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Regularities in Depositor Panic Transmission: A Case Study

By

Mikhail Frolov*

Abstract

In this study, we empirically investigate why depositors perceive some banks as being less safe than other credit institutions. Based on case studies of depositor panic, we find that uninformed depositors tend to judge a bank unsafe if it resembles other recently failed institutions in a number of easily observable characteristics, many of which can be indirectly linked to the degree of diversification of the bank's loan portfolio and capital sources. This finding implies that since banking portfolios in developing countries and small economies are, on average, less diversified, those countries are more vulnerable to bank panic contagion. In addition, the governments of small economies would do well to institute structural policy regarding their banking industry designed to offset excessive vulnerability to contagion by encouraging wide foreign participation in the domestic banking.

Key Words

Bank panics, Contagion risk, Depositor behavior.

I. Introduction

Instability is inherent in the very nature of banks and bank-like firms. A bank run is a wave of simultaneous and large withdrawals of money by depositors influenced by information on the financial health of the bank. The withdrawals wipe out the bank's liquidity and induce large losses through a forced asset sale at depressed prices. In these circumstances, opportunity losses of the depositors are linked to the timing of withdrawal, so the customers have sufficient time neither to check the alarming information properly nor to coordinate their withdrawals. Thus every unprotected depositor normally has a strong incentive to run on her bank when such unverified negative information arrives.

Informational problems are unavoidable in banking business because the very social value of bank lending emerges in so far as banking firms utilize their private information about borrowers. Therefore, bank run can be seen as an optimal device discriminating between good and bad banks if the information that ignites the run is

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correct. However, in many cases the information is very noisy; it does not necessarily lead to an optimal run and can be counterproductive for the national economy. This explains the long-standing attempts of governments to protect the economy from the destabilizing factor of bank runs by introducing a “safety net” for the financial industry.

The concern about bank runs has another explanation as well. Governments usually do not fear failures of individual banking firms, but they do want to avoid system-wide bank runs (bank panics), that is, to prevent contagious transmission of panic in one bank to the depositors of other banks. A peculiar feature of bank runs, however, is that usually (excluding cases of systemic shocks) a depositor panic in one bank infects other banks non-randomly. Therefore, finding patterns in depositor panic transmission can be of great interest for governments concerned with devising an optimal policy of bank run prevention sufficient for their specific domestic conditions.

The topic of contagious bank runs is an important part of recent research on the stability of banking systems. Most existing studies, however, concentrate on the mechanism of run development in one bank and treat all the banks within the banking system symmetrically (e.g. Diamond and Dybvig, 1983; Chari and Jagannathan, 1988, among many others). And only a few studies (Bougheas, 1999; Kaufman, 1988, Park, 1990; Park, 1991) treat banks asymmetrically and examine the process by which problems in one bank develop into runs on the whole banking system. These authors use the lack of bank-specific information and exogenous shocks to explain how and why the contagion propagates over the whole system. The approach can be useful for cross-country comparison since it points to countries with poor banking transparency and high vulnerability to economic shocks as likely candidates for high contagion risks. Nevertheless, the explanation seems to be too broad because the historic evidence of bank panic development tells us that the failure of one bank affects other institutions unevenly.

In this study we empirically investigate why depositors perceive some banks as being less safe than other institutions. From the results, we can explain cross-country differences in panic transmission and identify countries which are more prone to depositor panic propagation. Hence the results may provide important insights into devising policy measures to enhance financial stability and finding optimal form and balance for deposit insurance, lender-of-last-resort (LLR) facilities and other elements of the national financial safety net.

To that end, the paper is organized as follows: In the next section we present case study results on depositor panic transmission. Section III summarizes findings, formulates policy implications, and concludes. Appendix contains the summary of the case studies.

II. The case studies

To explore regularities of panic transmission we conduct a series of case studies of depositor panics that spread over several credit institutions. In every case there is at least one of the following two reasons to withdraw money from multiple institutions simultaneously: (1) to protect the value of the savings from the national currency depreciation and subsequent price jumps, (2) to keep the money out of institutions

which resemble recently failed banks and, thus, may have low safety. Compensation of deposits in failed banks is usually linked to the nominal principal amount of deposit contracts (and sometimes includes interest accrued). So that even blanket guarantees cannot stop savings withdrawals when the national currency is on the brink of devaluation because depositors are eager to protect the value of their money from anticipated price jumps by investing the money in foreign currency. Thus, our study should concentrate on the cases of the second reason and find out how depositors decide that a credit institution resembles failed banks and, therefore, is unsafe.

A detailed consideration of the cases listed in Appendix helps us to adopt a hypothesis: Depositors who have no access to a bank's insider information judge the safety of the bank by comparing its easily observable characteristics with those of failed banks. These characteristics provide indirect insights into the quality of the bank's portfolio and its potential liquidity.

