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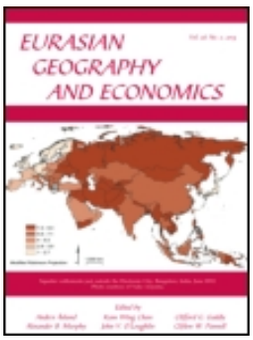

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Bank Depositor Behavior in Russia in the Aftermath of Financial Crisis

William Pyle, Koen Schoors, Maria Semenova, and Ksenia Yudaeva[1]

Abstract: An international team of economists examines the factors influencing the behavior of Russian depositors in the immediate aftermath of that country's 1998 financial crisis, drawing upon two largely unutilized data sources—data from the Russian state savings bank Sberbank and a November 1998 household survey. After first reviewing the evolution of the household deposit market during the 1990s, they explore regional variations in net withdrawals from Sberbank branches during the period August–October 1998 as well as identify characteristics of individual/household depositors making (or attempting to make) such withdrawals. More severe runs on Sberbank outlets are found to be associated with more affluent and entrepreneurial regions, regions of more youthful and less educated population closer to Moscow, and areas with greater media freedom. Subsequent public opinion survey analysis of the socioeconomic correlates of runs on *all* Russian banks during the 1998 crisis reveals some interesting differences (in the effects of education in particular) on the propensity to successfully withdraw deposits. *Journal of Economic Literature*, Classification Numbers: D100, G010, G210, H120, O160. 3 figures, 3 tables, 29 references, 1 appendix. Key words: Russia, 1998 financial crisis, Russian banks, Sberbank, bank runs, household deposits, Ponzi scheme.

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INTRODUCTION

In 1998, the spread of the Asian financial crisis and the sharp decline in the price of petroleum ratcheted up the pressure on a Russian economy already weakened by a near-decade-long contraction. On August 17, faced with dwindling reserves and an unsustainable fiscal situation, the government devalued the ruble, halted payments on domestic debt, and declared a moratorium on payment to foreign creditors. Over the next several months, the annualized rate of inflation jumped from single digits to over 80%, the ruble lost three-quarters of its value relative to the dollar, and many of the country's largest private banks shut their doors, never to re-open. The short-term effect was disastrous. Two noted Western researchers summed up the impact just over a year later: "Not only [did the crisis] undermine Russia's currency and force the last reformers from office … it also seemed to erase any remaining Western hope that Russia could successfully reform its economy (Shleifer and Treisman, 2000, p. 177)."

Many groups, both foreign and domestic, were adversely affected, but perhaps none more so than household depositors. Amid rumors of imminent bank collapses, hundreds of thousands of desperate Russians queued up to withdraw their savings at branches across the country. Scenes of panicked depositors, of course, were not entirely unfamiliar. Since the break-up

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of the Soviet Union, Russians' experience with macroeconomic instability and liberalized financial markets had been brief, intense, and frequently devastating. When markets were first freed up in 1992, household deposits had been held almost exclusively by Sberbank, the state savings bank. However, by early 1994, new private banks had captured over half of the household deposit market. Rapid entry, in conjunction with weak regulation, inexperienced depositors, and highly variable inflation proved a volatile mix. A system-wide liquidity crisis in 1995 led to bankruptcies of some of the country's largest private retail banks. Their failures, moreover, followed by only a year the collapse of several large pyramid schemes. By 1998, in other words, Russians had become fully aware of the private costs of financial institution failure (Karas et al., 2010).

It was thus no surprise that the government's public acknowledgment of the depth of the crisis provoked a run on deposit-taking institutions. To no small degree, the runs were tied to justifiable beliefs about the insolvency of depository institutions associated with the ruble's collapse, government default, and the ensuing recession. As with many runs, however, the behavior may have been driven in part by a kind of collective irrationality—a coordination failure driven by expectations about others running more than by beliefs about bank insolvency (Diamond and Dybvig, 1983). Interestingly, as we document below, even Sberbank, whose deposits carried a government guarantee, suffered a dramatic outflow of deposits in the months immediately following the August 1998 announcement.[2]

This paper revisits the 1998 crisis and its immediate aftermath to better understand the factors that shaped the behavior of Russian depositors. We bring to bear two largely unexploited sources of data from the three months after the August announcement to understand why some households drew down their deposits, or at least attempted to, whereas others did not. We first explore variation across regions in net withdrawals from Sberbank branches between August and October 1998. Given the explicit government guarantee, we interpret relatively intense withdrawal activity as driven by a low level of trust in the federal government. We also explore data from a survey of households carried out in November 1998. Conditional on reporting having had bank deposits in mid-August, we identify the individual/household characteristics that explain having withdrawn (or attempted to withdraw) deposits in the wake of the crisis. Because the household questionnaire does not distinguish between Sberbank and non-Sberbank accounts, the two sources of data are not directly comparable. Nonetheless, together they contribute to a more comprehensive picture of depositors' reaction to the crisis than currently exists in the literature. Most notably, we turn up evidence consistent with withdrawal activity being driven by depositors' media environment.

Our attempt to understand the regional and individual/household characteristics associated with deposit market behavior during this period is, we feel, important in at least two respects. First, the Sberbank data provide a sense for how the depth of the credibility of an important public institution varies across different regions and different segments of the population. Understanding both the stock and dynamics of popular trust in the public sector is critical to understanding Russia's post-Soviet political and economic trajectory. Second, because bank runs have been shown to impose real costs on an economy (Diamond and Dybvig, 1983) by leading to financial disintermediation (Iyer and Puri, 2012), understanding

[2]To some extent, the withdrawal of savings from Sberbank that we observed may be standard "consumption smoothing" behavior in the face of a temporary decline in household income. But our sense is that it also reflected uncertainty about the value of household deposits. Insured depositors may, after all, have doubts about how ironclad the insurer's guarantee is (Iyer and Puri, 2012; Martinez-Peria and Schmukler, 2001) .

who will become involved in such runs may lead to the design of policies that can limit future events.[3]

The paper is organized as follows. The second section that follows reviews the evolution of the household deposit market in the 1990s, while the third and fourth sections analyze the regional Sberbank and household survey data, respectively. Conclusions are presented in a final, fifth section.

