

Deposit Insurance and Deposit Contracts

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Abstract

This study examines the design of insured and uninsured deposit contract in an emerging market with severe competition for limited retail deposit funds. Using detailed data from almost 80,000 deposit contract observations in a large sample of Russian banks, we find that banks use a broad variety of implicitly and explicitly priced contract terms to aggressively compete for limited household funds in the fast-growing emerging banking market. Consistent with the market discipline hypothesis, we also find that uninsured deposit contract are highly sensitive to the bank risk profiles. From a regulatory perspective, our findings suggest that the policy measures of deposit rates monitoring or imposing deposit rate ceilings for preventing deposit accumulation by risky bank could be ineffective. Our results show that banks can complement deposit contracts with embedded options attractive for depositors thus enabling banks to compete for insured deposits even in the presence of deposit rate monitoring.

Keywords: Emerging markets banking, household deposits, deposit contracts, deposit insurance, depositor discipline, moral hazard, Russia

1. Introduction

The costs and benefits of the deposit insurance systems provide a food for thought and long-standing debates for a large body of theoretical and empirical banking literature¹. The moral hazard issues triggered by the deposit insurance provisions are even more controversial in the context of the rapidly growing emerging banking markets². In these fast-growth and high-risk environments, the competition for deposit funds can be severe as it is driven by both, the unsatisfied demand for bank credit and by the limited liability-side funding available to finance the profitable credit expansion. In this environment, problem banks may have strong incentives to set aggressive deposit rates and in simultaneously increasing the riskiness of their asset portfolios using accumulated insured deposit funds. Although the deposit insurance is of vital importance in the unstable emerging markets to prevent potential depositors' runs and panic, it inevitably introduces the well-known moral hazard issues and insured depositors' disincentives to monitor bank risk-taking.

In this paper, we explore the fundamental differences in the insured and uninsured contracts' terms in order to shed light on how deposit contracts are structured in the emerging market with partial deposit insurance provisions. We expect that insured depositors, with deposit size below the coverage limit, will be sensitive almost exclusively to the deposit contract pricing and service features and that they will be overall indifferent to the bank risk and performance profiles. We also expect that uninsured depositors, on the contrary, will be highly sensitive to bank risk-taking and that it will be costly to risky banks to issue such contracts. In addition, in the environment with

¹ See, for example, Demirguc-Kunt and Detragiache (2002)

² The applicability of the market discipline monitoring and influence in the emerging banking market context is discussed in a number of theoretical and regulatory papers, including Calomiris and Powell (2001); Caprio and Honohan (2004); Levy-Yeyati, Martinez-Peria, and Schmukler (2004). The relevant empirical studies that focus on depositor discipline in these markets include Martinez-Peria and Schmukler (2001); Mondschean and Opiela (1999); Chernykh and Cole (2011); Karas, Pyle, and Schoors (2010); Ugan, Caner, and Özyildirim (2008). Collectively, they support the argument that the depositor discipline seems to be the most promising and reliable channel of the market discipline in the emerging banking sector.

regulated deposit rates (recommended ceilings), we expect that banks will use a wide variety of non-price contract terms to mask their aggressive deposit contracts and to substitute price for nonprice contract terms.

To address these relevant research questions, this study examines the banks' incentives structure of pricing insured and uninsured deposits using large and unique dataset of 78,959 retail deposit contracts issued in the post-deposit insurance introduction and post-crisis Russian banking sector. Our detailed, three-dimensional (bank-month-deposit contract) dataset allows us not only to identify a broad set of price and non-price terms for each deposit contract but also to match these contracts with monthly bank-level data for a sample of 371 Russian banks that are the major players on the country's deposit market. Our data also allow us, as a next step, to trace the deposit growth in sample banks in response to the publicly offered deposit contracts.

Using this new dataset, we are able to identify banks' strategies in price and non-price competition in a deposit market and, more importantly, to test how the approaches to structure insured and uninsured contracts differ across high- and low-risk banks.

Our empirical results to date are as follows³. First, we document that banks in competitive deposit markets issue a large variety of deposit contracts and utilize a very broad range of non-price deposit contract terms. Overall, in addition to the size and maturity dimensions, we identify and describe thirteen distinct deposit contract features, such as targeting specific social groups, offering multicurrency conversion, automatic renewal, early termination privileges, and/or other options. Second, we find that uninsured deposit pricing is driven by a different set of determinants compared to the insured deposits. More specifically, deposit rates on the uninsured deposits are negatively and significantly associated with the bank capitalization and the assets size risks. Third, we find that banks in less competitive retail deposit markets offer lower deposit rates, suggesting that the market-

³ The data analysis is still in process. We outline remaining empirical steps in more details at the end of this paper.

wide deposit rates increases may be largely driven by the degree of the local competition. Finally, we find that state banks and foreign banks offer lower rates on all deposit contracts, even after controlling for all other bank and deposit-level characteristics.

We expect that this empirical study and our unique contract-level data will contribute to the emerging market banking literature in at least the following three ways. First, it provides early but comprehensive evidence on how banks structure the insured and uninsured contracts. Second, from a broader perspective, this study shows at the detailed, contract-level, data how the moral hazard incentives associated with insured deposits and the market discipline incentives associated with uninsured deposits affect the banks' deposit pricing decisions. Third, we provide empirical evidence on the coexistence of implicit and explicit deposit pricing in an emerging market context. The last but not the least, the study informs the non-trivial regulatory decisions on how to monitor and to regulate the insured deposit pricing in the environment with pronounced moral hazard effects where the high-risk and high-growth banking institutions aggressively and creatively compete for the limited retail deposit funds.

2. Deposit contracts in Russia: Background

Figures 1 illustrate the last decade's trends in the evolution of the household deposit market in Russia. Although the deposit growth is very pronounced in the absolute terms (Figure 1), it is more modest in the relative terms. Especially in the most recent years, the household deposit to asset ratio not only stagnated but also dropped around the 2008 financial crisis in Russia.

