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## U.S. BANKS, CRISES, AND BAILOUTS: FROM MEXICO TO LTCM

Bong-Chan Kho Dong Lee René M. Stulz

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#### **ABSTRACT**

This paper investigates the impact on bank stock prices of emerging market currency crises and bailouts. The stock market distinguishes between banks with exposure to a crisis country and other banks. In general, banks with exposures to a crisis country are affected adversely by currency events and positively by bailouts. Other banks are mostly unaffected by events in countries experiencing a crisis. The paper uses the impact of the LTCM crisis on bank stock prices to put the emerging market events in perspective. The LTCM crisis had no significant contagion effects in the banking sector either, but banks that participated in the LTCM rescue experienced negative stock returns when the rescue was announced.

René M. Stulz
The Ohio State University
Fisher College of Business
806A Fisher Hall
2100 Neil Avenue
Columbus, OH 43210
and NBER
stulz@cob.ohio-state.edu

A striking development in the 1990s has been the emergence of the view that events in emerging markets could endanger the stability of the global financial system. As former Secretary of the Treasury Rubin puts it in an interview, "I can't imagine that twenty or twenty-five years ago my predecessors would have been worried about an economic crisis in Thailand or Indonesia, or even Korea." (Friedman (1999), p. 186). The events of 1998 seem to provide evidence in support of this view. As one observer puts it, "the entire global economic system as we know it almost went into meltdown, beginning with Russia's default" (Friedman (1999), p. 212).

As a response to the perceived threat to financial stability from emerging market crises, the 1990s have seen bailouts of unprecedented size. Mexico, Korea, and Brazil received packages of aid in excess of \$40 billion each. Thailand, Indonesia, and Russia received packages between \$10 billion and \$40 billion. The proponents of bailouts have argued that they were necessary to prevent contagion and systemic threats. The critics of bailouts have pointed out that they heighten moral hazard, so that banks find it optimal to take bigger gambles because they do not suffer as much if the gambles fail.

In this paper, we examine the impact of crises and bailouts on U.S. bank stock prices to assess some of the issues raised by proponents and opponents of bailouts. First, we investigate whether currency crises in emerging markets had a significant impact on banks. After taking into account movements in the stock market, banks without exposure to the country in trouble were generally not affected by the adverse events but banks with exposure were. Second, we examine the impact of the largest bailouts. We find that they significantly benefited banks with exposure to the bailed out country and generally had no significant impact on banks without exposure. Third, we consider the LTCM crisis, which is useful to put emerging market crises in perspective since no public funds were used in the bailout. The banks which participated in the LTCM rescue lost dramatically when the LTCM losses became known and when the rescue was announced.

The paper proceeds as follows. Section 1 presents our sample and exposure measures. Section 2 provides estimates of the impact of adverse currency events in the Mexican, Korean, Russian, and Brazilian crises on U.S. banks. Section 3 shows the effect of the bailouts of Mexico, Korea, and Brazil on U.S. banks. Section 4 focuses on the LTCM events. Section 5 concludes.

## 1. Data and measurement issues.

We use the method of event studies commonly used in finance. We therefore identify relevant events and estimate their impact on stock prices. Our hypothesis is that systemic threats decrease bank stock prices because they affect adversely the value of banking franchises.

To evaluate the impact of events, we regress bank portfolio daily excess returns (the return minus the risk-free rate) on the excess returns of the Datastream U.S. market index, on changes in the 7-day Eurodollar rate, and on dummy variables for the event days. The estimates of the dummy variables are the abnormal returns reported in this study. Table 1 provides the abnormal returns on key dates. One might argue that controlling for market movements is inappropriate since the events might be causing the market movements. We discuss market movements when relevant. For all the crises considered, we start the sample period in January of the year of the crisis and include at least 319 trading days. We use the banks that belong to the Datastream retail banking index.

Event studies are based on the presumption that the market impounds all the new information in stock prices immediately. Because of this presumption, there are two difficulties with event studies. First, the importance of an event might be underestimated because stock prices already partially or completely reflected its economic impact before it occurred. Second, an announcement may take place after markets are closed on that day, so that the stock-price

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<sup>&</sup>lt;sup>1</sup> The appendix reproduces the regression estimates, the list of exposed and non-exposed banks for each country, and the list of relevant dates. Kho and Stulz (2000) apply this approach to events of the East Asian crisis and discuss the robustness of results when this approach is used.

reaction takes place on the next day when markets are open. We deal with these difficulties by including as event days the trading days before and immediately after the news announcement.

To identify banks exposed to a country, we use the exposure reported in annual reports as closely as possible to the first event date associated with the country's crisis, assuming that the market knows these exposures. We then construct portfolios of exposed and of non-exposed banks. Exposed banks are those that report a positive exposure to the crisis country. Banks did not report exposure to LTCM. Further, while a bank might have been a counterparty to LTCM or have lent to LTCM, it might also have been affected by the LTCM crisis because it attempted to mimic LTCM's positions. We consider those banks that participated in the rescue of the fund exposed since these banks were willing to put up their own funds to prevent the crisis from worsening.

A systemic risk should affect all banks, not just the large ones, so that equally-weighted portfolios of banks are most relevant to estimate the impact of events on systemic risk. However, an alternative view is that the large banks which dominate value-weighted portfolios are those that matter when one is concerned about the financial system. We therefore point out some differences that arise when we use value-weighted portfolios.

## 2. Do emerging market crises matter for the U.S. financial system?

Mexico devalued its currency on December 20, 1994 and announced the next day that the parity would no longer be defended. These currency events impacted the market on December 21. On that day, exposed banks had an abnormal return of -1.37% (the p-value or p in the following is 0.03). In contrast, the other banks had an abnormal return of -0.03%, so that exposed banks performed worse by 1.34% (p = 0.01). In the case of Korea, the exposed banks had an abnormal return of -1.5% (p = 0.07) on the trading day before Korea stopped defending its parity, but the abnormal return is not significantly different from the non-exposed banks.

With Russia, non-exposed banks had an abnormal return of -1.40% (p = 0.06) on the day of the devaluation and of the default on various debt instruments, while the exposed banks had a positive insignificant abnormal return of 0.11%. Exposed banks lost 2.11% (p = 0.13) on the day of the suspension of the ruble convertibility, August 28, and lost 4.19% (p < 0.01) on the day before. Yet, non-exposed banks had an insignificant total abnormal return over these two days of -0.35%. The banks experienced significant positive abnormal returns on August 31. On the three trading days around the suspension of the convertibility, the Datastream index for the U.S. market fell by a dramatic 11.74%. Including the market fall, exposed banks lost 17.91% on these three days, while non-exposed banks slightly outperformed the market since they lost 10.77%. Around the Russian events, liquidity in markets dried up dramatically. It is therefore important to note that, since the banks exposed to Russia include banks with large derivatives and proprietary businesses, the losses of these banks may have been due more to the impact of liquidity drying up than to the impact of the events on the credit risk of loans to Russia held by these banks.

For Brazil, there was a significant capital outflow at the beginning of September 1998 which overlapped with the LTCM announcements. On September 3, banks exposed to Brazil lost 4.57%. Banks that were not exposed lost an insignificant 0.63%. Banks exposed to Brazil but not exposed to LTCM had an abnormal return of -2.18% (p = 0.05) on September 3. The devaluation of the real had no impact on banks. When Brazil announced it would no longer defend its parity, exposed banks fell by 2.43% (p = 0.04) and non-exposed banks fell by 1.22% (p = 0.08) on the next trading day.

Based on our evidence, currency events in emerging markets matter for U.S. banks. However, they affect exposed banks and leave non-exposed banks largely untouched. It is hard to argue that the events considered are economically important for non-exposed banks after taking into account market movements.

#### 3. Bailouts and U.S. banks.

Looking at the mega-bailouts of Mexico, Korea, and Brazil, we find that in each case, at least one bailout event surprised the markets. In the case of Mexico, the exposed banks earned an abnormal return of 1.44% (p = 0.02) on January 25, 1995, the day before the tentative approval of IMF support, in contrast to the non-exposed banks which earned an insignificant 0.51%. The difference between the two groups of banks has a p-value of 0.08. No other Mexican event had significant abnormal returns. In the case of Korea, the critical event occurred on December 1, 1997, when it became clear there would be a bailout agreement. On that day, exposed banks had an abnormal return of 2.09% (p = 0.01) while non-exposed banks earned 1.22% (p = 0.03). The difference between the two groups is insignificant. In addition, the U.S. market index earned 1.93% on December 1. One might argue that in this case the IMF program might have had systemic benefits, but the abnormal return of non-exposed banks is smaller and not significant when we use a value-weighted portfolio, indicating that the effects on these banks were weak at best.<sup>2</sup> Finally, in the case of Brazil, exposed banks earned 1.95% (p = 0.09) on the day that negotiations with the IMF opened while non-exposed banks gained an insignificant 0.92% on that day. The difference between the two groups is not significant, however. On October 8, 1998, when Brazil and the IMF issued a joint statement, the abnormal return of exposed banks was 3.46% (p < 0.01) in contrast to the abnormal return of -2.44% (p < 0.01) for non-exposed banks. On that day, the market fell by 1.45%. Finally, on the day of IMF support announcement, the exposed banks earned 2.53% (p = 0.03) while the non-exposed banks earned 0.14%. The difference between the two groups is significant.

Russia provides a confirmation of our analysis of bailouts. In the case of Russia, the *New York Times* had an article on August 27 that the "IMF steps back." That day was rich in news

<sup>&</sup>lt;sup>2</sup> Kho and Stulz (2000) provides a more detailed analysis of the Korean crisis but considers only three exposed American banks, JP Morgan, Citibank, and Chase Manhattan Bank. In that paper, the gains of the three banks are substantially larger than the gains for all exposed banks reported here.

about Russia. Nevertheless, it is interesting to note that exposed banks lost 4.19% (p < 0.01) while non-exposed banks lost an insignificant 0.70%. The difference between the two groups is significant (p = 0.01).

Our analysis of bailout event returns shows that the informative events had significant positive abnormal returns for exposed banks and, except for Korea, insignificant abnormal returns for non-exposed banks. The highest gains of the exposed banks are for the bailout of Brazil. We can estimate the dollar amount of the increase in the capitalization of exposed banks as a result of the bailout as follows. At the end of September 1998, the equity capitalization of banks exposed to Brazil was about \$230 billion and the capitalization of non-exposed banks was slightly more than \$430 billion. On the three dates associated with IMF announcements for Brazil, the sum of the abnormal returns of exposed banks amounted to 7.74% using a value-weighted portfolio, and thus the capitalization of exposed banks increased by about \$17.8 billion.

## 4. LTCM and U.S. banks.

News about LTCM losses was made public on September 2. On the three days surrounding September 2, the four banks in the Datastream retail banking index for the U.S. that subsequently attended the meeting at the Federal Reserve Bank of New York had an abnormal return of –11.04%.<sup>3</sup> In dollars, their capitalization fell by slightly more than \$8.8 billion. On these three days, the banks not exposed to LTCM gained \$26.86 billion dollars. As a result, banks with LTCM exposure underperformed the non-exposed banks over these three days by 14.24% (p < 0.01). Perhaps another way to look at the banks exposed to LTCM is the following. The four banks had equity of \$145 billion on August 26. On September 4, their equity was \$102 billion, corresponding to a loss of 29.45%. During that period, the banks not exposed to LTCM lost 9.35% of their value, going from \$596 billion to \$540 billion. What we call exposure to LTCM differs from exposure to foreign countries in that for these exposures banks report a dollar amount

of exposure resulting from transactions with these countries. In contrast, the banks that participated in the rescue of LTCM did not report their exposure to LTCM. These banks might have lost value simply because the market believed they had proprietary trades similar to those of LTCM rather than because of credit exposures to LTCM. These banks lost another 3.59% (p = 0.03) on September 24, the trading day following the announcement that they were putting money into LTCM. On that day, the other banks lost an insignificant 1.02% (p = 0.16). On September 23, some exposed banks performed quite well relative to the market and the market itself increased significantly. The Citicorp mergers with Travelers Group Inc. was approved by the Federal Reserve Board, which led to a large increase in Citicorp's stock price, and the Greenspan testimony in front of Congress changed interest rate expectations. The investment banks with publicly traded equity that attended the LTCM meeting did not have significant positive abnormal returns on that day, so that the good performance of banks appears unrelated to news about LTCM.

