

Bank Failures and Deposit Insurance in Emerging Market Economies: The Case of Turkey

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- The role of deposit insurance in banking crises is a subject of debate.
- On the one hand deposit insurance/government safety net may *increase bank stability* by reducing self-fulfilling or information-driven depositor runs; on the other hand it may *decrease bank stability* by encouraging risk-taking and reducing the incentive for depositors to monitor banks or for banks to monitor each other.
- *Thus, it is unclear a priori whether deposit insurance increases or decreases banking stability.*

- ❖ Turkey provides a unique case study to analyze depositors' behavior with and without deposit insurance.
- ❖ Commercial banks and Special Finance Houses (SFHs) are allowed to collect deposits. However,
- ❖ although deposits in commercial banks were under full coverage deposit insurance, deposits in the Special Finance Houses (SFHs) were not covered at all (until the year 2004).

❖ Privately-owned commercial bank failures in Turkey are positively and strongly correlated with the presence of full coverage deposit insurance.

Table: Deposit Insurance Coverage and Number of Banks Failed Between 1984-2004

Year	Deposit Insurance Coverage	Number of Banks Failed
1984-1993	Partial	0
1994	Partial	3
1995	Full	0
1996	Full	0
1997	Full	1
1998	Full	1
1999	Full	6
2000	Full	3
2001	Full	8
2002	Full	1
2003	Full	2
2004	Partial	0

Risk Taking in the Turkish Banking System

The Basic Bank Failure Story in Latin America, Asia, and Nordic Countries:

Financial Liberalization



Capital Inflows



Rapid Growth of Bank Credit, which is financed by maturity and currency mismatched portfolios, to Real Sector



Consumption and Import Booms +
Booms in Stock and Real Estate Markets



A negative shock



Financial Crises



Bank failures

The Basic Bank Failure Story in Turkey:

Financial Liberalization



Capital Inflows



Increase in Bank Credit, which is financed by taking maturity and currency mismatched portfolios, to



Government



Holding companies

Determinants of privately-owned commercial bank failures in Turkey.

- Unit of analysis: privately owned commercial banks in Turkey.
- Sample: 39 privately owned commercial banks.
- The period under study: between 1988 and 2000.
- Panel Probit model
- Dependent variable, the bank failure dummy, takes the value 0 if a bank does not fail and takes the value 1 if a bank fails. It keeps taking the value 1 as long as the bank is owned by the SDIF, i.e., until financial conditions of the failed bank improves.

Determinants of Privately-Owned Commercial Bank Failures in Turkey

	Expected Sign	Finding	
Bank Specific Variables			
GOVSECUR	Negative/ Positive	Positive*	Government Securities/ Total Assets
TOTLOANSASSETS	Negative/Positive	Negative*	Total Loans/ Total Assets
NONPERFLOANS	Positive	Positive*	Non-performing Loans in Million USD
SHORTPOSITION	Positive	Positive	Short Position in Foreign Currency/ Shareholders' Equity
SHETA	negative	Negative*	Shareholder's Equity/ Total Assets
LSIZE	negative	Negative	The Logarithm of Total Assets
Institutional Variables			
INSURANCE	ambiguous	Positive*	
Macroeconomic Variables			
INFLATION	ambiguous	Negative	The Rate of Change of the GNP Deflator.
DEPRECIATION	positive	Positive	The rate of depreciation of Turkish Lira against the US Dollar
REALINTRATE	negative	Negative*	Real Interest Rate on Government Bonds
REALGDPGROWTH	negative	Negative*	The Rate of Growth of Real GDP

External Variables			
CINOUTFL	Negative		Capital Account/ GNP
Interaction Terms			
IntINT		Negative	INSURANCE x RLINTEREST
IntDEP		Positive	INSURANCE x DEPRECIATION
IntINF		Negative*	INSURANCE x INFLATION
IntGRT		Positive*	INSURANCE x REALGDPGROWTH
IntCAP		Positive*	INSURANCE x CINOUTFL