[Figure 1]

The *de novo* deposit insurance system in Russia was introduced in Summer 2004, for retail deposits only. As of the end of 2005, after the final stage of the deposit insurance introduction the membership in the system has become mandatory for all retail deposit-taking banks. Banks that

failed to pass the regulatory on-site examinations have lost their deposit-taking privileges⁴. As of the end of 2011, the country's Deposit Insurance Agency registry included 796 banks with an active deposit-taking license or 86.3% out of 922 Russian banks. The explicit insurance covers retail deposits only, in local and in foreign currencies, with a coverage limit equivalent to 700,000 rubles (or about \$22,500)⁵.

According to the Deposit Insurance Agency statistics, the fully insured deposits account for 99.6% of the total banking system in terms of the number of accounts and only for 55.8% in terms of the volume of accumulated deposits. Bar diagrams for the years 2008 and 2011 in Figure 2 describe the distinction between the insured and uninsured deposits in Russia by showing the amounts of accumulated deposit funds in the country's banking system. All deposits below RUB700K are fully insured; all deposits above this coverage threshold are only partially insured, for the first 700K.

[Figure 2]

Figure 3 shows the evolution of the nominal interest rates on the Ruble-denominated retail deposits in Russia. After the gradual decrease, the rates start to increase again in response to the foreign financing withdrawals and bank liquidity deficit during the 2008-2009 crisis.

[Figure 3]

Given the high demand for funding in these emerging banking markets, the competition in the household deposit markets remains severe. According to the Russian Statistical Agency, the share of the population income allocation in the official financial system savings has dropped from

⁴ For the details of the multi-stage deposit insurance introduction in Russia see Chernykh and Cole (2011). Karas, Pyle, and Schoors (2010) explore depositor discipline in the pre-deposit insurance period in the Russian deposit markets. Ungan, Caner, and Özyildirim (2008) document the depositors' behavior during the early stages of the deposit insurance introduction in this country.

⁵ The initial coverage after the deposit insurance introduction was RUB100,000. However, during the subsequent years, it was gradually increased. The most recent increase, from RUB 400,000 to RUB700,000 occurred in October 2008, in response to a temporary depositor run during the recent global financial crisis.

14.6% to 10.3%. This drop was driven by the relatively large increase in the current consumption expenses, from 69.9% to 74.1%, and by the relatively small increase in the “under-the-mattress” foreign currency savings, from 3.7% to 4.3%.

Another factor that increases the competition for retail deposits is high concentration of deposit market in Russia. The country’s largest commercial bank, state-controlled Sberbank, controls 46.6% of deposit market share. The top 30 banks by the number of accumulated deposits, including Sberbank, control 77.7% of deposits. According to the DIA statistics, the share of the remaining, medium and small size banks, is slowly increasing, from about 20.9% in 2008 to 22.3% in 2011, suggesting a fierce competition for deposit funding among these numerous banks.

3. Data

This paper uses a unique deposit contract level data covering the monthly dynamics of all term deposit contracts offered by 371 Russian banks and spanning April 2011 - February 2012 period. As can be seen from Table 1 an average bank offers 53 insured deposit contracts and 49 uninsured deposit contracts in a given month. Within a bank term deposit contracts vary along the following dimensions: deposit size, deposit term, deposit features such as options to add or withdraw money etc. Table 2 provides description and summary statistics of all term deposit features identified in our data set. This rich cross-bank variation of the deposit contract features enables us to test if bank’s fundamentals are priced in the deposit rates offered by banks on insured and uninsured term deposit contracts.

The data set is obtained from the Russia’s most popular Internet search engine yandex.ru (NASDAQ: YNDX)⁶. The main criterion for a bank being included in a data set is an active bank’s participation on the demand deposit market. The total assets size of banks included in our data set for the average month of the study period is 27,872 billions of rubles which represents 80% of the

⁶ Source: Bloomberg.com (May 25, 2011): “Yandex Jumps on First Day in Biggest 2011 Tech IPO”

total assets size of the whole Russian banking system for the average month of the study period. The total volume of the term deposits in our data is 6,786 billions of rubles which represents 97% of the total volume of the term deposits in the liabilities of all Russian banks. These numbers indicate that our data covers most economically meaningful banks and the sample selection bias is minimal. The second source of the data is the Central Bank of Russia which reports balance-sheet accounting information on of all Russian banks at a monthly frequency. Besides accounting information the Central Bank reports location of the bank's head office and ownership by foreign shareholders, which allows us to identify bank's geographical market and its affiliation with foreign banks. By matching these bank level characteristics with the multiple deposit contracts offered by banks enables us to compose a panel with the following three dimensions: bank-time-deposit contract and 78,959 observations.

Within this data set we are able to identify 41,251 insured and 37,708 uninsured contracts. Figure 4 illustrates the dynamics of the average term deposit rate offered by banks in our sample on these contracts. The general increase in the deposit rates correspond to the developments in the Euro zone during the period and increase in an international cost of funding for the Russian banks. The most telling result is a steady average size of the premium paid by banks on uninsured deposits (0.66%).

Panel A of the Table 1 breaks down all deposit contracts by size. The panel for insured deposits suggests that most deposits offered in this category have 10-100K rubles as a lower limit and an even distribution for the upper limit size. Most uninsured deposits are concentrated around 1-5 million rubles minimum deposit size bracket suggesting that the partially insured part of these deposits is small relative to the whole deposit size.

Table 1 Panel B allocates the term deposit contracts into maturity brackets. As one can see, 70% of the deposit contracts cover 6-month to 3-year maturity suggesting that term deposits are a

relatively long-term source of funding for the Russian banks. From the last column of the table we see that term deposit rate yield-curve is upward sloping with a hump at the end.

We provide more details on the summary and descriptive statistics and the deposit contracts' features in the next section.

4. Results (preliminary)

The data analysis is in process. In this section, we briefly report our non-parametric evidence and the contract-level regression results to date. Section 5 outlines the remaining steps, including a number of extensions for bank-level fixed effect analysis and a series of robustness tests that will complete this empirical study.

