

HOW REAL IS THE RISK OF MASSIVE BANKING COLLAPSE?

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How real is the risk of massive banking collapse? In part, the answer depends, paraphrasing President Clinton, on what is meant by "collapse". Will banks disappear as a result of recent or ongoing bank crises? Highly unlikely; banks have been around for many hundreds of years and survived more or less similar crises many times. Will bank depositors and shareholders lose money? I certainly hope so. It is the protection of depositors and in some countries also of other bank stakeholders, such as shareholders, by governments that is a primary cause of the recent crises and that will almost certainly guarantee similar and potentially even larger crises in the future. Moreover, through such protection, the cost of the crises is largely shifted from protected bank depositors and shareholders to the government, which is only a euphemism for taxpayers. This would not be all bad if taxpayers also benefited from bank profits on the upside. But they do not. Unless the government also owns the banks, these accrue to the private shareholders. Thus, in most countries, we tend to socialize bank losses but privatize bank profits. This is a sure formula for continued disaster.

As much as it might be desirable to see government protection eliminated almost entirely, this is not going to happen. Too many governments have found banks too useful in distributing political favors to their friends and in allocating credit in the pursuit of favored economic and noneconomic objectives to stop (Kaufman, 1999a). Because these activities are likely to be unprofitable in the long run and result in bank insolvencies, these governments have to continue to promise protection to at least depositors to avoid having them run on the banks, which would lead to their closure. And once a government has a financial stake in its banks, it is going to regulate them to, among other things, reduce risks other than those imposed by the government itself that are no longer subject to full market discipline and could generate significant losses. Indeed, governments claim that they need to regulate banks to avoid or minimize bank failures, despite that in most countries, including the U.S., they are often the major cause of the failures.

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Given that governments are not going to exit quietly, what can we do to enhance stability in banking and international markets? We need both to redesign government regulation and protection (the safety-net under banks and countries) to mimic market forces as much as possible and to supplement government regulation with market regulation, where the market has a comparative advantage.

Banking crises have generated much international concern in recent years both because they are believed to be contagious across national boundaries and because they are capable of igniting currency or exchange rate crises. Indeed, many of the recent financial crises that we have seen in East Asia, Latin America, and even the transition economies of East Europe were combined banking and currency crises. A recent study by economists at the Federal Reserve Board has documented that banking crises are a good predictor of currency crises (Kaminsky and Reinhart, 1996). Not unexpectedly, the International Monetary Fund (IMF) has found that combined banking and currency crises are substantially more damaging to the economy in terms of GDP declines than either banking or currency crises alone (IMF, 1998).

Bank failures are widely feared more than the failure of most other firms, primarily because banks are perceived to be more fragile and thus subject to breakage and failure more easily and that the failures are likely to be transmitted quickly and far to other solvent banks and beyond banks to other financial institutions, the macroeconomy, and possibly even across national boundaries to other countries. The perceived excessive fragility of banks arises from three balance sheet ratios. One, low cash-to-asset ratios, or fractional reserve banking. Two, low capital-to-asset ratios, or high leverage. And three, high demand-to-total deposits ratios, or strong potential for depositor runs. But fragility cannot be gauged accurately in isolation. It needs to be evaluated relative to the frequency and magnitude of expected shocks in each country. Moreover, even relative fragility does not automatically imply breakage. Rather, it implies "handle with care." For example, fragile fine wine glasses and chinaware are generally handled carefully and tend to have a lower breakage rate than ordinary glasses and dishware. And it appears that this was the case for banks in most countries before their governments stepped in to provide protection and thereby reduce the need for the private market to do so. That is not to say that private markets worked perfectly and prevented all failures. Even some of the best wine glasses break.