In general, contagion can spread either through negative information such as fraud or losses on specific investments (the information channel) or through falling domino effect and shrinkage of interbank, derivatives and other markets (the credit channel) (Schoemaker, 1996). Depositor reaction belongs to the information channel of contagion propagation, and our hypothesis essentially coincides with the firm-specific type of contagion, which was originally distinguished by Aharony and Swary (1983) as a situation when the failure of one bank reveals bad noisy signal regarding other banks with common characteristics.

Table 1 lists some of the common characteristics and explains their importance for judging the safety of still-going banks. The case studies indicate a tendency that the more such characteristics of a credit institution coincide with those of the banks failed recently, the higher the probability of this institution's is failure in depositors' eyes.

The first two characteristics of Table 1 are related to the diversification of the deposit base and loan portfolio of a credit organization. The analysis of the episodes

Table 1. Common characteristics and bank safety perception

Commonality	Why is it perceived to be important?	Examples
Membership in the same distinctive group of credit institutions that have identical scope of allowed activities or employ similar market strategies	It indicates high possibility of the same investment strategy resulting in the same quality of the institutions' portfolios.	Malaysia (1986), El Salvador (1997), Argentina (1980), Thailand (1983)
Concentration of business within the same geographical area	It means common risk profiles of borrowers and the same behavior of core deposits.	Canada (1985)
Common main stockholders and top managers	It indicates high possibility of the same illegal activities, similar risky investments, or a common weakness in raising additional capital (liquidity).	Czech Republic (1996), Paraguay (1997)
Common (available) ways of access to additional capital financing when an institution gets into trouble	It provides insights into the real availability of external liquidity - indicates chances to see the institution as illiquid.	Ecuador (1998), Paraguay (1995)

Source: see Appendix

listed in Appendix shows that bank runs in Argentina (1980), Canada, El Salvador, Hong Kong, Malaysia, the Philippines, and Thailand have a common feature that panic spread over small institutions acting on the same market segment or within the same geographic region. In general, small banks have an advantage over larger banks in loan operations within their local area (in their capabilities to select and monitor small local borrowers). The geographic concentration, however, explains a greater instability of small local banks during economic slowdowns in their regions. On the one hand, the local banks lose their comparative advantage when they extend loan operation to other regions because their margin becomes relatively low after an adjustment for larger risks. That is, geographic diversification of loan portfolio is not of much benefit for such banks. On the other hand, a regional economic slowdown hits the banks not only through the quality deterioration of their loan portfolio, but also through a relative worsening in their deposit base rooted in household and municipal deposits of the region. The banking crisis of 1985 in Canada's western provinces provides an example of a bank run spreading mostly over such small regional banks.

The episodes of Malaysia (1986) and El Salvador (1997) illustrate a situation when massive deposit withdrawals develop among credit institutions receiving identical treatment by supervisory bodies. Insolvency of one of the institutions because of its reckless portfolio practices triggers suspicions of the same loan portfolio quality on the part of other credit institutions, which have been identically unconstrained in risky investment practices. The episodes of Argentina (1980) and Thailand (1983), however, provide examples of a depositor run on credit institutions, which have been implementing similar aggressive market strategies.

In Thailand, an officially arranged rescue operation for an insolvent finance company in October 1983 focused depositor attention on the lack of diversification and the poor management in small and medium-sized finance companies. Under the regulations of that time, finance companies were classified as long-term financial institutions and were entitled to issue fixed-term promissory notes (at least for three years) while investing the proceeds into long-term assets. Since the early 1970s, the finance company sector had grown rapidly and by the end of 1982, its assets amounted to more than one fifth of all the financial assets in the country. All the finance companies were notorious for their potential illiquidity (because they were repurchasing their promissory notes at sight) and heavy exposure to the crisis-prone property market. However, only 20 or so small and medium-sized companies were severely affected by depositor run when the authorities suddenly intervened in *Equity Development Finance* and its affiliates. The affected 20 companies were run as family businesses and were not well diversified. But above all, they also shared the aggressive market strategy of promising interest rates on their notes well above the market, and this common feature was one of the main factors that channeled panic contagion to this particular group of finance companies.

Common stockholders and top managers are also likely to facilitate transmission of depositor panics. First, because of quite a natural suspicion that since the people have made wrong investment decisions (or breached law) in a failed bank they can do the same things in still-going institutions under their control. Second, the failure can be considered as inability of the stockholders (managers) to raise additional capital for the still-going institutions. All this makes perceived risks larger and can trigger deposit withdrawals from these banks as well. Bank runs in the Czech Republic (1996)

and Paraguay (1997) developed with this logic.