THE PRE-CRISIS HOUSEHOLD DEPOSIT MARKET

Until the late 1980s, the Soviet government prohibited all private financial organizations and Sberbank was the only institution allowed to accept household savings. By the 1960s, it was a trusted institution and an important presence in the daily lives of Soviet citizens (Garvy, 1977). Many of its thousands of branches and service counters offered payroll deduction plans, served as local collection points for telephone bills, and distributed pension checks. In the summer of 1991, Sberbank was registered as an independent bank by the Central Bank of Russia (CBR), which remains its majority owner today. Over the next seven years, its role remained relatively straightforward—a narrowly focused, state-owned bank that guaranteed household deposits and invested largely in Russian government debt.[4]

Sberbank's near monopoly position in the household deposit market eroded quickly after the Soviet Union's collapse at the end of 1991. Soon after Russia's introduction of liberalizing reforms in 1992, hundreds of new commercial banks entered the market, offering higher deposit rates than those posted by Sberbank. By mid-1994, Sberbank's market share had been roughly cut in half. However, financial scandals and crises reversed this trend.

In the spring of 1993, MMM, a classic Ponzi scheme, started to attract money from private investors by promising annual returns of up to one thousand percent in an aggressive television campaign. In roughly a year's time, its certificates soared in "value" from 1600 rubles to 125,000 rubles; dividends were paid out entirely from new sales, which ultimately and inevitably dried up (Radaev, 2000). By one estimate, 50 million Russians lost money when MMM folded in the summer of 1994 (Kovalev, 2003). Equal parts tragedy and farce, the MMM episode offered an object lesson in the risks of parking savings with new, non-government-backed institutions. Sberbank, as suggested by Figure 1, was an immediate beneficiary, seeing its market share begin a steady upward climb.

Sberbank's success in reclaiming its prior position of dominance was also made possible by the poor performance of licensed banks a year later. Notably, an interbank liquidity crisis in the summer of 1995 resulted in several major private banks filing for bankruptcy. The increase in distrust of private banks was reflected in polling data from that period. When asked by the Russian Center for Public Opinion Research "If you have (or had) money savings, in what way would you prefer to keep them in the present situation?," over 20 percent mentioned private banks in the winter of 1994 (i.e., before the MMM scandal broke); two years later, this percentage had fallen to under 8 percent (VTsIOM, 1994, 1996).[5] By the

[3]In a careful micro-level study of a run on a solvent bank in India, Iyer and Puri (2012) found that the households that withdrew their deposits in a panic tended not to return.

[4]Sberbank is and seems destined to remain a state bank. Although designated for privatization as part of a drive to raise additional funds for the budget, the actual plan is to sell to sell less than 8 percent of its ordinary shares on the market. This would reduce the stake of the CBR, Sberbank's majority block-holder, to exactly 50.0 percent of total capital and 52.4 percent of voting shares (Vernikov, 2007; Gazprombank, 2011). Clearly, the Russian government is not ready to turn over control of Sberbank to private parties.

[5]Other responses for 1996 included: Sberbank, 47 percent; government bonds, 3 percent; stocks, 3 percent; cash, 22 percent; foreign currency, 46 percent; and goods, 20 percent.

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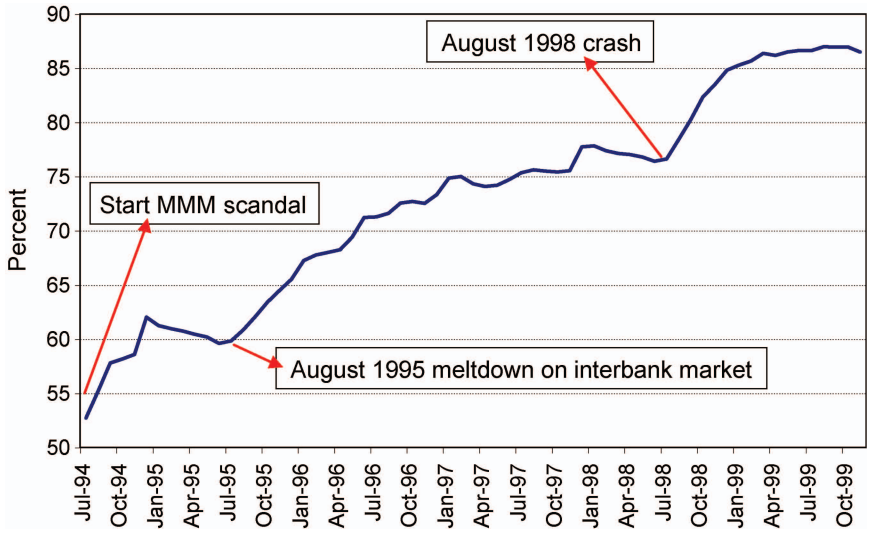

Fig. 1. Sberbank's steep rise in the household deposit market (percentage of total household deposits) during early transition.

beginning of 1998, the stock of deposits in Sberbank amounted to roughly 75 percent of the 160 billion ruble deposit market.

Although their relative position on the market had been decreasing, a not trivial number of private banks were regarded as relatively safe as of the first months of 1998. Each of the six largest private commercial institutions carried an A-level rating from the country's top ratings agency and held over one billion rubles in deposits. However, they had become dangerously exposed to ruble-denominated assets, particularly government securities and future contracts on the ruble-dollar exchange rate. The ruble devaluation and government default hit them particularly hard. Audits of the pre-crash leaders in the private deposit market revealed negative post-crash capital-to-assets ratios (Russian Economic Trends, 1999). By the end of 1998, the six that had been at the top of the market in January had either ceased operating or been downgraded to a sub-B-level rating (Spicer and Pyle, 2002).

