiguous effect on depositors' incentives. Those, who fell no confidence provided by DIS during financial instability (for any reason), are less frequent to withdraw when capital decreases but more frequent if a bank invests more in riskier projects. Depositor holding deposits in the same bank for more than a year demonstrate more incentives for market discipline. Notably they do not react to overall negative moods but are ready to efficient bank runs. Surprisingly financial instability period itself did not spur more attention to information signals. If the depositor faced some problems related to crisis in banking sector he is even less probable to react to capital decrease or bad loans' growth. The latter, though, has positive effect if a depositor faced deterioration of working conditions. Less risk-averse (measured by *MAX_IR* and *NO_RISK*) depositors are more probable to withdraw, but this is true only for capital reduction or bad loans' growth. The depositors, who demonstrate the need of more financial information, have more incentives to exert market discipline. We can expect them as a source of efficient bank runs in case of the disclosure mechanisms' improvement. Finally the criteria of bank's choice are also significant. Those, who chose a bank according to its reliability, are more probable to react to capital and profit decrease as well as to bad loans increase.

Table 6. Quantitative discipline, marginal effects

	QD		Assets		Capital		Bad Loans		Earnings		Riskier Projects	
	dF/dx	z	dF/dx	z	dF/dx	z	dF/dx	z	dF/dx	z	dF/dx	z
SEX	0,0368568	0,74	0,0578456	0,76	-0,031086	-0,39	-0,001814	-0,03	0,0924715	1,38	0,0078736	0,2
AGE	-0,0012985	-0,69	0,0008095	0,24	-0,003466	-1,07	-0,001367	-0,57	-0,0047437***	-1,87	0,0034156***	1,73
EDU	0,058311**	2,09	0,0782105***	1,71	-0,126723*	-2,79	-0,018446	-0,6	-0,005558	-0,13	0,0603047**	2,28
INCOME2	-0,0102374	-0,18	0,1014181	1,13	0,0559118	0,61	-0,067115	-1,09	0,0472685	0,57	-0,041125	-0,81
INCOME3	-0,2218424**	-2,35	-0,100823	-1,06	-0,107999	-1,22	-0,018667	-0,27	-0,047366	-0,57	0,0316257	0,5
INCOME4	-0,1898116	-1,62	-0,2295294*	-2,89	0,0317922	0,23	0,0827535	0,67	-0,1647632**	-2,49	-0,0680639***	-1,75
DEP_OC	0,1055059**	2,18	0,1541387	1,17	-0,1724973***	-1,86	-0,036334	-0,45	0,0132076	0,13	0,1246427	1,3
CARD	0,1234085*	3,13	-0,027173	-0,23	-0,044351	-0,42	-0,06434	-0,92	0,0834629	0,81	0,025953	0,32
WCARD	0,0743197	1,17	0,1742244	1,42	0,0685299	0,53	-0,1448275**	-2,13	-0,0851	-1,01	0,0622272	0,82
SHORT_DEP	0,1489727*	4,2	0,1978513	1,24	0,0469382	0,32	-0,1138711***	-1,87	-0,027277	-0,27	0,0859937	0,92
MID_DEP	0,1662545*	4,39	0,1396263	0,84	-0,024472	-0,16	0,1266027	0,86	0,0706824	0,6	0,0427271	0,52
LONG_DEP	0,1272905**	2,11	-0,09512	-0,77	0,0301207	0,22	0,3409129*	2,71	0,1102693	0,94	-0,030506	-0,44
DEP_SUM2	0,0555683	1,23	0,1205924	1,4	0,2039329**	2,23	-0,067358	-1,08	-0,010548	-0,15	-0,060885	-1,51
DEP_SUM3	-0,0023375	-0,03	0,5757619*	3,86	0,5609633*	3,86	0,1034927	0,75	-0,009218	-0,06	-0,090854*	-4,07
IR	0,0031539	0,68	-0,0164631***	-1,93	-0,013962	-1,59	0,0015608	0,24	0,0200255*	2,84	0,0029804	0,67
FLEX	-0,0386845	-0,93	0,0873018	1,17	0,0556122	0,78	-0,001678	-0,03	-0,042185	-0,71	-0,058085	-1,47
DIV	-0,3252094***	-1,86	0,0673963	0,41	-0,075866	-0,56	0,1743278	1,15	0,0045543	0,04	-0,1126081**	-2,26
OTHER_BANKS	0,0859501***	1,78	0,1707854**	2	0,0238879	0,36	0,1111815***	1,94	0,0746807	1,21	0,0103339	0,24
DIS2	-0,1999444	-1,65	-0,106262	-0,99	-0,2977139*	-6,83	-0,1612215*	-4,26	-0,097988	-0,99	0,4971718*	3,57
DIS3	-0,1062957	-0,68	-0,089459	-0,68	-0,1473612**	-2,04	0,191529	1,21	-0,134664	-1,58	0,4599414*	2,65
DIS4	-0,1060253	-1,17	-0,076617	-0,73	-0,251869*	-5,15	0,2201136**	2,05	0,0896376	0,88	0,3420667*	3,05
DIS5	-0,0736716	-0,99	-0,013027	-0,12	-0,103346	-1,32	0,0286372	0,34	0,0613125	0,63	0,3967605*	4,34
OLD_DEP	0,1225642**	2,28	-0,079934	-0,89	-0,054198	-0,62	0,0315348	0,45	0,2200004*	2,68	-0,029091	-0,56
PATIENT	-0,0490111	-1,19	-0,021018	-0,26	-0,00386	-0,06	-0,049442	-0,79	-0,157274**	-2,16	0,0652594***	1,77
CRISIS	-0,0750738	-1,2	0,0974977	1,07	-0,2417366*	-2,97	-0,1962894*	-3,14	-0,094053	-1,28	0,0113827	0,24

