Lucy Chernykh and Sergey Mityakov 1

Abstract
In this paper, we analyze the connection between bank malfeasance and bank-run in the presence of an exogenous regulatory shock. We use unique transaction level data on wire transfers to study the behavior of individual depositors during the bank panic that happened in Russia in 2004. We use monthly bank reports to the Central bank to construct a novel measure of suspicious bank offshore operations. We find that informed depositors (non-financial companies and banks that have a business relation with a given bank) seem to be able to deduce bank’s involvement in suspicious offshore activities. There is an interesting heterogeneity in their responses during the bank panic: depositors that are themselves less transparent increase their transfers into offshore active banks, while more transparent depositors sharply increase the withdrawal of funds from offshore active banks. Uninformed non-financial companies (i.e. those that do not have a close business connection to a given bank) seem to infer the bank quality over time on the basis of informed depositors past withdrawals. We also see evidence of flight to safety during the bank panic: depositors are more likely to transfer funds into banks with higher pre-crisis capital adequacy ratios; the effect being stronger for uninformed depositors. Our micro-level data enable us to provide unique insights into the anatomy of a bank panic to try to understand the determinants of individual depositors’ behavior and their information sets.

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1. Introduction

Bank panics and contagious runs on bank deposits have severe impacts on financial system stability of affected countries. During the “Great Moderation” of 1950s-2000s it was widely held belief that bank panics were a thing of the past, at least in the US. Yet, bank runs during the recent Great Recession have demonstrated that financial system even in the most developed economy, the United States, remains susceptible to bank panics and financial contagion. In this regard, it is extremely important to understand the determinants of bank panics to be able to avoid them or diminish their detrimental effects.

Studying the effects of bank panics empirically is challenging for lack of appropriate data: it is very difficult to assemble the dataset containing high-frequency information about the behavior of individual depositors of different banks. Additionally the study of bank panics is complicated by the fact that usually such panics are accompanied by some macroeconomic shock (Kaminsky Reinhart). This makes it difficult to disentangle the impact of panic per from that of the underlying macroeconomic shock.

In our paper, we fill this gap by analyzing a bank-panic episode through the lens of a highly detailed transaction level dataset that allows us to study the individual depositor response to bank specific information depending on depositor’s own characteristics. We also explore the financial contagion effects by analyzing the dependence of depositor’s withdrawals of funds from a given bank on past withdrawals made by other (more informed) depositors.

The panic episode we consider is from recent Russian experience: the bank panic of Summer 2004. This panic is unique because it was pure information driven. It was triggered by unexpected Central Bank announcement to crack down on money-laundering and offshore operations and demonstrative closure of one of the banks involved in such activities in May 2004. There were no aggregate macroeconomic shocks to the Russian economy at the time. This provides a rare natural experiment suitable for the analysis of depositors’ response to information flows during bank panic without contamination from concurrent macroeconomic shocks.

Our findings are the following. First, we show that all depositors’ respond to publicly observable information about bank stability: during bank panic, depositors are more likely to transfer their funds into the banks with higher pre-crisis bank capital adequacy ratios. However,

2 Some authors even view the collapse in the Mortgage Backed Securities’ Repo market during the Great Recession as a run on a “shadow banking system” developed around subprime mortgage market in the US. (Gorton and Metrick (2012)).
the effect is weaker for depositors that have a close business relation with a given bank (we call those informed depositors).

Instead, informed depositors seem to pay attention to privately available information about bank propensity to face regulatory action, which we proxy by Chernykh and Mityakov (2017) measure of bank involvement in suspicious offshore operations. There is an interesting heterogeneity in informed depositors’ response depending on their own type: depositors who are themselves more likely to be involved in suspicious operations, such as tax evasion, are likely to intensify their contact with offshore-active banks during the bank panic, while more transparent depositors seem to abruptly cut their ties (by withdrawing deposits) from such banks.

Finally, we find evidence of financial contagion effects, as uninformed depositors are more likely to withdraw the deposits from banks on the basis of past withdrawal made by informed depositors.

There are several advantages to use Russia and this particular bank panic episode as a laboratory for our study. First, as we mentioned above, this bank panic was caused by an unexpected policy announcement by the regulator, as such it provides a cleaner identification of bank panic effects on depositor behavior without contamination from other macroeconomic shocks. Another notable feature of this experiment is that all deposits during this episode (interbank, corporate, and household) were completely uninsured. Thus, our results are less likely to be affected by the moral hazard effects associated with the presence of the deposit insurance. Last but not least, due to a historical data leak, Russia has several highly-detailed firm and bank level datasets in the public domain that make it possible to analyze individual depositors and individual bank behavior at very high (weekly) frequency.

In particular, we utilize a unique transaction level dataset which contains the universe of all (domestic) wire transfers that happened in Russia in 2004. This allows us to measure the total flow of funds belonging to a particular depositor to/from a particular bank. We supplement these financial flows data with bank and firm level financial information from several other datasets. Such detailed dataset brings about several advantages when studying the inner mechanics of depositors’ behavior and information flows during the bank panic.

First advantage is that we can investigate individual depositor’s response to bank specific risk variables. In our study, we consider two measures of such risk. One variable is bank capital adequacy ratio, which measures the cushion of funds available to the bank to withstand a potential
run on its deposits; this measure is publicly observable. Another bank characteristic is the measure of bank pre-crisis involvement in suspicious offshore operations developed by Chernykh and Mityakov (2017). Given the perceived Central Bank intention to crack down on suspicious offshore operations, this variable measures bank specific risk to face a disciplinary action by the regulator. Unlike capital adequacy ratio, this measure is observable to us, the researchers, ex post but was not observable to the general public at the time of the panic.

Correlating these two risk measures with depositor’s financial flows (and other controls) we find that all depositors positively respond to pre-crisis bank capital adequacy ratio, by transferring their funds into higher capitalization banks during the bank panic, while the response to offshore fraction variable is somewhat muted for the average depositor. Magnitudes? XXX

Second advantage is that our dataset also allows us to study the difference in depositors’ response to the same bank-specific information depending on depositor’s own characteristics. We consider several dimensions of depositor’s heterogeneity. First, we subdivide depositors of a given bank into bank insiders (informed depositors) and outsiders (uninformed depositors) depending on whether a given depositor has a strong connection with the bank. We proxy this connection by the fact whether a depositor received business loans from the bank in the case when the depositor is a non-financial company, and whether the depositor has a correspondent account relationship with the bank in the case when the depositor itself is another bank. We find that depositors who are insiders do significantly respond to their bank involvement in suspicious offshore operations, while the response to capitalization variable, which is publicly observable, is more important for depositors who are outsiders to a given bank.

