

# Does Deposit Insurance Improve Financial Intermediation? Evidence from the Russian Experiment

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# Summary

- In this study, we examine how the introduction of deposit insurance affects depositors and banks.
- We use the deposit-insurance scheme introduced into the Russian banking system in 2004 as a natural experiment.

# Summary

- The fundamental research question is:
- Does the introduction of deposit insurance lead to a more effective banking system?
- More specifically, does it lead to
  - increased retail deposit-taking; and
  - decreased reliance upon State-owned banks as the custodians of retail deposits.

## Summary

- We also test for evidence of moral hazard following introduction of deposit insurance in the form of increased bank risk-taking.
- We test for changes in both:
  - ***operating risk***, as measured by the ratio of loans to assets; and
  - ***financial risk***, as measured by the ratio of capital to assets.

## Summary

- We find that banks entering the new deposit-insurance system increased both:
  - their level of retail deposits and
  - their ratios of retail deposits to total assets
- relative to banks that did not enter the new deposit insurance system.
  
- Moreover, the *longer* a bank was entered into the deposit insurance system, the *greater* was its level of deposits and its ratio of deposits to total assets.

## Summary

- We also find that implementation of the new deposit-insurance system had the effect of “leveling the playing field” between State-owned banks and privately owned banks.

# Summary

- On the issue of moral hazard, we find strong evidence that implementation of the new deposit-insurance system led to increased bank risk-taking.
- Both financial risk and, to a lesser extent, operating risk, increased following implementation.

# Introduction

- The costs and benefits of explicit deposit insurance have been debated for almost two centuries, going back to the early 1800s, when several states in the U.S. adopted various deposit insurance schemes to protect their state banking systems.
- In 1933, the U.S. became the first country to provide deposit insurance on a national basis.
- By year-end 2008, more than 100 countries had followed.
- On the one hand, explicit deposit insurance reduces the likelihood and severity of bank runs during a financial crisis.
- On the other hand, explicit deposit insurance may lead to moral hazard, increasing the likelihood of a financial crisis.



# Introduction

- Demirguc-Kunt and Detragiache (2002) provide evidence that explicit deposit insurance increases the likelihood of banking crises, especially when institutions are weak and interest rates are deregulated.
- However, they do not address potentially *positive* effects of deposit insurance.
- They conclude that an interesting question for future research is **“whether there are reasons to adopt explicit deposit insurance despite its negative impact on systemic stability,”**
- Such as **“that it may create a basis for a more developed banking system that performs more financial intermediation.”**

# Introduction

- In this study, we present new evidence that, at least in part, provides an answer to this question.
- We examine how the introduction of explicit deposit insurance affects a banking system,
- We use the deposit-insurance scheme introduced into the Russian banking system in 2004 as a natural experiment.
- The fundamental research questions we address are whether or not deposit insurance leads to a more effective banking system as evidenced by increased deposit-taking and decreased reliance upon state-owned banks as custodians of retail deposits; and whether or not deposit insurance creates moral hazard, leading to increased bank risk-taking.

# Why Russia?

- Prior to 2004, there was no system of deposit insurance in Russia.
- There were three banking crises during the previous 16 years—in 1992, 1995, and 1998—when retail depositors suffered substantial losses.
- This led retail depositors to either rely upon State-owned banks that were explicitly protected by the government guarantees or to keep their saving “under their mattresses.”

## Our Contributions: Increased Financial Intermediation

- First, we provide new evidence on the issue of whether or not a system of explicit deposit insurance leads to increased financial intermediation in the form of higher levels of deposits.
- Our results provide strong evidence that **financial intermediation as measured by the level of deposits does increase following implementation of a deposit insurance system.**

## Our Contributions: Reliance upon State-Owned Banks

- Second, we provide new evidence on the issue of whether or not deposit insurance leads to reduced reliance upon State-owned banks.
- La Porta *et al.* (2002) demonstrate: government ownership of banks around the world is pervasive and has negative consequences for financial development and economic growth
- We find that **reliance upon State-owned banks as a repository for deposits does decrease** following implementation of an explicit deposit-insurance system.
  - But this result is driven by the one dominant State-owned bank (Sberbank).

# Our Contributions: Moral Hazard

- Third, we provide new evidence on the issue of whether or not deposit insurance leads to moral hazard in the form of increased bank risk-taking.
- We find that **both financial risk, and to a lesser extent, operating risk, increase** following introduction of deposit insurance.

# The Literature

- Kane (1995, 2000) provide summaries of literature on the costs and benefits of deposit insurance.
- Diamond and Dybvig (1983) show that a system of deposit insurance ensures bank stability threatened by depositor runs.
- However, it is universally accepted that deposit insurance creates moral hazard, as banks can fund high-risk assets that are not reflected in their liability costs (deposit rates).

# The Literature: The Cost of Deposit Insurance

- An even wider literature empirically analyzes the costs of deposit insurance.
- Most of these studies analyze data at the country-level rather than at the bank level.
- In general, these studies find that moral hazard is a greater problem in countries with explicit deposit insurance, leading to a greater likelihood of banking crises.