Sberbank itself was not immune to the effects of sovereign default and devaluation. Just before the crisis hit, in fact, Russian government securities accounted for over half of its assets (Lane and Lavrientieva, 2002). But Russian statutes provided Sberbank deposits with a double layer of protection. The law "On Banks and Banking" stipulated that Sberbank deposits were wholly guaranteed by the Russian state. Article 840.1 of the Civil Code, moreover, laid out that the state had subsidiary liability for the retail deposits of any bank in which the Russian Federation or its subjects held a majority stake—a provision that applied to Sberbank which was (and still is) majority-owned by the CBR, which in turn is fully owned by the Russian Federation (Tompson, 2004). Despite these guarantees, Sberbank suffered an increase in net withdrawals in 1998. In line with legislation, the CBR stood behind Sberbank when the August crisis broke, supporting it with liquidity injections and reiterating the state's guarantee of its deposits. These measures ensured that, though temporarily insolvent, Sberbank never became illiquid.

Two weeks after the crisis broke, the CBR, acting within Article 79 of the Federal Law "On the Central Bank of the Russian Federation," assumed responsibility for the household

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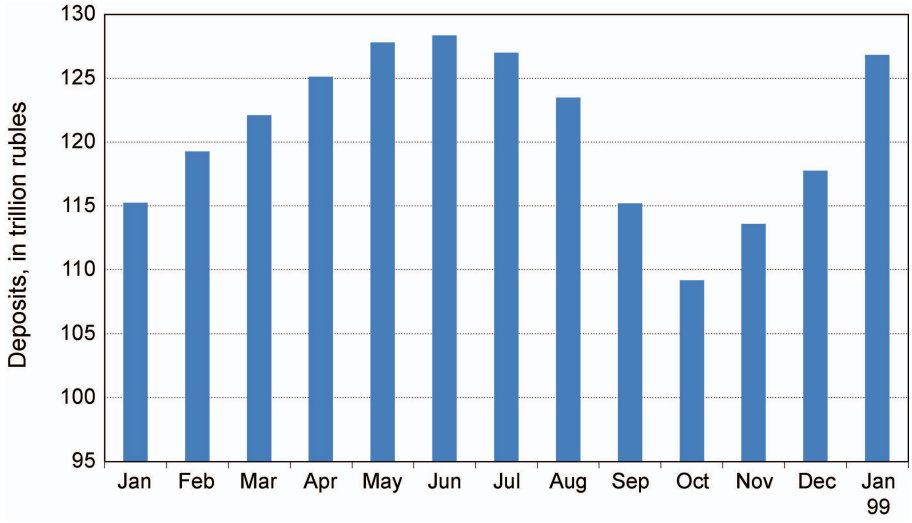

Fig. 2. Monthly change of Sberbank total household ruble deposits in 1998, providing evidence of a mild bank run in the aftermath of the 1998 crisis.

deposits at a select list of insolvent banks. Specifically, the CBR stipulated that depositors at those institutions would have their deposits transferred to Sberbank, which the CBR would then compensate for assuming the obligations. The program, which was to provide full reimbursement for ruble deposits, was made available to depositors at a half dozen of the country's largest private commercial banks; the first transferred deposits started to show up on Sberbank's books in November and the whole procedure was completed by February 1999. Overall, Sberbank assumed seven billion rubles of additional demand deposits and 450 thousand additional depositors.[6] Some of the post–October 1998 increase in Sberbank market share depicted in Figure 1 reflects this process.

In the next section, we will show that Sberbank's household ruble deposit base actually shrank in absolute terms in the months immediately following the crisis. Moreover, we provide evidence that few depositors deliberately, as opposed to mechanically, chose to move their deposit accounts to Sberbank. This evidence, we feel, contravenes conventional wisdom that Sberbank had become a kind of repository of trust, the final refuge for depositors in uncertain times.

POST-CRISIS PATTERNS IN SBERBANK DEPOSIT FLOWS

We are the first to analyze in detail the impact of the 1998 crisis on Sberbank's household depositors. Figure 2 shows the monthly dynamics of Sberbank ruble household deposits in 1998. The figure illustrates how Sberbank faced a not so mild bank run in response to the August 1998 crisis within a period of only a few months. There is even some evidence that Sberbank depositors anticipated the 1998 default, as deposits started to trickle away already in July of that year. In this very short period of time, Sberbank lost well over 10 percent of its ruble household deposits, a shock that would today still suffice to topple almost any large

[6]See Garantirovaniye (n.d.) for more detail.

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deposit bank. This rundown of ruble deposits is not explained by Sberbank depositors shifting from ruble to dollar accounts, because dollar deposits fell even more precipitously in this period. Rather it is due to depositors effectively withdrawing their rubles from Sberbank. In the previous section we have described how the government successfully restored trust in Sberbank, and this is also apparent from Figure 2. In this section we seek to obtain a better understanding at the mechanics of the run itself.

