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WORKING PAPER

**Depositor vigilance in the immediate aftermath of Russia's 1998 crisis:
education, media freedom and Sberbank as a repository of trust**

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**Depositor vigilance in the Immediate Aftermath of Russia's 1998 crisis:
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Abstract:

In the immediate aftermath of Russia's 1998 crisis household depositors withdrew money from the insolvent and state-owned Sberbank, despite its unique protection by two explicit government guarantees and its reputation of a repository of trust. This was less the case in well-educated, older, more conservative and remote regions and more so in wealthy, entrepreneurial and central regions, enjoying more media freedom. Survey data confirm that access to free media like NTV turns depositors more vigilant about their banks. Well educated people's better understanding turns them less likely to run on Sberbank but more likely to run on other banks.

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Depositor Behavior in the Aftermath of the 1998 Crisis

1. 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 17th, 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 run 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)."

Many groups, both foreign and domestic, were adversely affected. But perhaps none were 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 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 crisis' depth 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 announcement.¹

In this article, we re-visit 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, while 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 crisis' wake. Since the household questionnaire does not distinguish between Sberbank and non-Sberbank accounts, the two sources of data are not directly comparable. But, 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

¹ To some extent, the withdrawal of savings from Sberbank that we observe 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, forthcoming; Martinez-Peria and Schmukler, 2001) .

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, since bank runs has been shown to impose real costs on an economy (Diamond and Dybvig, 1983) by leading to financial disintermediation (Iyer and Puri, forthcoming), understanding who runs may lead to the design of policies that can limit future runs.²

This article is organized as follows. Section 2 reviews the evolution of the household deposit market in the 1990s. Sections 3 and 4 present our analysis of the regional Sberbank and household survey data, respectively. Section 5 concludes.

2. 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 Bank of Russia (CBR), which remains its majority owner today. Over the next seven years, its roll remained relatively straight-forward – a narrowly-focused, state-owned bank that guaranteed household deposits and invested largely in Russian government debt.³

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

² In a careful micro-level study of a run on a solvent bank in India, Iyer and Puri (forthcoming) found that the households that withdrew their deposits in a panic tended not to return.

³ 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 less than 8% of its ordinary shares on the market. This would reduce the stake of the CBR, Sberbank's majority block-holder, to exactly 50.0% of total capital and 52.4% of voting shares (Gazprombank, 2011; Vernikov, 2007). Clearly, the Russian government is not ready to turn over control of Sberbank over to private parties.

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 (Saint Petersburg Times, 2003; Radaev, 2000). By one estimate, fifty 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 a public opinion surveying organization "If you have (or had) money savings, in what way would you prefer to keep them in the present situation?" over 20% mentioned private banks in the winter of 1994 (*i.e.*, before the MMM scandal broke); two years later, this percentage had dropped to under 8% (*Monitoring of Public Opinion*).⁴ By the beginning of 1998, the stock of deposits in Sberbank amounted to roughly 75% of the 160 billion ruble deposit market.

Though their relative position on the market had been decreasing, a non-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

⁴ Other responses for 1996 included: Sberbank, 47%; government bonds, 3%; stocks, 3%; cash, 22%; foreign currency, 46%; and goods, 20%

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 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 the books of Sberbank in November and the whole procedure was completed by February 1999. In sum, Sberbank assumed seven billion rubles of additional demand deposits and 450 thousand additional depositors.⁵ Some of the post-October-1998 increase in Sberbank market share depicted in Figure 1 reflects this process.

⁵ See <http://referats.urist-center.ru/referat/content-188.html> for more detail.

In the next section, we will show that Sberbank's household ruble deposit base actually shrunk in absolute terms in the months immediately following the crisis; moreover, we will 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.

3. Post-crisis patterns in Sberbank deposit outflows

We are the first to analyze in detail the impact of the 1998 crisis on Sberbank's household depositors. In Figure 2 we show the monthly evolution 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 in a period of just 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 above 10% of its ruble household deposits, a shock that would today still suffice to topple almost any large 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. It is due instead 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 aim at getting a better understanding at the mechanics of the run itself.

To gain a better insight into the nature of this mild 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 that we turn to 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 till 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

show up in Sberbank books. It also enables us to link the results with the results 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 default⁶.