- Empirical investigation reveals that **the presence of full coverage deposit insurance** after 1994 worsened the financial position of commercial banks (and banking sector fragility) in Turkey through moral hazard and adverse selection.
- Some view these findings as suggesting that banking stability could improve **if deposit insurance were eliminated** and banks' tendencies to take on excessive risk might be better controlled through **“market discipline (depositor discipline)”**
- However, this idea depends on the assumption that depositors can distinguish between solvent and insolvent banks during a bank run, i.e. informational bank run.
- In other words, the wisdom of such a course depends on bank runs having no ‘self-fulfilling elements’ -- that is, that depositors do not rush to withdraw funds because they fear other depositors will, and so bring on a run.

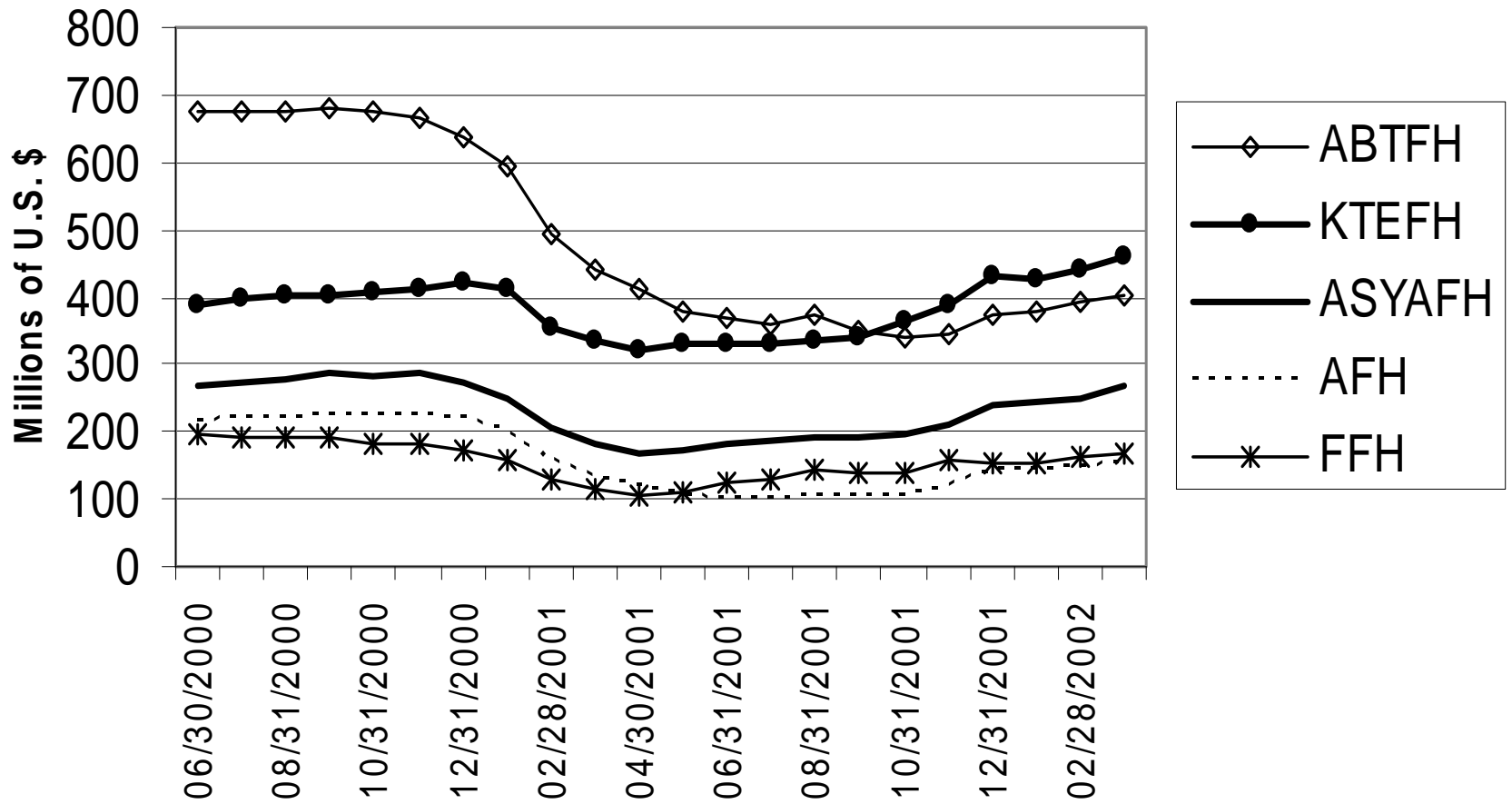
- An important part of the justification for deposit insurance rests in the idea that **bank runs are partly self-fulfilling**.
- Supporters of deposit insurance argue that especially **unsophisticated small depositors** do not have the ability to analyze the riskiness of their deposits because of the lack of large information processing capability and monitoring costs involved or the lack of incentive to monitor the bank at which they had deposits.
- Thus, unsophisticated small depositors protection is the main objection of deposit insurance system since these depositors are the ones who are most likely to **run on deposits** and **threaten stability of the financial system**.