The history of banking in the U.S. is informative, in part, because we have good historical data and, in part, because we had a large number of banks that were very fragile as a result of constraints on their ability to reduce their risk optimally through geographic and product diversification. Contrary to myth, the record was not half bad. (Indeed, an analysis of the history of bank failures often is an exercise in "myth busting" -- there is far more fiction than fact in most people's versions.) The annual average bank failure rate in the U.S. from 1870 --shortly after the end of the Civil War -- to 1914 -- the introduction of the first federal safety-net in the form of the lender of last resort facilities of the Federal Reserve -- was slightly lower than for nonbanks (Kaufman, 1996). Moreover, losses to depositors at failed banks were proportionately smaller than losses to creditors at failed nonbanks (Kaufman, 1994). But the annual variability in bank failures

was higher, so that the failures came in clusters. And clusters are scary, just as they would be for a cluster of airplane crashes, food poisonings, or fires. Combined with a poorer public understanding of how banks, which deal in intangibles, operate compared to firms that deal with tangibles, so that much of the operation of banks is shrouded in mystery, the fear led to public outcries for greater government intervention to increase safety. As is true too often in public policy, the perfect became the enemy of the good!

When the Federal Reserve failed to improve on financial stability in the U.S. -- the average annual number of bank failures increased from less than 100 before 1920 to about 600 in the 1920s, albeit that almost all were very small unit banks located in small rural cities, and then jumped sharply to near 3,000 a year from 1929 through 1933 -- federal deposit insurance was introduced through the FDIC. That is, less than 20 years after being established to prevent widespread bank failures, the Fed failed to prevent the most serious bank crisis to that time. After the introduction of deposit insurance, bank failures declined to about 10 a year until the late 1970s. Then, the number of bank failures and, equally importantly, the number of savings and loan association failures increased dramatically in the 1980s (Kaufman, 1995). The resulting losses to the deposit insurance agencies standing in the shoes of the protected insured and in many cases also the de-jure uninsured depositors, who they chose to protect, approximated the losses suffered by private depositors in the 1930s as a percent of GDP -- near 3 percent. Moreover, although fewer institutions failed, for the first time in U.S. history, large banks as well as small banks failed. The federal government safety-net became an equal opportunity promoter of bank failures!

This is not to argue that the bank safety-net, or for that matter a broader across-country safety-net, is all bad. But rather, that they require serious redesign. It is important to understand that government safety-nets have both good and bad aspects. The good aspect for banks is that, if credible, they prevent destructive runs on the banking system as a whole by reducing the need for depositors to run. The bad aspect is that governments tend to price the safety-net, as many of their other services, poorly compared to private insurers. If the protection is underpriced, it encourages banks to engage in excessively risky moral hazard activities relative to what private insurers would permit. But equally, if not more, importantly, a safety-net encourages poor behavior by the regulatory agents.

Because runs no longer endanger the solvency of banks to the same extent as before the safety-net, regulators can delay imposing corrective sanctions and even closure on troubled institutions. The timing of resolution shifts from the market to the regulators. By delaying and hiding or covering up the problems and even insolvencies, regulators may temporarily accommodate friendly pressure groups and avoid sully their reputations for preserving bank safety. But, by permitting the institutions to continue to operate, regulators also permit the problems to simmer and get bigger until finally they become too big to deny and to hide through fancy-footwork accounting and explode into public awareness. This explains the outrageously large resolution costs borne by taxpayers in many countries in the form of transfer payments to protected depositors and, at times, also shareholders of failed banks. Since 1980, these costs have come to some 3

percent of GDP in the U.S. in the 1980s (not including as much as a possible additional \$50 billion from recent and pending court rulings that the U.S. government reneged on some of its fancy-footwork accounting agreements, termed supervisory goodwill, that permitted some insolvent S&Ls to temporarily continue in operation and others to expand before the government changed its mind), some 10 to 20 percent in Spain, Hungary, Argentina (the second time), Venezuela, and probably Japan, and over 40 percent in Argentina (the first time), Chile, and very likely Korea, Indonesia, Thailand, and Malaysia (Kaufman 1999b). Primarily because losses at insolvent institutions are permitted to accumulate before they are officially recognized, regulatory failures appear to be less frequent than market failures, but much larger when they do occur.

Unfortunately, the good effects of the safety-net are generally visible first and the bad effects only later, not infrequently many years later. Thus, the safety-net is a classic example of time inconsistency in economics and of the damage that politicians, who thrive on short-run fixes, can do.

