

# Deposit Insurance and Deposit Products

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## **Abstract:**

This study examines the design of insured and uninsured deposit products in a high-growth banking market with aggressive competition for limited deposit funds. Using detailed data from almost 80,000 household deposit products offered in a large sample of Russian banks, we document that banks use a broad variety of price and non-price contract terms to compete in tight deposit markets. Consistent with the market discipline hypothesis, we also find that interest rates on *uninsured* deposit products are sensitive to bank risk profiles while the interest rates on *insured* deposits are driven mostly by the product-level characteristics. Since insured depositors can easily switch to banks that offer best deposit terms, high-risk and low-risk banks have to compete on equal terms in the insured market segment, by offering high interest rates and/or valuable non-price contract terms. From a regulatory perspective, our findings suggest that the deposit rates monitoring and the deposit rate ceiling for preventing insured deposit accumulation by risky bank could be ineffective as banks can substitute price for non-price deposit contract terms.

**Keywords:** Emerging markets banking, deposit insurance, aggressive deposit pricing, household deposits, deposit products, regulatory discipline, market discipline, 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 literature<sup>1</sup>. The moral hazard issues triggered by the deposit insurance provisions are even more controversial in the context of the rapidly growing emerging banking markets<sup>2</sup>. 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 loans from the private sector and by the limited sources of nondeposit funds available for banks in emerging economies.

In this environment, the banking and deposit insurance regulators face a number of challenges that are not yet addressed by the prior empirical literature. To compete for insured depositors that are indifferent to bank-level characteristics but are highly sensitive to deposit product characteristics, high-risk and aggressively growing banks have incentives to offer above-the-market interest rates to attract limited deposit funds. Sound banks that need access to the same pool of funds may have to follow the competition by increasing the rates too. The adverse combined effect of these risk-taking behaviors in a funds-constrained but fast-growing banking market is the overall increase of cost of funds for *all* banks, followed by the allocation of high-cost funds into the high-rate (and high-risk) loans and/or shrinking interest margins.

In this paper, we explore the fundamental differences in the insured and uninsured contracts<sup>3</sup> 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

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<sup>1</sup> See, for example, Demirguc-Kunt and Detragiache (2002)

<sup>2</sup> 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); Ungan, 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.

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 regulated deposit rates (recommended interest rate 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 80,034 household deposit products issued in the post-deposit insurance introduction and post-crisis Russian banking sector. Our detailed, three-dimensional (bank-month-deposit product) dataset allows us not only to identify a broad set of price and non-price terms for each deposit product but also to match the contract terms characteristics 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 all changes in the publicly offered deposit contracts on monthly bases.

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 follows<sup>3</sup>. First, we document that banks in competitive deposit markets issue a large variety of deposit products 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 twelve distinct deposit contract features, such as targeting specific social groups, offering

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<sup>3</sup> The data analysis is still in process. We outline remaining empirical steps in more details at the end of this draft.

multicurrency conversion, automatic renewal, early termination privileges, cross-selling with investment and insurance products, and/or other options<sup>4</sup>. 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 markets offer lower deposit rates, suggesting that the market-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 product-level data will contribute to the emerging market banking literature in at least the following three ways. First, we provide early but comprehensive evidence on how banks in these markets structure the insured and uninsured products. Second, this study shows at the detailed, product-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.

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<sup>4</sup> The rich variety of deposit product features and options illustrates an interesting phenomenon of completing an incomplete financial market by banking institution in a country with a narrow set of investment opportunities available for individual investors.

## **2. Household deposits in Russia: Deposit market, deposit products, and regulatory issues.**

The household deposits are an essential source of funds for the rapidly growing Russian banking sector. By October 2012, the total volume reached RUB13,060 billion versus only about RUB297 billion as of the end of 2000. On the annual basis, this spectacular growth is equivalent to a 37% average annualized growth rate. In the relative terms, the banks' reliance on this source of financing has also increased as the household deposit to asset ratio shifted from 18.9% to 28.5% during the same twelve-year period (Figure 1).

[Figure 1]

In the recent period, when the availability of the foreign external borrowing sources for Russian banks reduced, the household deposits became the primary source of the relatively long-term funds. For example, for maturities above one year (which is considered to be a long-term maturity in this emerging market context), the aggregate ratio of households deposits to firms deposits is 2.5 times. This is because about 38% of corporate clients funds are transaction accounts (or demand) accounts balances<sup>5</sup>. When it comes to alternative long-term nondeposit funds, banks options are both, limited and expensive. For example, the corporate bonds issued by Russian banks finance less than 1.6% of their total assets and the yields on these funds remain high, averaging 13.8% in 2009, 9.2% in 2010, and 8.6% in 2011. Moreover, the access to long-term domestic and Eurobond capital markets is available to selected large banks only and the total number of new bank bonds issues in the last three years was only 25 in 2009, 58 in 2010, and 69 in 2011<sup>6</sup>.

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<sup>5</sup> Another factor that increases the competition for household 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 volume of accumulated deposits, including Sberbank, control 77.7% of deposits. According to the Russian Deposit Insurance Agency 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 the small market players.

<sup>6</sup> *Source:* Central Bank of Russia, "Financial Markets Review" (2011).

Given the high demand for funding in these emerging banking markets, there is currently a severe competition for the household funds in this market. According to the Russian Statistical Agency, the share of the population income allocation in the official financial system savings has dropped from 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%.

The typical household deposit in Russia is a fixed term and fixed rate saving contract, with maturities ranging from one month to three years or above. A typical commercial bank offers a broad variety of deposit products, with diverse non-price terms and services designed to attract a wide retail customers’ base. Some banks offer hybrid deposit products that are linked to investment or insurance contracts issued by the same bank. To remain competitive, banks frequently change and redesign their deposit products, label them with catchy brand names, and advertise them widely at the local and/or national market. In Appendix 1, we present two examples that illustrate a broad range of deposit products in the country’s commercial banks in any given month. (We provide additional details on the design of deposit products in the Data section.)

The *de novo* deposit insurance system in Russia was introduced in summer 2004, for household deposits only. As of the end of 2005, after the final stage of the deposit insurance introduction in Russia, the deposit insurance membership became mandatory for all household deposit-taking banks. Banks that failed to pass the regulatory on-site examinations have lost their deposit-taking privileges<sup>7</sup>. 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

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<sup>7</sup> 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.

explicit insurance covers household deposits only, in local and in foreign currencies, with a coverage limit equivalent to RUB700,000 (or about \$22,500)<sup>8</sup>.

According to the Deposit Insurance Agency statistics, the fully insured deposits account for 55.8% of the total banking system 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. At the moment of this writing, all deposits below RUB700K are fully insured; all deposits above this coverage threshold are only partially insured, for the first 700K.

[Figure 2]

Although the deposit insurance introduction has dramatically increased the public confidence in the banking sector, it has also created new regulatory issues and challenges. The major regulatory concern that was voiced in a number of Central Bank of Russia (CBR) letters and recommendations is the practice of aggressive deposit pricing by weak banks. Driven by the pressing funding needs in the competitive deposit market, weak banks started to compete primarily in the insured deposits segment. The major regulatory concerns builds on the fundamental moral hazard problem: the fully insured depositors have no incentives to monitor bank risk. Instead, they have strong incentives to cherry-pick deposit products with the best rates and terms and can easily shift banks. Therefore, weak banks compete primarily in insured deposits segment and they do so by setting above-the-market rates for *insured* deposit products. As a next step, to maintain acceptable net interest margin, the high-cost funds are invested into the high-rate (and high-risk) loans to households, which exhibited a spectacular growth over the sample period of our study. According to the CBR's "Banking Sector Survey of the Russian Federation" over January 2011-October 2012 period the

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<sup>8</sup> 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. In October 2012, the Russian government announced the decision to increase the insurance coverage limit to RUB1 million.

total volume of loans to households grew by 75.6% from 4.08 to 7.18 trillion rubles while the volume of household deposits grew by 33% from 9.82 to 13.05 trillion rubles.