WORK_WORSE	-0,0166919	-0,37	-0,072283	-0,85	0,0832301	1,12	0,1271278**	2,27	-0,017724	-0,26	-0,071664	-1,5
MAX_IR	0,0018858	0,39	-0,007772	-1,15	0,012871***	1,78	0,0100861	1,19	0,0007506	0,09	-0,0096312*	-2,65
NO_RISK	0,0083362	0,17	-0,1803303*	-2,63	0,1078798	1,06	0,1933295**	1,96	0,0675105	0,73	-0,010962	-0,24
USE_FI	0,1797241*	3,16	0,1478624***	1,77	0,077587	0,95	0,0785498	1,37	0,052716	0,75	0,0506805	1,23
BANK_SERV	0,1022841**	2,03	0,0981456	1,25	0,0859585	1,12	-0,054172	-0,89	0,0042691	0,06	-0,049769	-1,07
BANK_REL	-0,0165857	-0,31	-0,060166	-0,67	0,2487168*	3,5	0,1925081*	3,82	0,1357387***	1,93	-0,0980419***	-1,83
BANK_REP	0,1482441*	4,05	0,1248636	1,47	0,1556338***	1,71	0,0181585	0,29	0,0973188	1,3	-0,016195	-0,37
BANK_IR	0,0240128	0,54	-0,075483	-0,92	0,2295482**	2,14	-0,08143	-1,59	0,2362911**	2,38	-0,007564	-0,16
VTB	-0,1388361	-1,23	-0,1643985***	-1,78	-0,111731	-1,31	-0,007419	-0,09	0,16078	1,17	0,1211189	1,07
BM	-0,3203574*	-2,59	-0,2185691*	-3,29	-0,2423292*	-6,48	-0,028263	-0,37	0,2039031	1,6	0,048768	0,53
OTP	-0,5350266*	-3,62	-0,17558**	-2,32	-0,1873576*	-3,89	-0,092596	-1,41	-0,1667197*	-3,25	0,2968548**	2,08
ROS	-0,3710151*	-2,76	-0,1878604*	-2,79	-0,2123615*	-4,96	-0,1337253*	-3,94	0,0177467	0,17	0,1138035	1,1
BSGV	-0,1428745	-0,98	0,0025571	0,02	-0,13181	-1,62	-0,009347	-0,08	0,0675508	0,44	0,1733356	1,12
RAIF	0,0895402*	2,61	0,0278909	0,21	-0,109063	-1,16	-0,025471	-0,27	0,0483405	0,38	0,4892802*	3,01
MYB	0,0644735	0,9	-0,2389208*	-5,18	-0,08686	-0,82	0,7173431*	6,64	-0,099002	-1,28	0,2129444	1,51
GAZ	-0,2170484***	-1,7	-0,096361	-0,91	-0,11381	-1,44	-0,1053485***	-1,73	0,2027927	1,5	0,1564134	1,35
N	513		513		513		513		513		513	
LR X^2	139,57*		118,94*		111,27*		156,43*		113,02*		120,40*	
PSEUDO R^2	0,3738		0,2911		0,3187		0,4215		0,2395		0,3062	