Sometimes sharp deposit shifts between groups of credit institutions occur towards institutions that are better positioned for raising additional external financing. This explanation works for deposit shifts towards state-owned banks and foreign-participation banks in Paraguay (1995), Ecuador (1998), etc. In Paraguay, the banking crisis broke up in late May 1995 when the central bank stepped in and rescued two large domestic banks to prevent their failure in clearing operations. This brought the public's attention to the widespread illegal practice of offering unregistered deposits in order to avoid direct taxation on earnings, as well as implicit taxation due to high reserve requirements. The initial reluctance of the authorities to indemnify unregistered depositors led to a run on private Paraguayan banks, and this eventually forced the central bank to intervene at another six financial institutions. The unregistered deposits were common among both locally-owned banks and foreign-owned banks (and were widely used by the public so that it was reported that even the central bank itself invested in these deposits on the black market). In addition, the foreign-owned institutions controlled half of the domestic bank-lending market and had assets in their portfolios of nearly the same asset quality as the local institutions did. Despite these facts, during the panic the depositors perceived the foreign banks (as well as government-owned banks) as being safer than the private domestic banks and were transferring their money accordingly. Considering that at that time the foreign banks had, on average, less own capital than the locals, the Paraguayan case gives a good illustration of the fact that if a credit institution has better access to additional financing, the depositors perceive it as being safer.

The last two episodes in Appendix (*BCCI* (1991) and *Meridien-BIAO* (1995)) are also vivid examples of the importance of common characteristics. The two were international banks, and their local businesses held a large share of the domestic deposit markets in many countries. Despite the large presence in the local markets, their failures did not ignite depositor panic in other local banks because the quality of the asset portfolios and liquidity sources of the two banks were perceived as being very different from those of the locals. Unlike *BCCI*, whose collapse was caused mostly by the mistakes and fraud of its top managers, the failure of *Meridien-BIAO* was rooted in the creeping banking crisis in many countries where this pan-African group owned banking subsidiaries. *Meridien-BIAO* emerged in 1990 when Zambia-based *Meridien* banking group purchased the troubled *BIAO* group that had the largest banking network in francophone Africa. By that time, the economic slowdown in western Africa had drastically reduced banking profitability. Consequently, the merger produced an overall liquidity shortage within the new group and created capital transfers (via the books of the head office) from generally profitable banking operations in English-speaking Africa towards the troubled subsidiaries in francophone countries. Eventually by the end of 1994 the banking businesses in eastern Africa had also become strapped for liquidity. And in early 1995 some rumors concerning the bank's closure quickly brought *Meridien-BIAO* to the brink of a full-fledged liquidity crisis (because the bank enjoyed LLR facilities in none of the host countries of its operations). Despite the fact that the bank controlled a substantial share of the local markets, the sharp wave of intervention by the local authorities in its subsidiaries did not cause major contagious effects on these markets. Because the depositors perceived *Meridien-BIAO* as being generally different from the local banks and considered its failure only margin-

ally related to the situation in the local banking sector (even in western African countries, where poor banking conditions were the prime cause of the failure).

III. Policy implications and concluding remarks

The analysis of the episodes shows that the observed common characteristics help depositors to judge the degree of diversification the bank under scrutiny has in its loan portfolio and capital sources. It means that the degree of diversification can indicate chances of panic contagion to the credit institution. Moreover, as a natural extension of the finding we can expect cross-country variations in real diversification capabilities of banking systems to be important for the explanation of international differences in vulnerability to system-wide bank runs.¹

The point here is that economies are not on equal footing with respect to the diversification capabilities of their banking sectors. First, the sectoral structure of the national economy acts as a natural limit for the diversification of the banking system's portfolio over domestic assets. Because (in a bank-dominated financial system), on average, domestic investments of the banking industry cannot be considerably more diversified than the domestic financial assets. Consequently, an unbalanced structure of domestic (regional) economic activity makes banking investments equally unbalanced and, thus, makes the domestic banking sector more exposed to systemic bank runs. Specialization is common among small economies, and their chances to get a more balanced industrial (sectoral) structure improve with the growth of economic scale. Considering this, one can conclude that the larger an economy the lower the average risks to see problems in an individual bank developing into a system-wide bank run.

Second, capital account liberalization provides another chance to improve diversification by means of foreign investments of the banking system. However, it is clear that this strategy is more advantageous for economies of sufficiently high development levels. First, leading credit institutions, which form the core of the national banking system, should be efficient in international transactions. In other words, they should have a proper expertise in foreign investments, without which they will face not lower, but higher risk exposure. Second, the amount of domestic savings should exceed the financing needs of the nation's economic development. It is difficult to meet the requirements for developing economies. Therefore, one can say that when considering the advantages of capital account liberalization, the risk of system-wide bank runs is lower in developed countries than in economies standing on their active stage of economic growth.

The results imply that policymakers (regulators) of smaller countries and developing economies should pay more attention to the contagion effect when they devise their policy of financial system stability. It does not necessarily mean that they should use more protective schemes in designing safety nets for the banking industry. Because there are also many other factors to consider (such as the degree to which a temporal instability of the banking industry can hamper national economic development, the extent the

¹The view enjoys a wide acceptance among academic researches and practitioners. Recently, Barth et al. (2001) provided empirical evidence that supports the view in regard to regulatory restrictions on the types of banking activities.

regulators are in position to monitor the risky behavior of domestic credit institutions, and so forth), and having taken together the factors can lead to different solutions. The issue of contagion should be taken into account when devising structural policy for the banking industry. That is, besides pushing for information disclosure, adjusting the structure of capital and liquidity sources of the domestic (regional) credit institutions can be an effective way to offset their excessive vulnerability to contagion effects.