4.1. Descriptive statistics and univariate comparisons

We start our examination of deposit contract data with a simple summary and descriptive statistics to document and to classify all observable characteristics in our large dataset of contracts. Figure 4 aggregates contract-level data by showing the patterns of interest rates on insured and uninsured contracts during the sample period. Overall, the premium on uninsured deposits remains constant over the sample period, at about 0.7% level.

[Figure 4]

Table 1 reports a number of fundamental contract-level characteristics in our dataset for 78,959 bank-month-deposit contract observations, including 41,251 (or 52.2% of total) insured contracts and 37,708 uninsured ones (47.8%). As explained in the Background section, all retail deposits below RUB700K are fully insured; all deposits above this coverage threshold are uninsured for all amounts in excess of 700,000 coverage threshold. Panel A of Table 1 provides more details on the distribution of deposit size in our database. Overall, uninsured deposits range from 1K to 700K of rubles. Uninsured deposits range from 700K to above 10M of rubles.

[Table 1]

Panel B of Table 1 describes maturities structure of the offered deposit contracts and corresponding interest rates. From a depositor perspective, longer maturity contract are associated with higher exposure to interest rate risk. From a bank perspective, longer maturity contracts provide higher stability in core deposits. Taken together, the two effects results in the pronounced premium and higher deposit rates for longer maturities, ranging from 4.43% annual rate for short-term deposits up to 3 months to 7.72% annual rates for deposits with above 3 years maturity. By the frequency distributions, the most popular maturities are in the medium-term intervals: 1 to 3 years (39.6% of total contracts) and from 6 months to 1 year (30.5%). The ratio of insured and uninsured contracts across all maturities brackets is approximately stable.

Table C of Panel A summarizes deposit rates distribution across insured and uninsured contracts in the total sample. The mean (median) size for insured contract is 6.64% (6.80%) versus the 7.31% (7.50%) for uninsured contracts, equivalent to about 0.7% interest rate premium for uninsured contracts. Panel C also shows strikingly large number of unique deposit contracts per bank, with an average of 53 standardized insured contracts and 49 standardized uninsured contracts issued in only 11-month period. The number of issued contracts also varies dramatically, in a range from 2 to 240.

Overall, the descriptive evidence in Table 1 reveals wide variability in deposit contracts in our dataset. Table 2 describes and explains non-price contract terms features in our dataset. Overall, we identify and document thirteen different characteristics commonly used in the Russian household deposit markets. The broad variety of these characteristics and unlimited number of combinations across deposit size, deposit maturity, and deposit non-price terms help to explain why a typical retail-active bank has offers a large number of deposit contracts. The automatic renewal (67.9% of contracts), monthly compounding (50.1%), and the option to add money during the deposit contract

life (48.4%) are the most commonly used options. We also document more exotic and rarely used options in this deposit market, such as deposits tied to mutual funds (1.3%), deposits contracts that can be opened through the Internet (2.1%) and the so-called multicurrency deposits that allow flexible adjustments to combine different currencies on one contract (3.9%). The presence of these features in insured and uninsured contracts is approximately equal, with two exceptions: the prevalence of insured contracts among pension deposits (as only 17.7% of these contracts are uninsured) and the prevalence of uninsured contracts among multicurrency deposits (58.5%).

[Table 2]

In the last three columns of Table 2 we also document the average interest rates for contracts with and without each described feature, controlling for deposit maturity terms. Overall, almost all differences in deposit rates are highly statistically significant and in expected directions based on whether each particular feature increase or decrease the deposit attractiveness for a depositor.

Table 3 presents bank-level characteristics in our dataset. The total number of unique banks in our unbalanced sample is 371. The quartile range for the capital risk variable, measured with the regulatory capital ratio, is from 10.4% to 24.14%, suggesting a wide variability in sample banks' capitalization. The quartile range for the credit risk variable, measured as the ratio of loans to the private sector to bank assets is from 34.6% to 57.7%. Banks in our sample also seem to rely heavily on the household deposits in their liabilities management, with a mean ratio of household deposits to total deposits of 75.3% and an even higher median of 82.9%

[Table 3]

The last three columns in Table 3 also show that 60% of our sample banks are regional (versus 40% of banks headquartered in concentrated and competitive Moscow local market). By the ownership type, 5% of banks are foreign-controlled and another 5% of banks are state-controlled. Thus, 90% of sample banks are privately-controlled domestic financial institutions.

⁷ To conduct the cross-sectionalizing of data, we follow Khwaja and Mian (2005) empirical approach. Because our panel is relatively short (11 months only) and because we are primarily interesting in the cross-sectional variation between

In Table 4 we report major deposit contract characteristics across high- and low-risk banks, across bank credit risk, bank capital risk, and bank size characteristics (upper and lower quartile groups). The most notable observation in Table 4 is relatively high interest rates on uninsured deposits in small banks (8.32%) and in banks with high lending activity (8.09%). The lowest interest rates, on average, are observed for insured deposit in large banks (6.36%).

[Table 4]

4.2. Regression results

Our main regression results to date are reported in Table 5. In all model specifications, the dependent variable is the contract deposit rate. We split all explanatory variables into two groups, deposit-level and bank-level characteristics. The deposit-level characteristics include the contract's insurance status (determined by the deposit size), a set of maturities' dummies (3-month maturity being a base case), and a set of twelve indicator variables to capture deposit contract additional features (described in Table 2). The bank-level characteristics include the two risk variables, capital ratio and private loans to assets ratio, bank size, and the local market competition (regional bank dummy). We also control for the bank ownership type (foreign and state bank dummies) and for the bank reliance on retail deposit funds (the ratio of household deposits to total deposits). To capture the differences in the deposit pricing and their sensitivity to the bank risk profile, we also introduce a set of interaction terms by interacting all major bank characteristics with the uninsured deposit contract dummy variable.