There is further an interesting heterogeneity in informed depositors’ responses depending on their own involvement in suspicious operations. Chernykh and Mityakov (2017) have found that offshore active banks are likely to conduct their operations on behalf and for the benefit of tax evading non-financial companies where tax evasion is measured using the score developed by Braguinsky and Mityakov (2015). Using the same tax evasion measure, we find that informed depositors, who themselves are likely to be involved in tax evasion, transfer funds into offshore active banks they are connected to during bank panic, while more transparent informed depositors

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3 This variable is based on mandatory bank reports to the Central Bank over 2000-2003 and is calculated as a fraction of total transactions with foreign countries done by a given bank that goes through suspicious offshore financial centers. See Chernykh and Mityakov (2017) for more details.
run away from such banks during and after bank panic. We hypothesize that transparent informed depositors being aware of the offshore operations of their own bank decide to cut ties with it for fear of regulatory action by the Central Bank, while less transparent depositors intensify their transfer of funds out of the country by utilizing more intensively offshore active banks they are connected to during the bank panic.

Finally, our dataset allows us to study the interdependence between financial flows undertaken by different depositors of the same bank. In particular, we find that less informed agents seem to pay attention to past behavior of more informed ones. Namely, non-financial companies that do not have close business ties with a given bank seem to withdraw funds from it provided other banks withdrew funds from this banks in the previous week. We do not fund such response to past withdrawal for non-financial companies with close business ties to a given bank. We also find that uninformed non-financial companies do respond to past withdrawals made by informed financial companies.

To the best of our knowledge this is the first paper analyzing the behavior of different groups of depositors during a bank panic in a context of the whole banking system at such level of detail. Our micro-level data enable us to provide unique insights into the anatomy of a bank panic to try to understand the determinants of individual depositors’ behavior as pertains to what they observe and what their motivation for initiating a run on a bank might be.

Our paper contributes to the vast literature of bank panics and bank-run in the following way. First, there is a large body of theoretical literature analyzing the determinants of bank-runs: Diamond Dybvig, Gorton. [Literature review to be completed]

Second, our paper considerably extends available empirical evidence on bank panics and contagious bank-runs. Prior empirical studies either relied on cross country and/or time series evidence correlating the incidence of panics and runs with aggregate macroeconomics indicators (Gorton Calomiris etc) The more detailed empirical analysis is performed in case studies that analyze the behavior of individual depositors of single bank conditionally on bank experiencing a run. By design, such studies cannot assess which banks are more likely to experience a run and by what groups of depositors.

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4 See Iyer and Puri (2012), O’Grada White for the case studies episodes
The rest of the paper proceeds as follows: in Section 2 we describe institutional background behind our study, Section 3 provides description of datasets used and measures constructed, Section 4 contains empirical results, Section 5 concludes.


The focus of our study, a reputation-based bank confidence crisis in the Russia, was triggered by the regulatory attempt to clean out the banking system from financial intermediaries involved in suspicious, semi-legal or outright illegal operations, mostly in the area of capital flight to offshore jurisdictions and/or money laundering facilitation operations.

The clean-up attempt was closely associated with the initial stages of the de novo deposit insurance system introduction in Russia. Following the final adoption of the DIS legislation in December 2003, the regulator initiated a number of supervisory measures to enhance prudency and compliance in the banking sector in an attempt to reduce risk exposures of the newly established insurance fund and to screen out banks for mandatory deposit insurance membership. Under the original DIS legislation, banks had to apply for the DIS system acceptance by July 1, 2004 and, following the rigorous on-site examinations, the regulators planned to start issuing deposit insurance acceptance decisions in the early fall of 2004, on the case-by-case basis.

Before the application deadline, the central banks began to enforce the anti-money laundering legislation by closing down Sodbiznesbank, a privately-controlled domestic bank, in May 2004. Notably, this was the very first incidence of closing seemingly solvent bank solely due to the violation of the anti-money laundering legislation. Shortly after that, another bank, Credittrustbank, was promptly closed down for similar accusations. Furthermore, a high-ranked representative of the Central Bank made a public statement on a regulatory intent to proceed with a policy of closures of banks involved in suspicious activities. Since no specific list of such banks was announced, the depositors began to guesstimate the probability of their banks’ closures and to withdraw funds from banks they deemed as suspicious. The mass media outlets draw additional public attention to these events thus further triggering the rapidly expanding cascade of bank runs.

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Since the DIS was not in effect at that time – all types of depositors, including interbank corporate and retail fund providers - start panicking and preemptively withdrawing their deposited funds. Available macro-level evidence suggests that interbank market was the first to react: as banks start to reevaluate their counterparty risk exposures and the probability of specific banks’ closures, the interbank lending rate jumped and the banks’ liquidity drained quickly. As early as in May, the turnover on the Russian interbank market dropped by 12.2% and then by another 13.3% in June. Simultaneously, the overnight ruble-denominated interbank lending rate jumped from 2% to 3% APR in the first quarter of 2004 to a volatile 10% to 20% in the second quarter. 

{GRAPH and refined description of interest rates HERE}

The retail depositors’ run started in June in some Moscow banks. Excluding Sberbank and VTB (two major state-controlled banks), the net withdrawals amounted to RUB 5.2 billion in June and RUB 18.1 billion in July. Starting from July, the runs contagion spread to regional banks. In July, aggregate net withdrawals in regional banks amounted to RUB 6.3 billion. The situation was recognized as dangerous when in early July the Guta-bank, a privately-controlled Moscow bank with a large regional branches network, suspended all repayments to retail depositors. Notably, the traditional macro-level deposit market indicators did not signal any turbulence as the total volume of deposits in the banking system remained relatively stable, suggesting the flight to safety and reallocation flows within this troubled deposit market. Overall, by various estimates from 20 to 27 banks have failed during this crisis episode due to bank run, regulatory closure and illiquidity issues.