The experience of bank panics has showed, among other things, that for a small (national or regional) economy the credit institutions that have reliable access to capital resources outside the economy are likely to become a shelter for depositors during tumultuous times in the domestic banking; but at the same time, if such institutions face serious troubles outside the economy the shock usually does not affect other domestic banks. It means that encouraging wide foreign (interregional) participation on the domestic (local) banking market can secure emergency liquidity and capital for many domestic banks. And, thus, in the case of a smaller economy, it can lower the probability of a depositor run on a single bank to become systemic. Nevertheless, for a large developing economy with an unbalanced sectoral structure, outside capital sources are not sufficient to keep the industry stable, and this is likely to be the case when the government has to play its role and ensure the stability of core national credit institutions by strict supervision and wider safety margins and, possibly, by more generous deposit insurance and enhanced LLR-facilities.

To summarize, the preceding analysis of case study results has shown that, on average, developing economies and smaller economies with unbalanced sectoral structures are likely to be more exposed to the risk of depositor panic transmission. Uninformed depositors tend to judge the safety of their bank by considering easily observable characteristics, gathering indirect insights into the quality of the bank's portfolio and its potential liquidity. In the depositors' eyes, the more characteristics a credit institution seems to share with recently failed banks the higher is the perceived probability of this institution's failure. Building on the observed regularities in depositor panic transmission, we consider cross-country variations in real diversification capabilities of banking systems as an important factor in the analysis of international differences with regard to a nation's vulnerability to bank panics. For this reason, we find small countries and developing economies to be more prone to systemic runs. From the perspective of devising policy measures to enhance financial stability, analysis implies that in those countries, encouraging wide foreign participation in the domestic banking can be an effective way to offset excessive vulnerability to the effect of bank panic contagion.

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Appendix

International evidence of depositor panic transmission

Argentina (March-April 1980)

Triggering event: the closure of a finance company by the authorities (*Promosur*, March 6) and then of a bank (*Banco de Intercambio Regional*, BIR, March 28).

Panic transmission channel: concerns about the quality of portfolio of private finance companies and provincial banks, which were aggressive newcomers on the national market.

Affected financial institutions: regulatory intervention in other 3 large private banks of the same market group (*Banco Internacional*, *Banco Oddone*, *Banco de los Andes*) and in a number of finance companies.

Regulatory measures to stop the panic: interventions and freezing of deposits; raising of the payout ceiling of deposit insurance.

Notes: It was the end of the banking boom of 1977-79, during which a group of private provincial banks and finance companies quickly extended their market share at the cost of asset quality. The crisis caused a shift of deposits to foreign currency, state-owned banks and foreign banks.

Source: Baliño (1991), pp.91-101; *Financial Times*, May 1, 1980; *New York Times*, April 28, 1980.

Argentina (December 1994-May 1995)

Triggering event: the depreciation of the Mexican Peso (December) and the collapse of the Argentine bond market after the failure of a trader (*Extrader*, January).

Panic transmission channel: concerns about the Argentine banks, which could be affected by the shrinking of the interbank market and a possible depreciation of the national currency.

Affected financial institutions: all institutions; in particular wholesale banks with large bond portfolios, cooperative banks and provincial retail banks.

Regulatory measures to stop the panic: liquidity provision, interventions (freezing of the retail operations of 6 banks, etc.), restoration of deposit insurance (May), etc.

Notes: First there was a shift of deposits to foreign banks and to the foreign currency deposits of large domestic banks in December-February; then a full-fledged panic and capital flight abroad in March; and finally a slow-down of the panic in April-May.

Source: García-Herrero (1997), pp.20-8.

Bolivia (June-November 1988)

Triggering event: N.A.

Panic transmission channel: concerns about the safety of deposits ignited by political uncertainty and high inflation expectations.

Affected financial institutions: all institutions.

Regulatory measures to stop the panic: liquidity provision by the central bank.

Notes: Political uncertainty had caused the flight of a quarter of the country's all deposits at the moment Congress decided on a new President in August (the deposits stock had recovered by November). The panic affected both dollar and *Boliviano* deposits (a half of the *Bolivianos* were held in inflation index-linked accounts). After the panic, a large portion of the funds previously held in *Bolivianos* went into dollar deposits (an increase in dollarization from 70% to 77%).

Source: *Latin American Special Report*, SR-89-06, December 1989, p.11.

Bulgaria (late 1995–early 1997)

Triggering event: N.A.

Panic transmission channel: concerns about huge bad debts in all the domestic banks and the collapse-like depreciation of the national currency.

Affected financial institutions: all institutions (private banks and medium-size state-owned banks, in particular).

Regulatory measures to stop the panic: liquidity provision, recapitalization of state-owned banks and the creation of deposit insurance based on partial guarantees.

Notes: In late 1995 a panic of *Lev*-denominated deposits started when an attempt at monetary stabilization had worsened the situation in private banks. In early 1996 rumors about possible freezing of foreign currency deposits caused massive withdrawals of foreign currency. A liquidity crisis hit the interbank market on March 7. The BNB intervened 2 banks and filed other 3 private and state-owned banks for bankruptcy on May 17. The falling of the *Lev* and massive deposit withdrawals in summer resulted in the license revocation for 9 other private and state-owned banks on September 23. Most of the deposits withdrawn from the banking system were invested into foreign currency cash.