To reduce the dimension of our dataset from the bank-month-deposit contract to bank-deposit contract data structure, we collapse the time dimension (April 2011 – February 2012) of our panel by “cross-sectionalizing” the data at the bank-deposit contract level⁷. After the calculation of

the time average for each deposit contract over the 11-month period, we end up with 7,429 deposit contracts observations for a sample of 371 unique Russian banks.

The estimated coefficients and robust standard errors to the above specified model are reported in Table 5. As expected, the Uninsured deposit dummy variable is positive and significant, indicating the deposit rate premium of about 1.7% for uninsured contracts, all else equal. The contract maturity dummy variables are also positive and highly significant. The magnitude of the coefficients on the maturity variables is consistently increasing with the increase of the maturity brackets. Most of the additional build-in features of the deposit contract also seem to be priced, with the general trend of significant and negative coefficients on deposit features that create additional convenience, liquidity, or value for depositors. For example, the add money, partial withdrawal, multicurrency, and monthly compounding features are associated with lower deposit rates.

[Table 5]

For bank-level variables, the highly significant interaction terms with the Uninsured contract dummy and bank capital and credit risk indicate that uninsured depositors are systemically more sensitive to bank-level risk than insured ones.

We also find that larger banks and banks in non-competitive (regional) markets offer lower rates. Large banks may choose to offer lower deposit rates for a number of reasons, including too-big-to-fail advantages, higher market power, better access to alternative funding sources and/or better name recognition.

Finally, we find that foreign banks and state banks offer lower rates on all deposit contracts, even after controlling for the contract features and bank stability and performance characteristics. This finding may suggest a distinct reputation al advantages for these two types of banks in the Russian deposit markets.

high and low risk banks, this conversion works well on our data. In addition, as justified by Khwaja and Milan, it allows to avoid excessive autocorrelation and to produce more reliable standard errors.

To test a stability of the estimated coefficients, we perform simple robustness tests by rerunning our main model specification for subsample of domestic private banks only and for samples of regional banks (local markets with relatively low competition) and Moscow banks (a local market with high degree of competition). The main results remain largely unchanged and consistent.

[Table 5]

5. Extensions, robustness checks, and regulatory implications: Next steps.

The extensions and robustness tests of the data analysis is in process and should be completed shortly.

As a next step of empirical analyses, we will exploit the panel structure of our deposit contract sample to test if and how the changes in the bank risk profile effect the bank decision on the issuance of insured and uninsured deposit contracts. We will explore the bank-level determinants of the deposit contracts choices in the fixed effect regression framework, controlling for unobserved heterogeneity effects and looking more closely at the within-bank dynamic.

Second, we will examine the monthly dynamic of deposit levels in sample banks by using the level and the growth of retail deposits as our supplementary dependent variables. The explanatory variables of interest are lagged deposit rates on insured and uninsured deposit contracts, controlling for bank risk characteristics. For high-risk banks, we expect that the deposit growth is largely driven by the wide selection of insured deposit contracts and by high rates on these contracts. We also expect that attractive rates and choices on uninsured deposits in weak banks will have insignificant or weak effects on the total deposit growth. For low-risk banks, we expect the opposite effects and the stronger association between uninsured deposit contract offerings and subsequent deposit growth.

For completeness, we also plan to look at the range and variability of nonprice deposit contract features to shed more light on how insured and uninsured deposits are structured in terms of their implicit (nonprice) incentives and characteristics.

We are also working on the development of the policy recommendations regarding the interplay on the interaction of the regulatory and depositor discipline in an emerging market context, with a special focus on potential signaling effects that regulators can extract from deposit market behavior. For example, the simple ratio of insured to total deposits in a bank is a promising indicator of the bank risk profile, all else equal. Another potential avenue that may strengthen the deposit rates regulatory monitoring is the introduction of the separate ceiling thresholds to guide market participants, for insured and uninsured contracts, to better capture the dangerous market share redistributions in insured deposit segments with weak depositor discipline.

6. Conclusions

{In process}

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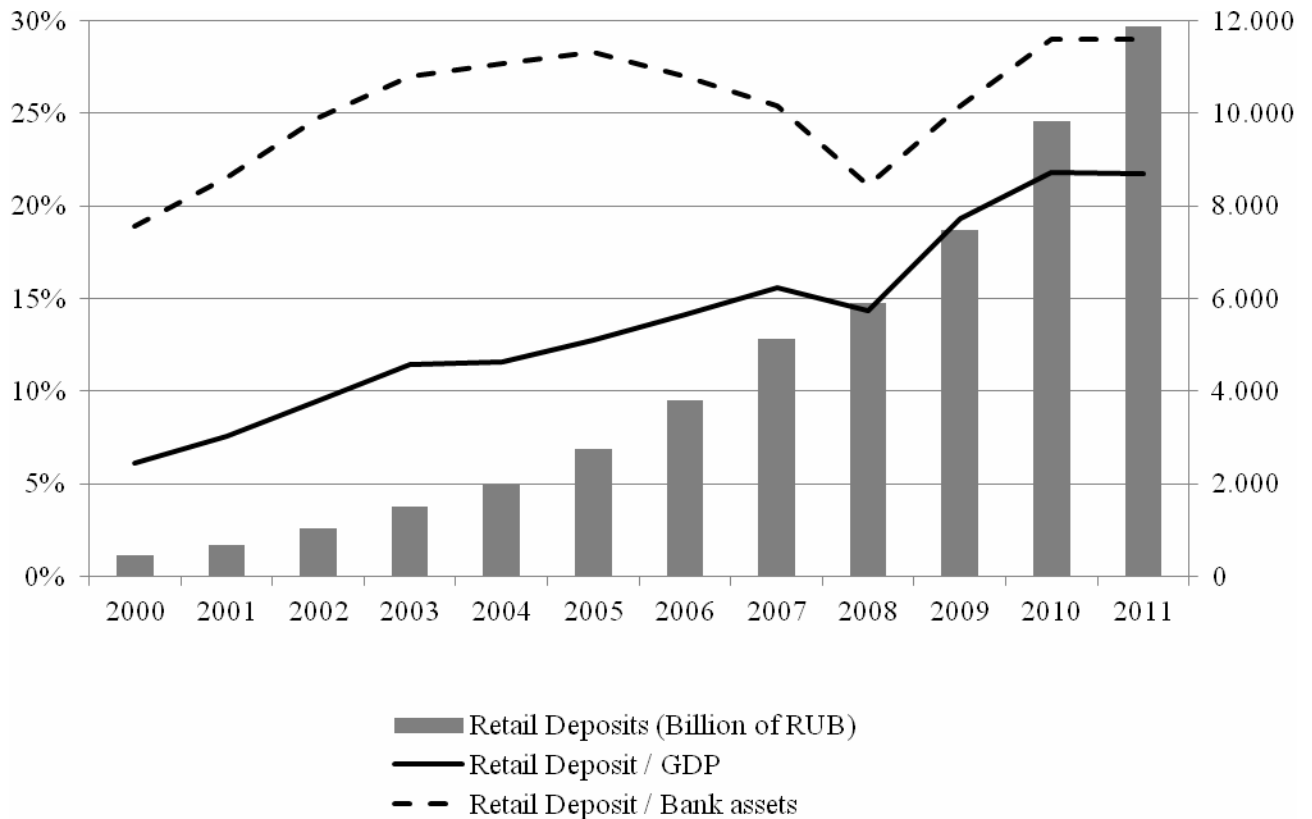


