Chapter 50

THE IMPACTS OF IMF BAILOUTS IN INTERNATIONAL DEBT CRISES

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Abstract

The roles played by the IMF in international debt crises have long been considered controversial among both academics and policy makers. This study reviews the role of IMF bailouts in international debt crises. The literature shows that there is a statistically significant positive wealth transfer from the IMF to the international bank creditors during major event announcements. Further, the evidence indicates the existence of market informational efficiency and different pricing behavior of different groups of international bank creditors. A pertinent future research topic would be to examine whether IMF introduces the moral hazard problem into the international financial markets.

Keywords: event studies; IMF bailout; equity prices; bank returns; international debt crisis; market efficiency; currency crisis; LDC loans

50.1. Introduction

"The roles played by the IMF in international debt crises have long been controversial among both academics and policy makers" (Zhang, 2001, p. 363). Financial crises in emerging markets and their contagion effects on the global financial system over the last two decades or so – Mexico, Argentina, Brazil, and Chile in 1982–83, Brazil in 1987, Mexico in 1990–1991 and again in 1994–1995, Argentina in 1995, Southeast Asia and Russia from 1997 to 1998, and the Brazilian crisis along with the U.S. Congressional debate over the increase in IMF quotas during 1997–1998 – have put the IMF under an intense spotlight in the global financial environment.

The current 182-member-country IMF was founded in July 1944 "in the hope that establishing a permanent forum for cooperation on international monetary problems would help avoid the competitive devaluation, exchange restrictions, and other destructive economic policies that had contributed to the Great Depression and the outbreak of war" (Fischer, 1998). The institution has evolved through the years along with a changing international financial community. Although the current role of the IMF is being challenged from both sides, by those who denounce it and those who want to expand it (Fischer, 1999), the IMF's objectives remain the same as when it was established.[1]

Who needs IMF bailouts? Two sharply opposing views confront each other. Criticisms of IMF policies can be found in David Malpass (1997, 1998), Shultz et al. (1998), Schuler (1998), Sacks and Thiel (1998), and in Wall Street Journal editorial articles (Editorial Articles, 1998a–c; 6 April, 15 April, 23 April), etc. Some even assert that the IMF caused the crises and therefore should be abolished. On the contrary, former U.S. Treasury Secretary Robert Rubin, Federal Reserve

Chairman Greenspan (1998), former Treasury Secretary Summers (1998), and Rockefeller (1998), etc. argue that IMF loans are not only necessary but also the IMF needs to be strengthened.

The central discussion surrounding IMF bailouts is about the potential moral hazard problem in the international debt markets,[2] or put more explicitly, socializing costs versus privatizing gains. The negative views toward the IMF hold that bailout packages encourage imprudent lending behavior and that has resulted in a large amount of bad investments. There are opinions that these bad investments are largely responsible for the financial meltdowns in the troubled Asian countries. At the same time, the Western creditor banks are avoiding the negative ramifications of their bad investments in those countries by propping up their equity values with bailouts from the IMF using member countries' (both debtors and creditors) taxpayers funds. Arguably, those international bank creditors and troubled countries' domestic banks should bear the negative consequences caused by their imprudent lending and investments. As put in Radelet and Sachs (1998, pp. 51–52):

> *The mechanics of the IMF loans merit special attention, . . . the (IMF) loan packages had the direct function of providing the central bank with resources to support the payment of debts falling due, while limiting the adverse effects of such repayments on the exchange rate. In the case of Korea, the linkage between the loan package and the repayment of the foreign debts was direct and fairly automatic . . .*

The supportive views toward IMF bailouts mainly emphasize the insurance against the spread of the Asian crisis to other regions, i.e. containing the contagion effects. The following quote is again from Radelet and Sachs (1998, p. 52):

> *The IMF has emphasized that the lending packages were intended to support stabilization, not merely to bail out foreign financial institutions. It had hoped that its role as a quasi lender of last resort would sufficiently restore market confidence that Asian governments would not need to draw down the full package of loans. If exchange rates could be stabilized and default avoided, the thinking presumably ran, private lending would revive . . .*

According to this view, the IMF can deal with those troubled governments as a neutral, nonpolitical party; can contain social costs in those troubled countries as well as the danger of causing regional security problems; and can exert leverage to restructure those countries' economic systems toward a free-market system, therefore affecting and leading political systems toward more democratic ones.[3,4]