Source: Balyozov (1999), pp.6-15; *IMF Staff Country Report*, 99/26, p.84-7.

Canada (March–October 1985)

Triggering event: a large rescue package by the government for a regional bank in the western provinces (*Canadian Commercial Bank*, March).

Panic transmission channel: insolvency fears concerning other small and medium-size institutions in the western provinces.

Affected financial institutions: small regional institutions (commercial banks, trust banks, and S&Ls).

Regulatory measures to stop the panic: liquidity provision, arrangement of acquisitions by larger banks, deposits compensation above the insurance ceiling.

Notes: The rescue package for the *CCB* did not bring stabilization, but attracted attention to the higher risks of deposits with small banks in the crisis-hit western provinces and triggered an outflow of larger depositors (municipalities, etc.) from the banks. The *CCB* and *Northland Bank* had been withstanding the withdrawals using short-term loans from the Bank of Canada until their closure in September.

Source: *Banker Magazine*, January 1986, pp.40-1; *Financial Times*, September 27, 1985, p.I.

The Czech Republic (August–October 1996)

Triggering event: the failure of *Kreditni Banka Plzen*.

Panic transmission channel: a common major stockholder.

Affected financial institutions: a bank (*Agrobanka Praha*).

Regulatory measures to stop the panic: placement of the banks under temporary administration, extension of deposit guarantees of up to Kc 4 ml to all the depositors of the banks.

Notes: Both were relatively small banks and had a common major stockholder (*Motoinvest*), which was considered as an origin of alleged irregularities in *Kreditni*.

Source: *IMF Staff Country Report*, 96/147, pp.57-8.

Ecuador (August 1998–January 2000)

Triggering event: the closure of *Banco de Prestamos* (August 24, 1998) and the accelerated depreciation of the national currency.

Panic transmission channel: concerns about the ability of credit institutions to withstand severe difficulties in export industries and worries triggered by the authorities' new policy to allow bank failures.

Affected financial institutions: domestic institutions.

Regulatory measures to stop the panic: deposits compensation, blanket guarantees for banks under the government's control, 4-day banking holidays in March 1999 and then 6 to 12 month moratorium on deposits, liquidity provision by the central bank.

Notes: Prior to its liquidation, *Prestamos* was hit by a 3-month-long run on its deposits (mostly offshore deposits) because of difficulties in the oil industry, which was the bank's main stockholder and borrower. Escalation of the panic forced the authorities to intervene in another large bank (*Filanbanco*) and 3 smaller banks in November 1998. A new wave of deposit withdrawals came in March 1999 following a sharp depreciation of the national currency a month before; as a result, the authorities took control over other two large banks (*Banco del Progreso*, *Banco del Pacifico*) and several smaller institutions. The crisis barely affected foreign banks and, eventually, led to an increase in their market share. The crisis resulted in accelerated dollarization and a capital flight abroad.

Source: *Latin American Economy & Business*, LAEB-98-10, October 1998, pp.10-1, LAEB-99-04, April 1999, p.9, LAEB-00-01, January 2000, pp.10-1; *Tendencias Economicas y Financieras*, August 1998, p.80, February 1999, p.31.

El Salvador (July–August 1997)

Triggering event: the collapse of a small finance company (*FINSEPRO*) and its illegal parallel institution (*INSEPRO*).

Panic transmission channel: attracting the public's attention to the risky portfolio strategies of small institutions, which were under weak prudential supervision.

Affected financial institutions: small institutions.

Regulatory measures to stop the panic: the government's compensation for deposits with both companies (full coverage for small deposits and 75% coverage for others); liquidity provision by the central bank for small institutions.

Notes: As a result, there was a flight of deposits from small institutions to larger ones.

Source: *Central America Report*, vol.24, no. 28, July 24, 1997, p.1; *IMF Staff Country Report*, 98/32, pp.10-11.

Hong Kong (November 1982–March 1983)

Triggering event: the failure of a deposit-taking company (*Dollar Credit and Financing*, November 15, 1982).

Panic transmission channel: concerns about the ability of DTCs to withstand a recent collapse of Hong Kong property prices and a decrease in the availability of interbank money.

Affected financial institutions: deposit-taking companies (DTCs) and several affiliated banks.

Regulatory measures to stop the panic: two main note-issuing banks of the colony bound themselves to support solvent DTCs; liquidity provision; closures of insolvent DTCs.

Notes: Prior to the collapse of *Dollar Credit and Financing*, there was a depositor run on a bank (*Hang Lung Bank*, September 7), whose managers were also directors of the DTC. A panic spread over the colony when two of its largest property developers disclosed severe financial problems and then frightened foreign banks cut their credit lines for DTCs. At the first stage (in November–January), DTCs that had a support from parent and affiliated banks withstood the crisis well, but then the panic spread gradually to the parent banks as well (in August–September 1983, it resulted in the failure of two medium-size banks).