Figure 1. Evolution of Retail Deposits in Russia: 2000 – 2011

This graph illustrates retail deposit growth, in absolute in relative terms, in the Russian banking sectors during the last decade. The annual macro-level raw data for this graph come from various issued of the Central Bank of Russia Development Reports and Bulletins of Banking Statistics. The 2004-2005 is the period of the *de novo* deposit insurance system introduction in Russia. Since 2006, all retail deposit-taking banks are DIS members. The 2008 is the financial crisis period, with a short-term deposit run that was effectively resolved with the increase of deposit insurance limit from RUB400,000 to RUB700,000 in October 2008.

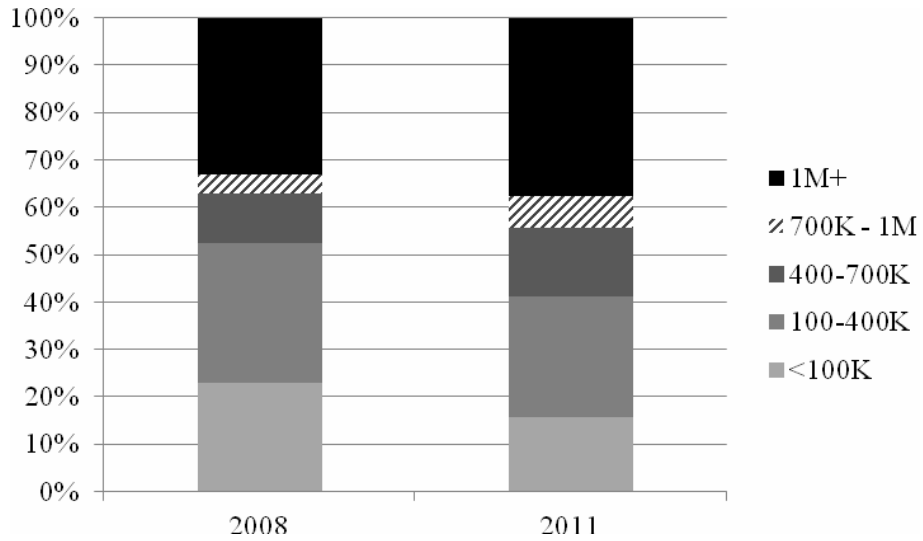


Figure 2. Distribution of Retail Deposits by Deposit Size: 2008 and 2011.

The macro-level data for this graph are obtained from the Russian Deposit Insurance Agency Annual Review (2011) and report the distribution of retail deposits by the deposit size thresholds in rubles. The insurance limit for the two presented periods, 2008 (the earliest available comparable data) and 2011, is RUB 700K: all retail deposits below 700K are fully insured; all deposits above 700K are only partially insured.