To stabilize the situation and to calm down the bank run, liquidity crisis and depositor confidence crisis, the CBR introduced a number of emergency measures, including drastic reduction of the required reserve ratio from 7% to 3.5% (to improve banks’ liquidity position) and the regulator-assisted acquisition of a failing private bank, Guta-bank, by a state-controlled VTB bank, thus sending a signal to the market that the central bank is ready to step in for any further required bailouts. Most importantly, the original DIS legislation was promptly changed and the CBR issued temporal insurance guarantees for retail deposits in all active commercial banks during the period of the DIS introduction. The revised DIS law guaranteed deposit coverage for depositors of all banks, including those that would not become DIS members and that lost their license after December 27 2003, i.e. after initial DIS law was adopted. Following these
nonconventional measures, the bank confidence crisis was essentially resolved. Since August 2004, the interbank market and the retail deposit market were back to normal and exhibited growth.

3. Data description (to be rewritten)
Our main question is to understand the determinants of a bank run by different groups of depositors. To accomplish this, we bring together several novel datasets from Russia to analyze the interplay between banks financial and non-financial characteristics and probability of the run on the bank from different groups of depositors.

As our main dataset, we consider the population of all wire transfers that happened in Russia over 1999-2004. In this dataset, we have information about individual transfers with specific fields for the sender, sender’s banks where the wire originates, receiver, and the bank where receiver receives the funds. As a result, it allows investigating not only how a particular group of depositors behave, but also allows for differential response to deposit-holding bank characteristics by depositors from the same group on the basis of their own characteristics.

From this dataset, we construct measures of flow of funds for individual agents to a given bank as the net sum of all wire transfers received by minus all wire transfers sent by a given agent (company, individual, other bank) at a particular bank in any fixed time period (week). To avoid scale effects, we normalize this measure either by total weekly turnover (sum of the funds sent and received) by a given agent (depositor) through all banks. This measure effectively shows how sizeable are transfers into/out of a given bank compared to all wire transfer activity of a given economic agent in a given week.

We are interested how such net transfers are affected during and after the banking panic and whether there are particular characteristics by the deposit holding bank that make it more prone to experience a withdrawal of funds during the bank panic and by what group of depositors. We consider the following two bank characteristics: bank pre-crisis capitalization and a measure of bank involvement in suspicious offshore activities developed in Chernykh and Mityakov (2015).⁶

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⁶ We utilize offshore fraction indicator developed by Chernykh and Mityakov (2015). This measure is based on mandatory bank reports to the Central Bank about balances and turnover on correspondent account of all Russian banks in all foreign countries. For a given Russian bank Chernykh and Mityakov (2015) define their offshore activity measure as a ratio of total turnover through correspondent accounts located in offshore jurisdictions to the total turnover through all foreign accounts.
We take bank financial indicators from Banks-Rate database as well as from mandatory bank reports to the Central Bank. We consider measures of bank profitability (ROA), solvency (capital over assets ratio) and bank size in 2003. (we also control for contemporaneous bank size in all regressions). Summary statistics for all variables used in our analysis are reported in Table (XXX to be completed).

4. Results


We want to analyze which bank characteristics are taken into account by individual depositors in their decision to withdraw funds out of or transfer their money into a given bank during the bank panic episode. We divide the whole year of 2004 into four distinct subperiods: period before the bank panic (weeks before 20), initial (very acute) phase of bank panic (weeks 21-29 in 2004), phase of calming down (weeks 30-41), and after the bank panic period (weeks 42+ in 2004).

To measure the transfer of funds by some depositor into a given bank we consider the weekly net transfer of funds (total funds received minus total funds sent) on all accounts of a given depositor in a given bank. To avoid scale effects in this measure we normalize it by total weekly turnover (total funds sent plus total funds received) by a given depositor on all his accounts in all banks in a given week. We then correlate this net transfer variable with different bank characteristics allowing for the heterogeneity in the effects before, during, and after the bank panic periods. In particular, we consider the following empirical specification:

$$NetTR_{i,j,t} = f_t + \beta_1 RUN_t BC_i + \beta_2 ARUN_t BC_i + \beta_3 ERUN_t BC_i + \alpha BC_i + \gamma X_{i,t} + \epsilon_i$$ (1)

Here $NetTR_{i,j,t}$ is the net transfer by agent (company, individual, other bank) $j$ into bank $i$ in week $t$ normalized either by total weekly turnover of agent $j$ or by deposit holding bank $i$ size (assets). $BC_i$ is bank characteristic of interest: e.g. offshore measure, capitalization ratio etc. $RUN_t$ is dummy variable for the initial period of bank panic (weeks 20-29 in 2004), $ARUN_t$ is dummy for calming down period (weeks 30-41), and $ERUN_t$ is period after bank panic (after week 42). $f_t$ are time fixed effects.

As an alternative normalization variable we considered average weekly turnover for the whole year by a given depositor. The advantage of this latter measure is that if a depositor makes large transfers of funds during the bank panic episode then normalization by contemporaneous weekly turnover might dampen the total effect. The results are similar for this alternative normalization and are presented in Appendix AXXX.
In our study, we analyze depositors’ responses to two types of bank level characteristics \( BC_i \): publicly observed and the one which is likely to be observed only by depositors with access to bank specific information. Namely, we assume that bank capital adequacy ratio measured before the bank panic (average capital to net assets ratio in 2003) is public information, which is observed by all market participants. This ratio signals to all market participants to what extent a given bank has sufficient cushion of own funds to withstand a potential run on its deposits.

On the other hand, offshore fraction, which measures the scope of bank involvement in questionable offshore operations is likely to be not publicly observable by all market participants. At the same time this measure is particularly important for the specific bank panic episode we consider, since Central Bank announcement explicitly mentioned closures of banks for suspicious offshore operations. We argue that only agents/depositors with sufficient involvement in their bank operations might know about extent to which their bank might be involved in such offshore operations and is at risk to be closed by the Central Bank.

We study individual depositor’s responses to these two measures while also allowing for differential response to the same information depending on depositor’s own characteristics. One dimension of depositor heterogeneity is whether a given depositor has or does not have a strong business relation with a given bank. For a depositor that is a non-financial company we use an indicator variable whether a given company received loans from the bank in the last 2-3 years. Whereas for depositors that are themselves banks, we use a dummy for whether these banks have a correspondent account with the given bank. Our conjecture is that during bank panic only informed depositors should respond to offshore fraction. While both groups of depositors are likely to respond to initial bank capital (the response of uninformed depositors to capital might, in fact, be larger as informed depositors might rely on other measure of bank quality not available to uninformed depositors).