The combined effects of these factors, as anticipated by the regulators, is the flight of insured household deposits from relatively stable to relatively risky banks, the increase of costs of funding for *all* banks in the system (as sound banks, to retain their deposit market share, are forced to respond with proportional rates' increases), and the increase of high-risk assets in banks' portfolios.

To illustrate these concerns, solid lines in Figure 3 show the evolution of the nominal deposit and lending interest rates in Russia. The relatively stable spread between these two rates in post-crisis period suggests that higher rates on deposits are transmitted to higher rates in loans, and vice versa. The dotted line in Figure 3 illustrates the regulatory attempt to limit bank risk-taking by introducing the market monitoring of the highest acceptable deposit interest rates. The deposit rates monitoring was launched by the Central Bank of Russia in July 2009. It traces the maximum interest rates in the Russian household market by aggregating and averaging the highest interest rate offered on a deposit product in each of the ten largest deposit-taking Russian banks, every ten days. As suggested by the graph patterns, the introduction of the CBR interest rates monitoring coincides with the gradual reduction in rates (and we do not imply the causality of this link yet).

[Figure 3]

The maximum deposit rate in the top 10 banks is now used as an indicative benchmark for deposit pricing. The regulator strongly recommends that banks avoid setting interest rate on any of their deposit products in excess of monitoring rate plus 1.5%. Most recently, in October 2012, the 1.5% margin was increased to 2%. However, the regulator simultaneously changed the computational approach and started to account for the effects of the hybrid and complex deposit products that can be priced implicitly. The violation of the recommended threshold coupled with



aggressive deposit growth rates is expected to result in the ad hoc supervisory evaluation of the bank loan portfolio risk.

In addition to interest rates monitoring, the CBR has also introduced the monitoring of the volume of deposits in aggressive deposit-taking bank. In August 2010, the regulator issued a letter titled “On Risk Assessment in Active Deposit-taking Banks.” This document defines two necessary but not sufficient criteria for identification of such banks: (1) Household deposit to asset ratio exceeds 25% and (2) The bank increases the volume of deposit fund with a rate that exceeds the local market rate by more than 1.3 times. The two combined criteria are used to identify potentially high-risk banks that should be targeted for a more in-depth supervisory monitoring of the quality of the asset portfolios and earnings. The underlying regulatory logic is that the aggressive deposit-taking behavior is likely associated with aggressive and risky lending and, thus, should be detected early to prevent insured banks from failures.

### **3. Data and descriptive statistics**

#### *3.1. Sample and the dataset construction*

This study uses unique and comprehensive deposit-level database for deposit products offered by the Russian commercial banks. The dataset is assembled from the Russia’s most popular Internet search engine yandex.ru (NASDAQ: YNDX)<sup>9</sup> and covers all active deposit-taking banks on a monthly basis. Our total sample consists of 78,959 monthly observations for deposit products issued offered by 371 unique banks during the April 2011 - February 2012 period<sup>10</sup>. All collected data are for the ruble-denominated household deposits and include insured (below the RUB700,000

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<sup>9</sup> *Source:* Bloomberg.com (May 25, 2011): “Yandex Jumps on First Day in Biggest 2011 Tech IPO”

<sup>10</sup> We are currently working on extending our dataset to include 18 months, up to October 2012. We do not plan to extend our dataset beyond this point due to the recently announced regulatory changes expected in the Russian deposit insurance system design since November 2012. We discuss these regulatory changes in more details in the background section (Section 2) and plan to explore their effects in the follow-up study.

insurance threshold) and uninsured (above this size threshold) deposit products. Collectively, the sample banks account for about 80% of the total banking sector assets and for about 97% of the aggregate household deposits.

For each deposit product in each sample month, our dataset contains all price and non-price contract terms, such as the exact offered interest rate, deposit size and maturity requirements, early termination and/or partial withdrawal privileges, automatic renewal option, cross-selling with investment and insurance products, multicurrency conversion, internet access, seasonal offerings, certain social group eligibility, and other special terms and provision.

To better illustrate the format and the multiple dimensions of our raw data, Appendix 1 provides two specific examples for the household deposit products offered by two distinct banks in September 2012. The first example (Panel A in Appendix 1) is a privately-controlled and closely held commercial bank “Renaissance Credit”, ranked as the 64<sup>th</sup> largest Russian bank by its assets size. This bank is an active and profitable player in retail banking, with a 46% household deposit to liabilities ratio and a 70% of retail loans to total loans ratio. The second example (Panel B in Appendix 1) is a state-controlled “VTB 24” commercial bank, a retail-oriented daughter bank of the state-controlled VTB banking group. “VTB 24” is the 6<sup>th</sup> largest bank in Russia. It finances 65% of its liabilities with household deposits and allocated 84% of its loan portfolio to consumer and small business loans.

[Appendix 1]

Since both examples in Appendix 1 are for the same month, one can easily see the wide variation in the deposit products’ rates not only within each bank but also across the two of them. For the more effective marketing campaigns and the deposit products differentiation strategies, it is typical for Russian banks to highlight various deposit products’ features under several more or less creative brand names. For example, the bank in Panel A of Appendix 1 offered five deposit brands

in September 2012: “Profitable”, “Accumulating”, “Convenient”, “Perspective”, and “For Pensioners.”

For the purpose of this study, we identify unique deposit products by the number of distinct interest rates offered by the bank in each month. The bank in Panel A offers 41 deposit products, with an interest rates ranging from 7% for the small-size 31 day deposit with three non-price terms to the 12% on four different deposits with above one year maturity. The deposit size brackets for this bank product also reveal that it focuses on insured deposits. We imply that its deposit rate policy is aggressive because the highest offered deposit rate (12%) exceeds the market monitoring-based and regulatory recommended level for the maximum rate by 1.32% (as shown by the dotted line in Figure 3 for September 2012 data point, the highest household deposit rate averaged across deposit products in the major banks is 10.68% ).

The second illustrative bank, described in Panel B, offers as many as 151 deposit products and focuses on both, insured and uninsured ones. Its deposit rates are visibly lower than in the first bank and range from a minimum of 3.1% to a maximum of 10%. Thus, the highest offered rate in this bank is below the regulatory monitoring threshold in September 2012 by 0.68% (i.e.  $10\% - 10.68\% = -0.68\%$ ).

### *3.1. Deposit products' characteristics*

Table 1 reports a number of fundamental product-level characteristics in our dataset for 80,034 bank-month-deposit product observations, including 41,773 (or 52.1% of total) insured products and 38,261 uninsured ones (47.9%). As explained in the Background section, all household 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. As one

can see from the table 89% of deposits in this category exceed minimum size of 1M rubles which mitigates possible concerns of bias induced by the fact that these deposits are partially insured up to 700K rubles.

[Table 1]

Panel B of Table 1 describes maturities structure of the offered deposit products and corresponding interest rates. From a depositor perspective, longer maturity products are associated with higher exposure to interest rate risk. From a bank perspective, longer maturity products 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 products) and from 6 months to 1 year (30.5%). The ratio of insured and uninsured products across all maturities brackets is approximately stable.

Panel C of Table 1 summarizes deposit rates distribution across insured and uninsured products in the total sample. The mean (median) interest rate for insured deposits is 6.64% (6.80%) versus the 7.31% (7.50%) interest rate for the uninsured ones, equivalent to about 0.7% risk premium for uninsured products. In the same Panel, we also report a strikingly large number of unique deposit products per bank, with an average of 53 insured and 49 standardized products issued in only 11-month period. At the same time, the number of deposit products per bank varies dramatically, in a range from 2 to 240. Overall, the descriptive evidence in Table 1 reveals wide variability in deposit products in our dataset in terms of their size, rates, and maturity characteristics.

Table 2 describes and explains non-price contract terms features in our dataset. We identify and document thirteen different characteristics commonly used in the Russian household deposit markets. All reported characteristics are not mutually exclusive and, thus, the sum of their

frequency distribution far exceeds the 100%. The most commonly used nonprice contract terms are automatic renewal (67.9% of products), monthly compounding (50.1%), and the option to add money during the deposit product life (48.4%). We also document more exotic and rarely used options in this deposit market, such as deposits tied to mutual funds (1.3%), deposits products 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 product (3.9%). The presence of these features in insured and uninsured products is approximately equal, with two exceptions: the prevalence of insured products among pension deposits (as only 17.7% of these products are uninsured) and the prevalence of uninsured products among multicurrency deposits (58.5%).