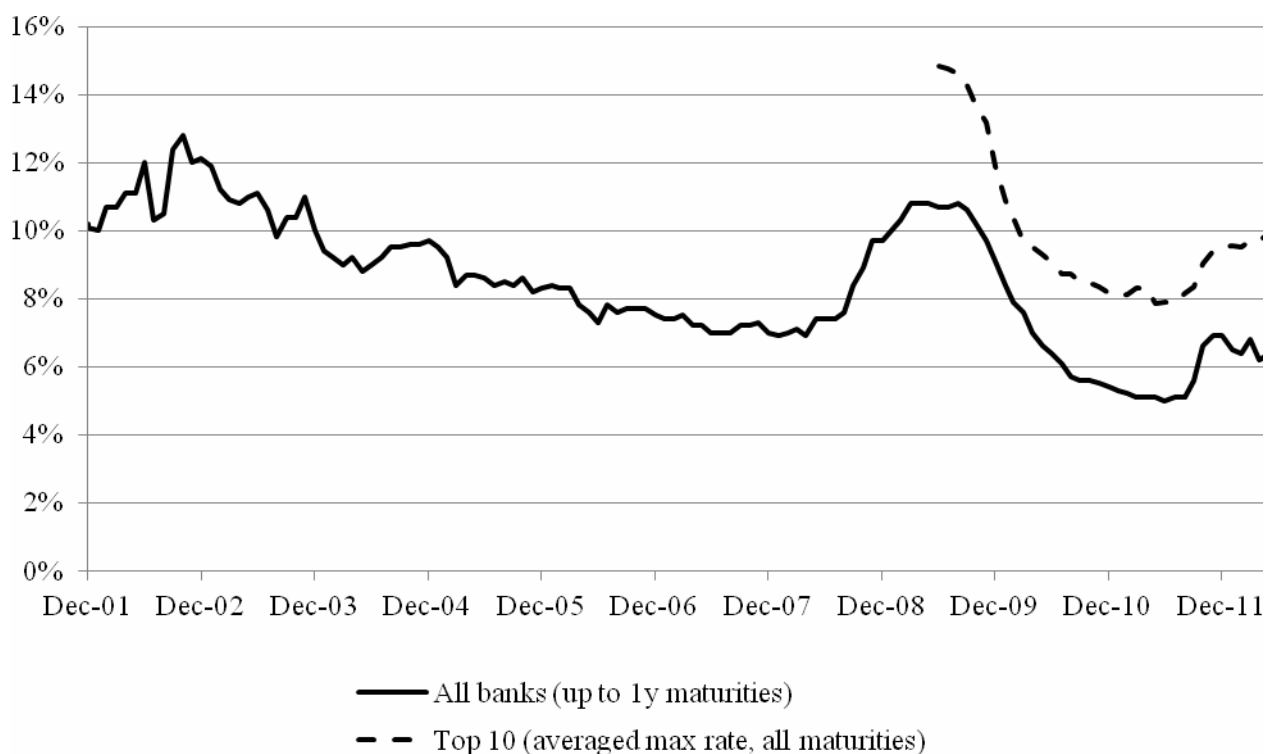


Figure 3. Retail Deposit Rate in Russia: Dec 2001 – July 2012.

The monthly data for this graph are obtained from the Central Bank of Russia official statistics disclosures and represent the aggregate, macro-level, data, for the ruble-denominated household deposits with short-term (below one year) original maturities. The dotted line shows data from the Central Bank of Russia monitoring of deposit rates in the 10 largest deposit-taking banks, launched in July 2009. For the monitoring purposes, the Central Bank collects and averages the maximum quoted rate across all deposit maturities in these banks. The later indicator serves as a regulatory non-binding benchmark to communicate the highest acceptable rates detect banks with aggressive deposit pricing.

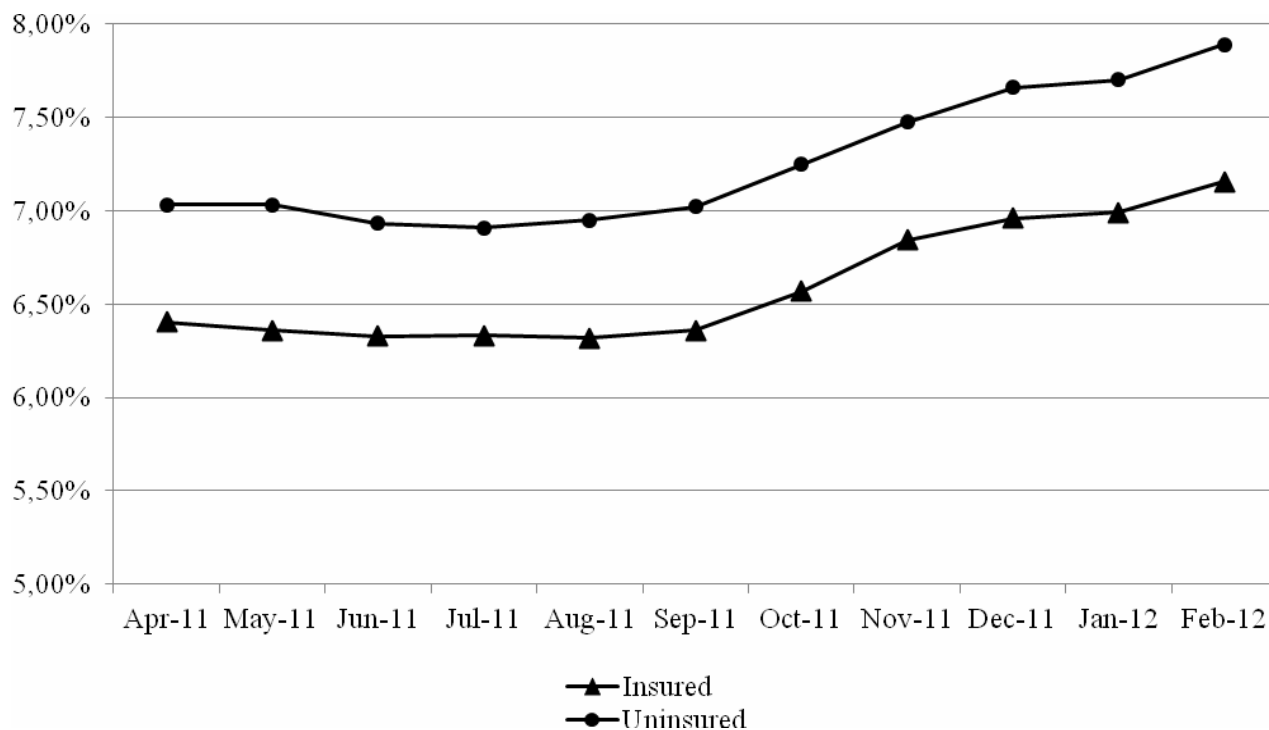


Figure 4. Mean Interest Rates on Insured vs. Uninsured Deposits: Study sample of 78,959 deposit contracts in 371 Russian banks (Apr 2011 – Feb 2012).

This graph shows the patterns of the mean interest rates for insured and uninsured retail deposit contracts for the study sample. The premium on an average uninsured deposit contracts remains relatively constant during the sample period, with an average of 0.66% and a range from 0.58% in July 2011 to 0.74% in February 2012.