To gain greater insight into the nature of the run on Sberbank, we employ unique monthly data on Sberbank household ruble deposits across Russian regions, made available by Sberbank. We focus on household deposits, because we have corroborating evidence on household depositor behavior from household surveys to which we turn in the next section. We focus on ruble deposits, because changes in dollar deposits that are accounted in rubles could be strongly affected by exchange rate swings that may vary over time and across regions, making it much more difficult to get a clear picture on the net deposit flows. We focus on the change in these ruble deposits from the first of August until the first of October, because this short two-month period covers the immediate post-default period and predates the time when the deposits transferred from other insolvent banks showed up in Sberbank books. It also enables us to link the findings with those from the next section, where we employ survey data of the first months after the August 1998 default. Our focus on the change in household ruble deposits in August–September across Russian regions therefore gives us a clean view on the reaction of incumbent household ruble depositors in Sberbank to the August 1998 default.[7]

More specifically, the dependent—the percentage drop of Sberbank regional household ruble deposits in the period August–September across Russian regions *j*—can be estimated by the following specification:

$$SD_j = \beta_1 Economic_j + \beta_2 Demographic_j + \beta_3 Govt.\ involvement_j + \beta_4 Institutional_j + \varepsilon_j \quad (1)$$

Figure 3 shows a scatterplot of the log of Sberbank ruble household deposits against the dependent variable SD_j. It is readily apparent that Sberbank's household ruble deposits dropped considerably in all regions as an immediate reaction to the crisis. Clearly people did not move their money from other banks to Sberbank as a reaction to the crisis, but instead also fled Sberbank, albeit possibly to a lesser extent. More than two-thirds of Sberbank regional departments saw their deposits fall by considerably more than 10 percent in this short period.[8] It should be noted that there were bank runs across the board, without much relation to the size of Sberbank in a particular region: there is no apparent relation between size of the region and size of the drop, with the exception that Moscow experiences a very large drop. Still, to exclude any bias of regional size, we included in all regressions a control for regional size, measured as the log of population (size97). In addition we repeated all regressions without the large cities Moscow and Saint-Petersburg. Our results remained robust and are available on request.

[7]It is true that Sberbank used some mild measures of deposit freezes, limiting the speed at which household depositors could withdraw their money. But these measures were put in place consistently across Russian regions, to the effect that our dependent variable still adequately captures the differences in household depositor reaction to the August 1998 crisis across regions.

[8]If we start from the first of July (instead of the first of August) and take a three month period as representing the bank run, we find that more than 75 percent of Sberbank's regional departments saw their deposits fall by considerably more than 10 percent in this period. We have repeated all our estimations for this longer sample period. The results are very robust and are available upon request.

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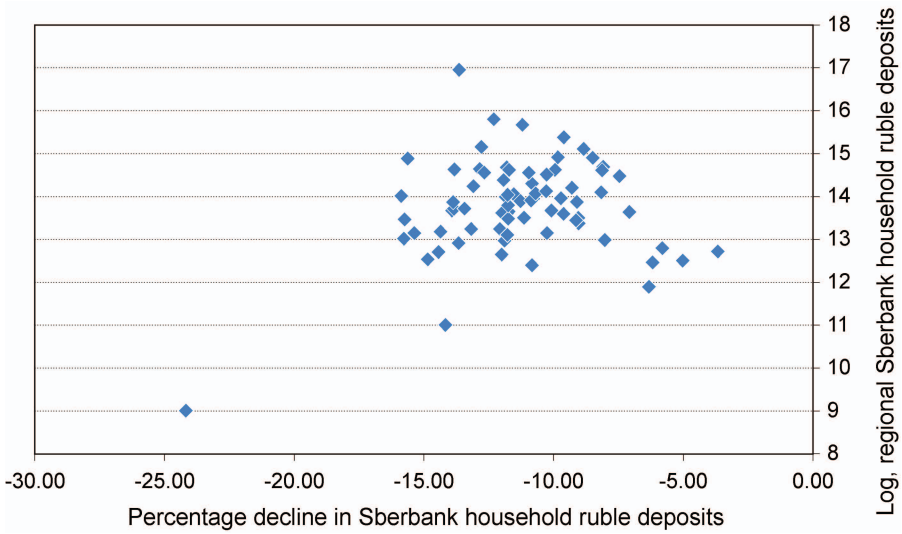

Fig. 3. Relationship between size of a Russian region and the magnitude of the Sberbank run in it.

The results of estimating (1) are presented in Table 1. In the baseline regression we include a number of standard economic variables, such as regional product per capita in 1997 (grppc97), small and medium enterprises per capita (smepc97), regional educational level (share of population with tertiary education), regional size measured as the log of the population (size97), and the number of bank branches in the region with headquarters outside the region, per capita (filother). The last variable measures banking system outside options for Sberbank depositors. The run on Sberbank tends to be more severe in more wealthy and more entrepreneurial regions.[9] The most robust result is that depositors ran a lot less on Sberbank in regions with higher education. A possible explanation is that better educated people are more likely to understand that Sberbank enjoys two explicit government guarantees and is too big to fail and that it is therefore a safe haven, even if it is insolvent.

In a second specification we also included demographic variables. One logical variable is the share of old people in the region (old97), because pensions were paid on Sberbank accounts in 1998 and elderly people are much more likely to trust Sberbank. Ethno-linguistic fractionalization (ELF), which is related to levels of trust, corruption, and financial depth (see, for example, Alesina et al., 2003), is measured in a standard way,[10] using data from the USSR's All-Union Census of 1989 (Goskomstat RSFSR, 1990), where higher values represent more ethnically fragmented and often more conservative regions. We also have data on urban population share in 1997 per 10,000 inhabitants (urban97; source: Goskomstat, 2008, 2010). Because Moscow was and is the demographic and financial capital of the former Soviet Union

[9]If we exclude the more entrepreneurial Moscow and St. Petersburg regions with very high Sberbank runs (especially for Moscow) from our sample, the finding that higher runs are associated with more entrepreneurial regions is partly, but not totally driven away.

[10]$\mathrm{ETHNO} = 1 - \sum_{i=1}^{J} (g_{i,reg}/POP_{reg})^2$, $i = 1, \ldots, J$, where $g_{i,reg}$ is the number people in ethnic group i in a region, POP_{reg} is the total population of the region, and J is the total number of ethnic groups.