,,**- significant at 1%,5% and 10% level correspondingly.*

Different factors are significant for maturity shifts (see Table 7). Women are more sensitive to asset and capital decrease while men are more probable to react to overall increase of risks of bank investments. Older depositors as well as those with higher education are less probable to switch to more short-term deposits in response to bad loans increase. The same is true for the depositors with highest income, they are more frequent to do this is capital decreases. Surprisingly the owners of time deposits with the maturity over than one year are less sensitive to negative information signals. The explanation may be found in their unwillingness to loose higher interest payments offered for long-term deposits. Notably the relationship is the opposite for bad loans' increase. The interest rate is also a significant factor, but the effect is rather small. The diversification proved to be significant only in interbank version and only for bad loans and riskier projects: the effect is positive as in case of quantitative discipline. The same is true for absence of confidence provided by DIS; it stimulates potential market discipline related only to riskier project. The effect of financial crisis is even more ambiguous than in case of quantitative discipline, related to working conditions it's absent. The effect of risk aversion is tiny or is absent as well. The need of financial information again is significant and has positive effect on the probability to exert market discipline. Finally, the initial choice of bank is important again and the pattern of effects is very close to the previous case: those, who chose a reliable bank, demonstrate more incentives to exert market discipline for numerous bank fundamentals.

Table 7. Maturity shifts, marginal effects

	MS		Assets		Capital		Bad Loans		Earnings		Riskier Projects	
	dF/dx	z	dF/dx	z	dF/dx	z	dF/dx	z	dF/dx	z	dF/dx	z
SEX	0,0254827	0,51	-0,1352918**	-1,96	-0,14765**	-2,01	0,0070206	0,17	-0,026957	-0,46	0,1462431*	3,71
AGE	0,0004907	0,22	0,00285	1,02	0,0007712	0,23	-0,0039316**	-2,09	-0,005478**	-2,23	-0,000534	-0,37
EDU	-0,0079435	-0,3	0,022131	0,6	-0,06358	-1,54	-0,0509135**	-1,98	0,0000176	0	-0,017715	-0,9
INCOME2	0,1055785**	2,16	-0,027527	-0,38	-0,015048	-0,16	0,0215056	0,43	0,0620357	0,86	0,1512007**	2,27
INCOME3	0,0039097	0,07	-0,099555	-1,29	0,0027049	0,02	-0,058405	-1,27	0,0841038	0,93	0,1205632***	1,66
INCOME4	-0,011372	-0,14	0,0429583	0,3	0,3000142**	1,96	-0,0997961*	-2,93	-0,1112058***	-1,7	0,0057051	0,1
DEP_OC	-0,3654825*	-2,33	0,0179497	0,16	-0,134241	-1,05	-0,1292491*	-2,69	-0,105665	-1,36	-0,03313	-0,76
CARD	0,0270911	0,33	-0,111591	-1,39	0,0558821	0,39	-0,06965	-1,24	-0,045474	-0,55	0,0534415	0,81
WCARD	-0,1229419	-1,19	0,1131191	1,05	0,0167804	0,12	-0,041669	-0,58	-0,089341	-1,14	-0,0879262**	-2,21
SHORT_DEP	-0,018835	-0,17	0,1711218	1,13	0,1516249	0,82	-0,1288262*	-3,5	-0,109639	-1,5	-0,0591871***	-1,74