Second dimension of depositor’s heterogeneity is its own involvement in suspicious operations that we proxy by Braguinsky and Mityakov (2015) tax evasion measure. We hypothesize that depositors who themselves are involved in suspicious operations might increase the transfer of funds into the banks they are connected to during the bank panic to transfer the funds abroad before opportunity windows for such offshore operations closes due to Central Bank regulatory action. At the same time, more transparent depositors might transfer funds out of offshore-active bank during bank panic for fear of the bank closure due to regulatory response. We
summarize our hypothesis about depositors’ behavior during and after the policy shock in the form of Table 1.

4.2. Bank panic and behavior of other banks.

Tables 4 contains estimation results about the relationship between offshore operations of a given bank and net transfer of deposits by other banks. We find that there seems to be little connection between offshore operations of any given bank and net transfer of funds by other banks out of/into this bank. However, once we restrict the sample to banks that have strong business relationship in the form of correspondent accounts we find that during and after bank panic related banks are more likely to transfer funds into offshore active banks. There is also a very interesting heterogeneity in their responses. Using Braguinsky and Mityakov (2015) tax evasion measure we find that this effect is mostly driven by tax evading deposit-owning banks, while there is still little effect for more transparent banks. Thus, it seems that during and after the bank panic less transparent banks seems to transfer funds into offshore-active banks.

We explore those issues further in Table 5 where we divide deposit owning banks according to their own offshore operations activity. Again, conditional on having a strong business relationship in the form of correspondent account, banks with higher involvement in offshore operations are more likely to transfer funds into offshore active banks during and after bank panic. At the same time banks with moderate involvement in offshore operations are likely to shy away from offshore active banks during the same timeframe.

In Table 6 we further look at one bank's characteristics which is observable to all market participants: bank capitalization. We do find evidence of flight to safety on a part of banks. During and after the bank panic other banks are more likely to transfer funds into banks with higher 2003 capital adequacy ratios. It is worth noting that the effect seems to be somewhat weaker for informed banks, i.e. those who have business connection to a given bank.

Overall, we argue that other banks seem to observe suspicious offshore operations and malfeasance of other banks provided they have a close business relation to a given bank. There is also an important heterogeneity in banks’ response to suspicious offshore operations of a given bank depending on the degree of their own transparency. More transparent banks seem to shy away from offshore active banks during the bank panic, while less transparent bank transfer more funds into such banks. These effects seem to be observed only for the banks that have close business ties to a given bank. There is also evidence of a flight to safety on a part of all banks, the effects seem
to be more pronounced for the banks that do not have a close business relationship with a given bank.

4.3. Bank panic and behavior of non-financial companies.

In Table 7 we explore the relation between suspicious bank offshore operations and net transfer of funds by non-financial companies. For the full sample of companiesXbank observations we see very little connection between offshore operations of a given bank and non-financial companies. However, if we constrain our sample to company-bank observations with strong business connection (in this case we proxy such connection by whether non-financial company took any loan from a given bank in 2002-2003) we see that tax evading companies (specification 6) are more likely to transfer funds into and more transparent companies are more likely to transfer funds out of offshore active banks (specification 4).

Finally, in Table 8 we document a flight to safety on a part of non-financial companies by correlating the net transfer of funds into a given bank by non-financial companies with bank’s initial capital adequacy ratios (measured over 2003). We further find that such capital adequacy ratios seem to be more important determinants of transfer of funds for non-financial companies that are not connected to a given bank. There is also an interesting heterogeneity in the responses with respect to non-financial companies’ tax evasion scores for those companies that have a loan relationship with a given bank (specifications 4 and 6). More transparent (less tax evading) companies seem to transfer funds into higher capitalization banks while for less transparent companies bank capitalization seems to be somewhat less important (in fact during the aftershock and after the bank panic period we see negative effects of capital adequacy ratios).


Above we found that depositors that have close business ties to a given bank (either through a correspondent account relationship or through past loans relationship) seem to observe suspicious offshore banking operations and act on this information during the bank panic. In this section, we would like to investigate whether uninformed market participants, namely non-financial companies, respond to past behavior of more informed depositors: banks and informed non-financial companies. To analyze these questions, we consider the following empirical specification:

\[ NetTR_{i,t} = f_t + \beta_1 RUN_t Flows_{i,t-1} + \beta_2 ARUN_t Flows_{i,t-1} + \beta_3 ERUN_t Flows_{i,t-1} + \alpha Flows_{i,t-1} + \gamma X_{i,t} + \epsilon_i \]  

(2)
Here $NetTR_{i,j,t}$ is the net transfer by non-financial company $j$ into bank $i$ in week $t$ normalized either by total weekly turnover of this company $j$. $Flows_{i,t-1}$ are total withdrawals of funds by all informed depositors from bank $i$ in previous week ($t-1$).

We consider two types of informed depositors. First, we look at previous week withdrawals done by all other banks, the idea being that other banks might be perceived by non-financial companies to have better access to information. Second, for companies that do not have a loan relationship with a given bank we look at past withdrawals by all companies that have such loan relationship.

Estimates of (2) presented in Table 9 suggest that other bank withdrawals seem to be an important determinant of non-financial companies’ behavior for companies that do NOT have a close business relationship with a given bank. It is interesting to note that tax evading non-financial companies seem to transfer funds into the banks from which other banks are running if those companies have a loan relationship with the given bank.

In Table 10 we look only at uninformed non-financial companies (i.e. those not having a close business relation with a given bank). We find that those companies are likely to increase the withdrawal of funds from a given bank if other banks withdraw funds and if informed (i.e. companies that do have a close business relation with the bank) companies withdraw funds.

Overall it seems that market participants that are not connected to a given bank seem to base their withdrawal decisions observing the behavior of more informed market participants/banks.

5. Conclusion
In this paper we look at a unique regulatory shock: pure information induced bank panic which was triggered by unexpected Central Bank closure of one bank and announcement to clean the system of money laundering and offshore active banks.

Using unique administrative data we are able to provide a very detailed view of the ensuing bank panic. We find that malfeasance in the form of suspicious offshore operations conducted by a given bank seems to be inferred by depositors that have strong business ties with this bank. We also find a very notable heterogeneity in depositors’ response: banks/non-financial companies that are themselves less transparent (either involved themselves in suspicious offshore/tax evasion schemes) increase the transfer of funds into offshore active banks during and after the bank panic,
while more transparent establishments, if anything, seem to withdraw from such offshore active banks.