Specifically, we estimate the following specification (1)

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

The dependent variable is, as motivated before, the percentage drop of Sberbank regional household ruble deposits in the period August – September across Russian regions j . Figure 3 shows a scatter plot of the log of Sberbank ruble household deposits against the dependent variable SD_j . We readily observe 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 with considerably more than 10% in this short period⁷. We observe 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 include 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.

⁶ 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 across regions.

⁷ If we start from the first of July, instead of the first of August and take a three month period bank run, we find that more than 75% of Sberbank's regional departments saw their deposits fall with considerably more than 10% in this period. We have repeated all our estimations for this longer sample period. The results are very robust and available on request.

The results of estimating (1) are presented in Table 3. In the baseline regression we include a number of standard economic variables, like 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 regions⁸. The most robust result is that depositors run 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 include demographic variables. One logical variable is the share of old people in the region (*old97*), since pensions are paid on Sberbank accounts in 1998 and elderly people are much more likely to be more trusting of 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 way⁹, using data from the 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 per 10,000 inhabitants (*urban97*, source: Goskomstat [2008a and 2010]). Since Moscow was and is the demographic and financial capital of the Former Soviet Union and Russia, respectively, we also include distance to Moscow in 1000's of kilometers (*distMoscow*). We find that more fractionalized regions, regions with more elderly people and regions that are further away from Moscow face less severe runs on Sberbank. Or put differently, more homogenous Russian regions that are on average

⁸ If we exclude the more entrepreneurial Moscow and Saint-Petersburg regions with very high Sberbank runs (especially for Moscow) from our sample, the finding that higher runs are related to more entrepreneurial regions is partly, but not totally driven away.

⁹
$$ETHNO = 1 - \sum_{i=1}^J (g_{i,reg} / POP_{reg})^2, \quad i = 1, \dots, J,$$
 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.

younger and closer to Moscow are likely to see more severe runs on Sberbank. This is not due to the higher competition, in regions close to Moscow, from other banks with national appeal, as we include the amount of branches from banks with headquarters in other regions (filother) in the baseline model to control for this effect¹⁰. As mentioned before, these results are also robust to the exclusion of Moscow and Saint Petersburg (available on request). The fact that regions with more elderly people retain higher trust in Sberbank, a remnant of an old Soviet institution that they have trusted their whole live, is not surprising. In addition, elderly people are likely to have generally less information and higher switching costs.

In the next specification we introduce 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]). Last we also include the share of the private sector in the regional economic output (private, Rosstat). We find that more conservative regions with more regulated prices and regions with more enterprises in commerce, public catering and public services owned as state or municipal property indeed face less severe bank runs, which is in line with earlier findings about small and medium enterprises and with the intuition that more conservative government-oriented regions are more trusting of the government.

Finally we include two purely institutional variables, namely an early measure of corruption (corruption), taken from the democratization index of the independent institute of social policy put together by Petrov and Titkov¹¹ and a measure of early media freedom (media freedom). We find that more media freedom is related to more pronounced runs on Sberbank. It seems that the access to better and more diverse information tends to make

¹⁰ These banks with national coverage and good reputation may be credible alternatives to Sberbank, while small regional banks clearly are not.

¹¹ The data are fully available on http://atlas.socpol.ru/indexes/index_democr.shtml

people wearier about Sberbank. We develop this argument about the effects of media freedom on depositor behavior further in section 4.2, where we show with the help of survey data that specifically the 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 away from Moscow for example tend to be more ethno-linguistically 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 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 on 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.

4. Deposit withdrawals and media freedom

4.1. 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.¹² 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 2409 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.¹³ In what follows, we focus attention on those questions that address the actions of those reporting having held ruble deposits on August 17th.

Unsurprisingly, nearly 80% of the respondents characterized the fall of 1998 as an inauspicious environment for saving.¹⁴ Whereas 28% of the respondents queried in November reported having had savings on August 17th, less than 20% 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% of those that 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% 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. 17% of the respondents had pursued a wealth-preservation strategy but, for unspecified reasons, felt that they had not succeeded. And 43% of savers had done nothing.

¹² 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.

¹³ 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>.

¹⁴ See Appendix 2 for deposit and savings-related questions in the Monitoring of Economic and Social Changes Survey.

Given our focus, we turn our attention to those that reported having held bank deposits in early August 1998, regardless of whether they considered these monies as “savings.” Depositors accounted for 18.6 percent of all the respondents. Table 4 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 17th and the November survey. Only one-third of all depositors, however, reported having withdrawn their deposits. Presumably, those that reported being 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 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 ten 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 cut since August.