- Whether runs are **self-fulfilling** or **informational** has a very different implications for policy: whereas in Diamond and Dybvig runs are inefficient and deposit insurance valuably rules them out, in information-based models *bank runs can be optimal arrangements for risk sharing and should be allowed to happen.*

- By looking at the bank run on the SFHs, an uninsured sub-sector of Turkey's banking industry, in February 2001, we will analyze the question whether during a bank run depositors in Turkey are able to distinguish between solvent and insolvent banks?
- We will analyze whether large depositors, small depositors or both have the ability to distinguish between healthy and unhealthy banks during a bank run?

- Over the weekend of February 10, 2001 the largest finance house, Ihlas Finans, in Turkey became insolvent due to irregular use of funds and was abruptly closed.
- This came as a considerable shock. Ihlas Finans was the largest SFH, having almost 40% of the sector's deposits in 1999.
- The Banking Regulation and Supervision Board **stressed that IFH was not being bailed out by the Savings Deposits Insurance Fund** and **that those who have receivables from IFH should get it back from the company according to the bankruptcy regulations**, which resulted in panic among IFH's 200,000 depositors.
- The closure of Ihlas Finans put immediate pressure on the other SFHs. The SFH sector experienced a major run-off of deposits.

Levels of deposits at Special Finance Houses, monthly data



Percent decline in deposits at the SFHs, Dec. 31,2000 to
June,30,2001

	Percent decline
Ihlas Finance House	100.0
Anadolu Finance House	55.0
Al Baraka Turkish Finance House	42.1
Asya Finance House	34.2
Family Finance House	29.4
Kuwait Turkish Evkaf Finance House	22.3
<i>Total SFH</i>	63.0
<i>Total excluding Ihlas</i>	36.4

- In sum, while fundamental factors were clearly influential in initiating the runs on Turkey's Special Finance Houses in 2001, the magnitude of withdrawals from the SFHs was in certain respects out of proportion with the risk, suggesting a degree of **overreaction** and is best interpreted as **prompt reaction to noisy bad news** that escalated into a panic.

- We also use detailed data on withdrawals from one financially strong SFH to identify informational versus self-fulfilling elements at work in the run. Thus, **we can investigate how depositors of different sizes reacted to each other's withdrawals.**
- Our data cover the 48 business days of the run, starting on February 12, 2001, and ending on April 25.