Source: Ghose (1987), pp.84-7, 91-9; *Banker Magazine*, October pp.12-4, December 1982 pp.7-8,

January 1983, p.8.

Indonesia (November–December 1992)

Triggering event: the failure of *PT Bank Summa*.

Panic transmission channel: rumors about lending-practices-related problems similar to those of *Summa* and the authorities' new stance of allowing bank liquidations.

Affected financial institutions: three small banks (*Bank Surya, Bank Subentra, Bank Continental*).

Regulatory measures to stop the panic: arrangement of compensations for *Summa*'s small depositors by a consortium of private banks; public denial of problems in other banks.

Notes: The panic spread first over the depositors of *Continental*, which had an office under the same roof as *Summa*.

Source: *Banker Magazine*, January, May 1993, p.34.

Indonesia (November 1997–May 1998)

Triggering event: the closure of 16 small private banks (November 1, 1997).

Panic transmission channel: fears concerning the safety of deposits in private banks fed by the national currency depreciation and by deficiencies of the bank liquidation process.

Affected financial institutions: private Indonesian (small and nation-wide) banks.

Regulatory measures to stop the panic: a speedy payout of the affected deposits up to a certain level; the introduction of blanket guarantees for all the depositors and creditors of all other banks; liquidity provision; the government's interventions in problem banks.

Notes: At first, depositor runs developed among small private banks, but then defaults on forex loans caused a shortage of foreign currency liquidity in large banks. This accelerated the *Rupiah*'s collapse (in December) and spread the runs on larger private banks as well. As a result, deposits started to shift to state-owned banks and foreign banks perceived as safe. (The second wave of bank closures on April 3, 1998 brought panic withdrawals of deposits, mostly in the closed banks.) The depositor panic of May 1998 in larger banks (mostly of the Chinatown) had its origin in political uncertainty, civil unrest and a sharp depreciation of the *Rupiah* at that time. (The crisis, however, did not result in an increased dollarization.)

Source: Enoch (2000), pp.3–11; Bank Indonesia (1998), ch.6.

Latvia (February–June 1995)

Triggering event: the authorities' intervention in a commercial bank (*Lainbanka*, February 2)

Panic transmission channel: fears of bank insolvencies days before the disclosure deadline of the 1994 financial statements based on new accounting standards.

Affected financial institutions: all institutions.

Regulatory measures to stop the panic: liquidity provision for larger banks; after the collapse of *Banka Baltija* – promises of limited deposit compensation and of bank supervision strengthening.

Notes: A deposit outflow had started after the ample press coverage of police arrests in *Lainbanka* and the announcing of merger plans for large banks before the disclosure deadline of audited reports. In April, the outflow increased in banks that failed to publish the reports and finally culminated in the closure of the largest Latvian bank (*Banka Baltija*) in late May. During the crisis, a part of the withdrawn money was converted into foreign currency and brought out of the country.

Source: *IMF Staff Country Report*, 95/125, pp.30–2; Hasson and Tombak (1999), pp.199–201.

Malaysia (July–August 1986)

Triggering event: the authorities' intervention in a deposit-taking cooperative (*Kosatsu*, July 23).

Panic transmission channel: insolvency fears concerning the deposit-taking cooperatives after

the depositors of all the domestic institutions got nervous and the authorities suddenly took the sharp measures.

Affected financial institutions: registered (and, maybe, unregistered) deposit-taking cooperatives.

Regulatory measures to stop the panic: inspections and introduction of a moratorium for other cooperatives.

Notes: Depositors had started to get nervous from September 1985, but that time the failures of several financial institutions and a large non-finance firm brought limited and short-lived runs only. The authorities closed *Kosatsu* (one of the largest registered cooperatives) because the firm did not meet its payment obligations on deposits. The closure (instead of expected liquidity support) became a signal for the depositors of other cooperatives about their possible insolvency and caused massive withdrawals of the deposits (as a result, on August 8 the authorities intervened other 23 registered cooperatives).

Source: *Far Eastern Economic Review*, August 21, 1986, pp.50-1; Sheng (1996), pp.114-5.

Moldova (October–December 1998)

Triggering event: the collapse of the Russian *ruble* (August–September 1998).

Panic transmission channel: the expectations of a full-fledged depreciation of the national currency.

Affected financial institutions: all institutions.

Regulatory measures to stop the panic: liquidity provision; the authorities' intervention in the Savings bank (December).

Notes: There were massive deposit withdrawals by households (mostly of *Lei* deposits; a contraction of foreign currency deposits was also a result of the balance of payments' crisis).

Source: *IMF Staff Country Report*, 99/110, pp.19-27; Radziwiłł et al. (1999), pp.43-7.

Panama (June 1987–March 1988)

Triggering event: a political scandal concerning large-scale money laundering (June 1987).

Panic transmission channel: political instability; concerns about the liquidity risks of Panamanian banks.

Affected financial institutions: all institutions (mostly private institutions in July–September 1987 and state-owned institutions in January–February 1988).