[Table 2]

In the last three columns of Table 2 we document the average interest rates for products 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 non-price contract term increases or decreases the risk-return or other utility outcomes for an average retail depositor.

### *3.2. Bank-level characteristics*

We complete our dataset construction by matching deposit-level data with bank-level data for each sample month. Our primary source for bank characteristics is the Central Bank of Russia monthly disclosures of detailed accounting information for all Russian banks at a monthly frequency. We supplement accounting information with the data on banks' geographic location and ownership patterns.

Table 3 presents descriptive statistics for the key bank-level variables in our study sample. The total number of unique banks in our unbalanced sample is 371. The quartile range for the capital risk variable, measured as the regulatory capital ratio, is from 10.4% to 24.14%, suggesting a

wide variability in sample banks' capital adequacy. The quartile range for the credit risk variable, measured as the ratio of loans to the private sector to assets is from 34.6% to 57.7%. As expected, banks in our sample rely heavily on the household deposits in their liabilities mix, with a mean ratio of household deposits to total deposits of 75.3% and an even higher median of 82.9%.

[Table 3]

In Panel B of Table 3, we report summary statistics for a sub-sample of banks which are defined as aggressive in the household deposit market by the regulator. As described in the Background section, the Central Bank of Russia imposes two overlapping criteria to scrutinize banks for aggressive behavior in the household deposit market: the ratio of the household deposits to liabilities ratio is above 25% *and* the bank continues to attract household deposits at a rate that exceeds the local deposit market growth rate by more than 1.3 times.

The descriptive evidence in lower panels of Table 3 suggests that aggressive deposit-taking banks, by a regulatory definition, do indeed have to offer above-the-market interest rates to grow their household deposit volumes at the aggressive rates. In uninsured deposit segment, the deposit products issued by aggressive banks offer, on average, a 8.67% interest rate, equivalent to a 1.14% premium compared to banks with similar deposit ratio but relatively low deposit growth rates. In insured deposit segment, these banks seem to be equally aggressive in their deposit pricing policy offering a 7.85% rate on an average deposit product versus the 6.84% in slow growing comparable banks (a 1.01% premium).

#### **4. Empirical Results (preliminary)**

##### *4.1. Univariate comparisons: Bank risk and bank deposit products*

We start our examination of the relationship between bank risk and bank deposit products characteristics with a series of simple non-parametric comparisons.

Figure 4 aggregates product-level data by showing the patterns of interest rates on insured and uninsured products during the sample period. Overall, the risk premium paid by bank on uninsured deposits remains constant over the period, at about 0.7% level.

[Figure 4]

In Table 4, we report major deposit product characteristics for subsamples of high- and low-risk banks as captured by the bank-level credit risk, capitalization, and asset 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 analysis: Bank risk, deposit insurance and deposit pricing.

The regression analysis is in process. 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.

Our first set of regression results to date is reported in Table 5. In all model specifications, the dependent variable is the deposit product interest rate. We split all explanatory variables into two groups, deposit-level and bank-level characteristics. The deposit-level characteristics include the deposit contract insurance status, deposit size, a set of maturities' dummies (3-month maturity being a reference category), and a set of thirteen indicator variables to capture deposit product non-price terms (described in Table 2).

The deposit contract insurance status is determined by the size of the deposit product and the minimum insurance coverage. The *Uninsured deposit product* = 0 if the upper size of the product is below 700K rubles, the dummy takes value 1 if the lower product size is above 700K. One of the

advantages of our data is the availability of information on the exact deposit product size. We use the mid-point of the upper and lower product size limits as a deposit size measure. Including this variable in the model allows us to control for a possible size premium which could arise from the fact that it is less costly for a bank to process larger deposits.

The bank-level characteristics include the two risk variables, regulatory capital ratio and nonperforming loans (NPL) to total loans ratio. Other bank-level right hand side variables include private loans to assets ratio, bank size, and bank reliance on household deposit funds, measured as the ratio of household deposits to total deposits. We also control for the local market competition with a regional bank dummy and for the bank ownership type with foreign and state bank dummy variables.

To reduce the dimension of our dataset from the bank-month-deposit product to bank-deposit product data structure, we collapse the time dimension (April 2011 – February 2012) of our panel by “cross-sectionalizing” the data at the bank-deposit product level<sup>11</sup>. After the calculation of the time average for each deposit product over the 11-month period, we end up with 7,429 deposit products 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. To account for possible correlation of error terms across deposit rates on deposit products within a bank, we cluster all standard errors at the bank level. All regression specifications in our paper employ the commonly used in statistics Cook’s distance measure for detecting and removing outliers which might distort the estimation precision.

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<sup>11</sup> 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 interested in the cross-sectional variation between 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.



[Table 5]

The left panel of the table reports OLS regression results for a full sample of the deposit products obtained from 371 Russian banks. We run separate regressions for insured and uninsured deposits and report the results in columns two and three. Let us focus on the bank level variables: the coefficient on the regulatory capital ratio is statistically significant for the sub-sample of uninsured deposit products only. The coefficient on the loans to assets variable is statistically significant for both insured and uninsured deposit products but the magnitude for uninsured products is two times larger. These results suggest that the deposit rates on uninsured products are more sensitive to banks' risk characteristics in a large cross-section of banks. The coefficients on NPL loans to assets are not statistically significant for this sample in neither specification.

The right panel of Table 5 reports regression results for the deposit products obtained from 28 Russian banks that according to the CBR's guidelines are classified as being aggressive on the household deposit market. As described earlier, aggressive deposit-taking banks are banks with above 25% of household deposit to liabilities ratio that simultaneously grow the volume of their deposit base 1.3 times faster than comparable banks in local markets.

The estimated coefficients on the regulatory capital ratio are statistically significant and have the same magnitude for both sub-samples of insured and uninsured products. The coefficients on NPL loans to assets are statistically significant for the aggressive banks, have an expected sign and the coefficient for uninsured products has a higher magnitude. The results for bank risk variables indicate that deposit rates on both insured and uninsured products exhibit significant sensitivity to banks' risk characteristics for this group of banks.

It is worth noting that the coefficients on household deposits to total deposits ratio are significantly positively associated with the deposit rates on both types of the deposit products for these banks and the magnitude is higher for the coefficient on insured deposits. This suggests that

the aggressive banks are able to increase their household deposits base by offering higher rates on insured deposits, which could be a sign of the moral hazard behavior.

### *Regressions with interaction terms*

In order to capture the differences in the deposit products pricing and their sensitivity to the bank risk profile across insured and uninsured deposit products within the same bank, we introduce a set of interaction terms by interacting all major bank characteristics with the *Uninsured deposit product* dummy variable. The estimated coefficients of the regression specification that includes the interacted terms are presented in Table 6. For bank-level variables without an interactive term, the coefficient estimates report the slopes of the regression lines between the bank level variable and the deposit rate on fully insured deposit products. The value on the interacted terms is the difference in slopes between the insured and uninsured deposit products. The first column of this table reports the results for the whole sample. To test a stability of the estimated coefficients, we perform simple robustness tests by rerunning our main model 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). More importantly, we single out the group of aggressive deposit-taking banks, as defined by the regulatory guidelines, and report results for such banks that fall under the regulatory radar in column 5. The last two columns, for large deposit base but slow growing banks and for low deposit banks are reported for comparison.

The main effect for the *Uninsured deposit dummy* variable is reported in the first row of the table and as expected, the coefficient is positive, indicating the deposit rate premium of about 1.4% for uninsured products, all else equal. However, for the full sample, this coefficient is only marginally statistically significant. The constant term in this specification is the expected value of

the deposit rate for insured deposits when all other model variables are zero. The estimate for the full sample yields 9.2% .