There are three lessons from the LTCM events. First, their economic significance after taking into account market movements for exposed banks exceeds the economic significance of the crises of Mexico, Korea, Russia, or Brazil. Second, exposed banks did not gain from the rescue. Third, despite the magnitude of the exposed bank losses in the LTCM events, the LTCM events did not affect non-exposed banks significantly. Thus, the market was perfectly capable of distinguishing between banks that were at risk and those that were not three weeks before the rescue.

### 5. Conclusion.

Our analysis shows that, for the events we considered, the market distinguishes well between exposed and non-exposed banks. After taking into account market movements, exposed banks are affected by events while non-exposed banks are generally not. There is therefore no

<sup>3</sup> Traveller's was at the meeting instead of Citicorp, but the two had agreed to merge so that we treat them

basis for concerns that markets react similarly across banks and that therefore banks have to be protected from the markets. Our evidence raises important questions, especially for those who emphasize the importance of U.S. systemic risks as a motivation for bailouts. In particular, if the events discussed in this paper had an impact on systemic risk, why is it that we cannot notice such an impact on non-exposed banks? One might argue that markets knew that there was no danger either because they knew that exposures were insufficient to matter for the U.S. banking system in the first place or because they knew that policymakers would always succeed in making sure that nothing bad would happen to the financial system. Whatever the explanation for the lack of an adverse impact on non-exposed banks, the bottom line must be that the markets did not think that any of the adverse events we considered could have led to significant economic problems for the banking sector in the U.S. in general. The fact that a subset of banks could lose 29% of their equity capitalization in six trading days without more impact on other banks is consistent with at least three explanations: (1) systemic risk is overrated, (2) the market underreacted, and/or (3) the cleverness of our policymakers is underrated.

as one entity.

## Table 1. Abnormal returns of the U.S. bank portfolios around events of crises and bailouts

The daily abnormal returns are estimated using the dummy variable approach described in the text and the regressions estimates are in the appendix of the working paper version of the paper. Exposed banks are those that reported a positive exposure to the crisis country in their annual report closest to the first event date for a country, whereas non-exposed banks are the rest of the component banks in the Datastream U.S. retail bank index whose annual reports are available from Edgar Archives or their web-sites. We report the sample period in parentheses next to the country and p-values in brackets beside the abnormal returns.

|                                       |          | Equal-        | weighted bank p                    | ortfolio      |
|---------------------------------------|----------|---------------|------------------------------------|---------------|
|                                       |          | (1)           | (2)                                |               |
| Events of crises and bailouts         | Date     | Exposed banks | Non-exposed<br>banks               | (1) - (2)     |
| Mexico (1/1/94 – 6/30/95: 378         | davs)    | ounts         | ounks                              |               |
| Devaluation                           | •        | -0.204 [0.74  | 4] 0.124 [0.76]                    | -0.329 [0.53] |
| Giving up defense (night)             | (941221) | -1.369 [0.03  | 3]-0.026 [0.95]                    | -1.343 [0.01] |
| Request for IMF help                  | (950106) | 0.215 [0.73   | 3] 0.120 [0.77]                    | 0.095 [0.86]  |
|                                       | (950125) | 1.435 [0.02   | 2] 0.507 [0.21]                    | 0.927 [0.08]  |
| IMF's support announcement            | (950126) | 0.483 [0.44   | 4] 0.077 [0.85]                    | 0.406 [0.44]  |
|                                       | (950127) | 0.501 [0.42   | 2] 0.761 [0.06]                    | -0.261 [0.62] |
| Korea (1/16/97 – 7/15/98: 377         |          |               |                                    |               |
|                                       |          |               | 7]-0.714 [0.20]                    |               |
| Giving up defense                     |          | _             | 7] 0.285 [0.61]                    |               |
| Request for IMF help                  |          | _             | 8]-0.396 [0.47]                    |               |
| IMF's support announcement            |          | _             | 1] 1.221 [0.03]                    |               |
| IMF's support announcement            | (971204) | 1.253 [0.13   | 3] 0.886 [0.11]                    | 0.367 [0.58]  |
| Russia (1/1/98 - 4/9/99: 319 d        | •        |               |                                    |               |
| Request for additional IMF help       | . ,      | -             | 6] 0.307 [0.68]                    |               |
| IMF's approval of pre-assigned loan   |          |               |                                    |               |
| IMF's additional support announcement |          |               |                                    |               |
| Devaluation                           |          | _             | 4]-1.395 [0.06]                    |               |
|                                       |          |               | 0]-0.704 [0.36]                    |               |
| Suspension of Ruble trading           |          |               | 3] 0.349 [0.64]                    |               |
|                                       |          | 3.445 [0.02   | 2] 1.653 [0.04]                    | 1.792 [0.18]  |
| Brazil (1/1/98 – 4/9/99: 319 d        | •        |               |                                    |               |
|                                       |          | -             | 8] 3.553 [0.00]                    |               |
| Outflows threaten fx                  |          | _             | 0]-0.628 [0.36]                    |               |
| Opening of negotiation with IMF       |          |               | 9] 0.923 [0.18]                    |               |
| Joint statement of IMF and Brazil     |          |               | 0]-2.436 [0.00]                    |               |
| IMF's support announcement            |          |               | 3] 0.140 [0.84]                    |               |
| Devaluation                           |          | _             | 5]-0.458 [0.50]                    |               |
| Giving up defense                     |          |               | 8] 0.087 [0.90]                    |               |
|                                       |          | -2.433 [0.04  | 4]-1.217 [0.08]                    | -1.216 [0.21] |
| LTCM (1/1/98 – 4/9/99: 319 d          |          | 2 466 [0 0    | 3] 0.477 [0.51]                    | 2 042 [0 01]  |
| News of LTCM's loss                   |          | -             | 4] 3.422 [0.00]                    |               |
| News of LTCM's loss                   |          | _             | 4] 3.422 [0.00]<br>0]-0.682 [0.35] |               |
|                                       |          | _             | 0]-0.682 [0.33]<br>1]-0.003 [1.00] | 4.11[0.01]    |
| Rescue accord at the FED (23 night)   |          | _             |                                    |               |
| Rescue accord at the FED (23 Hight)   | (200224) | -3.367 [0.0.  | Jj-1.02+ [0.10]                    | -2.505 [0.09] |

## References

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# Appendix

#### Table 1. Abnormal returns of the equally-weighted U.S. bank portfolios on each day of the Mexican crisis

The following models are estimated for the excess returns of the equally-weighted U.S. bank portfolios over the period from 1/1/94 to 6/30/95 (378 days):

$$R_{pt} = \mathbf{a}_0 + \mathbf{b}_0 R_{mt} + \mathbf{g}_0 X_t + \sum_{j=1}^{J} D_j \mathbf{f}_{jt} + \mathbf{e}_t$$

where  $R_{pt}$  is the logarithmic daily return on one of the U.S. bank portfolios described below and  $R_{mt}$  is the Datastream U.S. stock market index return. Both returns are in excess of the one-day return on the seven-day Eurodollar deposit. Xt is the change in the seven-day Eurodollar rate.  $f_{jt}$  is a dummy variable taking a value of 1 for the j-th event day shown below, or zero otherwise. Thus, the parameter estimate  $D_j$  represents an abnormal return for the j-th event day. P-values are in brackets.

- (1): EW of all banks in the Datastream Banking index (N=74)
- (2): EW of banks whose 1994 annual reports are available in the Edgar Archives or their web-sites (N=50)
- (3): EW of banks with Mexican exposures based on their 1994 annual reports (N=9)
- (4): EW of banks without Mexican exposures based on their 1994 annual reports (N=41)
- (5): EW of banks with Latin exposures based on their 1994 annual reports (N=10)
- (6): EW of banks without Latin exposures based on their 1994 annual reports (N=40).

|                            |          | (1)           | (2)           | (1) - (2)     | (3)           | (4)           | (3) - (4)     | (5)           | (6)           | (5) - (6)     |
|----------------------------|----------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Intercept                  |          | 0.017 [0.38]  | 0.012 [0.56]  | 0.005 [0.46]  | -0.006 [0.85] | 0.017 [0.44]  | -0.023 [0.40] | -0.002 [0.94] | 0.016 [0.45]  | -0.019 [0.47] |
| Excess return of US m      | narket   | 0.757 [0.00]  | 0.818 [0.00]  | -0.062 [0.00] | 1.100 [0.00]  | 0.757 [0.00]  | 0.343 [0.00]  | 1.065 [0.00]  | 0.757 [0.00]  | 0.308 [0.00]  |
| 7-day Eurodollar rate o    | hange    | -0.008 [0.56] | -0.003 [0.81] | -0.004 [0.30] | -0.024 [0.30] | 0.001 [0.95]  | -0.024 [0.20] | -0.025 [0.23] | 0.002 [0.89]  | -0.027 [0.13] |
|                            | (941219) | 0.489 [0.19]  | 0.674 [0.10]  | -0.185 [0.12] | 0.911 [0.14]  | 0.622 [0.13]  | 0.289 [0.58]  | 0.964 [0.10]  | 0.601 [0.15]  | 0.363 [0.46]  |
| Devaluation                | (941220) | 0.130 [0.73]  | 0.065 [0.87]  | 0.065 [0.59]  | -0.204 [0.74] | 0.124 [0.76]  | -0.329 [0.53] | -0.014 [0.98] | 0.085 [0.84]  | -0.099 [0.84] |
| Giving up defense (night)  | (941221) | -0.265 [0.48] | -0.268 [0.51] | 0.002 [0.98]  | -1.369 [0.03] | -0.026 [0.95] | -1.343 [0.01] | -1.362 [0.02] | 0.006 [0.99]  | -1.368 [0.01] |
|                            | (941222) | -0.553 [0.14] | -0.813 [0.05] | 0.260 [0.03]  | -0.594 [0.34] | -0.861 [0.04] | 0.267 [0.61]  | -0.671 [0.25] | -0.848 [0.04] | 0.177 [0.72]  |
|                            | (941223) | 0.020 [0.96]  | 0.037 [0.93]  | -0.017 [0.90] | 0.600 [0.37]  | -0.087 [0.84] | 0.687 [0.23]  | 0.490 [0.44]  | -0.076 [0.86] | 0.567 [0.29]  |
|                            | (950105) | -0.148 [0.69] | -0.155 [0.70] | 0.007 [0.96]  | -0.108 [0.86] | -0.165 [0.69] | 0.058 [0.91]  | -0.180 [0.76] | -0.149 [0.72] | -0.031 [0.95] |
| Request for IMF help       | (950106) | 0.216 [0.57]  | 0.137 [0.74]  | 0.078 [0.51]  | 0.215 [0.73]  | 0.120 [0.77]  | 0.095 [0.86]  | 0.194 [0.74]  | 0.123 [0.77]  | 0.071 [0.89]  |
|                            | (950109) | -0.040 [0.92] | -0.174 [0.67] | 0.134 [0.26]  | -0.489 [0.43] | -0.105 [0.80] | -0.384 [0.46] | -0.475 [0.42] | -0.099 [0.81] | -0.377 [0.45] |
|                            | (950125) | 0.463 [0.22]  | 0.674 [0.10]  | -0.212 [0.08] | 1.435 [0.02]  | 0.507 [0.21]  | 0.927 [0.08]  | 1.455 [0.01]  | 0.479 [0.25]  | 0.976 [0.05]  |
| IMF's support announcement | (950126) | -0.004 [0.99] | 0.150 [0.71]  | -0.154 [0.20] | 0.483 [0.44]  | 0.077 [0.85]  | 0.406 [0.44]  | 0.238 [0.69]  | 0.128 [0.76]  | 0.110 [0.82]  |
|                            | (950127) | 0.550 [0.14]  | 0.715 [0.08]  | -0.164 [0.17] | 0.501 [0.42]  | 0.761 [0.06]  | -0.261 [0.62] | 0.413 [0.48]  | 0.790 [0.06]  | -0.377 [0.45] |

#### Table 2. Abnormal returns of the equally-weighted U.S. bank portfolios on each day of the Korean crisis

The following models are estimated for the excess returns of the equally-weighted U.S. bank portfolios over the period from 1/16/97 to 7/15/98 (377 days):

$$R_{pt} = \mathbf{a}_0 + \mathbf{b}_0 R_{mt} + \mathbf{g}_0 X_t + \sum_{j=1}^J D_j \mathbf{f}_{jt} + \mathbf{e}_t$$

where  $R_{pt}$  is the logarithmic daily return on one of the U.S. bank portfolios described below and  $R_{mt}$  is the Datastream U.S. stock market index return. Both returns are in excess of the one-day return on the seven-day Eurodollar deposit. Xt is the change in the seven-day Eurodollar rate.  $f_{jt}$  is a dummy variable taking a value of 1 for the j-th event day shown below, or zero otherwise. Thus, the parameter estimate  $D_i$  represents an abnormal return for the j-th event day. P-values are in brackets.