Figure: Net Withdrawals from one financially strong SFH

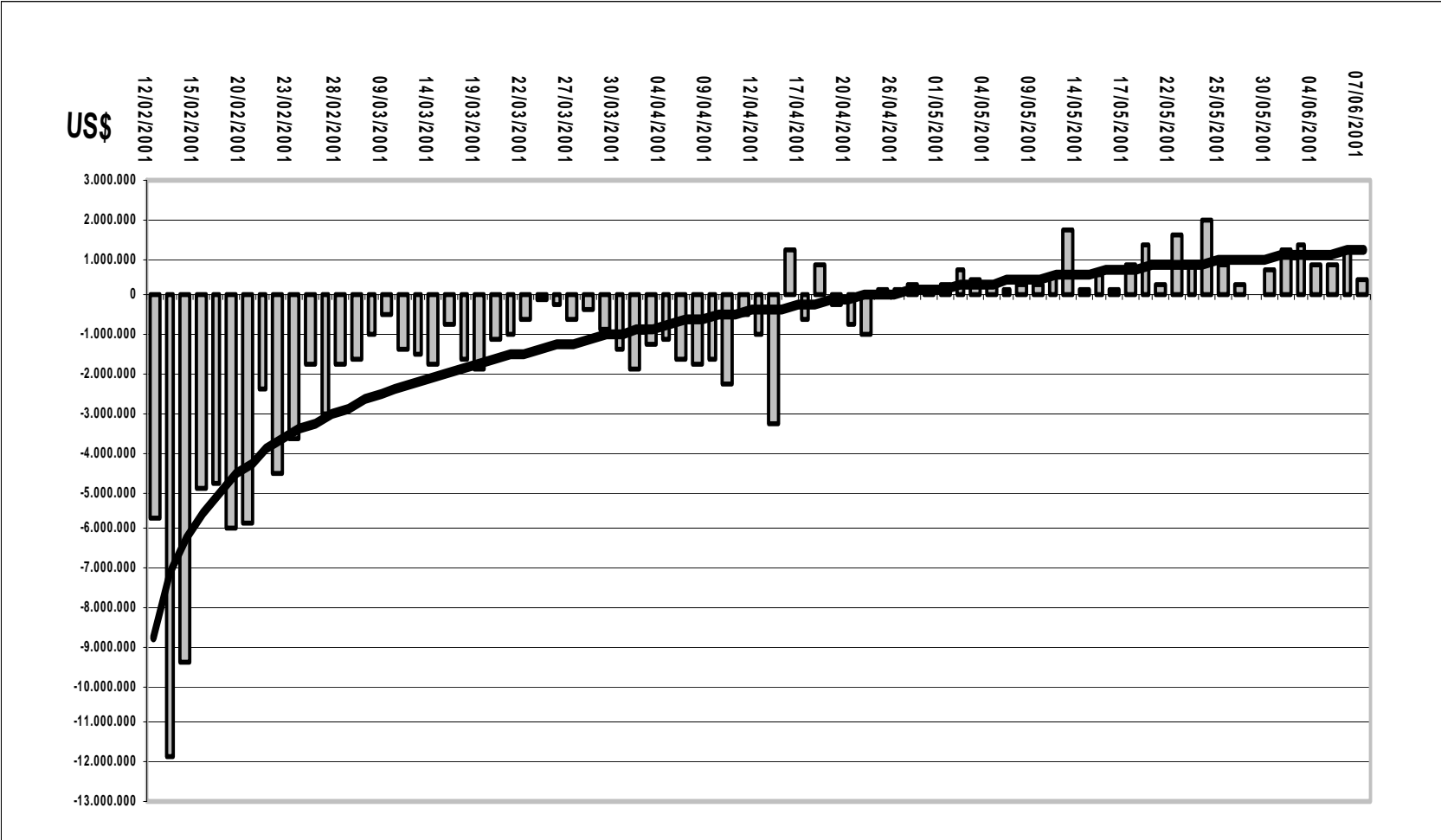
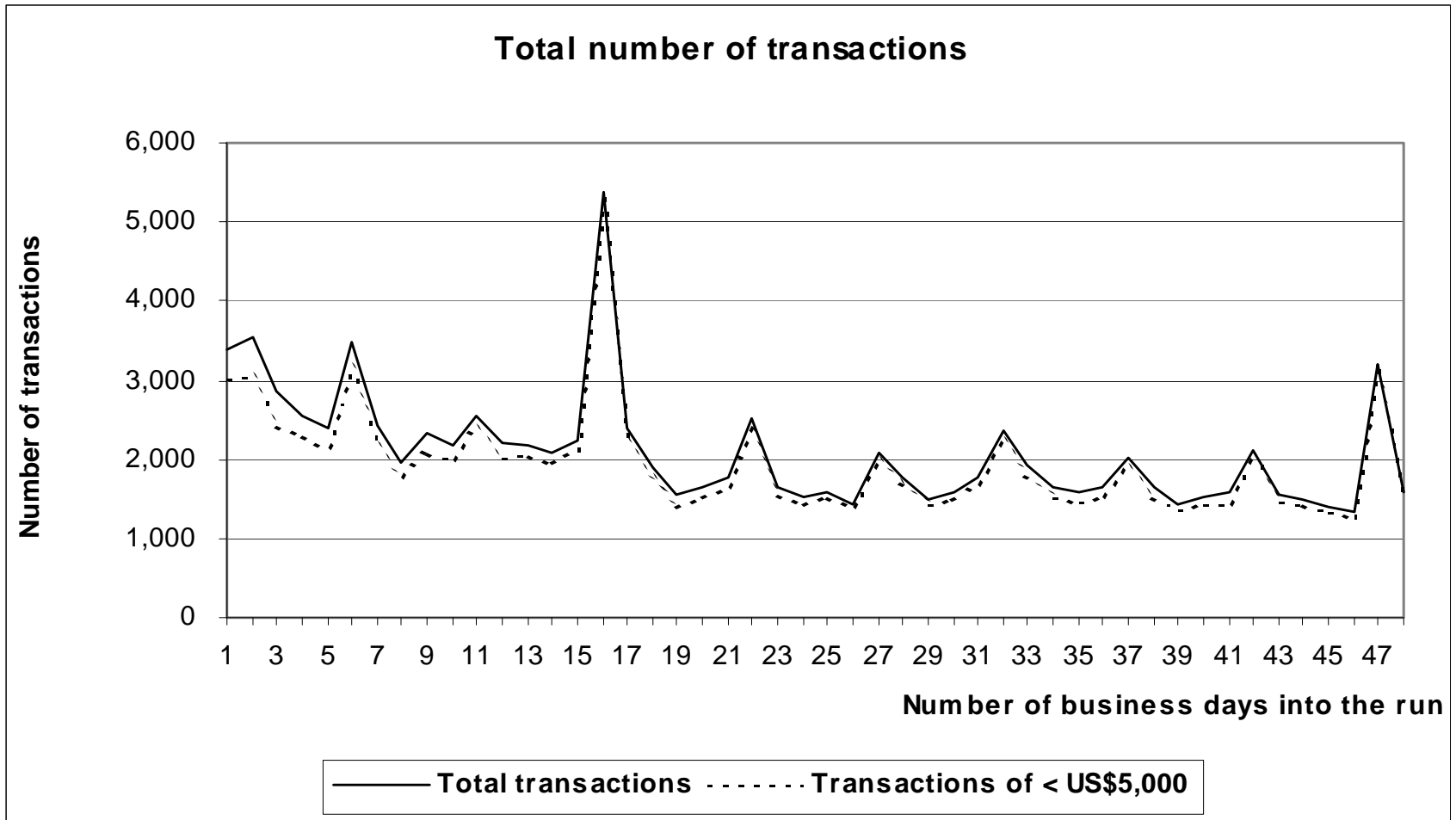