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Table 1. Ruble Household Deposit Growth across Regional Sberbank Branches[a]

Variable	(1)	(2)	(3)	(4)
grppc97	–0.000	–0.001	–0.001*	–0.000
	(0.000)	(0.000)	(0.000)	(0.000)
smepc97	–3.218**	–2.544***	–1.852*	–2.148**
	(1.295)	(0.812)	(1.029)	(0.889)
education	0.238**	0.210**	0.261***	0.245***
	(0.100)	(0.081)	(0.097)	(0.086)
size97	0.007	0.006	0.001	0.006
	(0.010)	(0.006)	(0.009)	(0.008)
filother	–0.001	–0.001	–0.000	–0.001
	(0.001)	(0.001)	(0.001)	(0.001)
old97		0.263**		
		(0.129)		
ELF		0.062***		
		(0.019)		
urban97		0.000		
		(0.000)		
distMoscow		0.006***		
		(0.002)		
budgsubs			–0.000	
			(0.001)	
agrisubs			0.000	
			(0.001)	
munishop			0.328*	
			(0.189)	
regprice			0.000**	
			(0.000)	
private			–0.009	
			(0.039)	
corruption				–0.006
				(0.004)
media freedom				–0.000*
				(0.000)
N of observations	72	71	71	70
R^2	0.122	0.359	0.24	0.239

[a]Robust standard errors are indicated in parentheses. The dependent variable is growth of Sberbank household ruble deposits across Russian regions during the period August–September 1998 (August 1, 1998–October 1, 1998). *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.
Sources: Compiled by authors from monthly data on Sberbank household ruble deposits as well as sources for social and economic variables cited in the text.

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and Russia, respectively, we also include distance to Moscow in thousands of kilometers (distMoscow). We found that more fractionalized regions, regions with more elderly people, and regions that are more distant from Moscow experienced less severe runs on Sberbank. Or put differently, more homogenous Russian regions that are on average younger and closer to Moscow were likely to experience more severe runs on Sberbank. This is not due to the higher competition from other banks in these regions, as we included the number of branches from banks with headquarters in other regions (filother) in the baseline model, to control for this effect. As mentioned before, these results are also robust to the exclusion of Moscow and St. Petersburg (available on request). The fact that regions with more elderly people retained higher trust in Sberbank, a remnant of an old Soviet institution that they trusted their entire lives, is not surprising. In addition, elderly people are likely to have generally less information and higher switching costs.

In the next specification we introduced five direct measures of government involvement in markets circa 1997, including the share of production subsidies in regional budget expenditures in 1995 (budgsubs); the share of agriculture subsidies in the regional budget in 1995 (agrisubs); the share of enterprises in commerce, public catering, and public services owned as state or municipal property as of July 1, 1997 (munishop); and the weighted average of goods and that had regulated prices in 1996 (regprice; source: Remington, 2011). We also included the share of the private sector in the regional economic output (private).[11] We found that more conservative regions with more regulated prices and regions in which more enterprises in commerce, public catering, and public services were owned as state or municipal property indeed experienced less severe bank runs, which is in line with earlier findings and with the intuition that more conservative government-oriented regions are more trusting of the government.

Finally, in model specification (4), we included two purely institutional variables, namely an early measure of corruption (corruption), taken from the democratization index of the Independent Institute of Social Policy compiled by Petrov and Titkov[12] (Sotsial'nyy, n.d.) and a measure of early media freedom (media freedom). We found that more media freedom was related to more pronounced runs on Sberbank, as access to better and more diverse information tended to make people more wary concerning Sberbank. We develop this argument about the effects of media freedom on depositor behavior further below, where we demonstrate with the help of survey data that access to free versus state-dominated television channels plays a central role in depositor behavior.

We do not include a specification with all additional independent variables (demography, government interference, institutions) because of suspiciously high correlations between some variables. Regions far removed from Moscow, for example, tend to be more ethnolinguistically diverse, more dependent on agricultural subsidies, and have a smaller private sector. Media freedom is higher in urban areas and lower in ethno-linguistically diverse ones. This can be observed directly from the correlation table in Appendix 1.

The most robust finding in all specifications, however, remains that more educated regions with more elderly people suffer less severe runs on Sberbank. It seems that better educated people know that Sberbank is covered by explicit government guarantees and tend to attach value to these promises, or alternatively understand that Sberbank is too big to fail and that it will therefore have to be saved anyway. We cannot disentangle these two interpretations with the data we have, but they are complementary in any case. The presence of more

[11]The private-sector data were obtained directly from Rosstat.

[12]The data are fully available on http://atlas.socpol.ru/indexes/index_democr.shtml

educated savers in a region might also affect Sberbank through the mechanics of contagion during a bank run. If depositors give weight to the revealed information by other depositors in their decision whether or not to run, the presence of more educated people with a more candid understanding of why Sberbank will be saved anyhow will in and of itself be a stabilizing factor by making also less educated and well-informed people more inclined to stay put and leave their money in the bank.

RETROSPECTIVE HOUSEHOLD SURVEY

In this section we turn to data from the Monitoring of Economic and Social Changes Survey performed on a bi-monthly basis by the All-Russian Public Opinion Research Center (VtsIOM, 1998).[13] Based on a representative nationwide sample of Russia's population, questions address respondents' economic circumstances, employment, and social status as well as perceptions of social institutions. The November 1998 round of the survey, which targeted 2,409 respondents across 105 sampling points, included a number of questions relating to household welfare and behavior in the aftermath of the August 1998 financial crisis, covering in essence the same period as in the previous section.[14] In what follows, we focus attention on those questions that address the actions of those reporting having held ruble deposits on August 17, 1998.

Not surprisingly, nearly 80 percent of the respondents characterized the fall of 1998 as an inauspicious environment for saving. Whereas 28 percent of the respondents queried in November reported having had savings on August 17, less than 20 percent reported having savings at the time of the survey. Of those reporting savings in August, just over one-half held ruble bank deposits. Interestingly, roughly one quarter of depositors did not consider themselves as among those holding savings. Those with savings, both in and outside of bank deposits, described a variety of responses to preserve their wealth. Just over 30 percent of those who reported having savings in August adopted what we might call a real strategy, either making unplanned purchases of food or non-food items or speeding up planned purchases. Slightly more than 10 percent transferred a portion of their savings into dollars. And in line with our findings in the previous section, an extremely small number, less than two percent, reported having moved savings into a Sberbank account from another bank. Seventeen (17) percent of the respondents had pursued a wealth-preservation strategy but, for unspecified reasons, felt that they had not succeeded. And 43 percent of savers had done nothing.