(1) : EW of all banks in the Datastream Banking index (N=78)

(2) : EW of banks whose 1997 annual reports are available in the Edgar Archives or their web-sites (N=76)

(3) : EW of banks with Korean exposures based on their 1997 annual reports (N=10)

(4) : EW of banks without Korean exposures based on their 1997 annual reports (N=66)

(5) : EW of banks with Asian exposures based on their 1997 annual reports (N=15)

(6) : EW of banks without Asian exposures based on their 1997 annual reports (N=61)

|                            |             | (1)           | (2)           | (1) - (2)     | (3)           | (4)           | (3) - (4)     | (5)           | (6)           | (5) - (6)     |
|----------------------------|-------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Intercept                  |             | 0.031 [0.28]  | 0.031 [0.29]  | 0.000 [0.75]  | -0.002 [0.96] | 0.036 [0.21]  | -0.038 [0.27] | 0.004 [0.92]  | 0.038 [0.19]  | -0.034 [0.20] |
| Excess return of US m      | arket       | 0.862 [0.00]  | 0.870 [0.00]  | -0.008 [0.00] | 1.076 [0.00]  | 0.839 [0.00]  | 0.237 [0.00]  | 1.032 [0.00]  | 0.830 [0.00]  | 0.201 [0.00]  |
| 7-day Eurodollar rate c    | hange       | 0.015 [0.44]  | 0.013 [0.48]  | 0.001 [0.15]  | -0.006 [0.83] | 0.016 [0.39]  | -0.023 [0.32] | 0.002 [0.93]  | 0.016 [0.39]  | -0.014 [0.42] |
|                            | (971114)    | -0.806 [0.14] | -0.818 [0.14] | 0.011 [0.66]  | -1.500 [0.07] | -0.714 [0.20] | -0.785 [0.23] | -1.541 [0.03] | -0.640 [0.24] | -0.901 [0.07] |
| Giving up defense          | (971117)    | 0.413 [0.46]  | 0.399 [0.47]  | 0.013 [0.61]  | 1.154 [0.17]  | 0.285 [0.61]  | 0.869 [0.19]  | 0.881 [0.23]  | 0.281 [0.61]  | 0.601 [0.24]  |
|                            | (971118)    | 0.576 [0.30]  | 0.590 [0.29]  | -0.014 [0.60] | 0.456 [0.59]  | 0.610 [0.27]  | -0.155 [0.81] | 0.656 [0.37]  | 0.574 [0.30]  | 0.082 [0.87]  |
|                            | (971120)    | 0.249 [0.65]  | 0.209 [0.71]  | 0.041 [0.12]  | -0.411 [0.62] | 0.302 [0.58]  | -0.714 [0.28] | 0.220 [0.76]  | 0.206 [0.71]  | 0.014 [0.98]  |
| Request for IMF help       | (971121)    | -0.339 [0.54] | -0.341 [0.54] | 0.003 [0.92]  | 0.022 [0.98]  | -0.396 [0.47] | 0.418 [0.53]  | -0.229 [0.75] | -0.369 [0.50] | 0.140 [0.78]  |
|                            | (971124)    | 0.226 [0.68]  | 0.281 [0.61]  | -0.055 [0.03] | -0.287 [0.73] | 0.367 [0.51]  | -0.654 [0.32] | 0.110 [0.88]  | 0.323 [0.56]  | -0.213 [0.67] |
|                            | (971128)    | 0.014 [0.98]  | 0.017 [0.98]  | -0.003 [0.89] | -0.028 [0.97] | 0.024 [0.97]  | -0.052 [0.94] | -0.139 [0.85] | 0.056 [0.92]  | -0.195 [0.70] |
| IMF's support announcement | nt (971201) | 1.305 [0.02]  | 1.335 [0.02]  | -0.030 [0.24] | 2.093 [0.01]  | 1.221 [0.03]  | 0.872 [0.19]  | 2.018 [0.01]  | 1.167 [0.03]  | 0.851 [0.09]  |
|                            | (971202)    | 0.732 [0.18]  | 0.727 [0.19]  | 0.005 [0.84]  | 0.272 [0.74]  | 0.795 [0.15]  | -0.523 [0.43] | 0.423 [0.56]  | 0.801 [0.14]  | -0.378 [0.45] |
|                            | (971203)    | 0.727 [0.19]  | 0.772 [0.16]  | -0.045 [0.08] | 0.186 [0.82]  | 0.861 [0.12]  | -0.675 [0.31] | 0.383 [0.60]  | 0.868 [0.11]  | -0.485 [0.34] |
| IMF's support announcement | nt (971204) | 0.915 [0.10]  | 0.934 [0.09]  | -0.019 [0.46] | 1.253 [0.13]  | 0.886 [0.11]  | 0.367 [0.58]  | 1.658 [0.02]  | 0.756 [0.17]  | 0.902 [0.07]  |
|                            | (971205)    | 0.276 [0.62]  | 0.271 [0.62]  | 0.006 [0.83]  | 0.953 [0.26]  | 0.168 [0.76]  | 0.785 [0.23]  | 0.686 [0.35]  | 0.169 [0.76]  | 0.518 [0.31]  |

#### Table 3. Abnormal returns of the equally-weighted U.S. bank portfolios on each day of the Russian crisis

The following models are estimated for the excess returns of the equally-weighted U.S. bank portfolios over the period from 1/1/98 to 4/9/99 (319 days):

$$R_{pt} = \mathbf{a}_0 + \mathbf{b}_0 R_{mt} + \mathbf{g}_0 X_t + \sum_{i=1}^{J} D_i \mathbf{f}_{jt} + \mathbf{e}_i$$

where  $R_{pt}$  is the logarithmic daily return on one of the U.S. bank portfolios described below and  $R_{mt}$  is the Datastream U.S. stock market index return. Both returns are in excess of the one-day return on the seven-day Eurodollar deposit.  $X_t$  is the changes in the seven-day Eurodollar rate.  $f_{jt}$  is a dummy variable taking a value of 1 for the j-th event day shown below, or zero otherwise. Thus, the parameter estimate  $D_j$  represents an abnormal return for the j-th event day. P-values are in brackets.

- (1) : EW of all banks in the Datastream Banking index (N=78/77/76\*)
- (2) : EW of banks whose 1998 annual reports are available in the Edgar Archives or their web-sites (N=74/73/73\*\*)
- (3) : EW of banks with Russian exposures based on their 1998 annual reports (N=7/6/6\*\*)
- (4) : EW of banks without Russian exposures based on their 1998 annual reports (N=67)

<sup>\*\*</sup> Citicorp is in the sample up to 10/7/98 while Crestar is out of the sample during the sample period.

|                                       |          | (1)           | (2)           | (1) - (2)     | (3)           | (4)           | (3) - (4)     |
|---------------------------------------|----------|---------------|---------------|---------------|---------------|---------------|---------------|
| Intercept                             |          | -0.116 [0.01] | -0.116 [0.01] | 0.000 [0.97]  | -0.093 [0.24] | -0.117 [0.01] | 0.024 [0.74]  |
| Excess return of US market            |          | 1.056 [0.00]  | 1.072 [0.00]  | -0.016 [0.00] | 1.330 [0.00]  | 1.047 [0.00]  | 0.284 [0.00]  |
| 7-day Eurodollar rate change          |          | -0.032 [0.35] | -0.030 [0.38] | -0.002 [0.48] | -0.090 [0.15] | -0.025 [0.47] | -0.065 [0.26] |
|                                       | (980618) | -0.996 [0.18] | -0.994 [0.18] | -0.003 [0.96] | -0.044 [0.97] | -1.094 [0.15] | 1.050 [0.41]  |
| Request for additional IMF help       | (980619) | 0.315 [0.67]  | 0.336 [0.65]  | -0.022 [0.67] | 0.610 [0.66]  | 0.307 [0.68]  | 0.303 [0.81]  |
|                                       | (980622) | -0.183 [0.81] | -0.248 [0.74] | 0.065 [0.21]  | -1.219 [0.38] | -0.146 [0.85] | -1.073 [0.40] |
|                                       | (980624) | 0.295 [0.69]  | 0.343 [0.65]  | -0.047 [0.36] | 1.768 [0.20]  | 0.192 [0.80]  | 1.576 [0.22]  |
| IMF's approval of pre-assigned loan   | (980625) | 0.658 [0.38]  | 0.674 [0.37]  | -0.016 [0.76] | 0.062 [0.96]  | 0.737 [0.33]  | -0.675 [0.59] |
|                                       | (980626) | -0.125 [0.87] | -0.125 [0.87] | 0.000 [0.99]  | -0.220 [0.87] | -0.116 [0.88] | -0.104 [0.93] |
|                                       | (980710) | 0.086 [0.91]  | 0.067 [0.93]  | 0.019 [0.72]  | 0.730 [0.60]  | -0.003 [1.00] | 0.733 [0.56]  |
| IMF's additional support announcement | (980713) | -0.002 [1.00] | -0.021 [0.98] | 0.019 [0.71]  | 0.382 [0.78]  | -0.064 [0.93] | 0.446 [0.72]  |
|                                       | (980714) | 0.244 [0.74]  | 0.228 [0.76]  | 0.016 [0.75]  | 1.236 [0.37]  | 0.121 [0.87]  | 1.115 [0.38]  |
|                                       | (980814) | 0.518 [0.49]  | 0.501 [0.50]  | 0.016 [0.75]  | 1.411 [0.31]  | 0.406 [0.59]  | 1.005 [0.43]  |
| Devaluation                           | (980817) | -1.284 [0.09] | -1.250 [0.10] | -0.034 [0.51] | 0.112 [0.94]  | -1.395 [0.06] | 1.508 [0.24]  |
|                                       | (980818) | 0.359 [0.63]  | 0.405 [0.59]  | -0.046 [0.37] | 0.308 [0.82]  | 0.412 [0.58]  | -0.105 [0.93] |
|                                       | (980827) | -1.157 [0.13] | -1.036 [0.17] | -0.121 [0.02] | -4.194 [0.00] | -0.704 [0.36] | -3.491 [0.01] |
| Suspension of ruble trading           | (980828) | 0.104 [0.89]  | 0.115 [0.88]  | -0.012 [0.82] | -2.108 [0.13] | 0.349 [0.64]  | -2.457 [0.05] |
|                                       | (980831) | 1.747 [0.03]  | 1.816 [0.02]  | -0.070 [0.20] | 3.445 [0.02]  | 1.653 [0.04]  | 1.792 [0.18]  |

<sup>\*</sup> Citicorp is dropped out after 10/7/98 and Crestar is dropped out after 12/31/98.