We present some evidence of flight to safety on a part of less informed market participants. During the bank panic, non-financial companies and banks that do not have strong business ties with a given bank seem to increase the transfer funds to banks with higher pre-crisis capital adequacy ratios. Notably, capitalization is less important to market participants with close business ties to the bank.

Finally, we show non-financial companies without close business ties to a given bank seem to infer its quality by looking at the behavior of other market participants who are likely to be more informed.
### Tables and Figures

**Table 1. Predictions about depositors’ behavior during bank panic.**

<table>
<thead>
<tr>
<th>Depositor</th>
<th>Transparent</th>
<th>Non-transparent</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Insider</td>
<td>Outsider</td>
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<tr>
<td>Unobservable bank risk</td>
<td>Negative</td>
<td>No effect</td>
</tr>
<tr>
<td>Observable bank risk</td>
<td>No effect, negative</td>
<td>Negative</td>
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**Table XXX. Summary of results of depositors’ behavior during bank panic.**

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<th>Non-transparent</th>
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</thead>
<tbody>
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<td></td>
<td>Insider</td>
<td>Outsider</td>
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<tr>
<td>Offshore activity (unobservable bank risk)</td>
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<tr>
<td>Capitalization (observable bank quality)</td>
<td>No effect, positive</td>
<td>Positive</td>
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<tr>
<td>Past withdrawals by banks (observable bank risk)</td>
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<td>Negative</td>
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<tr>
<td>Past withdrawals by informed companies (observable bank risk)</td>
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<td>Negative</td>
</tr>
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Tables 2,3 Summary statistics (to be completed)

**Table 4: Offshore operations and net flows to a given bank by other banks.**

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<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
<th>(6)</th>
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<td></td>
<td>Dependent variable: Net transfer/total turnover</td>
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<td>0.002</td>
<td>-0.007**</td>
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<tr>
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<td>-0.009**</td>
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<td>-0.003</td>
<td>0.005</td>
<td>-0.002</td>
<td>0.006</td>
</tr>
<tr>
<td>1(Run)</td>
<td>(0.002)</td>
<td>(0.005)</td>
<td>(0.002)</td>
<td>(0.006)</td>
<td>(0.002)</td>
<td>(0.004)</td>
</tr>
<tr>
<td>Offshore X</td>
<td>0.008*</td>
<td>-0.004</td>
<td>0.020***</td>
<td>-0.004</td>
<td>-0.008</td>
<td>0.003</td>
</tr>
<tr>
<td>(0.005)</td>
<td>(0.004)</td>
<td>(0.005)</td>
<td>(0.005)</td>
<td>(0.005)</td>
<td>(0.005)</td>
<td></td>
</tr>
<tr>
<td>Observations</td>
<td>897,080</td>
<td>189,880</td>
<td>274,342</td>
<td>67,397</td>
<td>483,400</td>
<td>100,410</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.119</td>
<td>0.314</td>
<td>0.078</td>
<td>0.286</td>
<td>0.080</td>
<td>0.308</td>
</tr>
<tr>
<td>Correspondent relation</td>
<td>Any</td>
<td>Yes</td>
<td>Any</td>
<td>Yes</td>
<td>Any</td>
<td>Yes</td>
</tr>
<tr>
<td>Deposit owner tax evasion</td>
<td>Any</td>
<td>Any</td>
<td>Low</td>
<td>Low</td>
<td>High</td>
<td>High</td>
</tr>
</tbody>
</table>

**Notes:** Dependent variable is ratio of weekly net transfer by a given deposit owning bank to a particular deposit holding bank divided by total weekly turnover of deposit owning bank (panel A), or divided by total bank assets of deposit holding bank. Sample covers weeks of Jan 2004-Dec 2004. 1(Bank Run) is a dummy variable for (weeks 20-29),
1(aftershock) is a dummy for weeks (30-41), and 1(After Run) is a dummy for weeks 41+. Offshore is a fraction of foreign operations undertaken by a given deposit holding bank that goes through non-transparent offshore zones. Non transparent offshore zones are defined by Russian Central Bank list of offshore localities in 2003. Tax evasion of deposit owning bank is tax evasion measure of Moscow based entities developed by Braguinsky and Mityakov (2015). Low tax evasion indicates sample of banks below the median tax evasion score (specifications (3) and (4)), high tax evasion indicates a sample of banks above the median tax evasion scores (specifications (5) and (6)). Correspondent relation is equal to “Yes” if banks have correspondent accounts in each other. All specifications are estimated by OLS with robust standard errors, clustered at the deposit-holding bank level. ***, **, And * indicate statistical significant at 1%, 5%, and 10% respectively.
Table 5: Offshore operations and net flows to a given bank by other banks.

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>Panel A: Dependent variable: Net transfer/total turnover</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1)</td>
</tr>
<tr>
<td>Offshore X</td>
<td>0.000</td>
</tr>
<tr>
<td>1(after Run)</td>
<td>(0.002)</td>
</tr>
<tr>
<td>Offshore X</td>
<td>0.001</td>
</tr>
<tr>
<td>1(aftershock)</td>
<td>(0.002)</td>
</tr>
<tr>
<td>Offshore X</td>
<td>-0.002</td>
</tr>
<tr>
<td>1(Run)</td>
<td>(0.002)</td>
</tr>
<tr>
<td>Offshore X</td>
<td>0.026***</td>
</tr>
<tr>
<td></td>
<td>(0.004)</td>
</tr>
<tr>
<td>Observations</td>
<td>254,803</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.010</td>
</tr>
<tr>
<td>Correspondent relation</td>
<td>Any</td>
</tr>
<tr>
<td>Deposit owner offshoring</td>
<td>&lt;=20%</td>
</tr>
</tbody>
</table>