Figure: Number of transactions, by number of business days into the run



Total amount of net withdrawals, by account size

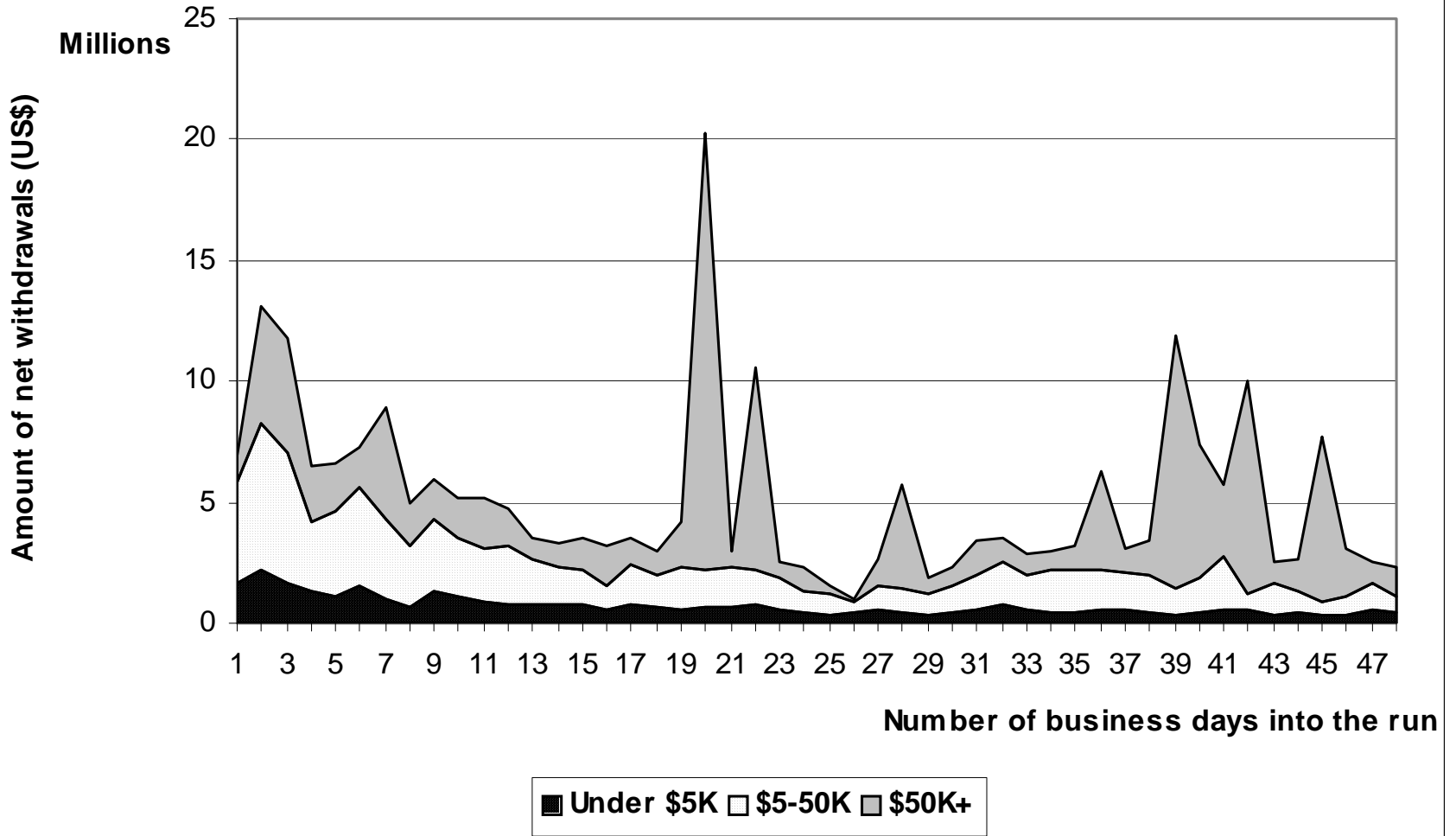


Table: Distribution of withdrawals by withdrawal amount, and distribution of savings accounts by deposit amount

	Distribution of withdrawals		Distribution of savings deposits in private commercial banks	
	Percent of total:		Percent of total:	
<i>Amount of withdrawal or account:</i>	Number of withdrawals	US\$ amount of withdrawals	Number of accounts	US\$ amount of deposits
Below \$1K	82.2	2.9	95.4	7.8
\$1 to 5K	11.1	11.2	3.2	14.9
\$5 to 20-25	5.4	24.0	1.2	25.7
Above \$20-25	1.3	62.0	0.2	51.6