#### Table 4. Abnormal returns of the equally-weighted U.S. bank portfolios on each day of the Brazilian crisis

The following models are estimated for the excess returns of the equally-weighted U.S. bank portfolios over the period from 1/1/98 to 4/9/99 (319 days):

$$R_{pt} = \mathbf{a}_0 + \mathbf{b}_0 R_{mt} + \mathbf{g}_0 X_t + \sum_{j=1}^{J} D_j \mathbf{f}_{jt} + \mathbf{e}_t$$

where  $R_{pt}$  is the logarithmic daily return on one of the U.S. bank portfolios described below and  $R_{mt}$  is the Datastream U.S. stock market index return. Both returns are in excess of the one-day return on the seven-day Eurodollar deposit. Xt is the change in the seven-day Eurodollar rate.  $f_{jt}$  is a dummy variable taking a value of 1 for the j-th event day shown below, or zero otherwise. Thus, the parameter estimate  $D_i$  represents an abnormal return for the j-th event day. P-values are in brackets.

- (1) : EW of all banks in the Datastream Banking index (N=78/77/76\*)
- (2) : EW of banks whose 1998 annual reports are available in the Edgar Archives or their web-sites (N=74/73/73\*\*)
- (3) : EW of banks with Brazilian exposures based on their 1998 annual reports (N=10/9/9\*\*)
- (4) : EW of banks without Brazilian exposures based on their 1998 annual reports (N=64)
- (5) : EW of banks with Brazilian exposures based on their 1998 annual reports but without LTCM exposures based on the FED meeting (N=6)
- (6) : EW of banks with Latin exposures based on their 1998 annual reports (N=14/13/13\*\*)
- (7) : EW of banks without Latin exposures based on their 1998 annual reports (N=60)

<sup>\*\*</sup> Citicorp is in the sample up to 10/7/98 while Crestar is out of the sample during the sample period.

|                                   |          | (1)           | (2)           | (1) - (2)     | (3)           | (4)           | (3) - (4)     | (5)           | (5) - (4)     | (3) - (5)     | (6)           | (7)           | (6) - (7)     |
|-----------------------------------|----------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Intercept                         |          | -0.123 [0.00] | -0.121 [0.00] | -0.001 [0.62] | -0.091 [0.17] | -0.125 [0.00] | 0.034 [0.54]  | -0.092 [0.15] | 0.033 [0.52]  | 0.001 [0.97]  | -0.109 [0.05] | -0.124 [0.00] | 0.015 [0.73]  |
| Excess return of US marke         | t        | 1.001 [0.00]  | 1.017 [0.00]  | -0.015 [0.00] | 1.256 [0.00]  | 0.980 [0.00]  | 0.275 [0.00]  | 1.222 [0.00]  | 0.241 [0.00]  | 0.034 [0.15]  | 1.141 [0.00]  | 0.988 [0.00]  | 0.152 [0.00]  |
| 7-day Eurodollar rate chan        | ge       | -0.028 [0.37] | -0.028 [0.38] | 0.000 [0.93]  | -0.097 [0.07] | -0.019 [0.56] | -0.079 [0.08] | -0.087 [0.09] | -0.069 [0.10] | -0.010 [0.68] | -0.067 [0.14] | -0.020 [0.53] | -0.048 [0.17] |
|                                   | (980902) | 3.312 [0.00]  | 3.281 [0.00]  | 0.031 [0.54]  | 1.543 [0.18]  | 3.553 [0.00]  | -2.010 [0.04] | 2.276 [0.04]  | -1.277 [0.16] | -0.733 [0.15] | 2.138 [0.03]  | 3.548 [0.00]  | -1.410 [0.06] |
| Dollar's pour-out                 | (980903) | -1.099 [0.11] | -1.161 [0.09] | 0.062 [0.22]  | -4.572 [0.00] | -0.628 [0.36] | -3.945 [0.00] | -2.179 [0.05] | -1.552 [0.08] | -2.393 [0.00] | -3.325 [0.00] | -0.656 [0.34] | -2.669 [0.00] |
|                                   | (980904) | -0.310 [0.65] | -0.249 [0.72] | -0.061 [0.23] | -1.826 [0.12] | -0.001 [1.00] | -1.825 [0.06] | -1.267 [0.26] | -1.266 [0.16] | -0.559 [0.27] | -1.290 [0.19] | -0.005 [0.99] | -1.285 [0.09] |
|                                   | (980914) | 0.823 [0.23]  | 0.883 [0.20]  | -0.060 [0.24] | -0.190 [0.87] | 1.049 [0.13]  | -1.239 [0.20] | -0.095 [0.93] | -1.144 [0.21] | -0.095 [0.85] | 0.375 [0.70]  | 1.001 [0.15]  | -0.626 [0.41] |
| Opening of negotiation with IMF   | (980915) | 1.103 [0.11]  | 1.065 [0.12]  | 0.039 [0.44]  | 1.953 [0.09]  | 0.923 [0.18]  | 1.030 [0.29]  | 2.175 [0.05]  | 1.252 [0.16]  | -0.222 [0.66] | 1.828 [0.06]  | 0.885 [0.20]  | 0.943 [0.21]  |
|                                   | (980916) | 0.777 [0.26]  | 0.906 [0.19]  | -0.129 [0.01] | 0.564 [0.63]  | 0.958 [0.16]  | -0.394 [0.68] | 0.564 [0.61]  | -0.394 [0.66] | 0.000 [1.00]  | 0.517 [0.60]  | 0.996 [0.15]  | -0.479 [0.52] |
|                                   | (981007) | -1.400 [0.04] | -1.420 [0.04] | 0.020 [0.70]  | -1.704 [0.14] | -1.375 [0.05] | -0.329 [0.73] | -0.512 [0.65] | 0.863 [0.34]  | -1.192 [0.02] | -1.524 [0.12] | -1.396 [0.04] | -0.129 [0.86] |
| Joint statement of IMF and Brazil | (981008) | -1.712 [0.01] | -1.706 [0.01] | -0.005 [0.91] | 3.457 [0.00]  | -2.436 [0.00] | 5.893 [0.00]  | 1.161 [0.30]  | 3.596 [0.00]  | 2.296 [0.00]  | 0.710 [0.47]  | -2.232 [0.00] | 2.941 [0.00]  |
|                                   | (981009) | 3.420 [0.00]  | 3.271 [0.00]  | 0.148 [0.00]  | 1.777 [0.13]  | 3.488 [0.00]  | -1.711 [0.08] | 1.355 [0.23]  | -2.133 [0.02] | 0.422 [0.41]  | 2.403 [0.02]  | 3.463 [0.00]  | -1.060 [0.16] |
|                                   | (981112) | 0.174 [0.80]  | 0.213 [0.76]  | -0.039 [0.44] | -0.448 [0.70] | 0.305 [0.66]  | -0.753 [0.43] | -0.224 [0.84] | -0.529 [0.56] | -0.224 [0.66] | -0.340 [0.73] | 0.332 [0.63]  | -0.672 [0.37] |
| IMF's support announcement        | (981113) | 0.494 [0.47]  | 0.434 [0.53]  | 0.060 [0.24]  | 2.531 [0.03]  | 0.140 [0.84]  | 2.391 [0.01]  | 2.276 [0.04]  | 2.136 [0.02]  | 0.255 [0.62]  | 2.065 [0.04]  | 0.081 [0.91]  | 1.984 [0.01]  |
|                                   | (981116) | 0.107 [0.88]  | 0.086 [0.90]  | 0.021 [0.67]  | 0.618 [0.59]  | 0.013 [0.98]  | 0.605 [0.53]  | 0.717 [0.52]  | 0.704 [0.43]  | -0.099 [0.85] | 0.237 [0.81]  | 0.054 [0.94]  | 0.183 [0.81]  |
|                                   | (990112) | 0.619 [0.37]  | 0.550 [0.43]  | 0.069 [0.17]  | -0.332 [0.77] | 0.669 [0.33]  | -1.001 [0.30] | -0.686 [0.54] | -1.355 [0.13] | 0.354 [0.49]  | -0.059 [0.95] | 0.679 [0.33]  | -0.738 [0.33] |
| Devaluation                       | (990113) | -0.549 [0.42] | -0.466 [0.50] | -0.084 [0.10] | -0.529 [0.65] | -0.458 [0.50] | -0.071 [0.94] | 0.349 [0.76]  | 0.807 [0.37]  | -0.878 [0.09] | -0.357 [0.72] | -0.490 [0.48] | 0.133 [0.86]  |
|                                   | (990114) | -0.455 [0.51] | -0.472 [0.50] | 0.017 [0.73]  | -1.538 [0.19] | -0.326 [0.63] | -1.211 [0.21] | -1.836 [0.10] | -1.509 [0.09] | 0.298 [0.56]  | -0.903 [0.36] | -0.381 [0.58] | -0.522 [0.49] |
| Giving up defense                 | (990115) | 0.319 [0.64]  | 0.264 [0.70]  | 0.055 [0.28]  | 1.563 [0.18]  | 0.087 [0.90]  | 1.476 [0.13]  | 2.045 [0.07]  | 1.958 [0.03]  | -0.482 [0.35] | 1.321 [0.18]  | 0.039 [0.96]  | 1.282 [0.09]  |
|                                   | (990119) | -1.333 [0.05] | -1.369 [0.05] | 0.036 [0.48]  | -2.433 [0.04] | -1.217 [0.08] | -1.216 [0.21] | -3.603 [0.00] | -2.385 [0.01] | 1.169 [0.02]  | -2.056 [0.04] | -1.219 [0.08] | -0.837 [0.27] |

<sup>\*</sup> Citicorp is dropped out after 10/7/98 and Crestar is dropped out after 12/31/98.

#### Table 5. Abnormal returns of the equally-weighted U.S. bank portfolios on each day of the LTCM events

The following models are estimated for the excess returns of the equally-weighted U.S. bank portfolios over the period from 1/1/98 to 4/9/99 (319 days):

$$R_{pt} = \mathbf{a}_0 + \mathbf{b}_0 R_{mt} + \sum_{k=1}^{K} \mathbf{g}_{0,k} X_{kt} + \sum_{j=1}^{J} D_j \mathbf{f}_{jt} + \mathbf{e}_t$$

where  $R_{pt}$  is the logarithmic daily return on one of the U.S. bank portfolios described below and  $R_{mt}$  is the Datastream U.S. stock market index return. Both returns are in excess of the one-day return on the seven-day Eurodollar deposit. Xt includes the change in the seven-day Eurodollar rate, the change in the Federal Fund rate, and the change in the 30-Year Treasury Bond rate.  $f_{jt}$  is a dummy variable taking a value of 1 for the j-th event day shown below, or zero otherwise. Thus, the parameter estimate  $D_j$  represents an abnormal return for the j-th event day. P-values are in brackets.