Notes: Dependent variable is ratio of weekly net transfer by a given deposit owning bank to a particular deposit holding bank divided by total weekly turnover of deposit owning bank (panel A), or divided by total bank assets of deposit holding bank. Sample covers weeks of Jan 2004-Dec 2004. 1(Bank Run) is a dummy variable for (weeks 20-29), 1(aftershock) is a dummy for weeks (30-41), and 1(After Run) is a dummy for weeks 41+. Offshore is a fraction of foreign operations undertaken by a given deposit holding (deposit-owning) bank that goes through non-transparent offshore zones. Non transparent offshore zones are defined by Russian Central Bank list of offshore localities in 2003. Correspondent relation is equal to “Yes” if banks have correspondent accounts in each other. All specifications are estimated by OLS with robust standard errors, clustered at the deposit-holding bank level. ***, **, And * indicate statistical significant at 1%, 5%, and 10% respectively.
<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
<th>(6)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Panel A: Dependent variable: Net transfer/total turnover</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Capital 2003</td>
<td>0.030***</td>
<td>0.018*</td>
<td>0.043***</td>
<td>0.010</td>
<td>0.023**</td>
<td>0.015*</td>
</tr>
<tr>
<td>1(after Run)</td>
<td>(0.008)</td>
<td>(0.009)</td>
<td>(0.010)</td>
<td>(0.007)</td>
<td>(0.010)</td>
<td>(0.008)</td>
</tr>
<tr>
<td>Capital 2003</td>
<td>0.016**</td>
<td>0.021*</td>
<td>0.033***</td>
<td>0.016**</td>
<td>0.004</td>
<td>0.017</td>
</tr>
<tr>
<td>1(aftershock)</td>
<td>(0.007)</td>
<td>(0.011)</td>
<td>(0.009)</td>
<td>(0.007)</td>
<td>(0.009)</td>
<td>(0.011)</td>
</tr>
<tr>
<td>Capital 2003</td>
<td>0.016***</td>
<td>0.014*</td>
<td>0.020***</td>
<td>0.005</td>
<td>0.002</td>
<td>0.008</td>
</tr>
<tr>
<td>1(Run)</td>
<td>(0.005)</td>
<td>(0.008)</td>
<td>(0.006)</td>
<td>(0.005)</td>
<td>(0.005)</td>
<td>(0.007)</td>
</tr>
<tr>
<td>Capital 2003</td>
<td>-0.020*</td>
<td>-0.016*</td>
<td>-0.049***</td>
<td>-0.009</td>
<td>-0.034***</td>
<td>-0.008</td>
</tr>
<tr>
<td></td>
<td>(0.010)</td>
<td>(0.009)</td>
<td>(0.013)</td>
<td>(0.007)</td>
<td>(0.011)</td>
<td>(0.008)</td>
</tr>
<tr>
<td>Observations</td>
<td>995,327</td>
<td>201,316</td>
<td>304,739</td>
<td>71,824</td>
<td>531,955</td>
<td>106,991</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.104</td>
<td>0.311</td>
<td>0.066</td>
<td>0.283</td>
<td>0.070</td>
<td>0.304</td>
</tr>
<tr>
<td>Correspondent relation</td>
<td>Any</td>
<td>Yes</td>
<td>Any</td>
<td>Yes</td>
<td>Any</td>
<td>Yes</td>
</tr>
<tr>
<td>Deposit owner tax evasion</td>
<td>Any</td>
<td>Any</td>
<td>Low</td>
<td>Low</td>
<td>High</td>
<td>High</td>
</tr>
</tbody>
</table>

Notes: Dependent variable is ratio of weekly net transfer by a given deposit owning bank to a particular deposit holding bank divided by total weekly turnover of deposit owning bank (panel A), or divided by total bank assets of deposit holding bank. Sample covers weeks of Jan 2004-Dec 2004. 1(Bank Run) is a dummy variable for (weeks 20-29), 1(aftershock) is a dummy for weeks (30-41), and 1(After Run) is a dummy for weeks 41+. Capital 2003 is deposit holding bank capital to total assets ration measures in 2003. Tax evasion of deposit owning bank is tax evasion measure of Moscow based entities developed by Braguinsky and Mityakov (2015). Low tax evasion indicates a sample of banks below the median tax evasion scores (specifications (3) and (4)), high tax evasion indicates a sample of banks above the median tax evasion scores (specifications (5) and (6)). Correspondent relation is equal to “Yes” if banks have correspondent accounts in each other. All specifications are estimated by OLS with robust standard errors, clustered at the deposit-holding bank level. ***, **, And * indicate statistical significant at 1%, 5%, and 10% respectively.
Table 7: Bank offshore operations and tax evasion of deposit holding companies. UPDATED

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>Panel A: Net transfer over total company weekly turnover</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
<th>(6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Offshore X</td>
<td>0.003</td>
<td>0.025</td>
<td>-0.005</td>
<td>-0.011</td>
<td>-0.003</td>
<td>0.038</td>
<td></td>
</tr>
<tr>
<td>(0.011)</td>
<td>(0.026)</td>
<td>(0.007)</td>
<td>(0.040)</td>
<td>(0.010)</td>
<td>(0.038)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Offshore X</td>
<td>0.004</td>
<td>0.017</td>
<td>-0.001</td>
<td>-0.016</td>
<td>0.001</td>
<td>0.045</td>
<td></td>
</tr>
<tr>
<td>(0.010)</td>
<td>(0.024)</td>
<td>(0.005)</td>
<td>(0.036)</td>
<td>(0.009)</td>
<td>(0.034)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Offshore X</td>
<td>-0.003</td>
<td>0.010</td>
<td>-0.004</td>
<td>-0.035</td>
<td>-0.003</td>
<td>0.042*</td>
<td></td>
</tr>
<tr>
<td>(0.007)</td>
<td>(0.016)</td>
<td>(0.003)</td>
<td>(0.026)</td>
<td>(0.006)</td>
<td>(0.023)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>offshore</td>
<td>0.051**</td>
<td>0.067*</td>
<td>0.061***</td>
<td>0.147**</td>
<td>0.069***</td>
<td>0.045</td>
<td></td>
</tr>
<tr>
<td>(0.020)</td>
<td>(0.040)</td>
<td>(0.015)</td>
<td>(0.059)</td>
<td>(0.025)</td>
<td>(0.054)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Observations</td>
<td>19,872,134</td>
<td>91,340</td>
<td>4,918,313</td>
<td>27,525</td>
<td>6,860,265</td>
<td>36,939</td>
<td></td>
</tr>
<tr>
<td>R-squared</td>
<td>0.002</td>
<td>0.017</td>
<td>0.004</td>
<td>0.037</td>
<td>0.004</td>
<td>0.020</td>
<td></td>
</tr>
<tr>
<td>Loan connection</td>
<td>Any</td>
<td>Yes</td>
<td>Any</td>
<td>Yes</td>
<td>Any</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Deposit holder tax evasion</td>
<td>Any</td>
<td>Any</td>
<td>Low</td>
<td>Low</td>
<td>High</td>
<td>High</td>
<td></td>
</tr>
</tbody>
</table>