# The Literature: The Costs of Deposit Insurance

- Demirguc-Kunt and Detragiache (2002)
- Honohan and Klingebiel (2003)
- Kane and Klingebiel (2004)
- Demirgüç-Kunt and Huizinga (2004)
- Laeven (2004)
- Demirgüç-Kunt, Kane, and Laeven (2006)

# The Literature: Bank-Level Data

- Only a handful of papers examine bank-level data for evidence on the costs of deposit insurance.
- Laeven (2002)
- Hovakimian, Kane and Laeven (2003)

# Background on the Russian Experiment: Timeline of the Laws

- **Autumn 2003:** the Russian Federal Assembly passed a series of six bills that formed the basis of a system of explicit deposit insurance for the Russian banking system.
- **December 2003:** these bills were signed into law, culminating more than a decade of efforts.
- **Coverage** was to be quite modest, covering only physical persons to a maximum of RUB100,000 or about **USD3,500**.
- However, this level of insurance was expected by regulators to cover about 85% of all retail deposits in the country

# Background on the Russian Experiment: Deposit-Insurance Coverage Limits

- **August 2006:** The coverage limit was increased to RUB190,000, which was equal to approximately 130 percent of per capital GDP.
- This newly adopted amendment also introduced co-insurance, as the amounts above RUB100,000 are reimbursed at only a 90 percent rate.
- This coinsurance mechanism was introduced to provide monitoring incentives for the large depositor.
- In subsequent years, the coverage limit has gradually been increased further—to RUB400,000 in March 2007 and to RUB700,000 in October 2008.

# Background on the Russian Experiment: Goals of the Law on Deposit Insurance

- The Law on Deposit Insurance defined three closely related goals:
  - (i) the protection of depositors' funds,
  - (ii) the increase in the depositors' confidence in the Russian banking system and
  - (iii) the attraction of household savings in the Russian banking system.

These goals arose out of historical experience of Russian depositors, who had been victimized by the losses suffered during the banking crises of 1992, 1995, and 1998, which collectively led to a loss of confidence in privately owned banks.

# Background on the Russian Experiment: Retail Deposits as Demand Deposits

- There is also another institutional characteristic of the Russian deposit market that increases the banking system's vulnerability and the importance of the deposit insurance system in preventing bank runs.
- By law, all retail deposits in Russia, including terms deposits, are revocable. Any deposit can be withdrawn by its owner at any time (Civil Code Article 837).
- Thus, **all retail deposits in Russia are essentially demand deposits.**

# Background on the Russian Experiment: Sberbank

- Prior to the new legislation, the Russian government had **explicitly** stated that it would cover depositor losses only at State-controlled banks, the largest of which was **Sberbank**.
- Largely due to its explicit coverage, Sberbank became the largest bank in Eastern Europe and dominated the retail deposit market with a **market share of 62.8% as of the end of 2003**, prior to the deposit insurance system implementation.
- Hence, a supplementary goal of the deposit-insurance implementation was to **reduce the reliance of retail depositors on Sberbank** and other State-owned banks.

# Background on the Russian Experiment: The “Process” of Implementation

- The process for banks’ entry into the deposit-insurance system involved several stages and included rigorous on-site examinations. (Sound familiar re the TARP?)
- Banks would have to apply for deposit-insurance coverage and then be subject to a special examination before coverage would be granted.
- The **deadline** for the banks’ applications was defined as the end of **June 2004**.



# Background on the Russian Experiment: The “Process” of Implementation

- The applications of the first group of 26 banks were approved in **September 2004**. A total of 1,140 banks applied and 820 were approved **by March 2005**.
- Those turned down had **the right to** address CBR criticisms and **reapply** by September 2005. A total of 265 applied and 92 were approved.
- Those turned down twice were allowed two appeals. A total of 142 appealed and 5 were approved by December 2005.

## Background on the Russian Experiment: The “Process” of Implementation

- As a result of adverse findings during the special on-site bank examinations, the applications of 191 banks were rejected, and another 24 banks lost their licenses.
- The banks that failed to enter the DIS lost the right to attract new deposits. However, they retained the right to serve the existing deposits and to apply for a new license for retail deposits' operations and DIS acceptance two years after the initial rejection.
- Under amendments to the deposit-insurance law, deposits of these banks were insured by the Central Bank of Russia instead of the Deposit Insurance Agency.

# Summary of the Process for Deposit-Insurance Implementation

Stage	Start	End	Banks Applied	Banks Approved	Banks Rejected	Approval Rate
1	2/1/2004	9/1/2004	1,140	824	316	72.3%
2	10/1/2004	3/1/2005	265	92	173	34.7%
3	4/1/2005	12/1/2005	142	5	137	3.5%
4	1/1/2006	12/1/2006		921	219	80.8%

**Table 1:**  
**Evolution of the Russian banking system:**  
**Macro indicators, 1999 – 2007**  
**(Amounts in Billions of Russian Rubles ~28RBL:1USD)**

	1999	2000	2001	2002	2003	2004	2005	2006	2007
<b>No. of banks</b>	1,349	1,311	1,319	1,328	1,278	1,249	1,205	1,143	1,092
<b>Assets</b>	1,586	2,363	3,160	4,145	5,601	7,137	9,750	14,046	20,241
<b>% of GDP</b>	32.9	32.3	35.3	38.3	42.3	42.1	45.1	52.4	61.4
<b>Capital</b>	168	286	454	581	815	947	1,242	1,693	2,672
<b>% of GDP</b>	3.5	3.9	5.1	5.4	6.2	5.6	5.7	6.3	8.1
<b>% to Assets</b>	10.6	12.1	14.4	14.0	14.6	13.3	12.7	12.1	13.2
<b>Loans to firms</b>	507	847	1,324	1,796	2,685	3,888	5,454	8,031	12,288
<b>% of GDP</b>	10.5	11.6	14.8	16.6	20.3	22.9	25.3	29.9	37.3
<b>% to Assets</b>	31.9	35.9	41.9	43.3	47.9	54.5	55.9	57.2	60.7
<b>Household deposits</b>	297	446	678	1,030	1,518	1,977	2,755	3,794	5,137
<b>% of GDP</b>	6.2	6.1	7.6	9.5	11.5	11.7	12.8	14.3	15.6
<b>% to Assets</b>	18.7	18.9	21.5	24.8	27.1	27.7	28.3	27.0	25.4

# Data

- We obtain Russian banking industry data from the CBR.
- There is no comprehensive and publicly available source of data on the financial statements of individual Russian banks.
- We are able to construct a unique and representative dataset of Russian banks by combining information from three reliable local sources, none of which are available in English.