Before outlining my suggestions for increasing financial stability, I will briefly address the issue of systemic risk and contagion in banking, which underlies much of the reasoning for a safety-net. The cry of systemic risk is a frightening event, much like the cry of fire in a crowded theater or conference hall. But unlike the term "fire", the term "systemic risk" is not clearly defined and appears to mean different things to different people. It is often used carelessly and cavalierly by policy-makers and others to get attention quickly and justify particular actions.

Systemic risk exists because almost all parties in a modern economy are interconnected, so that what happens to one may affect other units either directly or indirectly, even across national borders. There appear to be at least three common definitions or usages of the term systemic risk. One definition focuses on the magnitude of the crises. A systemic crisis is a "big" shock that affects many or all banks in the system, other financial institutions, and the macroeconomy as a whole. How the shock is transmitted through the economy and whether the shock is random and affects all banks or is systematic and affects only insolvent or weak banks is not clear.

A second definition focuses on direct links among economic units, so that an adverse shock to one party cascades down a transmission chain in domino fashion. Such direct causation contagion is perceived as particularly likely for banking as banks are inherently closely linked through interbank deposits, loans, and payment clearings. The third definition also centers on contagion, but the process or linkage is less direct. Rather, an adverse shock to one party causes investors and other market participants to examine other parties for exposure to the same shock. The shock sends a "wake-up" call to market participants. But it takes time for the participants to react and respond. Accurate information is not available freely or immediately, nor is processing the information immediate when it does become available. During the sorting out period, significant confusion is likely. Until the process is completed, participants are likely to run from all suspect parties when possible, as it is better to be safe than sorry and it is now cheap and

easy for many to do so and be safe. In this way, the impact of the shock is contagious and passed on almost randomly from the initial party to other parties.

This herd behavior is likely to ignite a liquidity crisis in which both prices and quantities (flows) may overshoot their new equilibrium values and are likely to impact parties that later may be found "innocent," as well as those found "guilty". Although markets appear disorderly during the sortout, the changes are based on rational behavior. In time, new equilibriums will be established in which parties subject to lasting adverse effects from the initial shock are distinguished from parties with no or little risk exposure to the shock. Although not random, such common shock contagion is scary and frequently solicits calls for public policy responses. Unfortunately, attempts by governments to interfere with this sorting out process and smooth out the bumps are as likely to distort prices and signals and delay necessary structural adjustment as to improve economic welfare in the longer term.

At least in banking, contagious systemic risk appears to be more along the lines of common shock contagion than direct causation contagion. Although banks are closely interconnected, they can and the evidence suggests, at least in most industrial countries, do protect themselves from most of the misadventures of institutions located earlier on the transmission chain through monitoring, setting exposure limits, and maintaining sufficient capital. It is not bank losses per se that are transmitted down the chain, but only losses that exceed a bank's capital. And banks understand this. When vulnerabilities exist, they are primarily the doings of governments. Losses to other banks from the Herstatt Bank failure in 1974 were magnified because the German government intervened to close the bank after the end of the business day in Germany but before the end of the business day in the U.S. and before its payments to U.S. banks were made. This was primarily a government failure, not a market failure (Eisenbeis, 1995). At least in the U.S., intraday interbank exposures from dayend netting and not settling immediately in good funds occurs primarily because of Federal Reserve guarantees and underpricing of daylight overdrafts. The Fed guarantees all interbank transfers on its Fedwire that connects all banks, whether or not the sender has sufficient funds in its account before the end of the business day, and charges below the market rate for any such overdrafts. Overnight or longer overdrafts are charged the discount rate, when permitted.

Although bank contagion appears to be primarily common shock contagion, again at least in the U.S., the evidence strongly suggests that it is neither widespread nor long lasting. At risk depositors at the margin appear to be able to distinguish financially healthy (innocent) banks from financially sick (guilty) banks rather quickly. There is effectively no evidence of a depositor run driving an economically (market value) solvent bank into insolvency.^{1[1]} Damaging runs were almost entirely on economically

^{1[1]} More than 100 years ago, John Stuart Mill observed that "Panics do not destroy capital; they merely reveal the extent to which it has been previously destroyed." (As quoted in Caprio, 1998, p. 4).

insolvent banks that were still open and operating. Even at the height of the banking panic in Chicago in June 1932 during the Great Depression, recent research has documented that depositors ran primarily on insolvent rather than solvent banks and that the runs did not produce failures of solvent banks (Calomiris and Mason, 1997). Likewise, in a study in 1938 of national bank failures from 1870 through 1936, the Comptroller of the Currency found that runs were the primary cause of only a small fraction of failures (O'Conner, 1938).