MID_DEP	-0,1897574	-1,12	0,0583666	0,43	0,1556601	0,8	-0,058979	-0,76	-0,1352364***	-1,84	-0,0848726*	-2,89
LONG_DEP	-0,277748***	-1,88	-0,018662	-0,16	0,0935585	0,58	0,2424968**	2,12	-0,08347	-0,92	-0,1136478*	-2,66
DEP_SUM2	0,0485654	1	0,1094143	1,42	0,0676295	0,8	-0,041468	-0,85	0,0041546	0,06	-0,004715	-0,15
DEP_SUM3	0,063503	1,13	0,3533919	1,35	0,1546051	0,92	0,3602224***	1,86	-0,000522	0	-0,027824	-0,58
IR	0,0206831*	2,84	-0,0153511**	-2,02	-0,0168767**	-2,01	0,0162837*	2,88	0,0201937*	2,91	-0,004023	-1,17
FLEX	-0,0027632	-0,06	0,0026951	0,04	0,1470416***	1,85	0,0383883	0,86	0,0849629	1,47	0,0323796	1,04
DIV	0,1235394	1,6	0,1285502	0,87	-0,024018	-0,14	0,0988311	0,81	0,0089232	0,08	0,1477245	1,36
OTHER_BANKS	0,0216384	0,39	0,0620204	0,81	-0,121644	-1,37	0,0780526**	1,75	-0,041067	-0,77	0,0836231**	2,31
DIS2	-0,1638359	-1,34	-0,122674	-1,55	-0,3230871*	-6,99	-0,004674	-0,06	-0,1432144*	-2,66	0,1149876	1,37
DIS3	0,0262485	0,28	0,1862869	1,02	-0,128428	-1,28	-0,050423	-0,8	-0,014562	-0,11	0,2152682	1,36
DIS4	-0,0591484	-0,67	-0,019702	-0,2	-0,133232	-1,41	-0,02983	-0,57	0,0269445	0,31	0,1557445***	1,7
DIS5	-0,0661308	-0,8	-0,072883	-0,93	-0,128395	-1,32	-0,0766256***	-1,73	0,0787505	0,9	0,2441519*	2,73
OLD_DEP	-0,061446	-1,07	-0,1700617***	-1,93	-0,079166	-0,93	0,0426459	0,81	0,1733277**	2,13	0,0743317***	1,87
PATIENT	-0,048516	-1,06	0,0223549	0,34	0,0862804	1,15	-0,1129159***	-1,9	-0,2043671*	-2,58	0,0028279	0,08
CRISIS	-0,0208957	-0,36	-0,03474	-0,46	-0,2708912*	-2,89	-0,2287502*	-4,1	-0,017417	-0,25	0,0331308	0,83
WORK_WORSE	-0,0252253	-0,5	0,0572858	0,79	0,0118854	0,14	0,0368529	0,81	-0,010995	-0,18	0,0052579	0,14
MAX_IR	-0,0070251***	-1,83	-0,0114438***	-1,9	0,0142842**	2,13	-0,003576	-0,64	-0,006264	-1,24	-0,0002	-0,07
NO_RISK	-0,0452374	-0,71	0,0916283	1	0,0724388	0,8	0,0305594	0,49	-0,0333	-0,47	-0,037768	-1,13
USE_FI	0,1858092*	3,4	0,2753314*	4,04	0,2264523*	2,77	0,0764091***	1,7	0,1140405***	1,8	0,0398545	1,09
BANK_SERV	-0,0351424	-0,77	-0,044036	-0,67	0,1590776**	2,06	-0,084593	-1,61	-0,049787	-0,81	-0,0658896***	-1,78
BANK_REL	0,1867521**	2,42	0,0210767	0,3	0,2847627*	4,12	0,1561599*	3,96	0,2317622*	4,25	-0,071628	-1,55
BANK_REP	0,025795	0,55	-0,053836	-0,77	0,17628***	1,9	-0,041352	-0,97	0,2109731*	2,97	-0,020226	-0,61
BANK_IR	0,095488*	2,63	0,15442	1,23	0,144758	1,38	0,0588353	0,82	0,4598319*	4,37	-0,039454	-1,21
VTB	-0,2354244	-1,6	-0,2387826*	-5,81	-0,030639	-0,26	-0,001014	-0,01	0,1961754	1,44	0,1083899	0,89
BM	-0,1719848	-1,47	-0,2204585*	-6,1	-0,1853741**	-2,46	-0,071101***	-1,74	0,2826937**	2,45	0,25333**	2,21
OTP	-0,7863263*	-10,2	-0,2016221*	-6,44	-0,2586754*	-5,64	-0,103036*	-4,13	-0,1785079*	-5,43	0,6455352*	5,05
ROS	-0,3494684*	-2,62	-0,2214051*	-6,71	-0,062273	-0,58	-0,0973144*	-3,51	0,1942752	1,63	0,286349*	2,33
BSGV	-0,6114245*	-3,96	-0,1951867*	-5,47	-0,1988082*	-2,71	-0,0780803***	-1,8	-0,1482544*	-2,96	0,595827*	3,21
RAIF	-0,2709505	-1,4	-0,1590317*	-2,61	-0,11349	-1,04	0,1534144	1,1	0,0405722	0,32	0,0080104	0,11
MYB	-0,1769415	-0,98	-0,2040527*	-6,89	-0,1695888**	-1,88	0,3423044***	1,74	-0,086667	-1,06	0,2657767	1,44
GAZ	-0,4512923*	-3,23	-0,2091282*	-5,11	-0,134646	-1,36	-0,1134796*	-4,05	0,2644318**	2,14	0,4329988*	3,02
N	513		513		513		513		513		513	
LR X^2	124,95*		97,18*		106,83*		168,20*		144,62*		129,86*	
PSEUDO R^2	0,3240		0,2511		0,2815		0,4574		0,2880		0,3224	