# Data

- A majority of Russian banks grant the CBR permission to disclose their detailed balance sheets and income statements on the monthly basis through the CBR website.
- For example, in February 2004 (the first month for which this information is available), about 52% of all Russian banks disclosed their financial statements. By the end of 2006, this number had gradually risen to almost 70%.
- We decode the detailed entries of reported financial statements by relying on the Russian Accounting Standards for banks and the CBR official methodologies for the aggregation of accounts.

## Data: Financial Data

- We obtain **monthly data** on **deposits, loans, assets, and liabilities** of approximately **800 Russian banks** from the records of the CBR for the period Feb. 1, 2004 through Dec. 1, 2006.
- Hence, the **sample period consists of 35 months** and covers pre- and post-DIS introduction.
- The panel is unbalanced and consists of **26,076 bank-month observations**.

## Data: Financial Data

- The number of unique banks with financial data from the CBR in at least one month is 851; 743 banks have data for at least 20 months and 615 banks have data for all 35 months.
- The number of banks that disclose their financial statements through the CBR website gradually increases over time: from 663 at the beginning of 2004 to 793 at the end of 2006.
- Some banks may have statements for non-continuous months; therefore, the number of unique banks, 851, is larger.



## Data: Ownership Structure

- To distinguish among State-controlled, foreign-controlled, and privately-controlled domestic banks, we use information on each bank's equity accounts.
- By the Russian Accounting Standards for banks, all equity shares must be reported by the type of owner.
- We define ***State-controlled bank*** as a bank in which any combination of State entities, including various government authorities or government-owned companies, hold a majority ownership stake.
- We define a ***foreign-controlled bank*** as a bank in which foreign investors collectively own a majority stake.

## Data:

# Non-Financial Characteristics

- Our second source is a weekly periodic publication of the CBR known as the *Bulletins of the Central Bank of Russia*.
- This publication contains **non-financial characteristics** of all banks licensed by the CBR.
- From this source we obtain information on
  - *bank legal form* (open joint-stock, closed joint-stock, or private bank),
  - *location* (Moscow or regional bank), and
  - *license type* (general license or license with restrictions).
- We hand-collect this information from the bulletin as of year-end 2005.

## Data:

# Entry into Deposit Insurance System

- Our third source is a publicly available **registry of all insured banks** maintained by the DIA.
- From this source, we obtain information on the date of each banks' entry into deposit-insurance system.
- We are able to accurately match-merge information from these three data sources by using a unique license registration number assigned to each bank by the CBR.
  - Each of the three data sources uses this registration number as a means of identifying individual banks.

## Data:

# Representativeness of Russian Banks

- Our sample is broadly representative of the Russian banking system, encompassing approximately 60 percent of the industry by number of banks and about 96 percent of the industry by household deposits.
  - It should be noted that Sberbank, by itself, accounts for 60% of the industry's household deposits and about 30% of the industry's assets.
- Our sample is even more representative for the banks that operate on the household-deposits market.
  - For example, as of the end of 2005, only 1,045 out of 1,205 Russian banks had a license for attracting household deposits.

## Table 2A: Sample Descriptive Statistics

	I	II	III	IV
	02.01.2004	01.01.2005	01.01.2006	12.01.2006
Number of sample banks	663	735	769	793
Days in DIS				
Mean	-	21	303	594
Median	-	-	346	680
Assets (RUB million)				
Mean	11,156	12,641	16,881	22,643
Median	774	852	1,125	1,378
Retail deposits (RUB million)				
Mean	2,182	2,527	3,080	3,739
Median	109	138	189	219
Retail deposit to assets ratio				
Mean	0.21	0.22	0.22	0.22
Median	0.18	0.18	0.18	0.19
Book equity to assets ratio				
Mean	0.22	0.22	0.20	0.19
Median	0.18	0.18	0.15	0.14

## Table 2B: Sample Descriptive Statistics

	Number	%
<b><i>DIS acceptance</i></b>		
Banks accepted in the 1st stage	638	75
Banks accepted in the 2nd or 3rd stages	85	10
Not accepted by the end of DIS introduction	128	15
<b><i>License type</i></b>		
General license	243	28.6
License with restrictions	608	71.4
<b><i>Legal form</i></b>		
Open joint stock banks	376	55.8
Closed joint stock and private banks	475	44.2
<b><i>Location</i></b>		
Regional banks	523	61.5
Moscow banks	328	38.5
<b><i>Ownership type</i></b>		
Privately-controlled banks	792	93.1
State-controlled banks	24	2.8
Foreign-controlled banks	35	4.1
<b><i>Total unique sample banks</i></b>	<b>851</b>	<b>100</b>