While it is easy to understand why some people have a certain view of IMF bailouts, the role or the existence of the IMF itself, and the conditions the IMF enforces on bailout recipients are not well differentiated in the current discussions. The negative view toward bailouts sometimes claims that the existence of the IMF bailouts fosters imprudent lending behavior that in turn contributes to the development of currency crises. However, this view does not give the IMF credit for the condition that they lay out when they make a bailout to a country in crisis. Like the Federal Reserve's discount window policy, if the benefits of obtaining the funds are not as good as they look (i.e. the banks' books must be checked as a condition for obtaining the loan), then the incentives of committing moral hazard would be greatly reduced. The condition of the bailouts is nothing else but the counterparts of the incentives of committing moral hazard.

The following argument against the international critics of the IMF with regard to the moral hazard problem is extracted from Stanley Fischer's address[5]:

> *To begin with, the notion that the availability of IMF programs encourages reckless behavior by those countries is far-fetched: no country would deliberately court such a crisis even if it thought international assistance would be forthcoming. The economic, financial, social, and political pain is simply too great; nor do countries show any desire to enter IMF programs unless they absolutely have to.*

This point is further supported by the initial reluctance of South Korea to ask for the IMF bailout,[6] China's accelerated reforms in its financial sector to avoid similar crisis, and other similar arguments.

50.2. Literature Review

Event studies of international debt crises are abundant in the finance literature. These studies can be categorized according to several criteria. Based on subject matter, one group of studies (Cornell and Shapiro, 1986; Bruner and Simms, 1987; Smirlock and Kaufold, 1987) examines the impact of the "emergence" of less developed countries' (LDC) loan problems on the value of firms. Another group of studies analyzes the impact on firm values when the "solutions" to the LDC loan problems are proposed. The literature in this second group can be further divided into two subgroups according to whether the solutions are "direct" resolutions of the crises (Demirguc-Kunt and Huizinga, 1993; Madura et al., 1993; Unal et al., 1993; Zhang, 2001; Zhang and Karim, 2004), or "indirect" workouts of the crises (Billingsley and Lamy, 1988; Musumeci and Sinkey, 1990). Based on whether events "cluster" or not, or in other words, whether event windows are overlapping due to the characteristics of the occurrence of events, the event study methodology is also different. The clustering event analysis requires the estimation of the cross-sectional correlation between firms by employing multivariate analysis, such as in Smirlock and Kaufold (1987), Zhang (2001), and Zhang and Karim (2004). The more traditional nonclustering event studies use simple portfolio aggregation approaches, such as Fama et al. (1969).

Billingsley and Lamy (1988) studied the impact of the regulation of international lending on bank stock prices with regard to the U.S. legislative events in 1983. In the wake of the Mexican moratorium in August 1982, the United States passed the International Lending Supervision Act (ILSA), and increased the U.S. quota in the IMF by \$8.5 billion in 1983. While previous studies reveal that the impact of the passage of the ILSA on bank stock prices is negative, Billingsley and Lamy (1988) carried the study further to include the impact of the introduction of the Act in the Congress on bank stock returns. More importantly, the joint impact of the passage of the Act and the increase of the IMF quota for the United States were studied and found to be positive, though the perceived benefit of a greater IMF quota is diminished by the ILSA impact. Also, they find that the risk to the banking industry is decreased as a result of the legislative events. The authors assert that the economic significance of the legislative changes to bank stockholders depends on the perceived trade-off between the benefits of increased IMF subsidization of international loan risk and the reduced opportunity to pursue such risks under the ILSA.

The related hypotheses are: one, that investors did not perceive any of the considered legislative events to include economically material information; two, that investors did not view the exposed banks differently from nonexposed banks due to the legislative changes. They find that the United States support of the IMF event produced a daily positive excess return of about 1 percent for the stockholders, while the cumulative effect of the introduction of the ILSA has a negative impact on the stockholders as predicted. Both events were tested on the whole sample basis.

They also find that the nonexposed banks did not react significantly to the greater U.S. support of the IMF, while the exposed banks reacted in a vigorously positive manner. The "introduction" of the ILSA had no impact on either of the two subsamples. But the "passage" of the ILSA had a significant negative impact on exposed banks while there was no impact on nonexposed banks. Also, a significantly positive relationship was found to exist between the individual BHC stockholders' reactions and the extent of BHCs' Latin American loan exposures for both the passage of the IMF quota increase and the passage of the ILSA.