Table 1. Descriptive statistics: Contract-level characteristics (78,959 deposit contracts)*Panel A. Distribution of deposit contracts by size: Frequency of deposit size brackets (in RUB)*

Insured deposit contracts (N bank-month-deposit contract obs.= 41,251):

Deposit size lower limit	Deposit size upper limit			Total number
	100K	350K	700K	
1K	3,423	488	698	4,609
10K	7,026	4,619	1,800	13,445
100K	3,889	6,806	6,310	17,005
300K		1,035	4,472	5,507
700K			685	685
Total number	14,338	12,948	13,965	41,251

Uninsured deposits (N bank-month-deposit contract obs.= 37,708 contracts):

Deposit size lower limit	Deposit size upper limit				Total number
	3M	5M	10M	>10M	
700K	751	95	254	3,076	4,176
1M	2,311	2,184	558	7,073	12,126
3M	1,363	1,355	2,626	9,133	14,477
10M			156	3,836	3,992
>10M				2,937	2,937
Total number	4,425	3,634	3,594	26,055	37,708

Panel B. Distribution of deposit contracts by maturity

Maturities	% of Total contracts	% of Uninsured contracts with a given maturity	Deposit rate for a given maturity (Mean; %)
Up to 3 months	8.90	44.86	4.43
3 to 6 months	16.17	45.16	6.12
6 months to 1year	30.48	46.95	7.00
1 to 3 years	39.64	49.64	7.84
Above 3 years	4.81	52.19	7.72
Total	100.00		

Panel C. Deposit rates and the number of deposit contracts per bank

	Mean	St. dev.	Min	p25	p50	p75	Max
Insured deposit contracts (N bank-month-deposit contract obs.= 41,251):							
Deposit rate (%)	6.64	1.89	0.01	5.45	6.80	8.00	12.00
N of contracts per bank	53.18	45.27	3	21	42	73	240
Uninsured deposit contracts (N bank-month-deposit contract obs.= 37,708):							
Deposit rate (%)	7.31	1.85	0.75	6.00	7.50	8.75	12.10

N of contracts per bank	48.98	33.69	2	25	42	70	177
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Table 2. Deposit special terms and deposit rates: Definitions, frequencies, and univariate comparisons (78,959 deposit contracts).

This table provides the explanation of various deposit contract terms used in the Russian retail deposit market and reports the distribution of these terms across insured and uninsured deposits. It also reports the descriptive statistics for the interest rates, using 1-year contracts as example. Since each contract can have unlimited number of features, the total percentages do not sum up to 100%.

Deposit contract terms and options	Description	% Total contracts	% of Uninsured contracts among all contracts with a feature	Mean deposit rate for a 1-year contract (Mean, %)		
				with a feature	without a feature	Diff. (t-test)
1. Add money option	The depositor has an option to add money to a deposit under initial terms	48.37	44.29	7.00	7.00	0.00
2. Add money or partial withdrawal	The depositor has an option to add money to a deposit or to do partial withdrawals without penalty	24.96	53.33	6.62	7.12	-0.50***
3. No add money or withdrawal options	Neither addition nor partial withdrawals are allowed	26.15	47.58	7.35	6.87	0.48***
4. Multicurrency	The depositor has an option to convert the deposit to another currency over the life of the deposit	3.88	58.48	6.30	7.03	-0.73***
5. Interest increase	Increase in the interest rate if the deposit moves to a higher size bracket (due to the compounding)	20.38	43.36	6.96	7.00	-0.04**
6. Early termination	The deposit will pay an interest above the demand-deposit rate in case of the early deposit termination.	30.82	51.63	7.29	6.88	0.41***
7. Internet access	Deposit contract can be opened by the Internet or through the ATM	2.09	43.64	6.63	7.00	-0.37***
8. Monthly compounding	The quoted interest rate is compounded monthly	50.14	46.83	6.94	7.05	-0.11***
9. Automatic renewal	Deposit is automatically renewed after its expiration under the current term	67.86	49.97	7.02	6.95	0.07***
10. Deposit tied to mutual fund	Special deposits offered to bank clients that purchase mutual funds through the same bank	1.25	52.33	7.98	6.98	1.00***
11. Pension deposit	Deposits offered to clients that are pensioners with the pension direct deposit through a bank	10.25	17.72	7.38	6.95	0.43***
12. Seasonal deposit	Deposits offered through an advertising campaign (usually around the national holidays)	0.73	36.76	7.94	6.99	0.95***
13. Other special features	Deposits offered to specific socio-economic groups (students, newly married, home buyers, etc.)	1.74	32.75	6.94	7.00	-0.06

Table 3. Descriptive statistics: Bank-level characteristics (371 Russian banks)

This table reports bank-level characteristics for a sample of 371 unique Russian banks with publicly advertised deposit contract terms during 11-month sample period. To construct bank-level variables, we collapse the time dimension (April 2011 – February 2012) of our panel by “cross-sectionalizing” the data at the bank level.

	Log(Assets)	Regulatory capital ratio (%)	Private Loans/Assets (%)	Household deposit/Total Deposits (%)	Regional bank dummy	Foreign bank dummy	State bank dummy
Mean	15.80	21.26	45.74	75.25	0.60	0.05	0.05
St. dev.	1.80	13.16	17.58	23.64			
Min	12.33	10.43	0.00	0.60			
p25	14.52	12.68	34.64	64.63			
p50	15.51	16.71	46.17	82.91			
p75	16.94	24.14	57.65	93.11			
Max	22.95	96.51	100.00	100.00			
N: bank obs.	371	371	371	371	371	371	371

Table 4. Descriptive statistics: Bank risk and deposit rates in insured and uninsured contracts

This table reports the selected summary statistics for price and non-price terms for insured and uninsured contracts by bank risk and bank size characteristics. To contrast bank-level characteristics, we define banks in the upper and lower quartiles based on the bank capital risk (Regulatory capital ratio), credit risk (Private loans to assets ratio), and size (log of banks assets) distributions.