Notes: Dependent variable is ratio of weekly net transfer by a given deposit owning non-financial company to a particular deposit holding bank divided by total weekly turnover of deposit owning bank (panel A), or divided by total bank assets of deposit holding bank. Sample covers weeks of Jan 2004-Dec 2004. 1(Bank Run) is a dummy variable for (weeks 20-29), 1(aftershock) is a dummy for weeks (30-41), and 1(After Run) is a dummy for weeks 41+. Offshore is a fraction of foreign operations undertaken by a given deposit holding bank that goes through non-transparent offshore zones. Non transparent offshore zones are defined by Russian Central Bank list of offshore localities in 2003. Tax evasion of deposit owning non-financial companies is tax evasion measure of Moscow based entities developed by Braguinsky and Mityakov (2015). Low tax evasion indicates sample of companies below the median tax evasion score (specifications (3) and (4)), high tax evasion indicates a sample of companies above the median tax evasion scores (specifications (5) and (6)). Loan relation is equal to “Yes” if a company borrowed funds from the deposit holding bank in 2002-200. All specifications are estimated by OLS with robust standard errors, clustered at the deposit-holding bank level. ***, **, And * indicate statistical significant at 1%, 5%, and 10% respectively.
Table 8: Bank capital adequacy and tax evasion of deposit holding companies. UPDATED

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
<th>(6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital 2003 X</td>
<td>0.064***</td>
<td>-0.031</td>
<td>0.021</td>
<td>0.007</td>
<td>0.054**</td>
<td>-0.034</td>
</tr>
<tr>
<td></td>
<td>(0.022)</td>
<td>(0.028)</td>
<td>(0.013)</td>
<td>(0.044)</td>
<td>(0.023)</td>
<td>(0.042)</td>
</tr>
<tr>
<td>Capital 2003 X</td>
<td>0.058***</td>
<td>-0.015</td>
<td>0.022*</td>
<td>0.019</td>
<td>0.050**</td>
<td>-0.021</td>
</tr>
<tr>
<td></td>
<td>(0.022)</td>
<td>(0.025)</td>
<td>(0.012)</td>
<td>(0.044)</td>
<td>(0.022)</td>
<td>(0.033)</td>
</tr>
<tr>
<td>Capital 2003 X</td>
<td>0.029**</td>
<td>0.016</td>
<td>0.007</td>
<td>0.013</td>
<td>0.022</td>
<td>0.039</td>
</tr>
<tr>
<td></td>
<td>(0.015)</td>
<td>(0.018)</td>
<td>(0.007)</td>
<td>(0.029)</td>
<td>(0.014)</td>
<td>(0.027)</td>
</tr>
<tr>
<td>Capital_2003</td>
<td>-0.055</td>
<td>-0.023</td>
<td>-0.020</td>
<td>-0.099</td>
<td>-0.046</td>
<td>0.070</td>
</tr>
<tr>
<td></td>
<td>(0.043)</td>
<td>(0.051)</td>
<td>(0.031)</td>
<td>(0.088)</td>
<td>(0.050)</td>
<td>(0.073)</td>
</tr>
<tr>
<td>Observations</td>
<td>21,387,065</td>
<td>111,565</td>
<td>5,263,914</td>
<td>31,639</td>
<td>7,348,377</td>
<td>45,405</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.001</td>
<td>0.017</td>
<td>0.002</td>
<td>0.035</td>
<td>0.002</td>
<td>0.019</td>
</tr>
<tr>
<td>Loan connection</td>
<td>Any</td>
<td>Yes</td>
<td>Any</td>
<td>Yes</td>
<td>Any</td>
<td>Yes</td>
</tr>
<tr>
<td>Deposit holder tax evasion</td>
<td>Any</td>
<td>Any</td>
<td>Low</td>
<td>Low</td>
<td>High</td>
<td>High</td>
</tr>
</tbody>
</table>

Notes: Dependent variable is ratio of weekly net transfer by a given deposit owning non-financial company to a particular deposit holding bank divided by total weekly turnover of deposit owning bank (panel A), or divided by total bank assets of deposit holding bank. Sample covers weeks of Jan 2004-Dec 2004. 1(Bank Run) is a dummy variable for (weeks 20-29), 1(aftershock) is a dummy for weeks (30-41), and 1(After Run) is a dummy for weeks 41+. Capital 2003 is deposit holding bank capital to total assets ration measures in 2003. Tax evasion of deposit owning non-financial companies is tax evasion measure of Moscow based entities developed by Braguinsky and Mityakov (2015). Low tax evasion indicates sample of companies below the median tax evasion score (specifications (3) and (4)), high tax evasion indicates a sample of companies above the median tax evasion scores (specifications (5) and (6)). Loan relation is equal to “Yes” if a company borrowed funds from the deposit holding bank in 2002-200. All specifications are estimated by OLS with robust standard errors, clustered at the deposit-holding bank level. ***, **, And * indicate statistical significant at 1%, 5%, and 10% respectively.
Table 9: Non-financial companies withdrawals and past withdrawals by banks.