Demirguc-kunt and Huizinga (1993) studied the impact of "direct" official credits to debt countries on returns of foreign-exposed banks. The purpose of the paper is to infer from the movement of bank stock prices the implicit transfer of official funds (loan to the debtor countries) back to the foreign commercial banks that made the loans in the first place. Four different types of events were tested.

From October 1982 to February 1983, the IMF made loan commitments to Argentina, Mexico, Chile, and Brazil, The main result is that the stock market did not change significantly in light of the IMF loan commitments, as market investors anticipated larger commitments to the indebted neighboring countries after the commitment to Argentina was made.[7] And even in Argentina's case, only two banks enjoyed significantly positive returns over the 3-day event period.

The hypotheses for zero coefficients are rejected for the exposed banks and for all banks together, as expected. But they also were rejected at the 10 percent level for nonexposed banks. This points to possible contagion. However, the hypothesis that the event parameters are equal is rejected for all three groups of banks, indicating that investors knew at least some information about each individual bank's exposure level. This, on the contrary, implies the rational pricing hypothesis. In general, the test results are not always consistent with each other and few significant results are obtained. The obscure results may be attributed to mismatching the data selection with the event periods. All three groups of banks are categorized by using the exposure data till the end of 1988. The tests could be very misleading when the actual data used were dated several years later. Also, the study left unexplained how market investors knew information about individual bank's exposures without getting it as public information.

The IMF's direct resolution of the Asian crisis in 1997 consists of clustering events that can be analyzed by conducting multivariate analyses. The IMF's bailout of South Korea in December 1997 is considered as an event that simultaneously affected all firms related cross-sectionally. The IMF's direct involvement in the global financial crisis from mid-1997 to early 1999 spurred a great deal of discussion among political leaders and economists worldwide as to whether the policies of (actions by) the IMF were appropriate to solve the crisis, and whether the existence of the institution itself was necessary at all.

Zhang (2001) examines whether the IMF bailout of South Korea in early December 1997 produced significantly positive abnormal returns in the equity values of the lending institutions. If significant positive abnormal returns occurred, then we can infer that IMF bailouts are probably generating "extra" positive wealth for the private shareholders, since potential losses without the bailouts are assumed to have negative impact on the equity values of creditors.

Zhang also examines the contagion pricing notion versus the rational pricing notion. More specifically, it is to examine whether equity prices of banks with similar foreign exposure features respond to their foreign exposure levels equally cross sectionally. If so, then equity prices change with exposure levels proportionally, which indicates the existence of rational pricing in international debt markets.

The abnormal returns of the individual banks are aggregated cross sectionally into the three portfolios based on the three bank subgroups in the study: the South Korean exposed bank group, the foreign but non-South Korean exposed bank group, and the pure domestic lending bank group. Because of the clustering of the event announcements, multivariate analysis is employed to adjust for the variance estimation to take into consideration the cross-sectional correlation between the banks in each portfolio and between portfolios. Significantly positive abnormal returns are found for the three different bank groups on the event dates, except in one case.

The event impacts on the different bank groups are different. The South Korean exposed bank group experienced the largest positive gains among the three groups, while the foreign but non-South Korean exposed bank group did not outperform the pure domestic lending bank group. This latter result may be attributed to the fact that the lack of unison of the geographical distribution of the foreign exposure among this group of banks renders the direct comparison of their respective foreign exposures less meaningful. For banks that had no or an insignificant amount of emerging market exposure, their equity behavior may be closer to that of domestic banks than to the South Korean exposed banks.

The empirical evidence here clears the controversy regarding whether the IMF generated a wealth transfer in its bailout of South Korea in late 1997. The focus of the future discussion is not whether the IMF has generated a wealth transfer from the public funds to the private shareholders, but whether this could be avoided and how?

Zhang and Karim (2004) test the informational efficiency of financial markets related to the IMF bailout of South Korea. Informational efficiency is defined as how fast the news of the bailout announcements is incorporated into the equity pricing of U.S. banks that lend in the international debt markets. If the news of the bailout announcements were incorporated into equity prices immediately, then the abnormal returns of the foreign exposed banks would be significant on event dates but insignificant on nonevent dates. Because the IMF bailout happened in international debt markets, foreign exposed banks were directly involved, and the foreign exposure variable should be directly related to their return changes. Thus, the existence of informational efficiency can be inferred by observing whether the coefficient estimate of the foreign exposure variable is significant in terms of equity pricing on both the event and nonevent days. It has been shown in the literature that the foreign exposure variable has been the most important variable in studying equity responses in international debt crises. Presumably, if the market is informationally efficient, then the foreign exposure variable should be incorporated into the equity pricing, and its coefficient estimate is significant on the event dates, but the variable should not be incorporated into the equity pricing, and its coefficient estimate is insignificant on the nonevent dates.