Distinguishing between self-fulfilling and informational aspects of runs

- Our approach is based on the assumption that large depositors are better-informed about the bank's condition than small depositors: they are likely to have more skill and experience in collecting and interpreting financial information, and they may engage in privileged exchange of information with the bank.
- Thus, if unexpected increases in the withdrawals of smaller depositors boost withdrawals of larger depositors, **self-fulfilling elements** are more likely to be at work, since withdrawals by small depositors are not informative about the bank's condition but will signal risks that depositors are withdrawing because others are.
- On the other hand, if **informational aspects** of runs are important, we would expect smaller depositors to watch the withdrawal behavior of larger depositors and to increase their own withdrawals when those of large depositors rise unexpectedly -- but not vice versa.

- To investigate how unexpected changes in withdrawals by some type of depositors affect the withdrawals of others, we estimate one **vector autoregressions (VARs)** model based on **withdrawal amounts**, and another based on **numbers of withdrawals** (both expressed in logs).
- Depositors are divided into three categories: small depositors, with accounts under \$5,000; medium-sized depositors, with accounts between \$5,000-\$50,000; and large depositors, with accounts above \$50,000.

- a one standard-deviation shock to withdrawals from small accounts significantly boosts withdrawals from such accounts, with the effect dwindling down over the course of the next week.
- A shock to withdrawals from medium-size accounts also boosts withdrawals from small accounts (although here the effect is of only borderline significance), suggesting that *the latter viewed the behavior of the former as informative* with respect to the SFH's financial condition.
- A shock to withdrawals from large accounts does not significantly affect withdrawals from small accounts, *consistent with the idea that the behavior of large depositors is hard for other depositors to observe.*
- Overall, almost all of the variance in withdrawals from small accounts is explained by shocks to withdrawals from small accounts.

- A shock to withdrawals from medium-size accounts also tends to boost withdrawals within this account category.
- Withdrawals from medium-size accounts do pick up significantly after a shock to withdrawals from small accounts. Thus, medium-size depositors seem to react importantly to the withdrawal behavior of small depositors — a reaction that is more consistent with concerns about self-fulfilling elements of runs, than with reaction to information.
- Again a shock to withdrawals by large depositors does not significantly affect withdrawals of medium-size depositors.

- Large depositors react strongly and immediately to a shock to withdrawals from large accounts, and this effect accounts for almost all of the variance in withdrawals from this category.
- Withdrawals from large accounts **do not** appear to be significantly affected by shocks to withdrawals from small accounts; this suggests that, **unlike medium-size depositors, large depositors do not regard elevated withdrawals among small depositors as signaling greater potential for a self-fulfilling run.**
- Withdrawals from large accounts move up a bit after a shock to withdrawals from medium-size accounts, though the effect is borderline in significance.

As an alternative specification, we also run VAR based on [number of withdrawals](#).

- Again, within each account category, a shock to the number of withdrawals subsequently boosts the number of withdrawals in that account category.
- Here again, a shock to withdrawals by small depositors tends to boost withdrawals from medium-size accounts, consistent with a concern among medium-size depositors that elevated withdrawals by small depositors may have self-fulfilling elements.
- In a finding that differs in the VAR based on numbers of withdrawals, [withdrawals from medium-sized accounts tend to boost withdrawals from both small and large accounts, and the effect is significant in both cases.](#)

Summary

- From our analysis of detailed data on withdrawals from a financially strong SFH, we find evidence that both informational factors and self-fulfilling tendencies were at work in the dynamics of the run, **suggesting a role for deposit insurance**, judiciously used, in ruling out possibilities of runs.
- This suggests that, even if deposit insurance may be beneficially scaled back in emerging-market countries where coverage has been too generous, judiciously used, it will remain important as a mechanism for ruling out possibilities of inefficient runs.