Given our focus, we turn our attention to those who reported having held bank deposits in early August 1998, regardless of whether they considered these funds as "savings." Depositors accounted for 18.6 percent of all the respondents. Table 2 presents summary data for both the depositor and non-depositor populations. Among the former, we observe that roughly half tried to withdraw deposits between August 17 and the November survey, although only one-third reported actually having withdrawn their deposits. Presumably, those who reported they were unsuccessful had deposits at banks that experienced hardships in meeting their obligations.

Across characteristics related to household income, demographics, and media consumption, we do not observe stark differences between the two populations. We observe that in

[13]After 2002, the survey became the responsibility of the Levada Analytical Center. The data, accessible at http://sophist.hse.ru/db/oprosy.shtml?ts=104&en=0, are currently warehoused by the Joint Economic and Social Data Archive of the National Research University, Higher School of Economics.

[14]Details of the sampling procedure can be found at http://www.levada.ru/eng/sample1.html. The distribution across sampling points is accessible at http://www.levada.ru/eng/spoints1.htm.

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Table 2. Respondent Characteristics of Those with and without Deposits Prior to August 1998 Crisis (percentages unless otherwise indicated)

Respondent characteristic	Did you have deposits on August 17?	
	No	Yes[a]
Savings and deposits		
Household with savings on August 17, 1998	17.5	77.3
Tried to withdraw deposits since August 17, 1998	–	48
Successfully withdrew deposits since August 17, 1998	–	33.9
Successfully withdrew deposits since Aug 17, 1998, without difficulty	–	23.7
Media		
Does not watch television	6.9	4.7
Watches only big state TV channels (ORT, RTR) for news	41.9	40.8
Watches only NTV for news	9.0	8.0
Does not read any newspapers	28.7	22.8
Reads *Kommersant-Daily*	1.7	2.2
Household income		
Income (monthly average, in rubles)	1,269	1,388
Members in household working (mean number)	0.4	0.4
Expects real income to increase	7.5	8.3
Has continued to receive full pay since crisis	18.3	15.8
Demographics		
Male	41.4	43.3
Age (average, in years)	43.2	49.9
Ethnic Russian	82.6	84.4
Married	59.9	63.2
Higher education	20.2	24.6
Members in household (mean number)	2.9	2.8
Politicians/public officials that are trusted		
Boris Yeltsin	1.4	0.1
Vladimir Zhirinovskiy	5.2	3.8
Gennadiy Zyuganov	16.2	21.9
Total *N*	1,961	448

[a]On August 17, had ruble deposits in banks (not including accounts for receiving pensions).
Sources: Compiled by authors from data in the Monitoring of Economics and Social Changes Survey (VTsIOM, 1998).

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the fall of 1998, households that had held bank deposits in the summer as well as those that had not both were experiencing economic difficulties. Less than 10 percent of both groups expected to observe an increase in their real incomes in the medium term; further, a large percentage of both groups had seen their incomes fall since August.

MEDIA EXPOSURE AND BEHAVIORAL PATTERNS

Noting above the correlation from the regional-level data between media freedom and net deposit flows, we used the individual survey data to explore further the relationship between the channels for acquiring news and depositor behavior in the aftermath of the 1998 crisis. Although Russia had hundreds of television stations in the late 1990s, households (almost all of which have at least one television) depended almost exclusively on the three largest networks for national news, particularly for crisis-related coverage such as the Chechen war and the 1998 financial meltdown. Of the three, two were majority state-owned—ORT (Russian Public Television) and RTR (Russian State Television)—and were widely known to be friendly to the government and its policies. The third, NTV, was private and commercial and was respected for providing sharp analysis and staking out a more independent editorial position (Mickiewicz, 1999).

A recently published study convincingly demonstrates that voting behavior in Russia during the 1999 parliamentary elections was sensitive to the nature of television news coverage (Enikolopov et al., 2011). By exploiting the idiosyncratic distribution across Russia of NTV transmitters, whose signal could only reach about three-quarters of Russian households, the authors demonstrated that a region's access to an NTV signal translated into "the pro-government party los[ing] about a quarter of its voters and the opposition parties increas[ing] their political support by a factor of 1.6" (ibid., p. 3254). The magnitude of these effects is, in the authors' estimation, a function of weak democratic institutions, especially the unstable party system, that leave voters more susceptible to media influence.

Could weak economic institutions have similarly amplified the media's effect on economic behavior? Does the divide between state-controlled and more independent programming influence net deposit flows? Financial crises in the mid-1990s dramatically increased depositors' sensitivity to bank failures (Karas et al., 2010), but the set of mechanisms that might facilitate depositor monitoring were under-developed. According to an expert assessment of the presence and quality of institutions that promote bank transparency for depositors—e.g., requirements for banks to have a certified external audit, and to disclose publicly both risk management procedures and off-balance sheet items—Russia ranked in the bottom quintile of 100-plus countries (Barth et al., 2004, 2006). Given the poor information environment encountered by depositors, we might expect media coverage of financial market developments to have a disproportionately large effect.

Unfortunately, there is little to no secondary literature systematically chronicling differences across channels in the coverage of economic topics in the late Yel'tsin years. The secondary research on television and politics is, in this sense, much more developed. Nevertheless, we proceed here to explore the hypothesis that household-level differences in television viewing patterns correlated with behavior during the 1998 financial crisis in a manner analogous to that uncovered by Enikolopov et al. (2011).