For private domestic banks, the risk premium on uninsured products is more pronounced (1.7%) and is statistically significant. Across other examined subsamples, the most striking results is a very high premium on uninsured deposit contracts offered by aggressive deposit-taking banks: 8.7% and significant at the 1% level. In interpretation of this coefficient magnitude, it is also worth noting that for this subsample our specification predicts low base rate for insured deposits as indicated by the constant term coefficient.

[Table 6]

In the first four columns of the Table 6, we vary sample by the degree of the local market competition (Moscow vs. regional banks) and by the ownership structure (by excluding state and foreign banks as special cases). Our main finding here is a highly significant coefficient on the interaction of Uninsured product dummy and bank regulatory capital measure. The negative sign indicates that better capitalized banks offer significantly lower deposit rates on uninsured products while the relationship between bank capitalization and deposit rates on insured products is not significant.

For bank credit risk, NPL ratio seems to be only weakly related to risk premium on uninsured products while the supplementary credit risk measure, Private Loans to Asset ratio, seems to be more robustly related to the risk premium as, other things being equal, banks with higher share of loans in their portfolio tend to offer higher rates on uninsured deposit products.

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 products, even after controlling for the product features and bank stability and performance characteristics. This finding may suggest a distinct reputational advantages for these two types of banks in the Russian deposit markets.

Even more interesting results are obtained when we focus on subsamples of banks by their household deposits reliance classification. We report these results in the last three columns of Table 6. In column 5, we identify a subsample of aggressive banks with large and fast growing deposit base as stipulated in regulatory requirements of the Central Bank of Russia. For this sub-sample, all non-interacted terms for bank-level risk variables are statistically significant. The signs on Capital ratio, NPL/Loans and Private loans/Assets indicate that bank risk and bank deposit rates on the fully insured deposit products are positively related. This result has two alternative interpretations. On the one hand, the fact that the riskier banks have to pay higher deposit rates suggests that the market discipline works. Alternatively, these high-risk aggressive deposit-taking banks may exhibit moral hazard behavior by offering above-the-market interest rates on fully government insured deposit products. The latter claim is supported by a significant and positive coefficient on non-interacted Household deposits/Total deposits term and significant and negative interacted term for this variable. This illustrates that higher proportion of household deposits for this category of banks is associated with higher rates offered on fully insured deposit products.

Column 6 reports the results for banks that do rely on household deposits as a significant source of funding but do not exhibit high growth. Most banks fall into this category and results for this subsample largely correspond to the full sample results reported in column 1. Finally column 7 covers banks with insubstantial dependence on the household deposits market and as expected results for most bank-level variables are not statistically significant for this subsample.

Overall, these findings support two important conclusions. First, in line with prior theoretical and empirical banking literature, they indicate that uninsured depositors are systemically more sensitive to bank-level risk than insured ones. Second, they show that aggressive deposit-taking banks have to offer high premium in competitive deposit markets. The latter is a new result.

Table 6 also reports several supplementary results that shed more light on the design and pricing of various explicit and implicit terms of deposit products in this market. 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 product 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.

## **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 product 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 products. We will explore the bank-level determinants of the deposit products 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 household deposits as our supplementary dependent variables. The explanatory variables of interest are lagged deposit rates on insured and uninsured deposit products, 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 products and by high rates on these products. 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 product offerings and subsequent deposit growth.

For completeness, we also plan to look at the range and variability of nonprice deposit product 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 products, to better capture the dangerous market share redistributions in insured deposit segments with weak depositor discipline.

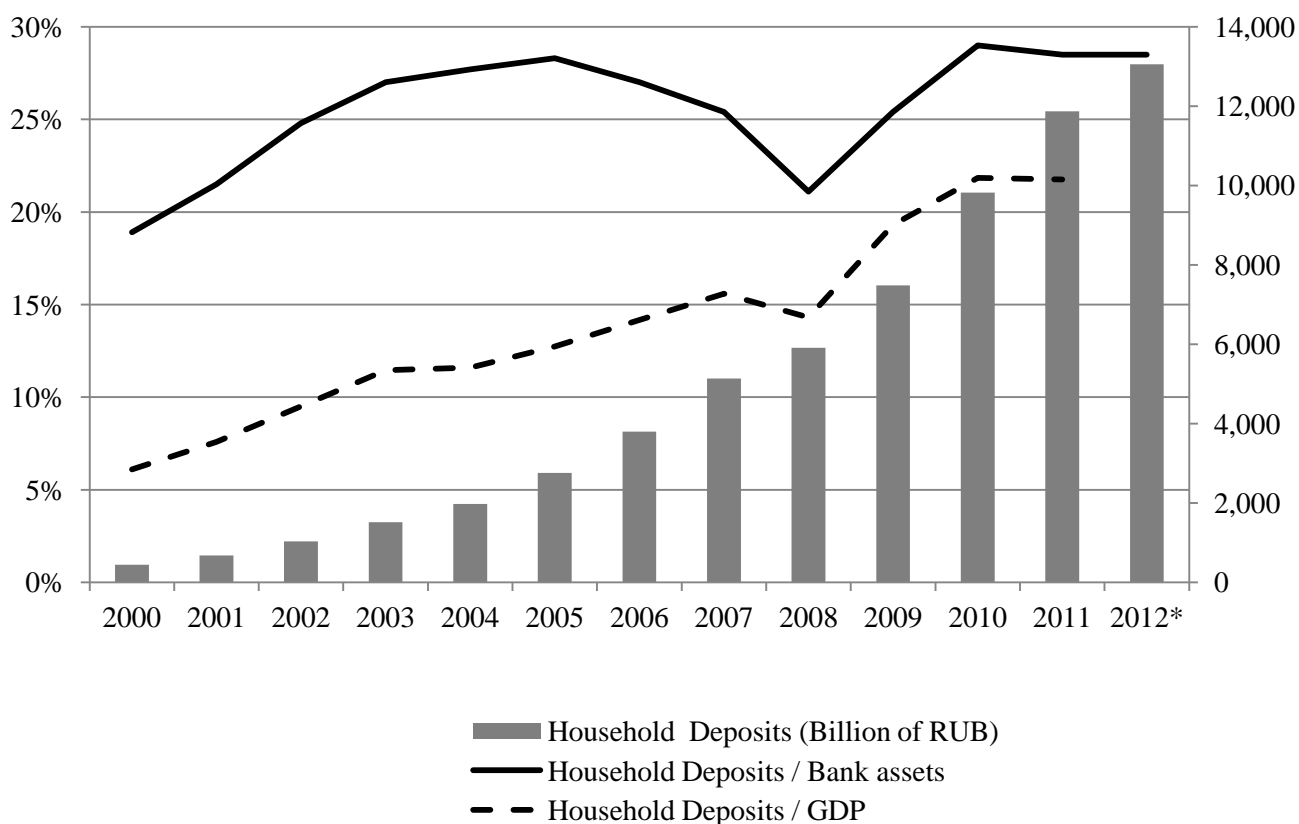
## **6. Conclusions**

*{In process}*

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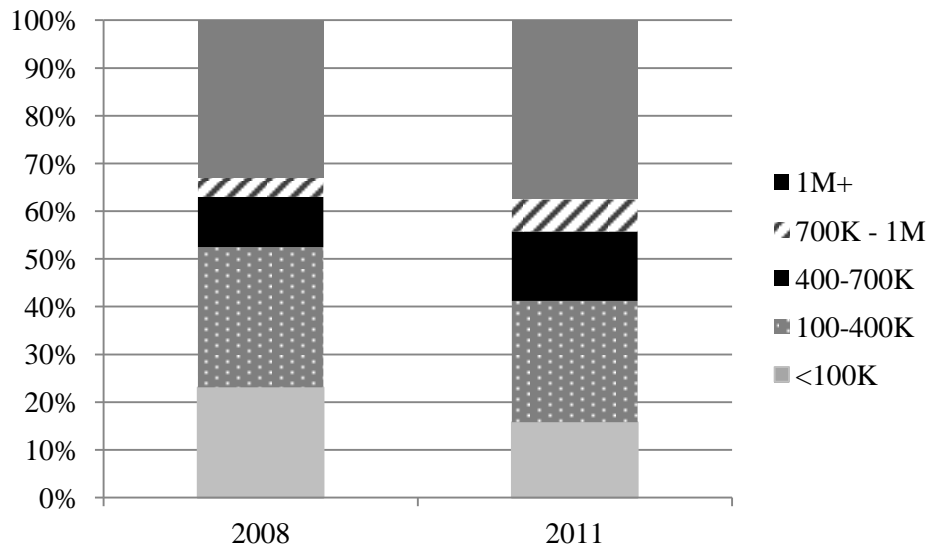


**Figure 1. Evolution of the Household Deposits in Russia: 2000 – 2012**

This graph shows absolute and relative growth patterns of the household deposits in the Russian banking sector. The annual macro-level raw data for this graph come from various issues 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 household 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.