- (1) : EW of all banks in the Datastream Banking index (N=78/77/76\*)
- (2) : EW of banks with LTCM exposures based on the FED meeting for the bailout (N=4/3/3\*)
- (3) : EW of banks without LTCM exposures based on the FED meeting for the bailout (N=74/74/73\*)

<sup>\*</sup> Citicorp is dropped out after 10/7/98 and Crestar is dropped out after 12/31/98.

|                             |            | (1)           | (2)           | (3)           | (2) - (3)     |
|-----------------------------|------------|---------------|---------------|---------------|---------------|
| Intercept                   |            | -0.114 [0.01] | -0.032 [0.73] | -0.117 [0.00] | 0.085 [0.31]  |
| Excess return of US 1       | market     | 1.017 [0.00]  | 1.245 [0.00]  | 1.005 [0.00]  | 0.240 [0.00]  |
| 7-day Eurodollar rate       | change     | -0.029 [0.39] | -0.117 [0.11] | -0.025 [0.45] | -0.092 [0.18] |
| Federal Fund rate ch        | nange      | -0.009 [0.34] | 0.038 [0.07]  | -0.011 [0.25] | 0.049 [0.01]  |
| 30-year Treasury Bond r     | ate change | 0.066 [0.16]  | 0.516 [0.00]  | 0.046 [0.33]  | 0.470 [0.00]  |
|                             | (980901)   | 0.280 [0.70]  | -3.466 [0.03] | 0.477 [0.51]  | -3.943 [0.01] |
| News of LTCM's loss         | (980902)   | 3.272 [0.00]  | 0.522 [0.74]  | 3.422 [0.00]  | -2.899 [0.05] |
|                             | (980903)   | -1.057 [0.14] | -7.985 [0.00] | -0.682 [0.35] | -7.303 [0.00] |
|                             | (980923)   | 0.212 [0.77]  | 4.108 [0.01]  | -0.003 [1.00] | 4.111 [0.01]  |
| Rescue accord at the FED (2 | 23         |               |               |               |               |
| night)                      | (980924)   | -1.156 [0.11] | -3.587 [0.03] | -1.024 [0.16] | -2.563 [0.09] |
| -                           | (980925)   | -0.003 [1.00] | -0.022 [0.99] | -0.002 [1.00] | -0.020 [0.99] |

#### Table 6. Abnormal returns of the value-weighted U.S. bank portfolios on each day of the Mexican crisis

The following models are estimated for the excess returns of the value-weighted U.S. bank portfolios over the period from 1/1/94 to 6/30/95 (378 days):

$$R_{pt} = \mathbf{a}_0 + \mathbf{b}_0 R_{mt} + \mathbf{g}_0 X_t + \sum_{j=1}^J D_j \mathbf{f}_{jt} + \mathbf{e}_t$$

where  $R_{pt}$  is the logarithmic daily return on one of the U.S. bank portfolios described below and  $R_{mt}$  is the Datastream U.S. stock market index return. Both returns are in excess of the one-day return on the seven-day Eurodollar deposit. Xt is the change in the seven-day Eurodollar rate.  $f_{jt}$  is a dummy variable taking a value of 1 for the j-th event day shown below, or zero otherwise. Thus, the parameter estimate  $D_j$  represents an abnormal return for the j-th event day. P-values are in brackets.

- (1): VW of all banks in the Datastream Banking index (N=74)
- (2): VW of banks whose 1994 annual reports are available in the Edgar Archives or their web-sites (N=50)
- (3): VW of banks with Mexican exposures based on their 1994 annual reports (N=9)
- (4): VW of banks without Mexican exposures based on their 1994 annual reports (N=41)
- (5): VW of banks with Latin exposures based on their 1994 annual reports (N=10)
- (6): VW of banks without Latin exposures based on their 1994 annual reports (N=40).

|                           |            | (1)           | (2)           | (1) - (2)     | (3)           | (4)           | (3) - (4)     | (5)           | (6)           | (5) - (6)     |
|---------------------------|------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Intercept                 |            | 0.012 [0.66]  | 0.005 [0.86]  | 0.006 [0.07]  | 0.009 [0.82]  | 0.002 [0.94]  | 0.007 [0.83]  | 0.010 [0.80]  | 0.001 [0.96]  | 0.009 [0.77]  |
| Excess return of US ma    | arket      | 1.052 [0.00]  | 1.088 [0.00]  | -0.036 [0.00] | 1.268 [0.00]  | 0.964 [0.00]  | 0.304 [0.00]  | 1.251 [0.00]  | 0.970 [0.00]  | 0.281 [0.00]  |
| 7-day Eurodollar rate ch  | nange      | -0.019 [0.29] | -0.019 [0.33] | 0.000 [0.92]  | -0.034 [0.21] | -0.010 [0.59] | -0.024 [0.27] | -0.034 [0.20] | -0.009 [0.62] | -0.025 [0.23] |
|                           | (941219)   | 0.543 [0.28]  | 0.669 [0.21]  | -0.126 [0.06] | 0.857 [0.25]  | 0.538 [0.28]  | 0.318 [0.59]  | 0.877 [0.23]  | 0.515 [0.31]  | 0.362 [0.53]  |
| Devaluation               | (941220)   | -0.131 [0.80] | -0.171 [0.75] | 0.041 [0.55]  | -0.257 [0.73] | -0.111 [0.82] | -0.146 [0.81] | -0.187 [0.80] | -0.159 [0.75] | -0.028 [0.96] |
| Giving up defense (night) | (941221)   | -0.894 [0.08] | -1.026 [0.06] | 0.132 [0.05]  | -1.483 [0.05] | -0.714 [0.15] | -0.769 [0.20] | -1.476 [0.04] | -0.698 [0.17] | -0.778 [0.18] |
|                           | (941222)   | -1.043 [0.04] | -1.157 [0.03] | 0.114 [0.09]  | -1.619 [0.03] | -0.845 [0.09] | -0.775 [0.19] | -1.610 [0.03] | -0.831 [0.10] | -0.779 [0.18] |
|                           | (941223)   | 0.301 [0.58]  | 0.385 [0.51]  | -0.084 [0.25] | 1.099 [0.17]  | -0.093 [0.86] | 1.192 [0.06]  | 1.041 [0.19]  | -0.082 [0.88] | 1.123 [0.07]  |
|                           | (950105)   | 0.054 [0.92]  | 0.143 [0.79]  | -0.089 [0.19] | 0.210 [0.78]  | 0.098 [0.84]  | 0.112 [0.85]  | 0.173 [0.81]  | 0.122 [0.81]  | 0.051 [0.93]  |
| Request for IMF help      | (950106)   | 0.042 [0.93]  | 0.025 [0.96]  | 0.017 [0.81]  | 0.028 [0.97]  | 0.023 [0.96]  | 0.006 [0.99]  | 0.027 [0.97]  | 0.023 [0.96]  | 0.004 [0.99]  |
|                           | (950109)   | -0.207 [0.68] | -0.277 [0.60] | 0.070 [0.30]  | -0.361 [0.63] | -0.220 [0.66] | -0.141 [0.81] | -0.361 [0.62] | -0.217 [0.67] | -0.145 [0.80] |
|                           | (950125)   | 1.061 [0.04]  | 1.197 [0.03]  | -0.136 [0.04] | 1.476 [0.05]  | 1.012 [0.04]  | 0.464 [0.43]  | 1.481 [0.04]  | 0.996 [0.05]  | 0.486 [0.40]  |
| IMF's support announcemen | t (950126) | 0.355 [0.48]  | 0.458 [0.39]  | -0.102 [0.13] | 0.301 [0.69]  | 0.564 [0.26]  | -0.263 [0.66] | 0.220 [0.76]  | 0.628 [0.21]  | -0.408 [0.48] |
|                           | (950127)   | 0.436 [0.39]  | 0.434 [0.42]  | 0.002 [0.97]  | 0.401 [0.59]  | 0.458 [0.36]  | -0.056 [0.92] | 0.373 [0.61]  | 0.479 [0.34]  | -0.105 [0.86] |

#### Table 7. Abnormal returns of the value-weighted U.S. bank portfolios on each day of the Korean crisis

The following models are estimated for the excess returns of the value-weighted U.S. bank portfolios over the period from 1/16/97 to 7/15/98 (377 days):

$$R_{pt} = \mathbf{a}_0 + \mathbf{b}_0 R_{mt} + \mathbf{g}_0 X_t + \sum_{j=1}^J D_j \mathbf{f}_{jt} + \mathbf{e}_t$$

where  $R_{pt}$  is the logarithmic daily return on one of the U.S. bank portfolios described below and  $R_{mt}$  is the Datastream U.S. stock market index return. Both returns are in excess of the one-day return on the seven-day Eurodollar deposit. Xt is the change in the seven-day Eurodollar rate.  $f_{jt}$  is a dummy variable taking a value of 1 for the j-th event day shown below, or zero otherwise. Thus, the parameter estimate  $D_j$  represents an abnormal return for the j-th event day. P-values are in brackets.

(1) : VW of all banks in the Datastream Banking index (N=78)

(2) : VW of banks whose 1997 annual reports are available in the Edgar Archives or their web-sites (N=76)

(3) : VW of banks with Korean exposures based on their 1997 annual reports (N=10)

(4): VW of banks without Korean exposures based on their 1997 annual reports (N=66)

(5) : VW of banks with Asian exposures based on their 1997 annual reports (N=15)

(6): VW of banks without Asian exposures based on their 1997 annual reports (N=61)

|                            |          | (1)           | (2)           | (1) - (2)     | (3)           | (4)           | (3) - (4)     | (5)           | (6)           | (5) - (6)     |
|----------------------------|----------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Intercept                  |          | 0.019 [0.61]  | 0.018 [0.62]  | 0.000 [0.15]  | 0.003 [0.96]  | 0.027 [0.40]  | -0.024 [0.56] | 0.004 [0.94]  | 0.029 [0.36]  | -0.026 [0.48] |
| Excess return of US mar    | rket     | 1.092 [0.00]  | 1.096 [0.00]  | -0.004 [0.00] | 1.227 [0.00]  | 1.011 [0.00]  | 0.215 [0.00]  | 1.190 [0.00]  | 1.015 [0.00]  | 0.175 [0.00]  |
| 7-day Eurodollar rate cha  | ange     | 0.003 [0.88]  | 0.003 [0.89]  | 0.000 [0.24]  | 0.004 [0.92]  | 0.002 [0.92]  | 0.002 [0.95]  | 0.005 [0.87]  | 0.001 [0.97]  | 0.004 [0.85]  |
|                            | (971114) | -1.029 [0.14] | -1.035 [0.14] | 0.006 [0.38]  | -2.397 [0.02] | -0.225 [0.71] | -2.172 [0.01] | -2.226 [0.02] | -0.086 [0.89] | -2.140 [0.00] |
| Giving up defense          | (971117) | 0.803 [0.25]  | 0.803 [0.25]  | 0.001 [0.93]  | 1.702 [0.10]  | 0.276 [0.65]  | 1.426 [0.07]  | 1.555 [0.10]  | 0.208 [0.74]  | 1.347 [0.05]  |
|                            | (971118) | 0.369 [0.60]  | 0.371 [0.60]  | -0.002 [0.76] | 0.091 [0.93]  | 0.532 [0.38]  | -0.442 [0.58] | 0.283 [0.76]  | 0.437 [0.48]  | -0.154 [0.82] |
|                            | (971120) | 0.024 [0.97]  | 0.014 [0.98]  | 0.010 [0.12]  | -0.582 [0.57] | 0.378 [0.53]  | -0.959 [0.23] | -0.356 [0.70] | 0.317 [0.61]  | -0.673 [0.33] |
| Request for IMF help       | (971121) | -0.453 [0.51] | -0.454 [0.52] | 0.001 [0.84]  | 0.091 [0.93]  | -0.778 [0.20] | 0.869 [0.27]  | -0.033 [0.97] | -0.791 [0.20] | 0.758 [0.27]  |
|                            | (971124) | 0.127 [0.86]  | 0.140 [0.84]  | -0.012 [0.05] | -0.406 [0.69] | 0.452 [0.46]  | -0.857 [0.28] | -0.174 [0.85] | 0.382 [0.54]  | -0.557 [0.42] |
|                            | (971128) | -0.052 [0.94] | -0.049 [0.94] | -0.003 [0.62] | -0.038 [0.97] | -0.053 [0.93] | 0.015 [0.98]  | -0.075 [0.94] | -0.027 [0.96] | -0.048 [0.94] |
| IMF's support announcement | (971201) | 1.482 [0.03]  | 1.487 [0.03]  | -0.005 [0.40] | 2.408 [0.02]  | 0.959 [0.12]  | 1.449 [0.07]  | 2.176 [0.02]  | 0.951 [0.12]  | 1.226 [0.08]  |
|                            | (971202) | 0.614 [0.38]  | 0.614 [0.38]  | 0.000 [0.95]  | 0.027 [0.98]  | 0.952 [0.12]  | -0.925 [0.24] | 0.222 [0.81]  | 0.919 [0.13]  | -0.696 [0.31] |
|                            | (971203) | 0.379 [0.59]  | 0.387 [0.58]  | -0.008 [0.22] | 0.138 [0.89]  | 0.535 [0.38]  | -0.397 [0.62] | 0.236 [0.80]  | 0.508 [0.41]  | -0.272 [0.69] |
| IMF's support announcement | (971204) | 0.898 [0.20]  | 0.904 [0.20]  | -0.006 [0.33] | 1.677 [0.10]  | 0.453 [0.46]  | 1.224 [0.12]  | 1.674 [0.07]  | 0.295 [0.63]  | 1.379 [0.05]  |
|                            | (971205) | 0.112 [0.87]  | 0.110 [0.88]  | 0.002 [0.74]  | 0.358 [0.73]  | -0.030 [0.96] | 0.388 [0.63]  | 0.271 [0.77]  | -0.014 [0.98] | 0.285 [0.68]  |