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
<th>(6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dependent variable: Net company transfer into the bank over total company weekly turnover</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I(After Bank Panic) X</td>
<td>0.000</td>
<td>-0.024**</td>
<td>-0.051</td>
<td>-0.017*</td>
<td>0.088**</td>
<td>-0.027*</td>
</tr>
<tr>
<td>Total bank withdrawals</td>
<td>(0.033)</td>
<td>(0.012)</td>
<td>(0.039)</td>
<td>(0.009)</td>
<td>(0.039)</td>
<td>(0.014)</td>
</tr>
<tr>
<td>I(Aftershock) X</td>
<td>-0.021</td>
<td>-0.026***</td>
<td>-0.053</td>
<td>-0.018**</td>
<td>0.018</td>
<td>-0.028***</td>
</tr>
<tr>
<td>Total bank withdrawals</td>
<td>(0.025)</td>
<td>(0.009)</td>
<td>(0.053)</td>
<td>(0.007)</td>
<td>(0.030)</td>
<td>(0.011)</td>
</tr>
<tr>
<td>I(Bank panic) X</td>
<td>0.003</td>
<td>-0.020*</td>
<td>0.001</td>
<td>-0.013</td>
<td>0.023</td>
<td>-0.020</td>
</tr>
<tr>
<td>Total bank withdrawals</td>
<td>(0.018)</td>
<td>(0.011)</td>
<td>(0.038)</td>
<td>(0.009)</td>
<td>(0.029)</td>
<td>(0.016)</td>
</tr>
<tr>
<td>Observations</td>
<td>90,131</td>
<td>19,794,602</td>
<td>27,249</td>
<td>4,899,775</td>
<td>36,495</td>
<td>6,834,584</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.017</td>
<td>0.007</td>
<td>0.039</td>
<td>0.008</td>
<td>0.020</td>
<td>0.010</td>
</tr>
<tr>
<td>Loan relationship</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Company tax evasion</td>
<td>Any</td>
<td>Any</td>
<td>Low</td>
<td>Low</td>
<td>High</td>
<td>High</td>
</tr>
</tbody>
</table>

Notes: Dependent variable is ratio of weekly net transfer by a given deposit owning non-financial company to a particular deposit holding bank divided by total weekly turnover of deposit owning bank. Sample covers weeks of Jan 2004-Dec 2004. 1(Bank panic) is a dummy variable for (weeks 20-29), 1(aftershock) is a dummy for weeks (30-41), and 1(After Bank panic) is a dummy for weeks 41+. Tax evasion of deposit owning non-financial companies is tax evasion measure of Moscow based entities developed by Braguinsky and Mityakov (2015). Low tax evasion indicates sample of companies below the median tax evasion score (specifications (3) and (4)), high tax evasion indicates a sample of companies above the median tax evasion scores (specifications (5) and (6)). Loan relation is equal to “Yes” if a company borrowed funds from the deposit holding bank in 2002-2003. “Total bank withdrawals” are total withdrawals from a given bank by all other banks in the previous week normalized by the given bank assets. “Total withdrawals transparent banks” are total withdrawals from a given bank by transparent banks (i.e. banks below the median tax evasion score) in the previous week normalized by the given bank assets. “Total withdrawals tax evading banks” are total withdrawals from a given bank by tax evading banks (i.e. banks above the median tax evasion score) in the previous week normalized by the given bank assets. All specifications are estimated by OLS with robust standard errors, clustered at the depositor level. ***, **, And * indicate statistical significant at 1%, 5%, and 10% respectively.
Table 10: Uninformed non-financial companies withdrawals and past withdrawals by informed agents.

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
<th>(6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1(After Bank Panic)X</td>
<td>-0.060*</td>
<td>-0.023</td>
<td>-0.045</td>
<td>-0.056**</td>
<td>-0.020</td>
<td>-0.041*</td>
</tr>
<tr>
<td>Total INF companies withdrawals</td>
<td>(0.034)</td>
<td>(0.023)</td>
<td>(0.032)</td>
<td>(0.025)</td>
<td>(0.020)</td>
<td>(0.024)</td>
</tr>
<tr>
<td>1(Aftershock) X</td>
<td>-0.111**</td>
<td>-0.057*</td>
<td>-0.105**</td>
<td>-0.112**</td>
<td>-0.060*</td>
<td>-0.108**</td>
</tr>
<tr>
<td>Total INF companies withdrawals</td>
<td>(0.052)</td>
<td>(0.031)</td>
<td>(0.047)</td>
<td>(0.050)</td>
<td>(0.033)</td>
<td>(0.046)</td>
</tr>
<tr>
<td>1(Bank panic) X</td>
<td>-0.126*</td>
<td>-0.073</td>
<td>-0.135*</td>
<td>-0.113*</td>
<td>-0.065</td>
<td>-0.118**</td>
</tr>
<tr>
<td>Total INF companies withdrawals</td>
<td>(0.074)</td>
<td>(0.048)</td>
<td>(0.071)</td>
<td>(0.062)</td>
<td>(0.042)</td>
<td>(0.059)</td>
</tr>
<tr>
<td>1(After Bank Panic)X</td>
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<td></td>
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<tr>
<td>Total bank withdrawals</td>
<td>(0.012)</td>
<td>(0.009)</td>
<td></td>
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<tr>
<td>1(Aftershock) X</td>
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<tr>
<td>Total bank withdrawals</td>
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<tr>
<td>1(Bank panic) X</td>
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<tr>
<td>Total bank withdrawals</td>
<td></td>
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</tr>
<tr>
<td>R-squared</td>
<td>18965,815</td>
<td>4,703,754</td>
<td>6567,377</td>
<td>4,899,775</td>
<td>36,495</td>
<td>6,834,584</td>
</tr>
<tr>
<td>Loan relationship</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Company tax evasion</td>
<td>Any</td>
<td>Any</td>
<td>Low</td>
<td>Low</td>
<td>High</td>
<td>High</td>
</tr>
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</table>

Notes: Dependent variable is ratio of weekly net transfer by a given deposit owning non-financial company to a particular deposit holding bank divided by total weekly turnover of deposit owning bank. Sample covers weeks of Jan 2004-Dec 2004. 1(Bank panic) is a dummy variable for (weeks 20-29), 1(aftershock) is a dummy for weeks (30-41), and 1(After Bank panic) is a dummy for weeks 41+. Tax evasion of deposit owning non-financial companies is tax evasion measure of Moscow based entities developed by Braguinsky and Mityakov (2015). Low tax evasion indicates sample of companies below the median tax evasion score (specifications (3) and (4)), high tax evasion indicates a sample of companies above the median tax evasion scores (specifications (5) and (6)). Loan relation is equal to “No” if a company did not borrow funds from the deposit holding bank in 2002-2003. “Total bank withdrawals” are total withdrawals from a given bank by all other banks in the previous week normalized by the given (deposit-holding) bank assets. “Total INF companies’ withdrawals” are total withdrawals from a given bank by companies that have a business relationship with the bank. All specifications are estimated by OLS with robust standard errors, clustered at the depositor level. ***, **, And * indicate statistical significant at 1%, 5%, and 10% respectively. Offshore banking, foreign transactions (log), capital in 2003 levels and interactions with time dummies are included but not reported.