I offer my students a reward of \$10 if they can find me evidence of an economically sound bank that was brought down by depositor runs. So far no one has. Of course, it may be that they are not taking my challenge seriously or that the reward is not large enough. I am sure that there must be at least a few examples. But, it certainly will not be very many. Nevertheless, small depositors lining up in front of a bank, as opposed to electronic or silent runs, are generally visible and scary events. A recent issue of the *New Yorker* magazine featured a fine, although not completely factual, article on how J. P. Morgan almost single-handedly had "rescued" the U.S. from a banking crisis in 1907 (Strouse, 1999). The article was accompanied by a photograph of a long line of people in front of a bank-like building captioned "desperate depositors lined up to get their money out of failing banks." Just out of curiosity, I took out my magnifying glass and discovered that the plaque over the entrance door to the building was that of the building manager not of a bank. Possibly, there was a bank around the corner. Nor are runs limited to banks. A wonderful article on the great American swindler of the early 1900s, Charles Ponzi, who lent his name to the term "Ponzi Scheme", in a recent *Smithsonian* magazine showed a photograph of a long line of people reportedly in front of Ponzi's office in Boston to redeem the funds that they had invested with him in hopes of realizing unusually high returns (Darby, 1998). The truth about bank systemic risk and contagion is far less exciting and dangerous than generally reported and described in the doomsday scenarios frequently sketched in popular novels and movies and unfortunately also by some bank regulators. It may be said that if patriotism is the last refuge of a scoundrel, then systemic risk is the last refuge of a scoundrel regulator.

How can we reduce the likelihood of systemic risk and contagion? By increasing emphasis on market discipline and attempting to replicate the conditions that would exist in the market in the absence of explicit or implicit government safety-nets. This starts by requiring greater economic capital. Contrary to what is often heard on the street, there is insufficient, not too much, capital in the banking industry today. Almost all bank competitors that are not covered by safety-nets, e.g., insurance companies and finance companies, have higher capital ratios than banks. Not only are current capital ratios too low relative to potential shocks to the banking system in industrial countries, but they are far too low in other countries. What is needed is to create a stronger equity culture in banking in which bank losses as well as bank profits are privatized, rather than socialized.

Moreover, the capital I have in mind is economic capital or owners' funds at risk, not book value capital (and certainly not without adjustment for connected loans or loans to the owners themselves). Furthermore, no distinctions should be made between tier 1 (basically equity) and 2 (basically debt) capital, as is currently done in the Basel

standards. From where the government or public stands, capital is any security that is junior to the government in bank liquidation and can absorb losses before the government insurance agency. It should not matter whether it is common stock, preferred stock, or term subordinated debt. Indeed, there are a number of proposals currently circulating that would require at least large banks to issue a minimum amount of term subordinated debt because of its desirable payoff and monitoring characteristics (Calomiris, 1999). As these debt holders are junior to the government and have only limited upside potential but large downside risk, they will monitor their banks more carefully than equity holders and provide a helpful supplement to regulatory discipline, which is also based on a creditor relationship.