#### Table 8. Abnormal returns of the value-weighted U.S. bank portfolios on each day of the Russian crisis

The following models are estimated for the excess returns of the value-weighted U.S. banks portfolios over the period from 1/1/98 to 4/9/99 (319 days):

$$R_{pt} = \mathbf{a}_0 + \mathbf{b}_0 R_{mt} + \mathbf{g}_0 X_t + \sum_{j=1}^J D_j \mathbf{f}_{jt} + \mathbf{e}_t$$

where  $R_{pt}$  is the logarithmic daily return on one of the U.S. bank portfolios described below and  $R_{mt}$  is the Datastream U.S. stock market index return. Both returns are in excess of the one-day return on the seven-day Eurodollar deposit. Xt is the change in the seven-day Eurodollar rate.  $f_{jt}$  is a dummy variable taking a value of 1 for the j-th event day shown below, or zero otherwise. Thus, the parameter estimate  $D_j$  represents an abnormal return for the j-th event day. P-values are in brackets.

- (1) : VW of all banks in the Datastream Banking index (N=78/77/76\*)
- (2): VW of banks whose 1998 annual reports are available in the Edgar Archives or their web-sites (N=74/73/73\*\*)
- (3) : VW of banks with Russian exposures based on their 1998 annual reports (N=7/6/6\*\*)
- (4): VW of banks without Russian exposures based on their 1998 annual reports (N=67)

<sup>\*\*</sup> Citicorp is in the sample up to 10/7/98 while Crestar is out of the sample during the sample period.

|                                       |          | (1)           | (2)           | (1) - (2)     | (3)           | (4)           | (3) - (4)     |
|---------------------------------------|----------|---------------|---------------|---------------|---------------|---------------|---------------|
| Intercept                             |          | -0.094 [0.07] | -0.095 [0.07] | 0.001 [0.36]  | -0.089 [0.34] | -0.099 [0.03] | 0.010 [0.90]  |
| Excess return of US market            |          | 1.266 [0.00]  | 1.270 [0.00]  | -0.004 [0.00] | 1.485 [0.00]  | 1.184 [0.00]  | 0.301 [0.00]  |
| 7-day Eurodollar rate change          |          | -0.046 [0.27] | -0.046 [0.27] | 0.000 [0.77]  | -0.115 [0.12] | -0.022 [0.55] | -0.093 [0.14] |
|                                       | (980618) | -0.272 [0.77] | -0.261 [0.78] | -0.011 [0.41] | 0.158 [0.92]  | -0.459 [0.57] | 0.617 [0.66]  |
| Request for additional IMF help       | (980619) | 0.444 [0.63]  | 0.456 [0.62]  | -0.012 [0.36] | 0.749 [0.65]  | 0.325 [0.69]  | 0.424 [0.76]  |
|                                       | (980622) | -0.955 [0.30] | -0.972 [0.29] | 0.017 [0.20]  | -1.339 [0.41] | -0.787 [0.33] | -0.552 [0.69] |
|                                       | (980624) | 1.211 [0.19]  | 1.237 [0.18]  | -0.027 [0.04] | 2.061 [0.21]  | 0.830 [0.31]  | 1.232 [0.38]  |
| IMF's approval of pre-assigned loan   | (980625) | 0.655 [0.47]  | 0.657 [0.47]  | -0.002 [0.88] | 0.103 [0.95]  | 0.929 [0.25]  | -0.826 [0.55] |
|                                       | (980626) | -0.234 [0.80] | -0.226 [0.80] | -0.008 [0.57] | -0.197 [0.90] | -0.245 [0.76] | 0.048 [0.97]  |
|                                       | (980710) | 0.584 [0.52]  | 0.582 [0.52]  | 0.002 [0.86]  | 0.915 [0.57]  | 0.419 [0.60]  | 0.495 [0.72]  |
| IMF's additional support announcement | (980713) | 0.033 [0.97]  | 0.034 [0.97]  | -0.001 [0.96] | 0.349 [0.83]  | -0.120 [0.88] | 0.469 [0.74]  |
|                                       | (980714) | 0.531 [0.56]  | 0.531 [0.56]  | 0.001 [0.94]  | 0.613 [0.71]  | 0.473 [0.56]  | 0.140 [0.92]  |
|                                       | (980814) | 0.315 [0.73]  | 0.309 [0.74]  | 0.006 [0.65]  | 1.180 [0.47]  | -0.092 [0.91] | 1.272 [0.36]  |
| Devaluation                           | (980817) | -0.506 [0.58] | -0.488 [0.60] | -0.018 [0.16] | 0.653 [0.69]  | -1.079 [0.18] | 1.732 [0.21]  |
|                                       | (980818) | 0.248 [0.79]  | 0.264 [0.77]  | -0.016 [0.24] | 0.122 [0.94]  | 0.302 [0.71]  | -0.179 [0.90] |
|                                       | (980827) | -0.907 [0.33] | -0.907 [0.33] | 0.000 [0.99]  | -3.023 [0.07] | 0.123 [0.88]  | -3.147 [0.03] |
| Suspension of ruble trading           | (980828) | 0.177 [0.85]  | 0.179 [0.85]  | -0.002 [0.87] | -1.335 [0.41] | 0.886 [0.28]  | -2.221 [0.11] |
|                                       | (980831) | 3.103 [0.00]  | 3.129 [0.00]  | -0.026 [0.06] | 3.473 [0.04]  | 3.049 [0.00]  | 0.423 [0.77]  |

<sup>\*</sup> Citicorp is dropped out after 10/7/98 and Crestar is dropped out after 12/31/98.

#### Table 9. Abnormal returns of the value-weighted U.S. bank portfolios on each day of the Brazilian crisis

The following models are estimated for the excess returns of the value-weighted U.S. banks portfolios over the period from 1/1/98 to 4/9/99 (319 days):

$$R_{pt} = \mathbf{a}_0 + \mathbf{b}_0 R_{mt} + \mathbf{g}_0 X_t + \sum_{j=1}^{J} D_j \mathbf{f}_{jt} + \mathbf{e}_t$$

where  $R_{pt}$  is the logarithmic daily return on one of the U.S. bank portfolios described below and  $R_{mt}$  is the Datastream U.S. stock market index return. Both returns are in excess of one-day return on the 7-day Eurodollar deposit. Xt is the change in the 7-day Eurodollar rate.  $\mathbf{f}_{jt}$  is a dummy variable taking a value of 1 for the j-th event day shown below, or zero otherwise. Thus, the parameter estimate  $D_j$  represents an abnormal return for the j-th event day. P-values are in brackets.

- (1) : VW of all banks in the Datastream Banking index (N=78/77/76\*)
- (2) : VW of banks whose 1998 annual reports are available in the Edgar Archives or their web-sites (N=74/73/73\*\*)
- (3) : VW of banks with Brazilian exposures based on their 1998 annual reports (N=10/9/9\*\*)
- (4): VW of banks without Brazilian exposures based on their 1998 annual reports (N=64)
- (5) : VW of banks with Brazilian exposures based on their 1998 annual reports but without LTCM exposures based on the FED meeting (N=6)
- (6) : VW of banks with Latin exposures based on their 1998 annual reports (N=14/13/13\*\*)
- (7): VW of banks without Latin exposures based on their 1998 annual reports (N=60)

<sup>\*\*</sup> Citicorp is in the sample up to 10/7/98 while Crestar is out of the sample during the sample period.