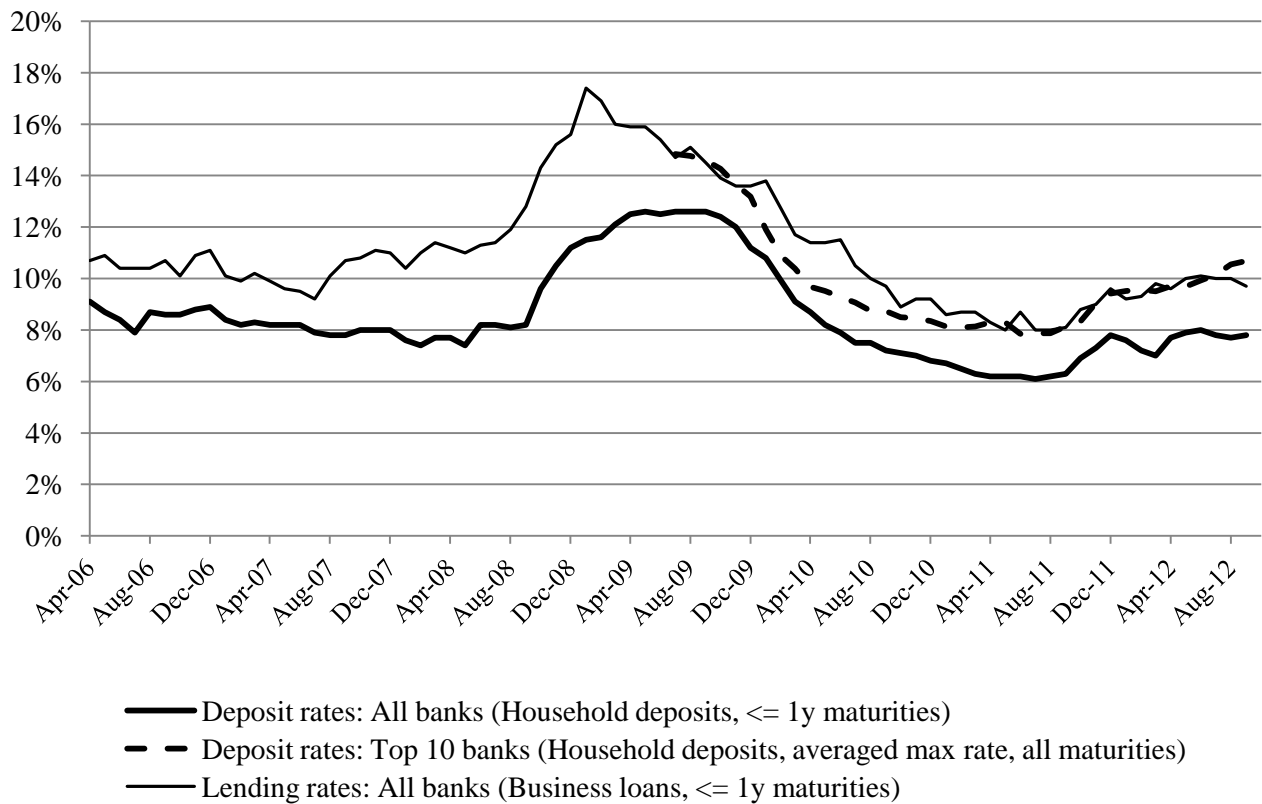
\* as of October 1, 2012





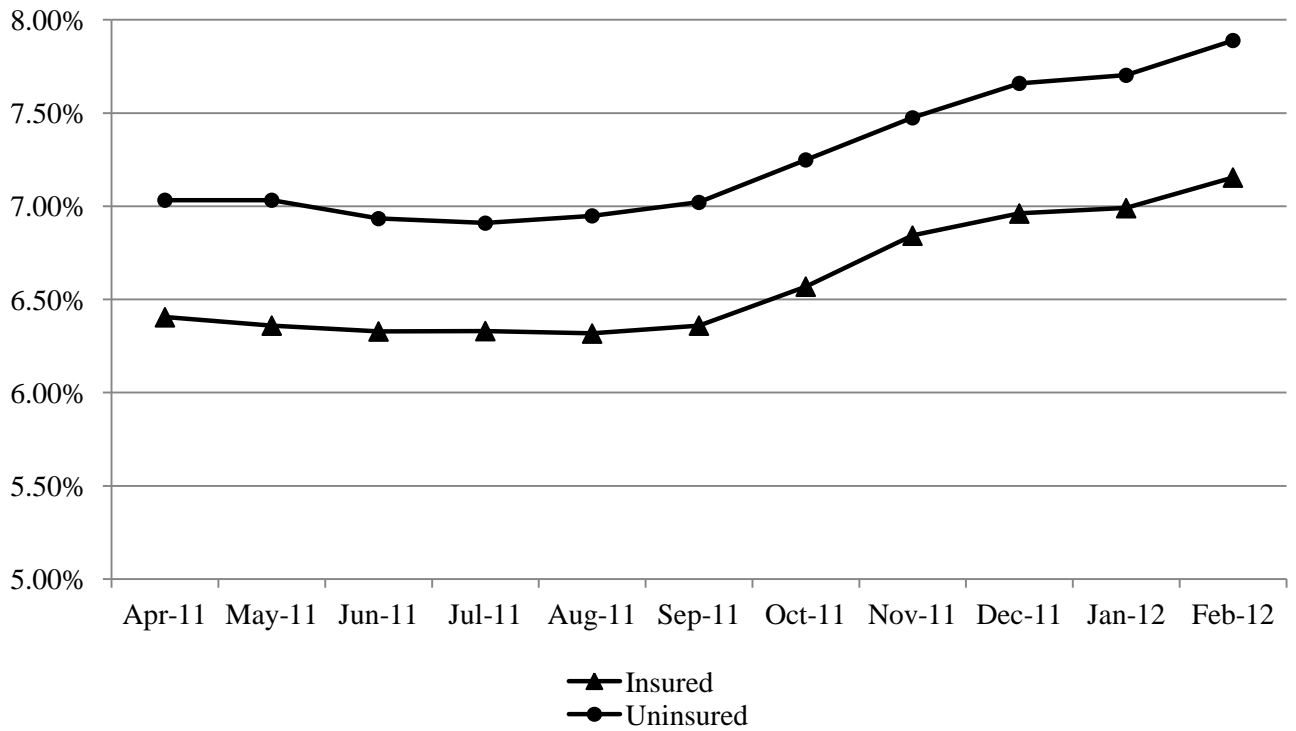
**Figure 2. Distribution of Household Deposits by Deposit Size: 2008 and 2011.**

The macro-level data for this graph are obtained from the Russian Deposit Insurance Agency Annual Review (2011) and report the distribution of household 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 household deposits below 700K are fully insured; all deposits above 700K are only partially insured.



**Figure 3. Deposit and Lending Rates in the Russian banking Sector (Apr 2006 – Sep 2012).**

The *monthly* data for this graph are obtained from the Central Bank of Russia official statistics disclosures. April 2006 is the starting date for the refined aggregate reported statistics that accounts for branch-level data and excludes the state-controlled megabank (Sberbank). The solid lines represent the aggregate, macro-level, data, for the ruble-denominated deposits from households and loans to nonfinancial firms with up to 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 and to detect banks with excessively aggressive deposit pricing policies.



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

This graph shows the patterns of the mean interest rates for insured and uninsured household deposit products for the study sample. The premium on an average uninsured deposit product 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.