I am also not a great fan of regulatory risk-based capital requirements. Not that I do not believe that the market requires a bank's capital to be scaled to its risk exposure, but I do not believe that regulators can or would mimic these requirements very closely. And if they do not, it will result in serious misallocation of resources and provide inducements to excessive risk taking. The simple Basel risk-based capital requirements currently in force -- with higher capital requirements for assets viewed as riskier by the Basel Committee on Banking Supervision, which serves as an international large bank regulatory agency -- that were adopted in the late 1980s validate my fears. The risk weights assigned are way out of line with market weights, have led to serious misallocations of financial resources, and were often ineffective in achieving their prudential objectives. Neither am I very optimistic that the revisions currently underway, although well intentioned, will be any more effective or efficient. Increased sophistication and complexity should not be equated with increased efficiency and effectiveness (Shadow Financial Regulatory Committee, 1999). Among other changes, the world of finance and banking is becoming more complex daily, and almost by definition the advances will occur in the private sector, where the rewards are greater. Regulators will always be at least one step behind, play catch-up, and most likely be out-finished. History provides no other ending. A simple capital leverage ratio test, possibly adjusted for off-balance sheet activities, is likely to be as, if not more, effective than more complex risk-adjusted tests.

The regulators are also recommending greater disclosure, transparency, and information availability. And rightfully so. The quality and quantity of available information on banks in most countries is well below what the market would demand of other capital market participants. As a result, if at crunch time the safety-net is not fully credible, contagion is more likely and more serious, as it takes longer for market participants to sort out the innocent from the guilty. In the meantime, they are likely to run on all parties under even the slightest suspicion, be they banks or countries. But regulators must be careful not to require more data than the market would demand, so that the costs outweigh the benefits. Ironically, the need for regulators to pursue this issue today arises because of the regulatory safety-net. The net has tended to make all banks covered more or less homogeneous to many depositors, who are protected from loss and thus do not demand as much disclosure as otherwise. This is another example of the law of unintended consequences. Indeed, in the 1980s, the primary distinction depositors made among banks and thrifts in the U.S. was according to their rates paid on fully insured

deposits. Depositors used this information to run on their institutions. But not in the traditional direction from bad banks to good banks; rather in the perverse direction from good banks to bad banks. Thus, today's regulators need to undo the unintentional damage their predecessors created. There is a need to get back to the good old days when banks advertised their capital ratios on their windows, rather than that they were insured by the government.

Almost all of the regulators' credibility and success will depend greatly on their handling of too big to fail (TBTF). This could be their "Achilles' Heel." Too big to fail, at least in the U.S., does not imply what it says. Big banks are failed, but, if the bank's assets are insufficient to pay its depositors in full, the depositors are fully protected against loss. This defeats attempts to introduce market discipline and encourages regulators to engage in costly and destructive forbearance. Ironically, it is large depositors who are best prepared and best able to absorb losses and whose losses would have the most salient effects on the market. Large depositors tend to view their bank deposits similar to their other short-term investments on which they can and do periodically experience small losses without the world ending. If, as I will argue later, the regulators intervene promptly to correct problems or resolve insolvencies, losses can be kept small, e.g. one or two cents on the dollar, and systemic risk will be effectively eliminated. Moreover, large banks are unlikely to be liquidated. Rather, they are sold or merged as single or multiple units, so that they do not disappear physically. Since the enactment of the Federal Deposit Insurance Corporation Improvement Act (FDICIA) in 1991, TBTF is difficult to invoke and, when it is, any losses sustained by the FDIC in protecting the uninsured stakeholders must be paid for by the other banks. There is no provision for lasting government funding of such losses. Deposit insurance has effectively become a fully private system funded completely by the banks.

Nevertheless, the recent involvement of the Federal Reserve in the handling of Long-Term Capital Management's financial problems troubles me greatly. Although informed parties can and do differ on the broader consequences of possibly forcing a more rapid liquidation of LTCM's complex and far reaching derivative positions, particularly in a period of already substantial uncertainty in the financial markets, it is difficult for me to believe that the world would have ended if the Fed had stayed on the sidelines a while longer. On the other hand, the Fed's involvement gave rise to widespread accusations of crony capitalism in the U.S. and intensified the doubts of many that, despite the strong language in FDICIA for banks, when push comes to shove, U.S. regulators will be unable to resist TBTF. And LTCM was not even a bank! This belief will only intensify moral hazard behavior worldwide and set the stage for even costlier crises in the future as banks and other financial firms increase in size. Moreover, as has proven to be the case, the Fed's arguments for involvement stressing the potential for a major financial meltdown strengthened the case for those wanting to regulate hedge funds as well as banks. Even if this was desirable or possible, it would serve only to further reduce market discipline in financial markets. The banks who lent carelessly to LTCMs should have been forced to take possible losses. Letting the Warren Buffet bid for LTCM simmer a while longer and market forces work would have been a risk that I believe was worth taking on the basis of a benefit-cost evaluation.