## Table 3A: Distribution of Observations by Sample Period

DI stage	Bank-month observations					
	Banks not in DIS		Banks in DIS		All Banks	
	Number	%	Number	%	Number	%
Pre-DI	5,538	100.0	-	-	5,538	100.0
1st stage	2,829	64.2	1,579	35.8	4,408	100.0
2nd-3rd stage	1,277	18.7	5,570	81.3	6,847	100.0
After DI	1,116	12.0	8,167	88.0	9,283	100.0
<b>Total sample</b>	<b>10,760</b>	<b>41.3</b>	<b>15,316</b>	<b>58.7</b>	<b>26,076</b>	<b>100.0</b>

**Table 3B:  
Comparison of Retail Deposits Levels  
Insured and Uninsured Banks.**

Levels of Deposits (RUB millions)										
	All banks			Banks not in DIS			Banks in DIS			p-value
DI stage	Median	Mean	SE	Median	Mean	SE	Median	Mean	SE	
Pre-DI	120	2,299	539	120	2,299	539	-	-	-	-
1st stage	135	2,463	649	91	2,297	812	241	2,761	1,079	0.00
2-3rd stages	161	2,802	570	37	147	8	212	3,411	700	0.00
After DI	204	3,395	587	4	84	9	267	3,847	667	0.00
Total sample	160	2,849	302	80	1,813	350	245	3,576	451	0.00



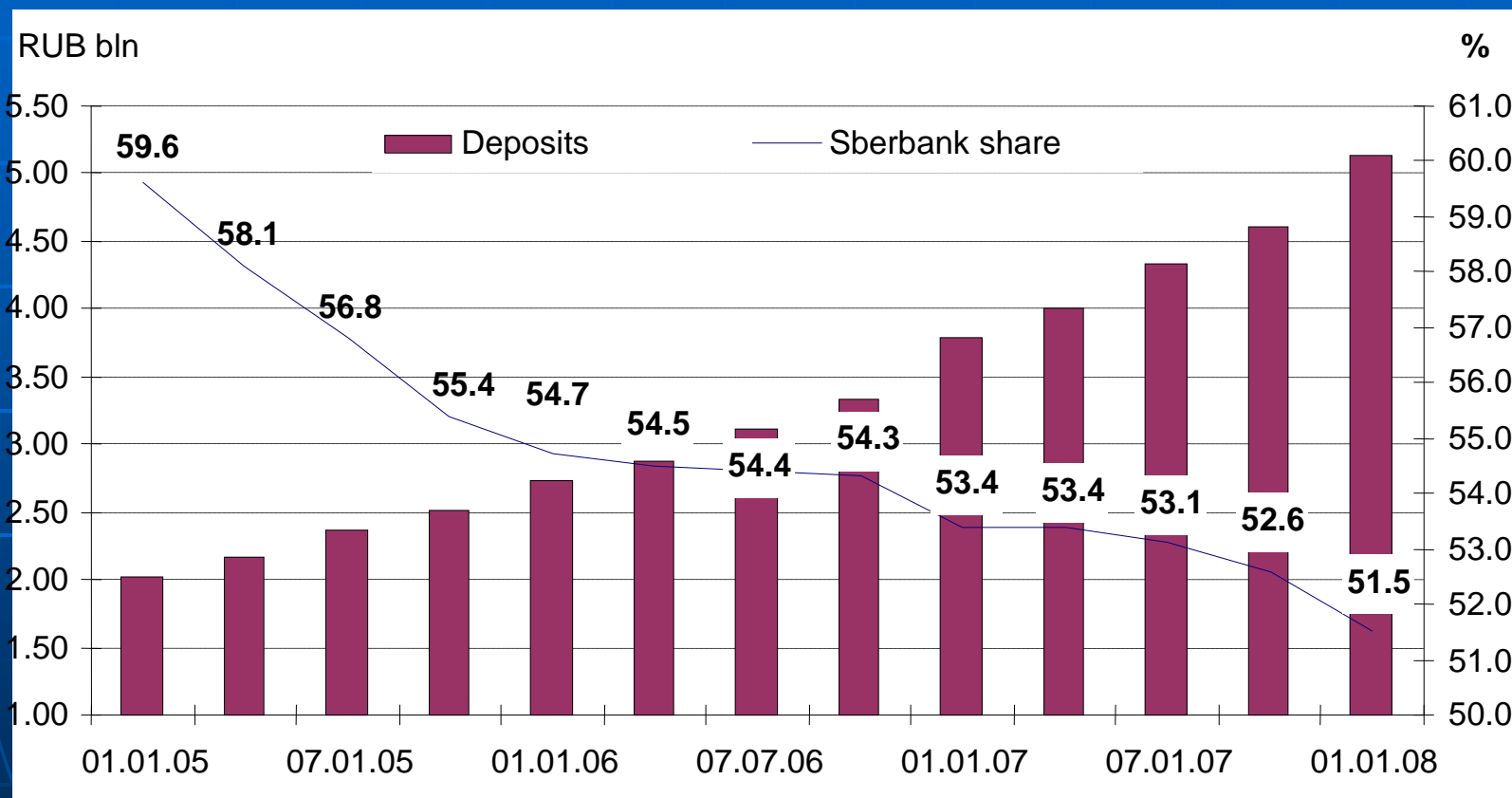
**Table 3C:**  
**Comparison of Retail Deposits to Assets Ratio**  
**Insured and Uninsured Banks.**