Roughly 94 percent of the respondents to the 1998 survey reported watching news on television. Fewer than 10 percent received their television news exclusively from NTV. Roughly 40 percent of respondents, on the other hand, only watched ORT and/or RTR for their news. Fewer Russians got their news from newspapers than from the television. Roughly

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a quarter of the survey respondents reported not reading newspapers at all. Of those that did read more or less regularly, publications such as *Argumenty i fakti* and *Komsomolskaya Pravda* were among the most widely read. In terms of economic and business coverage, however, *Kommersant-Daily* was the undisputed leader, even though its readership was not as large in number. Although known for its editorial independence from the government and large business groups, *Kommersant-Daily* did draw loans from some major banks, whose influence was occasionally noticeable (Belin, 2001).

In what follows, we use the Monitoring Survey to determine the household characteristics that explain attempted depositor withdrawals in the wake of the crisis. Specifically, we estimate the following model:

$$WD_i = \beta_1 X_1 + \beta_2 X_2 + \lambda_j + \varepsilon_i \quad (2)$$

The dependent variable, WD_i, takes on the value of one (zero, otherwise) if household *i*, with ruble bank deposits on August 17, drew down (or at least attempted to) those deposits in the wake of the crisis. Independent variables include a vector of the respondent's individual and household characteristics, X_1 and X_2, respectively.[15] We also controlled for region-level fixed effects, λ_j, to filter out the influence of regional heterogeneity that might impact deposit-related behavior.

In Table 3, we present the results derived from probit models. As can be observed, when running the model on all depositors, there is a strong positive relationship between depositors with a higher education and those that tried to draw down their deposits in the wake of the financial crisis. For instance, the results in column 1 suggest that more educated depositors are over 14 percentage points more likely to have made an attempt to withdraw their monies after the crisis. At first blush, these results might appear to contradict our findings from the region-level analysis in the previous section. But consider that we do not know from which banks these depositors are withdrawing. Whereas the region-level analysis was specific to Sberbank, the household data from the Monitoring of Economic and Social Changes Survey do not allow us to distinguish depositors in Sberbank from those in other banks (a point to which we return below). But here, the evidence is consistent with better educated, more financially literate Russian depositors being more likely to withdraw deposits, perhaps because of greater awareness of current events (Klapper, Lusardi and Panos, 2011).

We also observed a clear difference in media consumption patterns between those respondents that run to their banks and those that do not. Readers of the leading business newspaper, *Kommersant-Daily*, were nearly 39 percentage points more likely to attempt to withdraw; and those TV watchers who got their news exclusively from NTV were 15 percentage points more likely to attempt to withdraw. Both of these effects were statistically significant at the 5 percent level. We also observe here that those who relied exclusively on the large state networks, RTR and ORT, for their news were less likely than other television viewers to run on their banks (although this effect was not statistically significant). In other words, respondents likely to take a greater interest in economic developments and with a more independent political streak were more likely to draw down their deposits.

Of course, these relationships are not evidence of a causal relationship. We cannot know to what extent they are the result of respondents either self-sorting among different media outlets or being influenced by the coverage they get from those sources. But even as correlations, we find the results striking. Recall that our fixed effects specification should, to some degree,

[15]See Table 2 for the full set of respondent controls.

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Table 3. Depositor Behavior after August 17, 1998[a]

Variable	Tried to withdraw but may have been unsuccessful			Withdrew successfully but may have had difficulty			Withdrew successfully and without difficulty		
	Watches TV news		Reads newspapers	Watches TV news		Reads newspapers	Watches TV news		Reads newspapers
(Log) age	0.000	–0.043	0.049	–0.134	–0.160*	–0.135	–0.112	–0.153**	–0.058
	(0.083)	(0.084)	(0.122)	(0.083)	(0.082)	(0.148)	(0.077)	(0.072)	(0.142)
Higher education	0.142***	0.122***	0.095	0.045	0.031	–0.036	0.040	0.016	0.018
	(0.048)	(0.046)	(0.062)	(0.058)	(0.060)	(0.063)	(0.063)	(0.069)	(0.083)
(Log) income	0.070	0.069	0.093	0.018	0.014	0.038	–0.006	–0.017	0.036
	(0.060)	(0.055)	(0.098)	(0.049)	(0.043)	(0.063)	(0.044)	(0.044)	(0.091)
Real income likely to increase in medium term	0.112	0.115	0.068	0.070	0.074	0.123	0.012	0.027	0.027
	(0.092)	(0.097)	(0.105)	(0.073)	(0.072)	(0.116)	(0.055)	(0.055)	(0.076)
Continued to receive full salary after crisis	–0.011	–0.020	–0.055	0.084	0.080	0.079	0.027	0.025	0.056
	(0.075)	(0.078)	(0.102)	(0.077)	(0.079)	(0.101)	(0.069)	(0.072)	(0.085)
City size (1–5 scale)	–0.001	0.000	–0.036	–0.024	–0.024	–0.066	–0.001	–0.002	–0.023
	(0.026)	(0.025)	(0.041)	(0.039)	(0.038)	(0.040)	(0.033)	(0.032)	(0.045)
NTV news (only)	0.147**			0.089			0.109*		
	(0.065)			(0.080)			(0.060)		
State television only (RTR and/or ORT)		–0.099			–0.074			–0.136***	
		(0.066)			(0.056)			(0.050)	
Kommersant-Daily			0.386***			–0.249***			–0.248***
			(0.039)			(0.083)			(0.040)
N	363	363	274	358	358	284	340	340	271
Pseudo R^2	0.1148	0.1154	0.1444	0.124	0.1253	0.1692	0.1099	0.1202	0.1423

[a]Regional fixed effects probit models reporting marginal effects. Robust standard errors, adjusted for clustering at regional level in parentheses. ***, **, and * indicates significance at .01, .05, and .1 levels, respectively. Other controls are listed in Table 2.

assuage concerns that regional heterogeneity explains the result. Moreover, one might suspect that ideological differences across depositors might affect both news programs watched as well as behavior during a crisis; to at least partially capture these differences, our specifications include proxies for ideological predisposition—dummy variables for trust in three national-level politicians: Boris Yel'tsin, Vladimir Zhirinovskiy and Gennadiy Zyuganov.