|                                   |          | (1)           | (2)           | (1) - (2)     | (3)           | (4)           | (3) - (4)     | (5)           | (5) - (4)     | (3) - (5)     | (6)           | (7)           | (6) - (7)     |
|-----------------------------------|----------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Intercept                         |          | -0.083 [0.10] | -0.083 [0.10] | 0.000 [0.75]  | -0.063 [0.43] | -0.097 [0.03] | 0.033 [0.61]  | -0.070 [0.37] | 0.027 [0.66]  | 0.007 [0.87]  | -0.066 [0.39] | -0.096 [0.03] | 0.031 [0.62]  |
| Excess return of US market        | et       | 1.190 [0.00]  | 1.194 [0.00]  | -0.004 [0.00] | 1.364 [0.00]  | 1.098 [0.00]  | 0.266 [0.00]  | 1.283 [0.00]  | 0.184 [0.00]  | 0.082 [0.01]  | 1.341 [0.00]  | 1.103 [0.00]  | 0.238 [0.00]  |
| 7-day Eurodollar rate char        | nge      | -0.043 [0.29] | -0.043 [0.29] | 0.000 [0.62]  | -0.111 [0.08] | -0.009 [0.79] | -0.102 [0.05] | -0.092 [0.14] | -0.082 [0.10] | -0.020 [0.52] | -0.107 [0.08] | -0.008 [0.82] | -0.099 [0.05] |
|                                   | (980902) | 2.403 [0.01]  | 2.387 [0.01]  | 0.017 [0.21]  | 1.918 [0.17]  | 2.667 [0.00]  | -0.749 [0.51] | 2.845 [0.04]  | 0.177 [0.87]  | -0.927 [0.17] | 2.019 [0.13]  | 2.630 [0.00]  | -0.611 [0.57] |
| Dollar's pour-out                 | (980903) | -1.643 [0.06] | -1.660 [0.06] | 0.016 [0.21]  | -4.716 [0.00] | 0.041 [0.96]  | -4.757 [0.00] | -1.458 [0.28] | -1.499 [0.16] | -3.258 [0.00] | -4.497 [0.00] | 0.085 [0.91]  | -4.582 [0.00] |
|                                   | (980904) | -1.867 [0.03] | -1.875 [0.03] | 0.008 [0.54]  | -3.294 [0.02] | -1.101 [0.15] | -2.194 [0.05] | -2.227 [0.10] | -1.126 [0.30] | -1.067 [0.11] | -3.099 [0.02] | -1.135 [0.14] | -1.964 [0.07] |
|                                   | (980914) | 0.441 [0.62]  | 0.438 [0.62]  | 0.002 [0.86]  | 0.095 [0.95]  | 0.638 [0.41]  | -0.542 [0.63] | 0.197 [0.88]  | -0.440 [0.68] | -0.102 [0.88] | 0.204 [0.88]  | 0.591 [0.44]  | -0.387 [0.72] |
| Opening of negotiation with IMF   | (980915) | 1.361 [0.12]  | 1.344 [0.13]  | 0.017 [0.19]  | 1.697 [0.22]  | 1.145 [0.14]  | 0.552 [0.63]  | 1.029 [0.45]  | -0.116 [0.91] | 0.668 [0.32]  | 1.661 [0.21]  | 1.146 [0.14]  | 0.515 [0.63]  |
|                                   | (980916) | 0.926 [0.29]  | 0.950 [0.28]  | -0.023 [0.08] | 0.246 [0.86]  | 1.341 [0.08]  | -1.095 [0.33] | 1.052 [0.43]  | -0.289 [0.79] | -0.806 [0.23] | 0.255 [0.85]  | 1.376 [0.07]  | -1.121 [0.30] |
|                                   | (981007) | -1.224 [0.16] | -1.222 [0.17] | -0.002 [0.87] | -2.071 [0.14] | -0.726 [0.34] | -1.345 [0.24] | -1.848 [0.17] | -1.122 [0.30] | -0.223 [0.74] | -2.010 [0.13] | -0.718 [0.35] | -1.292 [0.23] |
| Joint statement of IMF and Brazil | (981008) | 0.603 [0.49]  | 0.617 [0.48]  | -0.014 [0.31] | 3.156 [0.02]  | -0.681 [0.37] | 3.838 [0.00]  | 2.260 [0.09]  | 2.941 [0.01]  | 0.896 [0.18]  | 2.746 [0.04]  | -0.587 [0.45] | 3.333 [0.00]  |
|                                   | (981009) | 3.610 [0.00]  | 3.597 [0.00]  | 0.012 [0.35]  | 2.542 [0.07]  | 4.155 [0.00]  | -1.614 [0.16] | 3.007 [0.03]  | -1.149 [0.29] | -0.465 [0.49] | 2.538 [0.06]  | 4.212 [0.00]  | -1.674 [0.12] |
|                                   | (981112) | -0.017 [0.98] | -0.017 [0.98] | 0.000 [0.98]  | -1.106 [0.42] | 0.474 [0.53]  | -1.580 [0.16] | -0.981 [0.47] | -1.455 [0.18] | -0.125 [0.85] | -1.035 [0.44] | 0.492 [0.52]  | -1.527 [0.16] |
| IMF's support announcement        | (981113) | 1.231 [0.16]  | 1.223 [0.16]  | 0.007 [0.57]  | 2.883 [0.04]  | 0.468 [0.54]  | 2.415 [0.03]  | 2.986 [0.03]  | 2.518 [0.02]  | -0.103 [0.88] | 2.854 [0.03]  | 0.398 [0.60]  | 2.457 [0.02]  |
|                                   | (981116) | 0.291 [0.74]  | 0.300 [0.73]  | -0.009 [0.48] | 0.788 [0.57]  | 0.086 [0.91]  | 0.702 [0.54]  | 0.995 [0.46]  | 0.909 [0.40]  | -0.207 [0.76] | 0.713 [0.59]  | 0.099 [0.90]  | 0.614 [0.57]  |
|                                   | (990112) | -0.175 [0.84] | -0.180 [0.84] | 0.005 [0.68]  | -0.760 [0.58] | 0.082 [0.92]  | -0.842 [0.46] | -1.178 [0.38] | -1.259 [0.24] | 0.418 [0.54]  | -0.700 [0.60] | 0.078 [0.92]  | -0.778 [0.47] |
| Devaluation                       | (990113) | -0.400 [0.65] | -0.394 [0.65] | -0.006 [0.64] | -1.049 [0.45] | -0.081 [0.92] | -0.967 [0.39] | -0.362 [0.79] | -0.280 [0.79] | -0.687 [0.31] | -1.027 [0.44] | -0.062 [0.94] | -0.965 [0.37] |
|                                   | (990114) | -1.138 [0.19] | -1.141 [0.20] | 0.003 [0.80]  | -1.906 [0.17] | -0.800 [0.30] | -1.107 [0.33] | -2.035 [0.13] | -1.235 [0.25] | 0.128 [0.85]  | -1.700 [0.20] | -0.870 [0.26] | -0.830 [0.44] |
| Giving up defense                 | (990115) | 0.717 [0.41]  | 0.711 [0.42]  | 0.006 [0.66]  | 0.994 [0.48]  | 0.611 [0.43]  | 0.383 [0.74]  | 1.231 [0.36]  | 0.620 [0.57]  | -0.237 [0.73] | 0.974 [0.47]  | 0.606 [0.43]  | 0.367 [0.73]  |
|                                   | (990119) | -1.951 [0.03] | -1.958 [0.03] | 0.007 [0.59]  | -1.524 [0.27] | -2.154 [0.01] | 0.629 [0.58]  | -2.917 [0.03] | -0.764 [0.48] | 1.393 [0.04]  | -1.528 [0.25] | -2.174 [0.01] | 0.645 [0.55]  |

<sup>\*</sup> Citicorp is dropped out after 10/7/98 and Crestar is dropped out after 12/31/98.

#### Table 10. Abnormal returns of the value-weighted U.S. bank portfolios on each day of the LTCM events

The following models are estimated for the excess returns of the value-weighted U.S. bank portfolios over the period from 1/1/98 to 4/9/99 (319 days):

$$R_{pt} = \mathbf{a}_0 + \mathbf{b}_0 R_{mt} + \sum_{k=1}^{K} \mathbf{g}_{0,k} X_{kt} + \sum_{j=1}^{J} D_j \mathbf{f}_{jt} + \mathbf{e}_t$$

where  $R_{pt}$  is the logarithmic daily return on one of the U.S. bank portfolios described below and  $R_{mt}$  is the Datastream U.S. stock market index return. Both returns are in excess of the one-day return on the seven-day Eurodollar deposit. Xt includes the change in the seven-day Eurodollar rate, the change in the Federal Fund rate, and the change in the 30-Year Treasury Bond rate.  $f_{jt}$  is a dummy variable taking a value of 1 for the j-th event day shown below, or zero otherwise. Thus, the parameter estimate  $D_j$  represents an abnormal return for the j-th event day. P-values are in brackets.

- (1) : VW of all banks in the Datastream Banking index (N=78/77/76\*)
- (2) : VW of banks with LTCM exposures based on the FED meeting for the bailout (N=4/3/3\*)
- (3) : VW of banks without LTCM exposures based on the FED meeting for the bailout (N=74/74/73\*)

<sup>\*</sup> Citicorp is dropped out after 10/7/98 and Crestar is dropped out after 12/31/98.

|                                     |          | (1)           | (2)           | (3)           | (2) - (3)     |
|-------------------------------------|----------|---------------|---------------|---------------|---------------|
| Intercept                           |          | -0.071 [0.17] | -0.003 [0.98] | -0.077 [0.11] | 0.075 [0.39]  |
| Excess return of US ma              | arket    | 1.202 [0.00]  | 1.446 [0.00]  | 1.159 [0.00]  | 0.287 [0.00]  |
| 7-day Eurodollar rate ch            | nange    | -0.049 [0.23] | -0.169 [0.04] | -0.035 [0.37] | -0.133 [0.06] |
| Federal Fund rate char              | nge      | 0.006 [0.63]  | 0.025 [0.27]  | 0.003 [0.78]  | 0.022 [0.27]  |
| 30-year Treasury Bond rate          | e change | 0.122 [0.04]  | 0.440 [0.00]  | 0.073 [0.19]  | 0.366 [0.00]  |
|                                     | (980901) | -0.694 [0.45] | -3.962 [0.03] | -0.047 [0.96] | -3.915 [0.01] |
| News of LTCM's loss                 | (980902) | 2.419 [0.01]  | 0.989 [0.58]  | 2.731 [0.00]  | -1.743 [0.26] |
|                                     | (980903) | -1.578 [0.08] | -8.297 [0.00] | -0.258 [0.76] | -8.039 [0.00] |
|                                     | (980923) | 1.205 [0.18]  | 3.967 [0.03]  | 0.642 [0.46]  | 3.325 [0.03]  |
| Rescue accord at the FED (23 night) | (980924) | -1.715 [0.06] | -3.312 [0.06] | -1.410 [0.10] | -1.902 [0.22] |
|                                     | (980925) | -0.059 [0.95] | -0.033 [0.99] | -0.061 [0.94] | 0.028 [0.99]  |

## Table 11. Lists of the sample banks

The following table shows 78 sample banks used in our analyses. YES means that the bank has positive exposures to the corresponding country based on its annual report. NO means that the bank has no exposures to the corresponding country based on the annual report. N/A denotes banks whose annual reports are unavailable from the Edgar Archives or their web-sites. For LTCM, the exposures are determined by the presence at the FED meeting instead of the annual report.