## Appendix1.

### Household deposit products in Russian banks: Two examples of raw data structure.

This Appendix describes our dataset structure by providing two examples. In Panel A, we report 41 deposit products offered by the private domestic commercial bank *Renaissance Credit* in September 2012. For comparison, Panel B reports features and brackets of the 51 deposit products for the state-controlled commercial bank *VTB24* in the same month. We count unique deposit products by the number of offered rates. For example, in Panel A, there are five distinct deposit products in the “Profitable” deposit brand category, for five different maturities and there is only one deposit product with the brand name “Perspective”. Panel B represents a more complex case, with a broader set of deposit products and options. The total number of deposit products for the bank-month observation is 151. The total number of deposit product observations in our current 11-month dataset is 78,959 and the total number of unique banks is 371. We are currently updating the dataset to include 18 months, up to October 2012.

*Panel A. Household deposit products for Commercial Bank “Renaissance Credit” in September 2012 (41 deposit products).*

Deposit's lower size bracket in Rubles	Duration in days						Add money option	Partial withdraw option	Early termination privilege	Interest compoun- ding	Interest increase	Automatic renewal
	31 days	91 days	181 days	367 days	731 days	1100 days						
<i>Deposit brand name: “Profitable”</i>												
5K	8.25 %	9.75 %	11 %	12 %	12 %		No	No	Yes	No	No	Yes
<i>Deposit brand name: “Accumulating”</i>												
5K	8 %	9.5 %	10.75 %	11.75 %	11.75 %		Yes	No	No	Monthly	Yes	Yes
100K	8.1 %	9.6 %	10.85 %	11.85 %	11.85 %							
500K	8.25 %	9.75 %	11 %	12 %	12 %							
<i>Deposit brand name: “Convenient”</i>												
50K	7 %	8.5 %	9.75 %	10.75 %	10.75 %		Yes	Yes	No	No	No	Yes
300K	7.1 %	8.6 %	9.85 %	10.85 %	10.85 %							
700K	7.25 %	8.75 %	10 %	11 %	11 %							
<i>Deposit brand name: “Perspective”</i>												
100K						12 %	Yes	No	No	Annually	No	Yes
<i>Deposit brand name: “For pensioners”</i>												
3K		8 %	8.75 %	11 %	11.5 %	11.5 %	Yes	No	No	Quarterly	No	Yes

Panel B. Household Deposit Products for Commercial Bank VTB24 in September 2012 (151 deposit products).

Deposit's lower size bracket in Rubles	Duration in days									Add money option	Partial withdraw option	Early termination privilege	Interest compoun- ding	Interest increase	Automatic renewal	Internet account
	60 days	90 days	180 days	394 days	545 days	731 days	1101 days	1830 days	2562 days							
<i>Deposit brand name: "Profitable" (online only)</i>																
10K		6.6 %	6.8 %	7.6 %	7.6 %	8.3 %	7.7 %	8 %								Yes, this is online only deposit
100K		6.6 %	6.8 %	7.65 %	7.8 %	8.55 %	7.9 %	8.2 %	No	No	No	No	No	Yes, 2 times		
300K		6.6 %	6.8 %	7.7 %	8 %	8.8 %	8.1 %	8.4 %								
1000K		6.6 %	6.8 %	8.45 %	8.8 %	9.3 %	8.35 %	8.65 %								
<i>Deposit brand name: "Comfortable"</i>																
50K			5.3 %	5.65 %		6.05 %	6.25 %									
100K			5.55 %	5.9 %		6.3 %	6.5 %									
500K			5.9 %	6.45 %		6.85 %	7.05 %		Yes	Yes	Yes	Monthly	No	Yes, 4 times	Yes; add 0.3% if open online	
1500K			6.3 %	6.85 %		7.25 %	7.05 %									
10000K			6.35 %	6.9 %		7.3 %	7.45 %									
<i>Deposit brand name: "Freedom of choice"</i>																
15K		5.55 %	5.75 %	7.4 %	7.1 %	7.8 %	7.55 %	7.75 %								
150K		5.8 %	6 %	7.45 %	7.35 %	7.9 %	7.8 %	8 %								
350K		6.05 %	6.25 %	7.5 %	7.6 %	8 %	8.05 %	8.25 %								
750K		6.25 %	6.45 %	7.55 %	7.8 %	8.1 %	8.3 %	8.5 %	Yes	No	Yes	Monthly/ Quarterly	No	Yes, 4 times	No	
1000K		6.3 %	6.5 %	8.35 %	8.7 %	8.4 %	8.3 %	8.6 %								
3500K		6.5 %	6.7 %	8.45 %	8.75 %	8.6 %	8.3 %	8.6 %								
5000K		6.55 %	6.75 %	8.75 %	8.95 %	9 %	8.3 %	8.6 %								
<i>Deposit brand name: "Targeted" (online only)</i>																
10K			5.95 %	6.5 %		6.65 %	6.6 %									
100K			6.2 %	6.75 %		6.9 %	6.85 %									
300K			6.45 %	6.95 %		7.15 %	7.1 %		Yes	No	No	Monthly	Yes	Yes, 2 times	Yes, this is online only deposit	
1000K			6.7 %	7.2 %		7.4 %	7.35 %									
5000K			6.95 %	7.45 %		7.55 %	7.6 %									
9500K			6.95 %	7.45 %		7.55 %	7.6 %									
<i>Deposit brand name: "Index" (This is a floating rate deposit calculated as Central Bank of Russia Refinancing Rate – fixed rate. In Sept. 2012, the Refinancing rate was 8.25%)</i>																
50K						CB-1.70%	CB-1.65%	CB-1.60%	CB-1.55%							
1000K						CB-1.65%	CR-1.60%	CB-1.55%	CB-1.50%	Yes	No	No	Monthly	Yes	Yes, 2 times	No
3000K						CB-1.60%	CR-1.55%	CB-1.50%	CB-1.45%							
<i>Deposit brand name: "Growing income" (This is a 3 year deposit with three different rates applied during the 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> year)</i>																
30K				6 %		8 %	10 %									
300K				6 %		8 %	10 %		Yes	Yes	Yes	Monthly/ Quarterly	No	Yes, 2 times	No	
1000K				6 %		8 %	10 %									
3000K				6 %		8 %	10 %									
<i>Deposit brand name: "Mortgage downpayment" (This deposit is offered exclusively for clients waiting for the VTB24 mortgage approval)</i>																
400K	3.1 %															
700K	3.2 %															
1000K	3.3 %								Yes	Yes	No	Monthly	No	Yes, 2 times	No	
1700K	3.4 %															
3000K	3.45 %															
5100K	3.55 %															

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

*Insured deposit products* (N bank-month-deposit product obs.= 41,773 products):

Deposit size lower limit	Deposit size upper limit			Total number
	100K	350K	700K	
1K	3,459	506	734	4,699
10K	7,098	4,652	1,828	13,578
100K	3,933	6,879	6,404	17,216
300K		1,036	4,525	5,561
700K			719	719
Total number	14,490	13,073	14,210	41,773

*Uninsured deposits* (N bank-month-deposit product obs.= 38,261 products):

Deposit size lower limit	Deposit size upper limit				Total number
	3M	5M	10M	>10M	
700K	787	96	255	3,117	4,255
1M	2,311	2,220	562	7,155	12,268
3M	1,379	1,212	1,775	5,965	10,331
5M		154	888	3,344	4,386
10M			156	3,888	4,044
>10M				2,977	2,977
Total number	4,497	3,682	3,636	26,446	38,261

*Panel B. Distribution of deposit products by maturity*

Maturities	% of Total products	% of Uninsured products 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 products per bank*

	Mean	St. dev.	Min	p25	p50	p75	Max
<i>Insured deposit products</i> (N bank-month-deposit product obs.= 41,251):							
Deposit rate (%)	6.64	1.89	0.01	5.45	6.80	8.00	12.00
N of products per bank	53.18	45.27	3	21	42	73	240
<i>Uninsured deposit products</i> (N bank-month-deposit product obs.= 37,708):							
Deposit rate (%)	7.31	1.85	0.75	6.00	7.50	8.75	12.10
N of products per bank	48.98	33.69	2	25	42	70	177

**Table 2. Deposit special terms and deposit rates: Definitions, frequencies, and univariate comparisons (78,959 deposit products).**

This table provides the explanation of various deposit contract terms used in the Russian household 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 products as example. Since each product can have unlimited number of features, the total percentages do not sum up to 100%.