Much of what the international regulators are currently proposing is along the lines of the prudential provisions of FDICIA in the U.S., which was enacted as reform legislation in response to the banking and thrift institution crises of the 1980s. The Act reduces the ability of bank regulators to forbear imposing sanctions on troubled institutions by requiring some of the sanctions to be mandatory (Kaufman, 1997). The attempt to build on these provisions for other countries is in sharp contrast to the unkind words that regulators threw at the Act both while it was working its way through Congress and in its first years of operation to derail and weaken it (Carnell, 1997 and Kaufman, 1993 and 1997). Today's regulators appear to appreciate the fact that the mandatory provisions of the Act supplement and strengthen their discretionary actions (Ferguson, 1999). As is now understood, the provisions of the act attempt to have regulatory discipline mimic the market discipline that would exist in the absence of a safety-net. What is less well understood is that FDICIA effectively puts the losses from bank failure under the control of the regulators by requiring resolution before, not after, a bank's net worth turns negative. If realized losses are large, it is only because the regulators did not carry out their responsibilities appropriately and did not resolve the bank in a timely fashion. Regulators should fear not doing so more than doing so. As noted earlier, resolution of insolvent institutions does not create losses. They are there already. Resolution only grants them official recognition and forces someone other than the taxpayer to pay them. In addition, because systemic risk contagion can occur only if losses at each and every bank on the transmission chain are sufficiently large to wipe out their capital, if losses are eliminated or, at worst, kept small then such contagion is effectively eliminated. Indeed, if implemented correctly, except for major fraud and extraordinarily abrupt declines in all asset values, the provisions in FDCIA effectively make deposit insurance redundant. Losses are confined to the bank's shareholders

International safety-nets under countries rather than banks are far more difficult to design and achieve, but are as likely to cause similar unintended consequences. The IMF cannot print money and therefore cannot be a true lender of last resort or a riskless insurer. That is for the good. But it can provide assistance to nations whose currency (exchange rates) are temporarily out of adjustment. However, differentiating "temporarily" out of line with "permanently" is likely to be as difficult and tricky in practice as differentiating "liquidity" from "solvency" problems for banks. Any international assistance programs should learn from the unfortunate experiences of domestic bank safety-nets and introduce substantial market discipline to keep regulatory discipline in line by reducing the accompanying moral hazard and principal-agent problems. The private sector should be "bailed in". International investors, be they in banks or others, must be permitted to suffer losses if the market value of their investments do (Shadow Financial Regulatory Committee, 1999). The world did not collapse when they did so in the era before World War I and is unlikely that it would do so now. There is little evidence of "innocent" countries being forced to default on their foreign currency denominated debt. No official international institution's funds should go to making any foreign currency investor whole if, in the absence of such funding, market value losses would have accrued. Designing an efficient and effective safety-net for currency crises is considerably more difficult than designing one for banking. In addition, the evidence is less clear whether contagious

systemic risk for currency crises across countries is direct causation, common shock, or both. Recent events suggest that, as for banks, it is heavily common shock.

It is important to note that there is little evidence to suggest that either banking or currency crises ignite downturns in macroeconomic activity. Rather, the evidence is strong in the opposite direction. Macroeconomic instability, frequently resulting from the bursting of asset price bubbles, ignites banking and currency problems. These problems are, of course, likely to feed back and exacerbate the macroeconomic problems. Even appropriately designed safety-nets are not a substitute for appropriate macroeconomic stabilization policies for achieving lasting banking and exchange rate stability.

In sum, financial regulators have their work cut out for them to offset the undesirable and unintended side effects of their earlier intervention that reduced market discipline. They need to learn from their past mistakes and not try to do things that are better left to the market. A little pain now to market participants is likely to prevent greater pain later on. What is needed is not only the economic understanding to build a better system, but the political will to carry it out. That will has often failed us in the past with the costly consequences that we now observe.

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