Conclusion

By analyzing the results of the survey of largest Moscow-registered banks' depositors, we were able to augment the results obtained by researchers who used only a regression analysis methodology to market discipline. We moved away from bank-based data sources and base our analysis on the data provided by the depositors, who are the subjects of decision-making. This gives us the opportunity to study not only the results, but the process itself, and reveal the factors, which influence the depositors deciding whether to withdraw money or to change the deposit structure when some negative information reaches him.

We demonstrate that even sex, age and education influence the probability a depositor demonstrate incentives to exert market discipline. Our aim was to find those groups of depositors, which are characterized by higher probability to demonstrate incentives to exert market discipline. These are the large depositors with higher education, not owning wage cards and choosing a bank by reliability criterion. Higher interest rates make depositors more sensitive at least to some bank fundamentals' deterioration. Diversification within one bank reduces the incentives for quantitative discipline, while interbank diversification stimulates it as well as maturity shifts. The absence of confidence provided by deposit insurance system makes depositors more sensitive to changes in risks related to bank investment policies, the most sensitive are those, who do not believe in state

guaranties at all. Being a depositor in the same bank for a long period of time makes depositors more probable to exert potential market discipline: they do not react to overall negative moods during financial instability period but may the source to efficient bank runs or at least change deposit structure. The group of the depositors, who face the need of more comprehensive and interpretable financial information, demonstrates incentives to use disciplining mechanisms – and what they need is the change in disclosure requirements, that, related to making information easier to incorporate into financial decision-making. Finally the financial turmoil did not stimulate market discipline even if the depositors face some difficulties in this period.

We believe our results are valuable in optimizing banks' policies of attracting additional funds from this category of clients. It will also be valuable when banks forecast the changes in deposit structure resulting from informational signals related to changes in indicators of financial position and results. The results we obtained may be of interest to financial regulatory authorities. In particular, they seem to be important in connection with the deposit insurance system design. Although with respect to the effectiveness of market discipline, the current DIS design is quite successful, we emphasize that a significant proportion of depositors do not believe in the state's guarantees and many have incorrect notions about the DIS compensation mechanisms. The former keeps market discipline functioning. The latter, on the other hand, may cause serious problems in resolving bank bankruptcies ex post and creating and supporting the system of confidence ex ante. We also demonstrate the role of disclosure principles and requirements and the needs of depositors: the changes in disclosure policy may turn the market to more efficient market discipline.

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