Deposit contract terms and options	Description	% Total products	% of Uninsured products among all products with a feature	Mean deposit rate for a 1-year product (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 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 (Apr 2011- Feb2012) of our panel by “cross-sectionalizing” the data at the bank level. In Panels B-D, we define bank groups by the two combined criteria used by the Russian regulators to detect aggressive deposit-taking banks: (1) Household deposit to Liabilities ratio exceeds 25% *and* (2) Household deposits grow at a rate of above 1.3 times the market average. The subsample of our primary interest is the group of aggressive deposit-taking banks (Panel B).

	Log (Assets)	Regulatory capital ratio	NPL Loans/ Total loans	Private Loans/ Assets	Household deposit/ Total Deposits	Household deposit/ Liabilities	Insured deposits' rate	Uninsured deposits' rate
Panel A: Full sample (371 bank)								
Mean	15.80	21.26	5.52	45.74	75.25	34.88	6.76	7.48
St. dev.	1.80	13.16	6.65	17.58	23.64	21.38	1.82	1.77
Min	12.33	10.43	0	0.00	0.60	0	0.01	0.93
p25	14.52	12.68	1.54	34.64	64.63	15.63	5.5	6.2
p50	15.51	16.71	3.71	46.17	82.91	33.72	6.95	7.65
p75	16.94	24.14	6.53	57.65	93.11	50.65	8.1	8.83
Max	22.95	96.51	55.02	100.00	100.00	82.26	11.62	12
Panel B: Banks with large and fast growing deposit base (28 banks)								
Mean	15.21	25.47	5.48	48.13	80.70	42.97	7.85	8.67
St. dev.	1.32	15.45	7.01	13.55	18.73	20.31	1.84	1.65
Min	12.79	11.12	0.06	15.74	37.47	25.08	2.36	3.48
p25	14.30	14.45	0.75	37.72	68.51	37.76	6.50	7.91
p50	15.08	17.26	2.43	51.40	89.51	43.69	8.23	9.08
p75	15.99	37.85	6.81	59.31	95.38	58.62	9.31	9.81
Max	18.62	66.92	25.23	64.15	100.00	76.77	11.5	11.65
Panel C: Banks with large and slow growing deposit base (268 banks)								
Mean	15.78	18.31	5.57	47.13	82.84	41.46	6.84	7.53
St. dev.	1.61	8.31	6.67	16.61	14.56	18.35	1.80	1.80
Min	12.36	10.43	0	0.00	31.26	25.08	0.01	0.92
p25	14.65	12.29	1.64	36.75	74.91	37.63	5.59	6.32
p50	15.56	15.04	3.95	48.41	85.97	41.30	7.00	7.77
p75	16.81	20.52	6.81	58.66	94.99	55.59	8.18	8.91
Max	22.97	61.92	55.02	99.37	100.00	82.26	11.62	12
Panel D: Banks with low deposit base (75 banks)								
Mean	16.21	27.67	5.33	43.88	46.55	8.39	6.36	7.16
St. dev.	2.40	18.93	6.53	22.51	29.24	5.38	1.74	1.63
Min	12.36	10.65	0.00	0.00	0.64	0.00	0.5	1.84
p25	14.04	14.29	1.31	29.79	21.09	3.8	5.25	6.05
p50	15.96	21.20	3.68	43.63	42.18	8.01	6.5	7.24
p75	18.19	34.37	6.17	54.63	69.56	12.48	7.52	8.35
Max	20.96	92.26	37.88	100.00	100.00	22.816	10.5	11.5



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

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

**Table 5. Regression results: Deposit contract terms and deposit pricing**

The left panel of the table reports OLS regression results for a full sample of the deposit products obtained from 371 Russian banks. The right panel of the table reports regression results for the deposit products obtained from 28 Russian banks that according to the CBR's guidelines are classified as being aggressive on the household deposit market. 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: \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

Dependent variable:	Full sample		Banks with large and fast growing deposit base	
	Uninsured deposit dummy=0	Uninsured deposit dummy=1	Uninsured deposit dummy=0	Uninsured deposit dummy=1
<i>Deposit level variables:</i>				
Deposit rate				
Deposit size medium bracket	0.216*** (5.59)	0.010*** (3.18)	0.333*** (8.27)	0.005 (0.85)
Maturity 6-months	1.681*** (14.12)	1.627*** (12.50)	1.552** (3.94)	2.414*** (6.26)
Maturity 1-year	2.646*** (18.95)	2.632*** (16.72)	2.345*** (6.08)	3.175*** (7.23)
Maturity <3-years	3.600*** (23.78)	3.637*** (24.65)	3.632*** (8.11)	4.395*** (10.37)
Maturity >3-years	3.903*** (20.99)	3.882*** (21.47)	4.395*** (7.78)	4.484*** (9.29)
Add money option dummy	-0.386*** (-3.14)	-0.299*** (-2.61)	0.822** (2.16)	0.451 (1.43)
Add money and partial withdraw options	-1.116*** (-9.57)	-0.701*** (-7.00)	-1.150** (-2.65)	-0.553* (-1.87)
Multicurrency option dummy	-0.725*** (-4.87)	-0.423** (-2.27)	-1.855*** (-6.28)	-0.642 (-1.60)
Interest increase dummy	0.290*** (2.64)	0.143 (1.09)	-0.818*** (-3.15)	-0.371 (-1.04)
Early termination privilege	0.244** (2.06)	0.386*** (3.47)	0.664*** (3.48)	0.0200 (0.08)
Deposit via Internet dummy	0.224 (1.27)	0.288 (1.11)		
Compounding interest dummy	-0.218*** (-2.79)	-0.204** (-2.54)	-0.0514 (-0.21)	-0.634*** (-3.12)
Automatic renewal dummy	0.088 (0.72)	0.067 (0.59)	0.354 (1.22)	-0.367 (-1.07)
Deposit tied to mutual fund	0.390 (1.91)	0.0251 (0.17)		
Pension deposit dummy	0.905*** (6.49)	0.607*** (4.33)	1.639*** (6.27)	
Seasonal deposit dummy	1.296*** (8.11)	0.882*** (4.35)		1.020** (2.85)
Other special deposit dummy	0.203 (1.61)	0.020 (0.100)		

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	Uninsured deposit dummy=0	Uninsured deposit dummy=1	Uninsured deposit dummy=0	Uninsured deposit dummy=1
<b>Bank level variables:</b>				
Regional bank dummy	-0.716*** (-5.54)	-0.785*** (-6.10)	-0.836*** (-3.27)	-0.276 (-0.94)
Foreign bank dummy	-1.087*** (-5.74)	-0.969*** (-4.09)		
State bank	-0.847*** (-5.01)	-0.868*** (-3.44)		
Capital ratio	0.001 (0.24)	-0.019*** (-2.77)	-0.031*** (-6.20)	-0.037*** (-5.07)
Non-Perform. Loans/Tot. Loans	0.007 (0.65)	0.003 (1.42)	0.052** (2.56)	0.106*** (2.90)
Private Loans/Assets	0.009** (2.36)	0.019*** (4.86)	0.020*** (3.16)	0.016 (0.84)
Log(Assets)	-0.300*** (-7.12)	-0.356*** (-7.84)	-0.188 (-1.29)	-0.274 (-1.52)
Household deposit/Total Deposits	0.001 (0.20)	-0.002 (-0.87)	0.029*** (6.23)	0.021*** (4.06)
Constant	6.802*** (7.18)	10.85*** (11.38)	1.589 (0.61)	8.298** (3.25)
<i>N: bank-deposit contract observations</i>	3913	3500	232	190
<i>R</i> <sup>2</sup>	0.650	0.668	0.852	0.834

**Table 6. Regression results: Deposit contract terms and deposit pricing**

This table reports 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:

\*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

Dependent variable:	Full sample	Private domestic banks sample	Regional banks sample	Moscow banks sample	Banks with large and fast growing deposit base	Banks with large and slow growing deposit base	Banks with low deposit base
<i>Deposit level variables:</i>							
Uninsured deposit dummy	1.402* (1.90)	1.745** (1.96)	1.886 (1.55)	1.431 (1.44)	8.691*** (3.02)	1.097 (1.10)	0.312 (0.16)
Deposit size medium bracket	0.011*** (3.56)	0.011*** (3.15)	0.008 (1.31)	0.013*** (3.55)	0.009 (1.29)	0.014*** (3.41)	0.013*** (2.89)
Maturity 6-months	1.699*** (15.97)	1.788*** (16.10)	2.113*** (12.99)	1.431*** (11.38)	1.703*** (4.28)	1.705*** (12.72)	1.551*** (9.37)
Maturity 1-year	2.676*** (21.14)	2.862*** (22.31)	3.012*** (16.20)	2.434*** (15.40)	2.316*** (5.31)	2.696*** (16.25)	2.632*** (13.93)
Maturity 3-years	3.667*** (27.04)	3.837*** (27.97)	3.977*** (20.69)	3.441*** (20.28)	3.621*** (7.97)	3.573*** (20.33)	3.686*** (17.87)
Maturity >3-years	3.933*** (23.67)	4.092*** (25.69)	4.085*** (20.67)	3.959*** (14.93)	4.145*** (7.53)	3.787*** (18.95)	4.393*** (14.81)
Add money option dummy	-0.339*** (-3.35)	-0.298** (-2.81)	-0.612*** (-4.39)	-0.225 (-1.68)	0.513 (1.65)	-0.290** (-2.26)	-0.296** (-2.65)
Add money and partial withdraw options	-0.869*** (-9.84)	-0.823*** (-8.26)	-0.865*** (-6.48)	-0.917*** (-8.33)	-0.975** (-2.98)	-0.720*** (-6.13)	-1.023*** (-8.77)
Multicurrency option dummy	-0.500*** (-3.46)	-0.471*** (-3.15)	-0.011 (-0.05)	-0.658*** (-3.71)	-1.004** (-3.23)	-0.452** (-2.32)	-0.875*** (-6.37)
Interest increase dummy	0.201 (1.90)	0.236** (2.01)	0.341 (1.65)	0.0904 (0.73)	-0.280 (-1.08)	0.194 (1.41)	-0.146 (-1.23)
Early termination privilege	0.340*** (3.41)	0.367*** (3.49)	0.287** (2.01)	0.390*** (2.98)	0.347* (1.73)	0.370** (2.54)	0.097 (0.68)
Deposit via Internet dummy	0.308 (1.45)	0.839*** (3.06)	-0.123 (-0.48)	0.484* (1.87)		0.627** (2.03)	0.072 (0.43)
Compounding interest dummy	-0.233*** (-3.66)	-0.223*** (-3.19)	-0.175 (-1.54)	-0.230*** (-2.88)	-0.294* (-1.90)	-0.285*** (-3.57)	-0.138 (-1.77)
Automatic renewal dummy	0.101 (1.03)	0.0507 (0.48)	0.126 (0.88)	0.122 (0.97)	0.111 (0.38)	0.210 (1.43)	0.140 (0.98)
Deposit tied to mutual fund	0.375 (1.55)	-0.238 (-0.97)	-0.162 (-0.73)	0.0263 (0.08)		-0.375 (-1.17)	2.767*** (10.41)
Pension deposit dummy	0.750*** (6.36)	0.743*** (6.03)	0.692*** (5.14)	0.893*** (4.94)	0.950*** (4.81)	0.782*** (5.92)	0.544** (2.50)
Seasonal deposit dummy	1.169*** (7.07)	0.984*** (7.42)	1.345*** (9.06)	1.114*** (5.62)	1.087** (2.67)	1.194*** (5.23)	0.881*** (4.32)
Other special deposit dummy	0.191 (1.36)	0.230 (1.71)	0.470** (2.20)	-0.240 (-0.96)		-0.0906 (-0.37)	-0.0131 (-0.05)

(Cont.)

	<i>(Cont.)</i>						
	Full sample	Private domestic banks sample	Regional banks sample	Moscow banks sample	Banks with large and fast growing deposit base	Banks with large and slow growing deposit base	Banks with low deposit base
<b><i>Bank level variables:</i></b>							
Regional bank	-0.774*** (-6.05)	-0.765*** (-5.80)			-0.862** (-2.56)	-0.862*** (-5.12)	-0.038 (-0.20)
Regional bank *Uninsured deposit	-0.028 (-0.25)	-0.009 (-0.07)			0.159 (0.49)	-0.073 (-0.53)	0.038 (0.17)
Foreign bank	-1.000*** (-5.45)			-1.019*** (-4.95)		-0.860** (-2.53)	-0.979*** (-5.07)
Foreign bank *Uninsured deposit	-0.012 (-0.07)			-0.045 (-0.22)		-0.270 (-1.03)	-0.084 (-0.29)
State bank	-0.888*** (-5.14)		-0.500** (-2.92)	-1.111*** (-3.55)		-1.139*** (-4.02)	-0.436 (-1.60)
State bank*Uninsured deposit	-0.061 (-0.33)		0.179 (0.49)	0.053 (0.20)		-0.266 (-1.13)	-0.445 (-1.34)
Capital ratio	-0.001 (-0.03)	0.006 (0.81)	0.016 (1.00)	0.002 (0.24)	-0.032*** (-4.25)	0.004 (0.42)	0.005 (0.32)
Capital ratio *Uninsured deposit	-0.018** (-2.44)	-0.022*** (-2.84)	-0.033*** (-2.89)	-0.014 (-1.44)	-0.013 (-1.51)	-0.019* (-1.83)	-0.020 (-1.20)
NPL/Total Loans	0.006 (0.62)	-0.014 (-1.32)	-0.028*** (-2.81)	0.032*** (3.63)	0.066* (1.87)	0.004 (0.33)	0.001 (0.06)
NPL/Total Loans*Uninsured deposit	-0.001 (-0.07)	-0.001 (-0.02)	0.005 (0.38)	-0.009 (-1.07)	0.061 (1.57)	-0.003 (-0.27)	-0.003 (-0.21)
Private Loans/Assets	0.008*** (2.26)	0.005 (1.23)	0.009 (1.87)	0.004 (0.69)	0.033*** (3.08)	0.010** (2.31)	0.004 (0.61)
Private Loans/Assets *Uninsured deposit	0.011*** (2.61)	0.011** (2.37)	0.017*** (3.17)	0.013** (2.07)	0.012 (1.38)	0.009* (1.79)	0.014 (1.64)
Log(Assets)	-0.302*** (-7.32)	-0.239*** (-4.88)	-0.196** (-2.92)	-0.320*** (-5.82)	-0.041 (-0.21)	-0.269*** (-4.78)	-0.284*** (-4.34)
Log(Assets)*Uninsured deposit	-0.046 (-1.28)	-0.060 (-1.41)	-0.008 (-1.30)	-0.049 (-0.99)	-0.437** (-2.46)	-0.053 (-1.11)	0.015 (0.17)
Household deposits /Total Deposits	-0.001 (-0.08)	0.001 (0.45)	-0.003 (-0.82)	0.003 (1.32)	0.042*** (8.52)	-0.005 (-1.00)	0.005** (2.01)
Household deposits /Total Deposits*Uninsured deposit	-0.001 (-0.66)	-0.002 (-0.91)	-0.001 (-0.21)	-0.002 (-0.92)	-0.022*** (-4.04)	0.004 (1.19)	0.002 (0.49)
Constant	9.234*** (11.48)	8.091*** (8.55)	6.734*** (5.39)	9.513*** (8.93)	1.811 (0.56)	8.793*** (7.70)	8.667*** (5.99)
<i>N: bank-deposit contract observations</i>	7409	6147	2897	4510	433	5045	1935
<i>R<sup>2</sup></i>	0.668	0.636	0.663	0.699	0.798	0.652	0.759