4.2 Media Exposure and Behavioral Patterns

Noting the correlation from the region-level data between media freedom and net deposit flows (see section 3), we use 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. Russia had hundreds of television stations in the late 1990s. But households – almost all of which have at least one television – depended almost exclusively on the three biggest 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 show 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." 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-1990's 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 and 2006). Given the poor information environment confronted 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 Yeltsin 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 watching patterns correlate with behavior during the 1998 financial crisis in a manner analogous to that uncovered by Enikolopov *et al.* (2011).

Roughly 94% of the respondents to the 1998 survey reported watching news on television. Fewer than ten percent received their television news exclusively from NTV. Roughly 40% 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 a quarter of the survey respondents reported not reading newspapers at all. Of those that did read more or less regularly, publications like *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).

4.3. Data analysis

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:

$$WD_i = \beta_1 X_{1i} + \beta_2 X_{2i} + \lambda_j + \varepsilon_i \quad (2)$$

The dependent variable, WD_i takes on the value of one (zero, otherwise) if household i , with ruble bank deposits on August 17th, drew down (or at least attempted to) those deposits in the crisis' wake.¹⁵ Independent variables include a vector of the respondent's individual and household characteristics, X_1 and X_2 , respectively. See Table 4 for the full set of respondent controls. We also control for region-level fixed effects, λ_j , to filter out the influence of regional heterogeneity that might impact deposit-related behavior.

In Table 5, we present the results from probit models. As can be observed, when running model (2) 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, this household data do not allow us to distinguish depositors in Sberbank from those in other banks (a point we return to 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).

¹⁵ The question reads:

We also observe 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% level. We also observe here that those that rely exclusively on the large state networks, RTR and ORT, for their news were less likely than other television watchers 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, 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 Yeltsin, Vladimir Zhirinovski 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 the 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 observe 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).

5. Conclusions

Sberbank’s pivotal role in the Russian banking sector is legendary. We shortly describe the genesis of Sberbank from the ashes of its Soviet precursor and its recent development. It is widely assumed that Sberbank has been a repository of trust in the Russian banking since its inception. We cast reasonable doubt over this assumption. We first describe how in August 1998 Sberbank was insolvent and how the CBR urged other insolvent, though private, banks to transfer their household deposits to Sberbank. The government chose to stabilize Sberbank by restating publicly her 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 Sberbank data provided by Sberbank itself, we find evidence of a not so mild bank run on Sberbank in the first two months after the August 1998 default, and this despite the fact that Sberbank was protected by two explicit government guarantees written down in law. These Sberbank runs were less severe in well-educated, older and more conservative regions far away 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 account to Sberbank, again casting doubt on Sberbank's reputation of natural repository of trust. Most depositors that did act 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 if they were better informed by free media, like *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 is in line with the literature on media freedom in Russia. It seems therefore that access to reliable information by free media turned depositors more vigilant about the health of their banks even if, like Sberbank depositors, protected by government guarantees.

Interestingly, while well educated people are less likely to run on Sberbank, they may be more likely to run on banks in general, lending again support to the idea that well-educated people understand the too big to fail nature of Sberbank better as compared to the small enough to fail nature of most private banks. 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 may be saved and other banks may not, will on itself provide the leverage to make also less educated and 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 be a repository of trust because the government, through the Central bank of Russia, decided to stand behind the bank. The trust in Sberbank therefore is nothing else than trust in the promises of the federal government itself.

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Figure 1 Sberbank's steep rise in the household deposit market during early transition.