Regulatory measures to stop the panic: N.A. (in 1988, banking holidays in March followed by a moratorium on term and savings deposits).

Notes: The political problems of 1987 were considered fraught with changes in off-shore banking rules in Panama, and the first wave of the panic in July–September caused withdrawals of the interbank deposits. The US dollar is the main medium of exchange in Panama, and liquidity reserves of the Panamanian banks are normally held in the US banks. The US economic sanctions in February 1988 meant technical insolvency of the entire national banking system and, thus, caused a severe panic of household deposits (especially, in state-owned banks).

Source: *Latin American Special Report*, SR-87-06, p.8, SR-88-06, p.3.

Paraguay (May–September 1995)

Triggering event: the authorities' intervention in two domestic private banks (*Bancopar*, *Banco General*, May 1995).

Panic transmission channel: concerns about the stability of domestic private banks and non-eligibility of a part of deposits for compensation.

Affected financial institutions: domestic private banks and finance companies.

Regulatory measures to stop the panic: liquidity provision on a large scale; the central bank's guarantees with respect to all the (legally recorded) deposits in the country (July 1995).

Notes: A group of distressed banks (mainly domestic private banks) had been known since

supervisory inspections in late 1994. The withdrawn money shifted to foreign banks and state-owned banks (as foreign currency deposits in part). Depositors were eager to re-register their (improperly registered) 'black' and 'gray' deposits and safe money from the finance companies, which were not covered by the central bank's guarantees.

Source: García-Herrero (1997), pp. 41-5; *Latin American Economy & Business*, LAEB-95-07, July, p.21, LAEB-95-08, August 1995, p.14.

Paraguay (June–July 1997)

Triggering event: the authorities' intervention in a savings bank (*Banco Ahorros Paraguayos*, June 10).

Panic transmission channel: insolvency fears concerning the financial institutions of the *Union* group and rumors about possible freezing of foreign currency deposits.

Affected financial institutions: mostly domestic private institutions.

Regulatory measures to stop the panic: liquidity provision; intervention in problem banks; a 10-fold increase in the deposit payout ceiling.

Notes: A panic in *Ahorros Paraguayos* spread to its parent bank (*Banco Union*, closed on July 16). There was an overall shift of *Guarani* deposits to large foreign banks and (influenced by rumors) partial withdrawals of foreign currency deposits from all banks.

Source: *IMF Staff Country Report*, 98/15, pp.7-10; *Latin American Weekly Report*, June 17, 1997, p.279, June 24, p.290.

The Philippines (January–March 1981)

Triggering event: default and fleeing the country by a large borrower (*Dewey Dee*, January 9).

Panic transmission channel: a distrust of the banks related to Chinese-Filipino businesses; insolvency fears concerning small savings banks.

Affected financial institutions: traders on the commercial paper market, small savings and rural banks.

Regulatory measures to stop the panic: interventions and bailing-out of problem banks.

Notes: A part of *Dewey Dee*'s debts were unsecured, and the default frightened investors away from the CP market. Shrinking of the market distressed small savings and rural banks.

As a whole, there was a shift of deposits to commercial banks.

Source: Hutchcroft (1998), pp.150-5; Nascimento (1991), pp. 175-6, 207-8.

Russia (August–September 1998)

Triggering event: breaking of the national currency's pegging band after the default of a large domestic bank on margin calls (*Bank Imperial*, August 13).

Panic transmission channel: strong expectations of the *Ruble*'s further depreciation and fears that banks would suspend cash payments from foreign currency deposits following the officially introduced (August 17) moratorium on overseas forex payments of the Russian banks.

Affected financial institutions: all institutions (mostly private institutions).

Regulatory measures to stop the panic: liquidity provision; directed introduction of an explicit moratorium on transactions with households for the 6 largest banks and implicit permission for private banks to introduce limits on withdrawals from household accounts.

Notes: A sharp wave of panic in late August and early September was brought by the *Ruble*'s collapse and political uncertainty. Depositors (mostly households) were withdrawing money from both *Ruble* and foreign currency deposits. The money was invested into foreign currency cash and commodities.

Source: Troika Dialog Research (1999), pp.10, 16, 24-5; Aleksashenko et al. (1999), pp.20-2.

Thailand (October–November 1983)

Triggering event: an officially arranged rescue operation for an insolvent finance company (*Equity Development Finance and Securities Co.*, October 3).

Panic transmission channel: concerns about the instability of other small finance companies, which had been attracting depositors with unduly high interest rates or which were creditors of the closed firm.

Affected financial institutions: small and medium-size finance companies.

Regulatory measures to stop the panic: directing the creation by banks of a lifeboat fund for finance companies; banning the finance companies' practice of early redemption of their papers; strengthening prudential supervision.

Notes: The panic (mostly within Bangkok's Chinatown) had its peak during October 17-24. Deposits shifted to commercial banks.

Source: *Far Eastern Economic Review*, October 20, pp.96-7, November 3, pp.88-9, December 22, pp.108-11.