Deposit contracts	Full sample	Regulatory capital ratio		Log (Assets)		Private Loans/Assets	
		Lower quartile (<12.6%)	Upper quartile (>24.1%)	Lower quartile (<14.52%)	Upper quartile (>16.93%)	Lower quartile (<34.6%)	Upper quartile (>57.6%)
Total N of contracts per bank:							
Mean	36.28	44.23	29.38	22.14	60.14	38.31	26.69
Median	25	27	20	15	57	29	16
Distribution by insurance status:							
- % of insured contracts (Mean)	52	49	59	70	46	48	55
- % of uninsured contracts (Mean)	48	51	41	30	54	52	45
Quoted interest rates in %:							
- insured contracts (Mean)	6.75	6.61	7.22	7.31	6.36	6.51	6.86
- uninsured contracts (Mean)	7.46	7.53	7.54	8.32	7.12	6.96	8.09
N of non-price features per contract							
- in insured contracts (Mean/Median)	2.46/ 2	2.58/ 2.5	2.43/ 2	2.27/ 2	2.56/ 2	2.52/ 2	2.18/ 2
- in uninsured contracts (Mean/Median)	2.42/ 2	2.54/ 3	2.27/ 2	2.06/ 2	2.53/ 2	2.27/ 2	2.29/ 2

Table 5. Regression results: Bank risk, deposit contract terms and deposit pricing.

This table report OLS regression results with Uninsured deposit dummy interaction terms for a sample of 7,429 averaged bank-level deposit contracts in 371 Russian banks. We collapse the time dimension (April 2011 – February 2012) of our panel by “cross-sectionalizing” the data at the bank-deposit contract level. *t*-statistics (robust s.e.) is in parentheses: ** $p < 0.05$, *** $p < 0.01$.

Dependent variable: Deposit rate	Full sample	Private domestic banks sample	Regional banks sample	Moscow banks sample
<i>Deposit level variables:</i>				
Uninsured deposit dummy	1.691** (2.27)	1.914** (2.25)	1.393 (1.54)	2.158** (2.28)
Maturity 6-months	1.709** (16.47)	1.834*** (18.04)	2.185*** (16.97)	1.574*** (13.65)
Maturity 1-year	2.692*** (22.07)	2.899*** (24.96)	2.993*** (20.87)	2.569*** (18.68)
Maturity <3-years	3.675*** (28.12)	3.855*** (30.69)	3.987*** (26.60)	3.545*** (23.87)
Maturity >3-years	3.928*** (24.77)	4.121*** (28.06)	4.153*** (26.53)	3.905*** (17.90)
Add money option dummy	-0.323** (-3.20)	-0.246** (-2.40)	-0.460*** (-3.90)	-0.245** (-2.03)
Add money and partial withdraw options	-0.866*** (-9.66)	-0.824*** (-8.14)	-0.839*** (-7.18)	-0.987*** (-9.51)
Multicurrency option dummy	-0.532*** (-3.76)	-0.537*** (-3.71)	0.189 (1.16)	-0.785*** (-5.01)
Interest increase dummy	0.179 (1.70)	0.196 (1.77)	0.215 (1.44)	0.036 (0.32)
Early termination privilege	0.321** (3.22)	0.397*** (3.86)	0.333** (2.72)	0.326** (2.77)
Deposit via Internet dummy	0.302 (1.45)	0.771*** (3.20)	-0.054 (-0.28)	0.303 (1.41)
Compounding interest dummy	-0.225*** (-3.52)	-0.239*** (-3.76)	-0.216*** (-2.81)	-0.256*** (-3.47)
Automatic renewal dummy	0.112 (1.16)	0.072 (0.74)	0.244 (1.97)	0.131 (1.30)
Deposit tied to mutual fund	0.483 (1.73)	-0.202 (-0.90)	0.025 (0.14)	0.514 (1.42)
Pension deposit dummy	0.750*** (6.40)	0.732*** (6.00)	0.662*** (5.17)	0.931*** (5.96)
Seasonal deposit dummy	1.262*** (7.43)	0.925*** (8.07)	1.337*** (10.45)	1.233*** (6.60)

Other special deposit dummy	0.176 (1.35)	0.282** (2.17)	0.389** (2.32)	-0.342** (-2.16)
		(Cont.) (Cont.)		
	Full sample	Private domestic banks sample	Regional banks sample	Moscow banks sample
Bank level variables:				
Regional bank dummy	-0.791*** (-6.33)	-0.812*** (-6.58)		
Regional bank dummy*Uninsured deposit dummy	0.005 (0.04)	-0.008 (-0.07)		
Foreign bank dummy	-0.970*** (-5.48)			-0.921*** (-5.10)
Foreign bank dummy*Uninsured deposit dummy	-0.075 (-0.39)			-0.0961 (-0.43)
State bank	-0.922*** (-5.19)		-0.524*** (-3.73)	-1.115*** (-3.97)
State bank*Uninsured deposit dummy	-0.035 (-0.19)		0.261 (1.13)	0.141 (0.58)
Capital ratio	-0.000 (-0.07)	0.003 (0.47)	0.001 (0.19)	0.003 (0.39)
Capital ratio *Uninsured deposit dummy	-0.016** (-2.34)	-0.016** (-2.37)	-0.017** (-2.42)	-0.017** (-2.03)
Private Loans/Assets	0.009*** (2.62)	0.008** (2.24)	0.012*** (3.74)	0.003 (0.73)
Private Loans/Assets *Uninsured deposit dummy	0.009** (2.39)	0.007 (1.91)	0.009* (2.40)	0.013** (2.39)
Log(Assets)	-0.296*** (-7.49)	-0.252*** (-5.31)	-0.263*** (-4.45)	-0.285*** (-5.91)
Log(Assets)*Uninsured deposit dummy	-0.052 (-1.42)	-0.059 (-1.41)	-0.026 (-0.53)	-0.080 (-1.71)
Household deposit/Total Deposits	0.000 (0.01)	0.001 (0.25)	-0.002 (-0.98)	0.005** (2.04)
Household deposit/Total Deposits*Uninsured deposit dummy	-0.001 (-0.57)	-0.002 (-0.67)	-0.003 (-1.39)	-0.0031 (-1.11)
Constant	9.265*** (12.00)	8.288*** (9.20)	7.628*** (7.38)	9.141*** (9.69)
<i>N: bank-deposit contract observations</i>	7429	6091	2611	4248
<i>R</i> ²	0.668	0.653	0.735	0.737