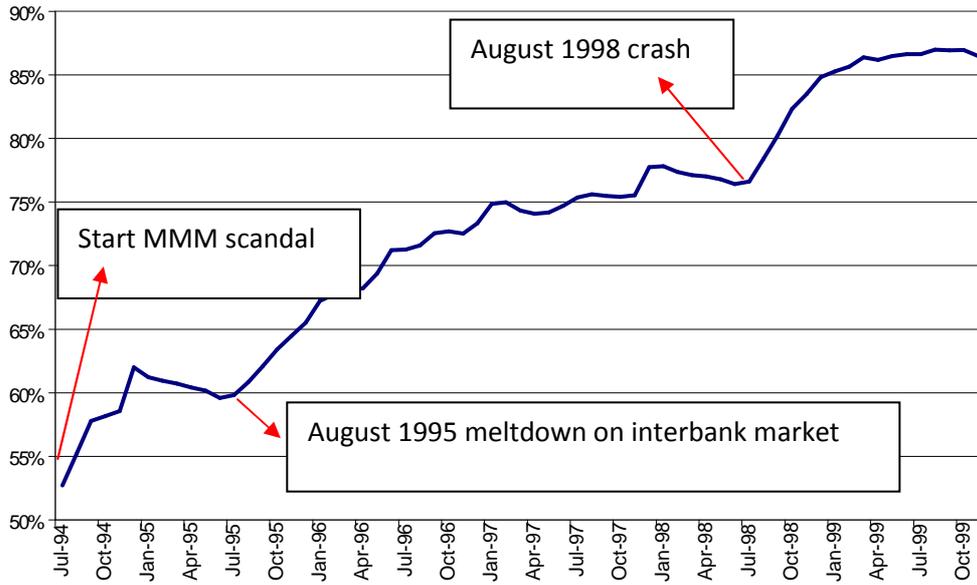


Figure 2 Evolution of Sberbank total household ruble deposits in 1998:

evidence of a mild bank run in the aftermath of the 1998 crisis

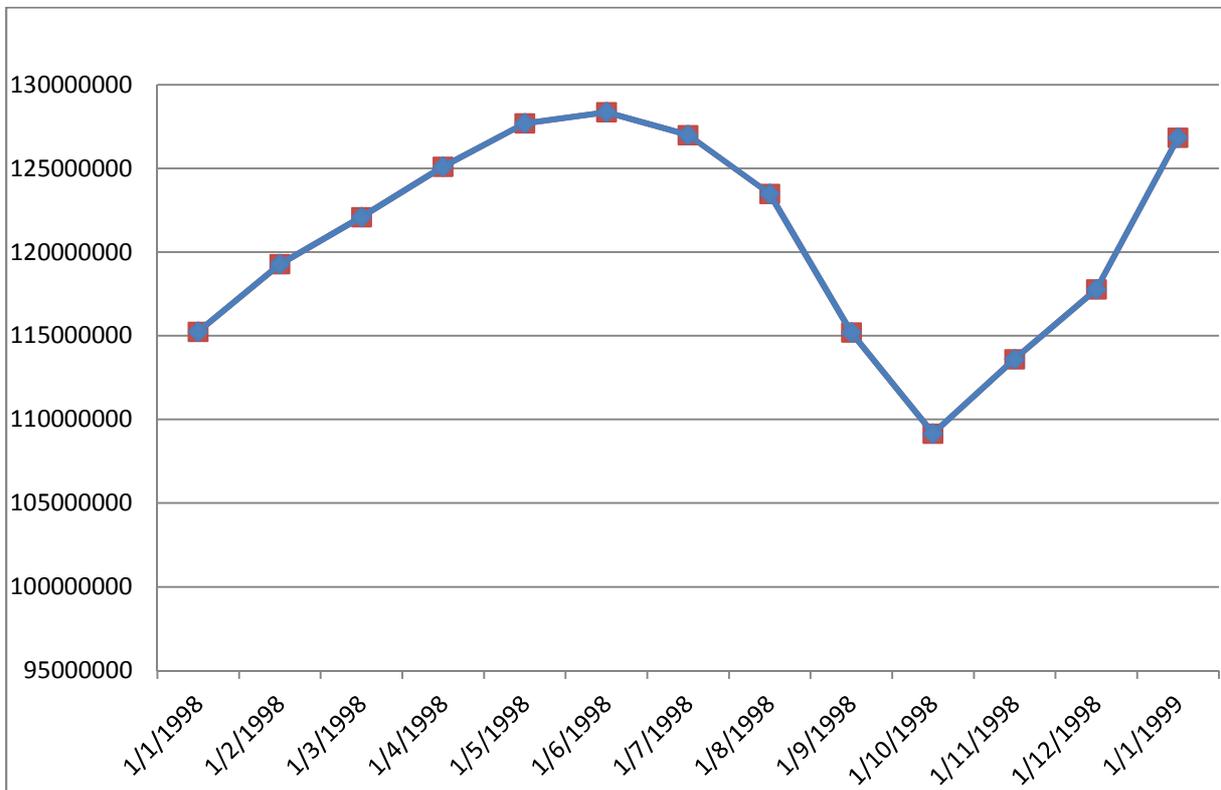
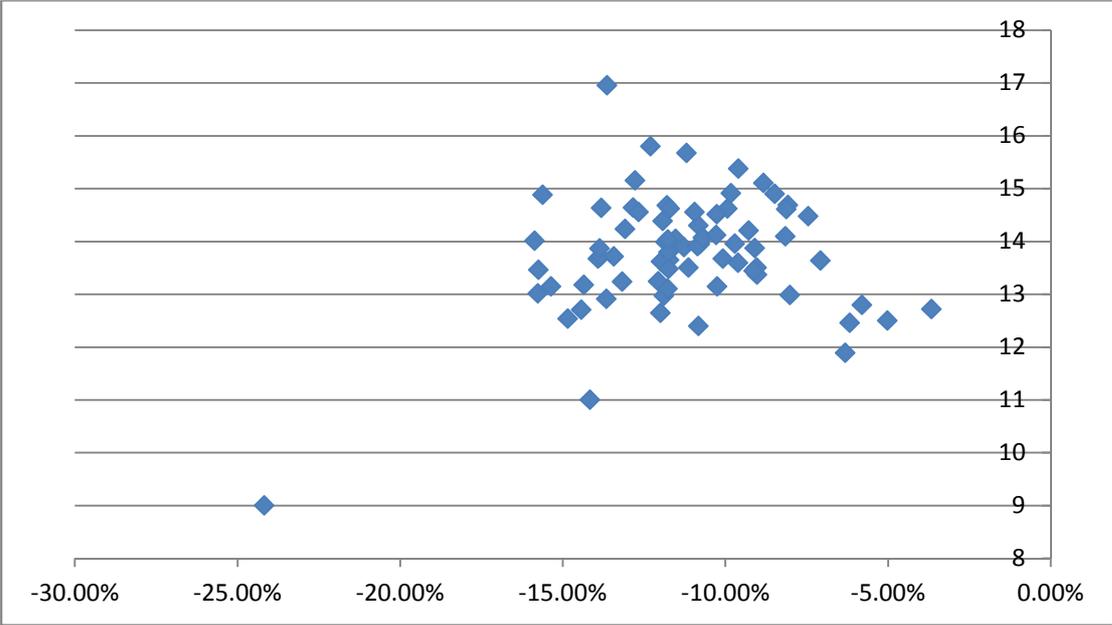