Considering the inclusion of these controls, in addition to evidence for a causal relationship between political behavior in 1999 and exposure to NTV (Enikolopov et al., 2011), we are not wholly unconfident that there is an "NTV effect" on economic behavior roughly a year earlier. Of course, more research is needed—including, potentially, content analysis of NTV's coverage of the economy in the latter half of 1998 relative to that of the big state networks.

In columns 4–9, we explore the determinants of successful withdrawals, as opposed to those that that were just attempted and may or may not have been successful. Among this group that actually withdrew, some reported having encountered difficulties, whereas others reported no problems (columns 4–6 and 7–9, respectively). Among newspaper readers with deposits, those who reported reading *Kommersant-Daily* were almost 25 percentage points less likely than non–*Kommersant-Daily* readers to have completed a *successful* withdrawal (whether with difficulty or without) in the aftermath of the August crisis. Although we can only speculate as to the difference between the negative and highly significant point estimates in columns 6 and 9, and the positive and highly significant relationship shown in column 3, it is possible that economically more "savvy" *Kommersant-Daily* readers may have been more likely to have put their monies into private banks that offered higher deposit rates—i.e., not Sberbank. They were thus more likely to have been caught out by the August crisis. Indeed, the profile of those that ran on Sberbank and those that ran on other institutions may be entirely different, thus explaining the very different relationships between the "education" variable in considering Sberbank runs specifically, and depositor runs more generally.

Though we showed that education status was positively and strongly related with attempting to withdraw deposits, it cannot explain actual withdrawals. Finally, we observed a strong relationship between television viewing and successful withdrawals. Among those with deposits in August, those watching RTR and/or ORT exclusively were substantially less likely to withdraw (without difficulty) deposits in the subsequent months. And those that watched NTV exclusively were substantially more likely to withdraw (without difficulty).

CONCLUSIONS

Sberbank's pivotal role in the Russian banking sector is legendary. We have briefly described the genesis of Sberbank from the ashes of its Soviet precursor and its recent development. Although it is widely assumed that Sberbank has been a repository of trust in the Russian banking since its inception, our analysis casts reasonable doubt upon such an assumption. We first observe how in August 1998 Sberbank was insolvent and how the CBR urged other insolvent, although private, banks to transfer their household deposits to Sberbank. The government chose to stabilize Sberbank by restating publicly its explicit guarantees on Sberbank deposits, providing unlimited liquidity through the CBR and transferring deposits from bankrupt private banks to Sberbank. This purposeful policy, rather than popular trust, was the driving force behind Sberbank's rising share of the household ruble deposit market in the aftermath of the 1998 crisis.

Looking at unique regional data provided by Sberbank itself, we find evidence of a not so mild bank run on Sberbank in the first two months following the August 1998 default, and this despite the fact that Sberbank was protected by two explicit government guarantees codified

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in law. These Sberbank runs were less severe in well-educated, older, and more conservative regions distant from Moscow and more severe in wealthy, entrepreneurial regions closer to Moscow and enjoying more media freedom.

More detailed evidence on general depositor behavior from survey data confirms that very few people deliberately moved their deposit accounts to Sberbank, again casting doubt on the bank's reputation as a natural repository of trust. Most depositors who did in fact pursued real, rather than financial strategies. As already suggested by the regional Sberbank analysis, the survey data confirm that depositors were much more likely to withdraw their monies from Rusian banks in general if they were better informed by independent media such as NTV (then a free television station) and *Kommersant-Daily,* then a respected business newspaper without links to the government. The substantial "NTV effect" found in our study accords with the literature on media freedom in Russia. It therefore seems that access to reliable information by free media made depositors more vigilant about the health of their banks even if, like Sberbank, those institutions were protected by government guarantees.

Interestingly, while well educated people were less likely to run on Sberbank, they may have been more likely to run on banks in general, lending again support to the idea that well-educated people better understood the "too-big-to-fail nature" of Sberbank vis-à-vis the "small-enough-to-fail" nature of most private banks. If depositors attached weight to the revealed information by other depositors in their decision of whether or not to run, the presence of more educated people with a more candid understanding of why Sberbank might be saved and other banks not would in itself provide the leverage to make also less educated and less well informed depositors more inclined to stay put and leave their money in Sberbank (and vice versa for private banks).

We conclude that Sberbank has only been able to serve as a repository of trust because the government, through the Central Bank of Russia, decided to stand behind it. The trust in Sberbank, therefore, is nothing else than trust in the promises of the federal government itself.

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Appendix 1. Correlations between the Demography, Government Interference, and Institutional Variables

Variable	distMoscow	old97	urban97	ELF	budgsubs	agrisubs	munishop	regprice	private	corruption	media freedom
distMoscow	1										
old97	–0.7264	1									
urban97	0.0617	0.0946	1								
ELF	0.2302	–0.6123	–0.3909	1							
budgsubs	–0.1107	0.2186	0.0022	–0.1549	1						
agrisubs	0.3625	–0.2348	0.1491	0.0302	0.0749	1					
munishop	–0.0427	–0.2111	–0.1573	0.4529	0.0042	0.155	1				
regprice	–0.012	0.1381	–0.0533	–0.0534	0.1212	0.1243	0.0998	1			
private	–0.447	0.4689	–0.4636	–0.1485	0.1226	–0.4063	–0.175	0.0084	1		
corruption	–0.1415	0.2031	0.0644	–0.2633	0.1029	0.1141	–0.0996	0.2337	–0.0124	1	
mediafreedom	–0.1143	0.2755	0.4798	–0.5282	–0.013	–0.0411	–0.3445	–0.0704	0.0641	0.2222	1