Ratio of Retail Deposit to Assets										
	All banks			Banks not in DIS			Banks in DIS			
DI stage	Median	Mean	SE	Median	Mean	SE	Median	Mean	SE	p-values
Pre-DI	0.181	0.213	0	0.181	0.213	0	-	-	-	-
1 <sup>st</sup> stage	0.182	0.220	0	0.142	0.184	0	0.277	0.286	0	0.00
2-3 <sup>rd</sup> stages	0.189	0.229	0	0.061	0.103	0	0.228	0.258	0	0.00
After DI	0.191	0.226	0	0.010	0.044	0	0.224	0.251	0	0.00
Total sample	0.187	0.223	0	0.134	0.175	0	0.230	0.257	0	0.00

## Table 4: Deposit Taking by State Controlled Banks

	All State-controlled banks						Sberbank	
	(N = 24 unique banks)							
	Deposits			Deposit to			Deposits	Deposits to
	(RUB millions)			Assets Ratio			(RUB millions)	Assets Ratio
DI stage	Median	Mean	SE	Median	Mean	SE		
<b>Pre-DI</b>	108	51,311	16,458	0.146	0.201	0.011	1,052,658	<b>0.612</b>
<b>1st stage</b>	137	58,995	21,637	0.161	0.207	0.013	1,165,168	<b>0.589</b>
<b>2-3rd stages</b>	201	68,462	20,292	0.194	0.227	0.012	1,296,199	<b>0.559</b>
<b>After DI</b>	253	87,242	23,296	0.216	0.230	0.011	1,563,774	<b>0.517</b>

# Figure 1: Deposit market growth (billion of RUB) and Sberbank deposit market share (%): 2004 – 2007.



# Multivariate Analysis

- To examine this issue in a multivariate setting, we run a series of random-effects regressions on our bank-month panel, where the dependent variable is either the natural log of the level of retail deposits or the ratio of retail deposits to total assets for bank  $i$  in month  $t$ .
- For each DV, we run regressions on five different samples:
  - For the full period
  - For the pre-DIS period
  - For the first stage of the DIS period,
  - For the second and third stages of the DIS period and
  - for the post-DIS period.

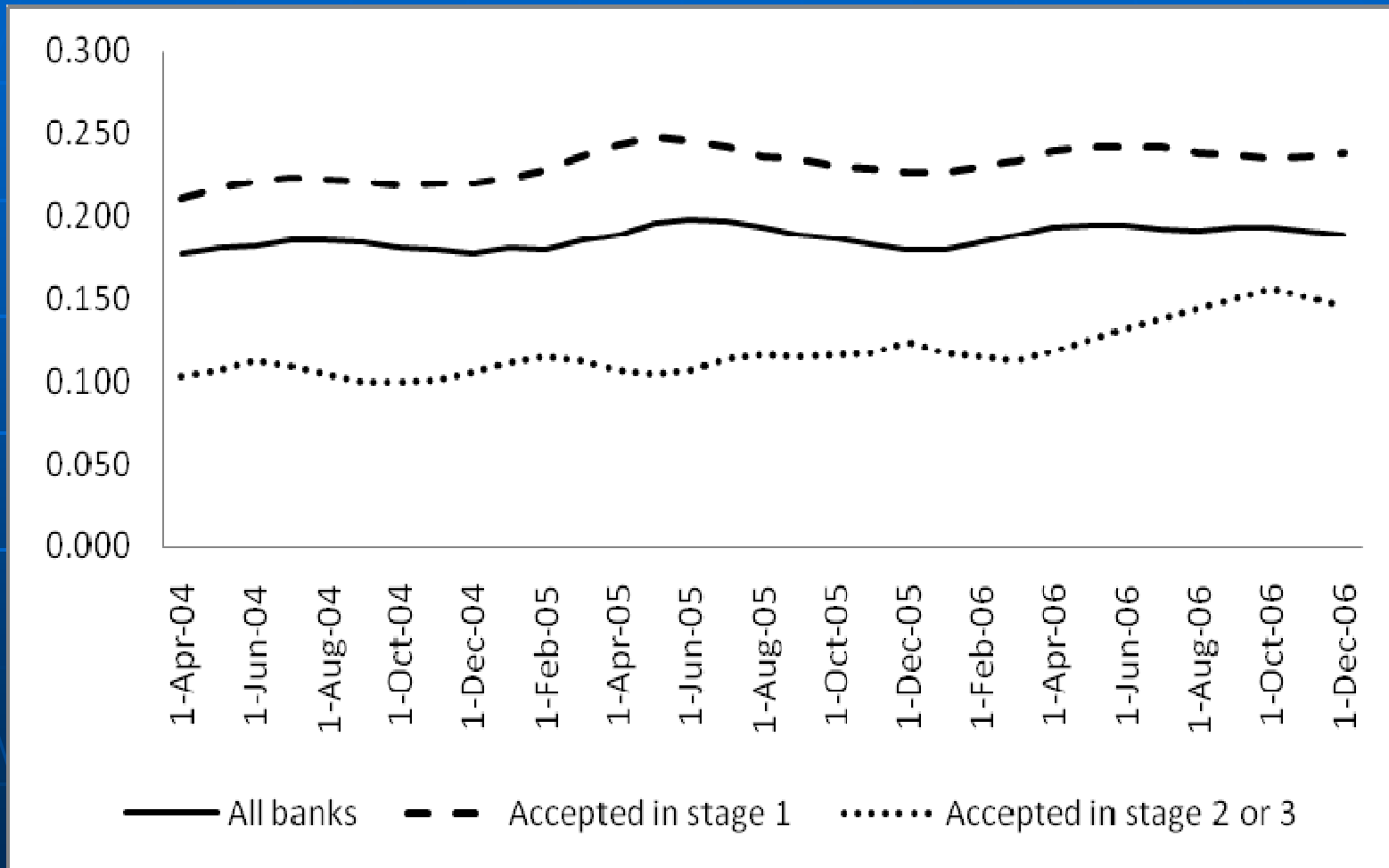
# Multivariate Analysis

- We measure each bank's deposit-insurance status by the (natural logarithm of) the **number of days that the bank has been in the deposit-insurance system**, for which we expect a positive and significant coefficient.
- We also include two interaction terms, interacting the number of days that the bank has been in the deposit insurance system with *bank size* and with the dummy indicating *regional banks*.
- We expect that smaller banks and regional banks disproportionately benefited from implementation of DIS so the coefficient on the *bank size* interaction should be negative and on the *region* interaction should be positive.