Figure 3 Is there a relation between region size and size of the Sberbank run?



Note: Log of regional Sberbank household ruble deposits on the standing axis,

Percentage drop in Sberbank household ruble deposits on the lying axis

Table 3 Ruble household deposit growth across regional Sberbank branches, model (1)

	(2)	(2)	(3)	(4)
grppc97	-0.000 (0.000)	-0.001 (0.000)	-0.001* (0.000)	-0.000 (0.000)
smepc97	-3.218** (1.295)	-2.544*** (0.812)	-1.852* (1.029)	-2.148** (0.889)
education	0.238** (0.100)	0.210** (0.081)	0.261*** (0.097)	0.245*** (0.086)
size97	0.007 (0.010)	0.006 (0.006)	0.001 (0.009)	0.006 (0.008)
filother	-0.001 (0.001)	-0.001 (0.001)	-0.000 (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)
Observations	72	71	71	70
R-squared	0.122	0.359	0.240	0.239

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Dependent variable: growth of Sberbank household ruble deposits across Russian regions in the period August-September 1998 (01/08/1998-01/10/1998)

Table 4. Respondent characteristics: with and without deposits prior to August 1998 crisis

	Did you have deposits on Aug 17 th ?	
	No	Yes
Savings and deposits		
Household with savings on Aug 17, 1998 (%)	17.5	77.3
Tried to withdraw deposits since Aug 17th, 1998 (%)	--	48.0
Successfully withdrew since Aug 17th, 1998 (%)	--	33.9
Successfully withdrew since Aug 17 th , 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 <i>Kommersant-Daily</i> (%)	1.7	2.2
Household income		
Income	1269	1388
Members in household working	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	43.2	49.9
Ethnic Russian (%)	82.6	84.4
Married (%)	59.9	63.2
Higher education (%)	20.2	24.6
Members in household	2.9	2.8
Politicians / public officials that trust		
Boris Yeltsin (%)	1.4	0.1
Vladimir Zhirinovski (%)	5.2	3.8
Gennadiy Zyuganov (%)	16.2	21.9
N	1961	448