Thailand (March-August 1997)

Triggering event: a sudden takeover of the largest finance company (*Finance One*, February 28) and then the authorities' order to increase capital in other 10 undisclosed finance companies (March 3).

Panic transmission channel: insolvency concerns about the finance companies, which faced a drop in property prices and an uncertainty in the authorities' further steps.

Affected financial institutions: all finance companies.

Regulatory measures to stop the panic: liquidity provision to 66 finance companies (secretly through the Financial Institutions Development Fund) and stimulating their recapitalization; taking direct control over insolvent companies (June, August); blanket guarantees for all deposits in banks and finance companies (August 5).

Notes: From March to June deposits were shifting to commercial banks; in July-August, after the Baht began depreciating, the deposits started to flow out of the banks as well.

Source: *IMF Staff Country Report*, 00/21, pp.30-3; *Banker Magazine*, May 1997, pp.70-1; *Far Eastern Economic Review*, March 13, 1997, pp.61-2, July 10, pp.70-1.

Turkey (January-May 1994)

Triggering event: sharp depreciation of the national currency.

Panic transmission channel: expectations of further declining in the value of the national currency; then, rumors about a possible ban on foreign currency deposits.

Affected financial institutions: all institutions.

Regulatory measures to stop the panic: liquidity provision by the central bank; the introduction of blanket deposit insurance (May 5).

Notes: There was a shift from *Lira* deposits to foreign currency deposits in January-February, but then, in March-April, rumors triggered a sharp money outflow from the foreign currency deposits. All the banks faced liquidity problems (3 medium-size banks were closed in April because of their inability to raise money from the interbank market after interest rates jumped).

Source: *IMF Staff Country Report*, 95/43, pp.24-6; *Financial Times*, May 6, 1994.

Venezuela (January-June 1994)

Triggering event: a sudden closure by authorities of a large private bank (*Banco Latino*, January 14-17).

Panic transmission channel: concerns about the instability of banks after it turned out that authorities could not (did not want to) keep all the banks afloat.

Affected financial institutions: all institutions (mostly the institutions of *Latino's* group and small banks).

Regulatory measures to stop the panic: liquidity provision, attempts to reopen *Latino* and a limited (ad-hoc) payout for small depositors at the first stage (January-April); liquidation of insolvent banks and arranging a limited (regular) payout for depositors at the second stage (June).

Notes: *Latino's* closure was a technical default, but the public considered it as a change in the authorities stance and, as a result, the closure caused an outflow of larger depositors from the Latino group and from banks regarded as related to it (e.g. *Banco Maracaibo*). A panic among smaller depositors had began rising from late January because of rumors about illiquidity of other banks, but authorities provided banks with necessary liquidity. During the year (till January 1995), there were persistent deposit outflows from the banking system, as well as the nationalization and closures of several large private banks.

Source: Krivoy (2000), pp.97–172.

Meridien–BIAO (February–May 1995)

Causes of the failure: a liquidity crisis because of the bank's overextension to low-profit operations.

Triggering event: a panic of depositors in Zambia; rumors about the bank's closure and the fact of liquidity provision by the central bank of Zambia.

Regulatory measures: interventions in the bank's local businesses by the respective national authorities on the grounds of alleged violations of prudential standards; followed by separate recapitalization and selling of the businesses.

Notes: It was a bank holding company that had banking subsidiaries and business interests in 20 countries of Western and Central Africa. The closure of the bank's operations did not cause panics among the depositors of other (local) banks (even in the countries where the bank had a substantial market share). The holding company was eluding effective prudential supervision of every country, and it had enjoyed LLR facilities nowhere. Winding-up of the bank's operations showed that, as a rule, its subsidiary banks had a large exposure to the parent company *BIML*.

Source: *Financial Times*, April 14, 1995; *Africa Research Bulletin*, 1995, pp.12090–1.

Bank of Credit & Commerce International (BCCI, July 1991)

Causes of the failure: closure by authorities after evidence of a large-scale fraud.

Triggering event: an intervention of the Bank of England based on a secret report by the *BCCI's* auditor on fraudulent practices.

Regulatory measures: freezing of the bank's operations (for its global liquidation) by the respective national authorities based on the request of the Bank of England; or recapitalizing of the bank's local subsidiaries and branches to prepare for selling.

Notes: It was a large international bank operating in 73 countries over the world (including large retail banking arms in Bangladesh, Hong Kong, Pakistan, the UAE, the UK, etc.). In countries where the bank's operations were frozen and put in liquidation, the closures did not cause depositor panics in other (local) banks (excepting Hong Kong where depositor runs on several smaller banks took place and the shift of deposits towards larger banks accelerated). The *BCCI* was evading effective prudential supervision of every country, and it had enjoyed LLR facilities nowhere. Later, investigations revealed that a system of inter-branch balances and account window-dressing practices helped the bank to hide its negative capital for a prolonged time.

Source: *Far Eastern Economic Review*, July 25, 1991, pp.60–1, September 26, pp.64–8; *Banker Magazine*, September 1991, pp.12–8; Arnold and Sikka (1999)

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