# Multivariate Analysis

- We include a series of control variables.
- We include:
  - *bank size* as measured by the natural logarithm of total assets and
  - *bank leverage* as measured by the ratio of total equity to total assets.
- We also include dummies:
  - for a regional bank (as opposed to a Moscow bank),
  - for a general banking license (as opposed to a restricted banking license), and
  - for an open joint-stock company (as opposed to closed joint-stock or private company).
- We include month dummies to control for macro-economic and seasonality effects.

# Figure 2A: Deposit-to-Asset Ratio (Medians)



## Table 5: Level of Retail Deposits

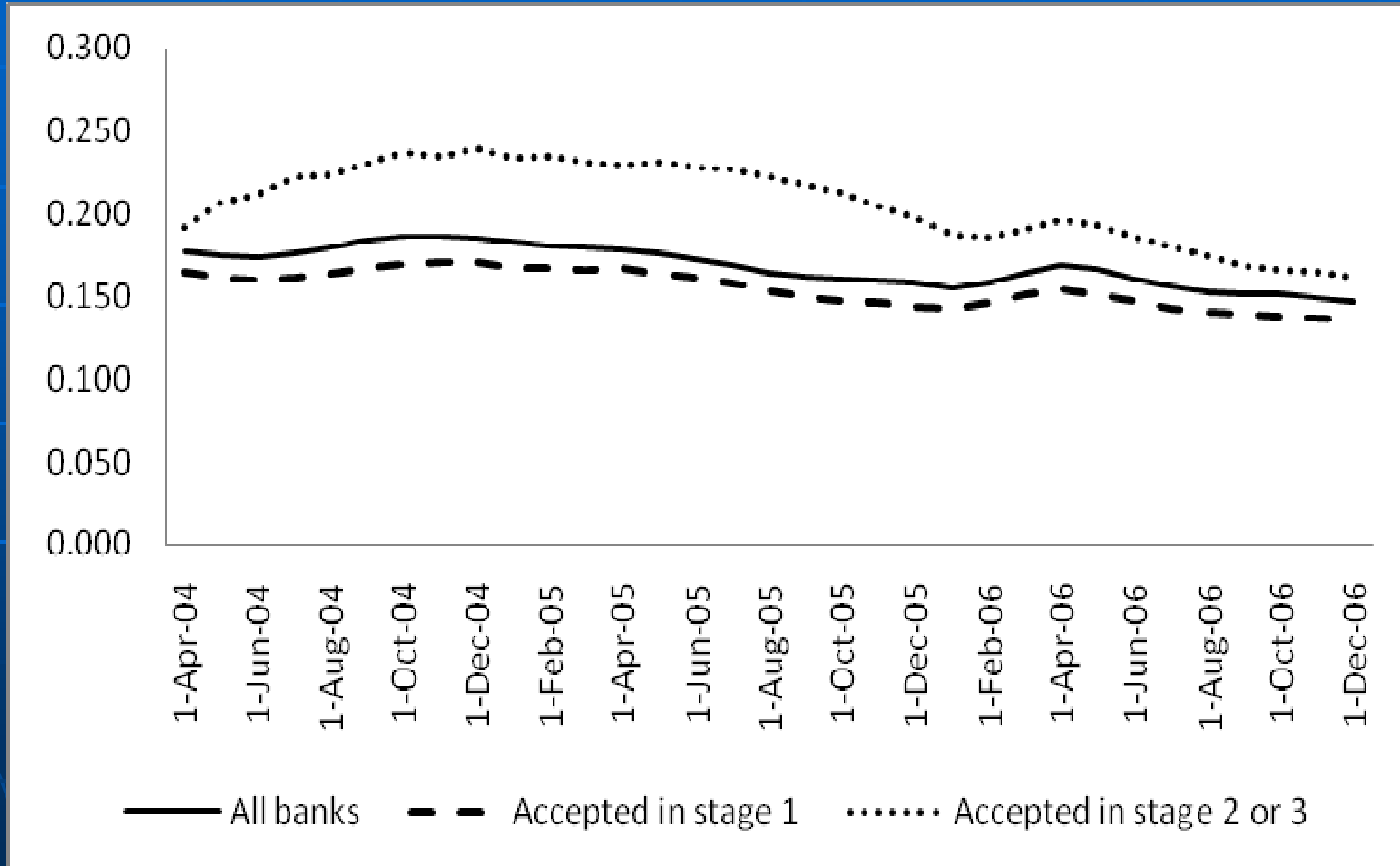
	Full sample	Pre-DI	1 <sup>st</sup> stage	2 <sup>nd</sup> and 3 <sup>rd</sup> stages	After DI
	(1)	(2)	(3)	(4)	(5)
Log (Days in DIS)	0.29*** (0.02)		0.08* (0.04)	0.40*** (0.07)	0.77*** (0.11)
State-controlled bank	0.09 (0.13)	0.07 (0.21)	0.16 (0.23)	-0.01 (0.42)	1.27 (0.86)
State-. x Log (Days in DIS)	0.01 (0.01)		-0.02 (0.02)	0.02 (0.06)	-0.20 (0.13)
Bank size	1.13*** (0.02)	0.77*** (0.03)	0.77*** (0.03)	0.94*** (0.03)	0.53*** (0.05)
Bank size x Log (Days in DIS)	-0.01*** (0.00)		-0.00* (0.00)	-0.02*** (0.00)	0.02** (0.01)
Misc. Controls	Yes	Yes	Yes	Yes	Yes
Time dummies (months)	Yes	Yes	Yes	Yes	Yes
Number of observations	26,076	5,538	4,408	6,847	9,283
Number of banks	851	719	756	785	827
Adjusted R-square	0.60	0.56	0.57	0.61	0.56