For the foreign exposed banks, the mean abnormal returns tend to be significant on event dates but insignificant on nonevent dates. This evidence indicates that the news of bailout announcements was incorporated into the equity pricing immediately. There was no delay or lag effect reflected in the foreign exposed banks' equity prices. This supports the existence of market informational efficiency during the IMF bailout of South Korea in late 1997. Also, a quadratic cross-sectional regression model is employed to further examine this question by studying whether the equity returns changed proportional to the exposure levels. The CAR model on the main event date and the cumulative regression of ARs on both event dates are significant at the 5 percent level, while the CAR models on nonevent dates are not significant. The evidence indicates that the market is informationally efficient during the IMF bailout of South Korea in late 1997 as investors incorporated the foreign exposure into pricing their bank equities rapidly and proportionally. There is a significant positive relationship between the banks' equity prices and their respective exposure levels on the event days. This relationship is not shown on the nonevent dates. The empirical evidence here indicates that the banks' foreign exposure information seems to be either publicly available to the markets, or investors are able to get access to this type of information.

50.3. Suggestions For Future Research

Existing literature has tried to answer the question of whether there is a potential wealth transfer from the IMF to the private shareholders of international bank creditors resulting from IMF bailouts. A more pertinent question, which is also the central debate of all the bailout events, is left unanswered. This is the issue of a potential moral hazard problem in international financial markets. The test of moral hazard requires the testing of structural risk changes before and after a bailout event. The existence of the moral hazard problem is indicated if the risk structure changes that occur after the event are significant.

While the foreign exposure variable is probably the most important variable in this type of study, the exposure data for a specific country are not available all the time. Also, due to the lack of data reporting unison, the foreign exposure examined in the literature cannot be specified according to detailed geographical locations either. The test results would certainly be improved if such data were to become available in the future.

The results would be more complete if other international lenders could be examined simultaneously along with U.S. bank creditors.

On the methodology side, while it is common to use a two-index market model in bank studies to provide the parameter estimates, which are used in the event window to calculate the abnormal returns, the significance of the contribution and the depth of the effect of the second index (usually a stationary interest rate index), in addition to the market index, needs further exploration. In other words, whether the results are sensitive to the omission of the second index or to an alternative interest rate index deserves more research effort. Also, autocorrelation is often assumed to be zero in the literature. The complexity of incorporating autocorrelation into the models so far has prevented this type of analysis being carried out in event studies. While this may not cause serious problems, the incorporation of autocorrelation into the variance estimation should give more accurate results and inferences.

Further, a random coefficient model can be employed in the estimation window to allow for any possible structural changes before the underlying event window. If multiple coefficients are obtained, then the most recent one should be used in the event window analysis. This step is especially necessary when the length of the estimation window is long.

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NOTES

1. See the IMF's Articles of Agreement online at: http://www.imf.org/external/pubs/ft/aa/index.htm.
2. Radical differences also exist as to whether the Asian countries' markets have been opening enough or whether the countries should strengthen the free-market aspects of their economies before they open further. Related discussions also focus on the transparency and regulation issues in those troubled countries (Camdessus, January 16, 1998a).
3. For example, Summers (1998) said that: "The IMF has a unique ability to provide apolitical, conditional finance . . . in the context of strong reforms."
4. Camdessu's (January 22, 1998b) address at Transparency International: "The IMF helps members impose the management of their public resources and establish a stable and transparent regulatory environment for private sector activity, a *sine qua non* for economic efficiency and the eradication of corruption."
5. Same as endnote 1.
6. The influential *Dong-A Ilbo* newspaper claims: "The party is over, Korea's international standing has shamefully crashed," extracted from "Out of Our Hands," Lee, 1997, *Far Eastern Economic Review*, p. 81.
7. Another explanation would be that banks were not required to publish their developing country exposures at that time. This made it much more difficult for the investors to respond in any meaningful way.

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