| Name                          | Datastream       | Mexico           | Latin            | Korea     | Asia      | Russia    | Brazil    | Latin     | LTCM      |
|-------------------------------|------------------|------------------|------------------|-----------|-----------|-----------|-----------|-----------|-----------|
|                               | Code             | 1994             | 1994             | 1997      | 1997      | 1998      | 1998      | 1998      | Sep. 1998 |
| CITICORP                      | 902245<br>952203 | YES<br>NO        | YES<br>NO        | YES<br>NO | YES<br>NO | YES<br>NO | YES<br>NO | YES       | YES<br>NO |
| AMSOUTH BANC.<br>ASSD.BANCORP | 982295           | N/A              | N/A              | NO<br>NO  | NO<br>NO  | NO<br>NO  | NO<br>NO  | NO<br>NO  | NO<br>NO  |
| BANK ONE                      | 951043           | NO<br>NO         | NO<br>NO         | NO        | NO        | NO        | NO        | NO        | NO        |
| BANK OF NEW YORK              | 905840           | NO               | NO               | YES       | YES       | YES       | YES       | YES       | NO        |
| BANKBOSTON                    | 902173           | N/A              | N/A              | YES       | YES       | NO        | YES       | YES       | NO        |
| BANKERS TST.NY.               | 902238           | YES              | YES              | YES       | YES       | YES       | YES       | YES       | YES       |
| BANK UTD.                     | 883566           | N/A              | N/A              | NO        | NO        | N/A       | N/A       | N/A       | NO        |
| BB & T                        | 992305           | N/A              | N/A              | NO        | NO        | NO        | NO        | NO        | NO        |
| CCB FINL.                     | 510057           | NO               | NO               | NO        | NO        | NO        | NO        | NO        | NO        |
| CENTURA BANKS                 | 544117           | N/A              | N/A              | NO        | NO        | NO        | NO        | NO        | NO        |
| CHARTER ONE FINL.             | 771756           | N/A              | N/A              | NO        | NO        | NO        | NO        | NO        | NO        |
| CHASE MANHATTAN               | 902242           | YES              | YES              | YES       | YES       | YES       | YES       | YES       | YES       |
| CITY NATIONAL                 | 952436           | NO               | NO               | NO        | NO        | NO        | NO        | NO        | NO        |
| COLONIAL BANCGROUP            | 154168           | N/A              | N/A              | NO        | NO        | NO        | NO        | YES       | NO        |
| COMERICA                      | 922964           | YES              | YES              | NO        | NO        | NO        | NO        | YES       | NO        |
| COMMERCE BCSH.                | 923340           | N/A              | N/A              | NO        | NO        | NO        | NO        | NO        | NO        |
| COMPASS BANCSHARES            | 510078           | NO               | NO               | NO        | NO        | NO        | NO        | NO        | NO        |
| CREDICORP LTD.COM             | 867078           | N/A              | N/A              | NO        | NO        | N/A       | N/A       | N/A       | NO        |
| CRESTAR FINL.                 | 904865           | NO               | NO               | NO        | NO        | N/A       | N/A       | N/A       | NO        |
| CULLEN FROST BK               | 997027           | YES              | YES              | NO        | NO        | NO        | NO        | YES       | NO        |
| DIME BANCORP                  | 729679           | N/A              | N/A              | NO        | NO        | NO        | NO        | NO        | NO        |
| FIFTH THIRD BANCORP.          | 997198           | NO               | NO               | NO        | NO        | NO        | NO        | NO        | NO        |
| 1ST.AMER.TENNESSEE            | 997993           | NO               | NO               | NO        | YES       | NO        | NO        | NO        | NO        |
| M&T BK.                       | 951503           | N/A              | N/A              | N/A       | N/A       | NO        | NO        | NO        | NO        |
| FIRST SECURITY                | 923398           | NO               | NO               | NO        | NO        | NO        | NO        | NO        | NO        |
| 1ST.TEN.NAT.                  | 905780           | NO               | NO               | NO        | YES       | NO        | NO        | NO        | NO        |
| FIRST UNION                   | 951048           | NO               | NO               | NO        | NO        | NO        | NO        | NO        | NO        |
| FIRST VA.BANKS                | 905841           | NO               | NO               | NO        | NO        | NO        | NO        | NO        | NO        |
| FIRSTMERIT CORP.              | 510161           | NO               | NO               | NO        | NO        | NO        | NO        | NO        | NO        |
| FLEET FINL.GP                 | 923464           | NO               | NO               | NO        | YES       | NO        | YES       | YES       | NO        |
| GOLDEN ST BANCORP             | 322944           | N/A              | N/A              | NO        | NO        | NO        | NO        | NO        | NO        |
| GOLDEN WEST FINL.             | 923564           | NO               | NO               | NO        | NO        | NO        | NO        | NO        | NO        |
| GREENPOINT FINL.CORP.         | 360583           | N/A              | N/A              | NO        | NO        | NO        | NO        | NO        | NO        |
| HIBERNIA                      | 981538           | NO               | NO               | NO        | NO        | NO        | NO        | NO        | NO        |
| HNTGTN.BCSH.                  | 951068           | NO               | NO               | NO        | NO        | NO        | NO        | NO        | NO        |
| KEYCORP                       | 916130           | NO               | NO               | NO        | NO        | NO        | NO        | NO        | NO        |
| KEYSTONE FINL.                | 510276           | N/A              | N/A              | NO        | NO        | NO        | NO        | NO        | NO        |
| MARSHALL & IISLY              | 951063           | NO               | NO               | NO        | NO        | NO        | NO        | NO        | NO        |
| MBNA CORP.                    | 544345           | N/A              | N/A              | NO        | NO        | NO        | NO        | NO        | NO        |
| MELLON BANK                   | 933189           | NO               | NO               | NO        | NO        | NO        | NO        | NO        | NO        |
| MERCANTH E BANK               | 905781           | NO               | NO               | NO        | NO        | NO        | NO        | NO        | NO<br>NO  |
| MERCANTILE BANK<br>MORGAN JP  | 916448<br>902247 | NO<br><b>YES</b> | NO<br><b>YES</b> | NO<br>YES | NO<br>YES | NO<br>YES | NO<br>YES | NO<br>YES | YES       |
| NAT.CITY                      | 916631           | NO               | NO               | NO        | NO        | NO        | NO        | NO        | NO        |
| NAT.COMMERCE BANCORP.         | 992066           | N/A              | N/A              | NO        | NO        | NO        | NO        | NO        | NO        |
| BANK OF AMERICA               | 923937           | YES              | YES              | YES       | YES       | YES       | YES       | YES       | NO        |
| NORTH FORK BANCORP.           | 938523           | NO               | NO               | NO        | NO        | NO        | NO        | NO        | NO        |
| NTHN.TRUST                    | 905861           | NO               | NO               | NO        | YES       | NO        | NO        | NO        | NO        |
| WELLS FARGO                   | 906195           | NO               | NO               | NO        | NO        | NO        | NO        | NO        | NO        |
| OLD KENT FINL.                | 951940           | NO               | NO               | NO        | NO        | NO        | NO        | NO        | NO        |
| PAC.CEN.FINL.                 | 929153           | N/A              | N/A              | YES       | YES       | NO        | NO        | NO        | NO        |
| PEOPLES BK.BRIDGEPORT         | 517465           | NO               | NO               | NO        | NO        | NO        | NO        | NO        | NO        |
| PNC BANK                      | 944175           | NO               | NO               | NO        | NO        | NO        | NO        | NO        | NO        |
| POPULAR                       | 755658           | N/A              | N/A              | NO        | NO        | NO        | NO        | NO        | NO        |
| PROVIDENT FINL.GP.            | 517744           | N/A              | N/A              | NO        | NO        | NO        | NO        | NO        | NO        |
| REGIONS FINL.CORP.            | 951144           | NO               | NO               | NO        | NO        | NO        | NO        | NO        | NO        |
| REPUBLIC NY.                  | 929968           | NO               | YES              | NO        | NO        | YES       | YES       | YES       | NO        |
| SOUTHTRUST                    | 992303           | NO               | NO               | NO        | NO        | NO        | NO        | NO        | NO        |
| SOVEREIGN BANC.               | 510428           | N/A              | N/A              | NO        | NO        | NO        | NO        | NO        | NO        |
| FIRSTAR WI.                   | 951046           | NO               | NO               | NO        | NO        | NO        | NO        | NO        | NO        |
| STATE STR.                    | 951052           | YES              | YES              | NO        | NO        | NO        | NO        | NO        | NO        |
|                               |                  |                  |                  |           |           |           |           |           |           |
| SUMMIT BANCORP                | 916878           | N/A              | N/A              | NO        | NO        | NO        | NO        | NO        | NO        |

| 510056  | N/A  | N/A   | NO  | NO   | NO  | NO  | NO  | NO   |
|---|--|---|---|--|---|---|---|--|
| 729506  | NO   | NO  | NO  | NO   | NO  | NO  | NO  | NO   |
| 982778  | NO   | NO  | NO  | NO   | NO  | NO  | NO  | NO   |
| 951051  | NO   | NO  | NO  | NO   | NO  | NO  | NO  | NO   |
| 922456  | N/A  | N/A   | YES   | YES  | NO  | NO  | YES   | NO   |
| 905173  | N/A  | N/A   | YES   | YES  | NO  | NO  | NO  | NO   |
| 510474  | NO   | NO  | NO  | NO   | NO  | NO  | NO  | NO   |
| 923253  | NO   | NO  | NO  | NO   | NO  | YES   | YES   | NO   |
| 745028  | N/A  | N/A   | N/A   | N/A  | N/A   | N/A   | N/A   | NO   |
| 541024  | NO   | NO  | NO  | NO   | NO  | NO  | NO  | NO   |
| 998589  | N/A  | N/A   | NO  | NO   | NO  | NO  | NO  | NO   |
| 951584  | NO   | NO  | NO  | NO   | NO  | NO  | NO  | NO   |
| 702406  | N/A  | N/A   | NO  | YES  | NO  | NO  | NO  | NO   |
| 357403  | N/A  | N/A   | NO  | NO   | NO  | NO  | NO  | NO   |
|   |  |   |   |  |   |   |   |  |
| No. of banks whose annual reports are available |  | 50  | 76  | 76   | 74  | 74  | 74  | 78   |
|   | 9  | 10  | 10  | 15   | 7   | 10  | 14  | 4  |
|   | 41   | 40  | 66  | 61   | 67  | 64  | 60  | 74   |
|   | 729506<br>982778<br>951051<br>922456<br>905173<br>510474<br>923253<br>745028<br>541024<br>998589<br>951584<br>702406<br>357403 | 729506 NO 982778 NO 982778 NO 951051 NO 922456 N/A 905173 N/A 510474 NO 923253 NO 745028 N/A 541024 NO 998589 N/A 951584 NO 702406 N/A 357403 N/A | 729506 NO NO 982778 NO NO 982778 NO NO 951051 NO NO 922456 N/A N/A 905173 N/A N/A 510474 NO NO 923253 NO NO 745028 N/A N/A 541024 NO NO 998589 N/A N/A 951584 NO NO 702406 N/A N/A 357403 N/A N/A | 729506 NO NO NO NO 982778 NO NO NO NO 982778 NO NO NO NO 951051 NO NO NO NO 922456 N/A N/A YES 905173 N/A N/A YES 510474 NO NO NO NO 923253 NO NO NO NO 745028 N/A N/A N/A N/A 541024 NO NO NO NO 998589 N/A N/A N/A NO 951584 NO NO NO NO 702406 N/A N/A N/A NO 357403 N/A N/A NO | 729506 NO NO NO NO NO NO 982778 NO S1051 NO NO NO NO NO NO NO S1051 NO | 729506 NO NO NO NO NO NO NO 982778 NO | 729506 NO NO NO NO NO NO NO NO NO 982778 NO | 729506 NO 982778 NO |

#### Table 12. Sources of the event dates

The following table shows the sources of the event dates used in our analyses. Our major sources are *The New York Times* and *The Wall Street Journal*. They are searched from September 1994 to March 1995 for Mexico, from May 1998 to September 1998 for Russia, from September 1998 to March 1999 for Brazil, and from August 1998 to October 1998 for LTCM. For Korea, we use the chronology in Kho and Stulz (2000) and double-check them as in the table. Secondary sources include *Financial Times*, the Bloomberg Newswire, the IMF News Archives (web-site), and other various newspapers.

|                                       |        | The New York Times          | The Wall Street Journal      | Others  |
|---------------------------------------|--------|-----------------------------|------------------------------|---|
| Mexico                                |        |                             |                              |   |
| Devaluation                           | 941220 | 12/21/94, Section D; Page 1 | 12/21/94, Section A; Page 3  |   |
| Giving up defense (night)             | 941221 | 12/22/94, Section A, Page 1 | 12/23/94, Section A; Page 3  |   |
| Request for IMF help                  | 950106 | 1/7/95, Section 1; Page 39  |                              | Financial Times, 1/7/95, Page 4                                     |
| IMF's support announcement            | 950126 | 1/27/95, Section A; Page 10 | 1/27/95, Section A; Page 6   | -   |
| Korea                                 |        |                             |                              |   |
| Giving up defense                     | 971117 | 11/18/97, Section D; Page 1 | 11/18/97, Section A; Page 18 |   |
| Request for IMF help                  | 971121 | 11/22/97, Section A; Page 1 | 11/21/97, Section A; page 16 |   |
| IMF's support announcement            | 971201 | 12/1/97, Section A; Page 1  | 12/1/97, Section A; Page 15  |   |
| IMF's support announcement            | 971204 | 12/4/97, Section A; Page 1  | 12/4/97, Section A; Page 14  |   |
| Russia                                |        |                             |                              |   |
| Request for additional IMF help       | 980619 | 6/19/98, Section A; Page 5  | 6/19/98, Section A; Page 11  |   |
| IMF's approval of pre-assigned loan   | 980625 | 6/25/98, Section A; Page 2  | 6/25/98, Section A; Page 19  |   |
| IMF's additional support announcement | 980713 | 7/13/98, Section A; Page 1  | 7/13/98, Section A; Page 9   |   |
| Devaluation                           | 980817 | 8/18/98, Section A; Page 1  | 8/18/98, Section A; Page 2   |   |
| Suspension of ruble trading           | 980828 | 8/28/98, Section A; Page 1  | 8/28/98, Section A; Page 7   |   |
| Brazil                                |        |                             |                              |   |
| Dollar's pour-out                     | 980903 | 9/4/98, Section C; Page 1   | 9/4/98, Section A; Page 9    | Bloomberg Newswire, 9/4/98, morning                                 |
| Opening of negotiation with IMF       | 980915 |                             | 9/14/98, Section A; Page2    | Financial Times, 9/16/98, Front Page                                |
|                                       |        |                             | 9/17/98, Section A; Page 17  |   |
| Joint statement of IMF and Brazil     | 981008 |                             | 10/9/98, Section A; Page 8   | Financial Times, 10/9/98, Int'l, Page 4 / IMF news release, 10/8/98 |
| IMF's support announcement            | 981113 | 11/13/98, Section A; Page 1 | 11/13/98, Section A; Page 2  |   |
|                                       |        | 11/14/98, Section A; Page 4 |                              |   |
| Devaluation                           | 990113 | 1/14/99, Section A; Page 1  | 1/14/98, Section A; Page 1   |   |
| Giving up defense                     | 990115 | 1/16/99, Section A; Page 1  | C                            | Financial Times, 1/16/99, Currency; Page 11                         |
| LTCM                                  |        |                             |                              |   |
| News of LTCM's loss                   | 980902 | 9/3/98, Section C; Page 1   | 9/3/98, Section A; Page 2    |   |
| Meeting at the FED (23 night)         | 980924 | 9/24/98, Section A; Page 1  | 9/24/98, Section A; Page 1   |   |