## Table 6: Ratio of Retail Deposits to Total Assets

	Full sample	Pre-DI	1 <sup>st</sup> stage	2 <sup>nd</sup> and 3 <sup>rd</sup>	After DI
	(1)	(2)	(3)	(4)	(5)
<b>Log (Days in DIS)</b>	<b>0.023***</b> (0.001)		<b>0.006*</b> (0.003)	<b>0.040***</b> (0.006)	<b>0.032***</b> (0.008)
<b>State-controlled bank</b>	<b>0.009</b> (0.010)	<b>0.001</b> (0.015)	<b>0.006</b> (0.019)	<b>-0.071*</b> (0.034)	<b>-0.032</b> (0.062)
<b>State. x Log (Days in DIS)</b>	<b>0.004***</b> (0.001)		<b>0.000</b> (0.002)	<b>0.013*</b> (0.005)	<b>0.005</b> (0.010)
<b>Bank size</b>	<b>0.013***</b> (0.001)	<b>-0.015***</b> (0.002)	<b>-0.013***</b> (0.002)	<b>-0.001</b> (0.003)	<b>-0.018***</b> (0.003)
<b>Size x Log (Days in DIS)</b>	<b>-0.001***</b> (0.000)		<b>-0.003***</b> (0.000)	<b>-0.001</b> (0.000)	<b>0.000</b> (0.001)
<b>Misc. Controls</b>	Yes	Yes	Yes	Yes	Yes
<b>Time dummies (months)</b>	Yes	Yes	Yes	Yes	Yes
<b>Number of observations</b>	<b>26,076</b>	<b>5,538</b>	<b>4,408</b>	<b>6,847</b>	<b>9,283</b>
<b>Number of banks</b>	<b>851</b>	<b>719</b>	<b>756</b>	<b>785</b>	<b>827</b>
<b>Adjusted R-square</b>	<b>0.28</b>	<b>0.15</b>	<b>0.18</b>	<b>0.23</b>	<b>0.27</b>

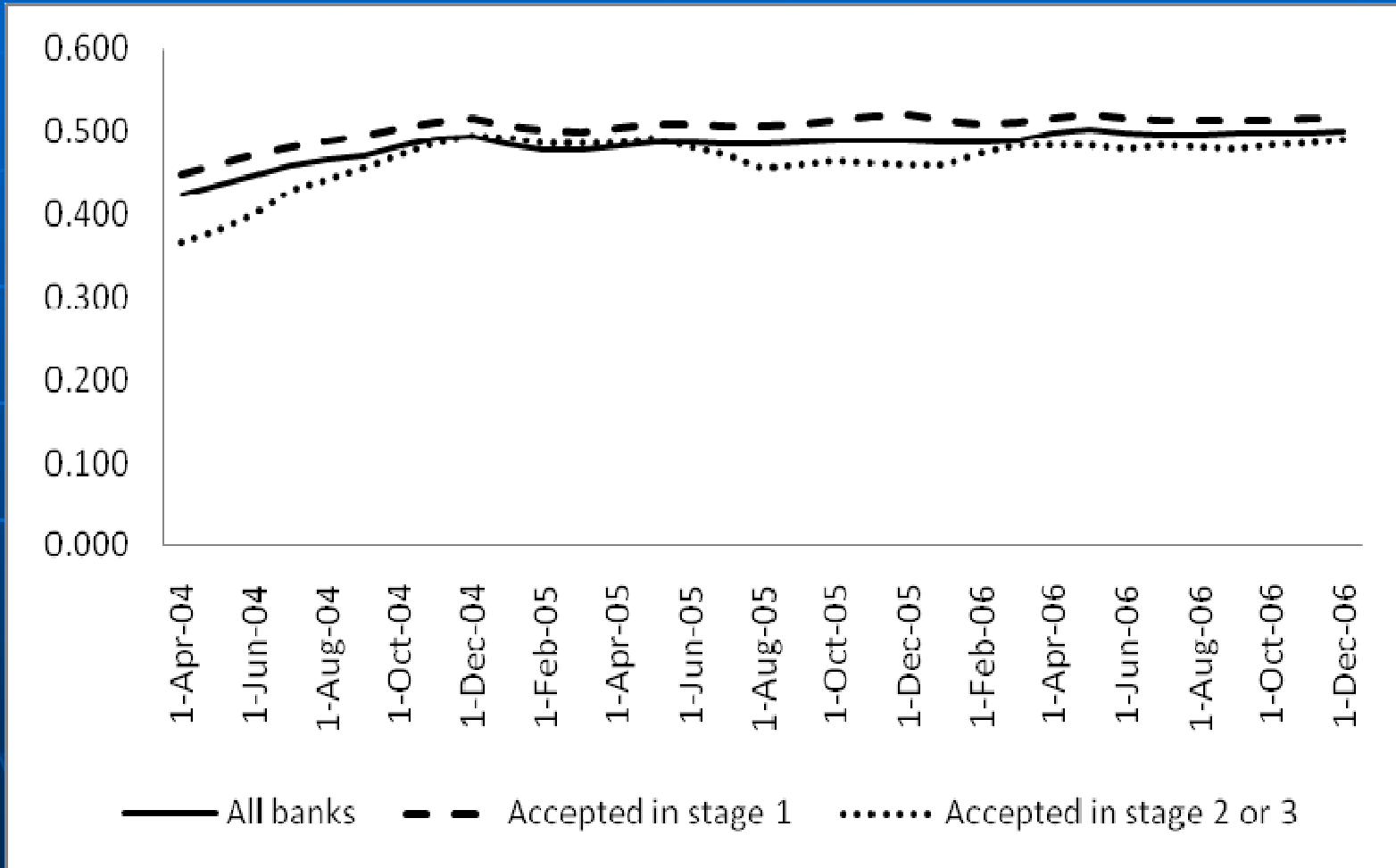
# Figure 2B: Equity-to-Asset Ratios (Medians)