* On August 17th, had ruble deposits in banks (not including accounts for receiving pensions)

Table 5. Depositor behavior after August 17th, 1998

	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 (0.083)	-0.043 (0.084)	0.049 (0.122)	-0.134 (0.083)	-0.160* (0.082)	-0.135 (0.148)	-0.112 (0.077)	-0.153** (0.072)	-0.058 (0.142)
Higher education	0.142*** (0.048)	0.122*** (0.046)	0.095 (0.062)	0.045 (0.058)	0.031 (0.060)	0.036 (0.063)	0.04 (0.063)	0.016 (0.069)	0.018 (0.083)
(Log) income	0.070 (0.060)	0.069 (0.055)	0.093 (0.098)	0.018 (0.049)	0.014 (0.043)	0.038 (0.063)	-0.006 (0.044)	-0.017 (0.044)	0.036 (0.091)
Real income likely to increase in medium term	0.112 (0.092)	0.115 (0.097)	0.068 (0.105)	0.070 (0.073)	0.074 (0.072)	0.123 (0.116)	0.012 (0.055)	0.027 (0.055)	0.027 (0.076)
Continued to receive full salary after crisis	-0.011 (0.075)	-0.020 (0.078)	-0.055 (0.102)	0.084 (0.077)	0.080 (0.079)	0.079 (0.101)	0.027 (0.069)	0.025 (0.072)	0.056 (0.085)
City size (1-5 scale)	-0.001 (0.026)	0.000 (0.025)	-0.036 (0.041)	(0.024) (0.039)	(0.024) (0.038)	(0.066) (0.040)	-0.001 (0.033)	-0.002 (0.032)	-0.023 (0.045)
NTV news (only)	0.147** (0.065)			0.089 (0.080)			0.109* (0.060)		
State television only (RTR and/or ORT)		-0.099 (0.066)			-0.074 (0.056)			-0.136*** (0.050)	
Kommersant Daily			0.386*** (0.039)			-0.249*** (0.083)			-0.248*** (0.040)
N	363	363	274	358	358	284	340	340	271
Pseudo R2	0.1148	0.1154	0.1444	0.1240	0.1253	0.1692	0.1099	0.1202	0.1423

Regional fixed effects, probit models, reporting marginal effects. Robust standard errors, adjusted for clustering at regional level in parentheses. ***, **, * significant at 1%, 5% or 10% levels, respectively. Other controls are listed in Table 4.

Appendix 1 Correlations between the demography, government interference and institutional variables

	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	0.1550	1				
regprice	-0.0120	0.1381	-0.0533	-0.0534	0.1212	0.1243	0.0998	1			
private	-0.4470	0.4689	-0.4636	-0.1485	0.1226	-0.4063	-0.1750	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	-0.0130	-0.0411	-0.3445	-0.0704	0.0641	0.2222	1

Appendix 2.

Questions about savings and deposits from Monitoring of Economic and Social Changes Survey

- *Если говорить в целом, то, как вы считаете, сейчас хорошее или плохое время для того, чтобы делать сбережения? (Speaking in general, do you think now is a good time to build up savings?)*
- *На момент кризиса (17 августа) были ли у вас лично рублевые вклады в банках (кроме счетов, на которые перечисляют пенсию)? (On August 17th, did you personally have ruble deposits in a bank (excluding accounts for pensions)?)*
- *На момент начала финансового кризиса в России (17 августа этого года) были ли у вас (в вашей семье) сбережения, копили ли вы деньги на приобретение каких-либо товаров, другие расходы? (On August 17th, did you (your family) have savings, stashes of money for the purchase of any goods or other expenditures?)*
- *После начала кризиса предпринимали ли вы (члены вашей семьи) какие-либо меры, чтобы обезопасить, спасти свои сбережения от обесценения? Если да, то, что из перечисленного вам удалось сделать? (After the beginning of the crisis, which actions, if any, did you (or family members), take to preserve the value of your savings?)*
- *После 17 августа пытались ли вы снять деньги с рублевых вкладов в банках? Если да, то удалось ли вам это? (After August 17th, did you try to withdraw money from your ruble accounts with banks? If so, did you succeed?)*