## Table 9: Equity-to-Asset Ratio

	Full sample	Pre-DI	1 <sup>st</sup> stage	2 <sup>nd</sup> and 3 <sup>rd</sup> stages	After DI
	(1)	(2)	(3)	(4)	(5)
Log (Days in DIS)	-0.026*** (0.001)		-0.018*** (0.004)	-0.049*** (0.006)	-0.108*** (0.009)
State-controlled bank	-0.009 (0.010)	0.027 (0.017)	0.044* (0.022)	0.075* (0.033)	0.148* (0.070)
State x Log (Days in DIS)	0.001 (0.001)		-0.001 (0.002)	-0.006 (0.005)	-0.014 (0.011)
Bank size	-0.129*** (0.001)	-0.128*** (0.003)	-0.115*** (0.003)	-0.109*** (0.003)	-0.150*** (0.004)
Size x Log (Days in DIS)	0.002*** (0.000)		0.001*** (0.000)	0.003*** (0.000)	0.008*** (0.001)
Misc. Controls	Yes	Yes	Yes	Yes	Yes
Time dummies (months)	Yes	Yes	Yes	Yes	Yes
Number of observations	26,076	5,538	4,408	6,847	9,283
Number of banks	851	719	756	785	827
Adjusted R-square	0.27	0.29	0.27	0.29	0.28

# Figure 2C: Loan-to-Asset Ratios (Medians)



## Table 10: Loan-to-Asset Ratio

	Full sample	Pre-DI	1 <sup>st</sup> stage	2 <sup>nd</sup> and 3 <sup>rd</sup> stages	After DI
	(1)	(2)	(3)	(4)	(5)
Log (Days in DIS)	0.007** (0.002)		0.013* (0.006)	-0.010 (0.009)	0.025 (0.013)
State-controlled bank	-0.036* (0.015)	0.028 (0.026)	0.018 (0.031)	-0.023 (0.049)	-0.124 (0.103)
State x Log (Days in DIS)	0.001 (0.001)		-0.003 (0.003)	0.003 (0.008)	0.019 (0.016)
Bank size	-0.010*** (0.002)	-0.020*** (0.004)	-0.031*** (0.004)	-0.029*** (0.004)	-0.056*** (0.006)
Size x Log (Days in DIS)	0.000 (0.000)		-0.001* (0.000)	0.001 (0.001)	0.000 (0.001)
Misc. Controls	Yes	Yes	Yes	Yes	Yes
Time dummies (months)	Yes	Yes	Yes	Yes	Yes
Number of observations	26,076	5,538	4,408	6,847	9,283
Number of banks	851	719	756	785	827
Adjusted R-square	0.06	0.04	0.01	0.04	0.02

# Summary and Conclusions

- In this study, we examine how the introduction of deposit insurance affects a banking system.
- We find that banks entering the new deposit-insurance system increased both
  - their level of retail deposits and
  - their ratios of retail deposits to total assets
- relative to banks that did not enter the new deposit insurance system.
- Moreover, the longer a bank was entered into the deposit insurance system, the greater was its level of deposits and its ratio of deposits to total assets.

# Summary and Conclusions

- We also find that implementation of the new deposit-insurance system had the effect of “leveling the playing field” between State-owned banks and privately owned banks.

# Summary and Conclusions

- We contribute to the literature on deposit insurance in at least three important ways:
- First, we provide new evidence on the issue of whether or not a system of explicit deposit insurance leads to increased financial intermediation in the form of higher levels of deposits.
- Our results provide strong evidence that financial intermediation as measured by the level of deposits does increase following implementation of a deposit insurance system.



# Summary and Conclusions

- Second, we provide new evidence on the issue of whether or not deposit insurance leads to reduced reliance upon State-owned banks.
- We find that reliance upon State-owned banks as a repository for deposits does decrease following implementation of an explicit deposit-insurance system.

# Summary and Conclusions

- Third, we provide new evidence on the issue of whether or not deposit insurance leads increased moral hazard in the form of greater bank risk-taking..
- We find strong evidence that financial risk, and, to a lesser extent, operating risk, increase following implementation of an explicit deposit-insurance system.