

FINANCIAL FRAGILITY AND THE RISKS OF CRISIS: THE CASE OF JAPAN

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Often when the status of a nation's economy is discussed, the views under consideration tend to be backward-looking. They focus on observed data, and try to explain where the country's economy has been, where it is and how it got there. This discussion, useful as it may be, misses a crucial dimension. Policy discussions and policymaking should be forward-looking. The question is not where we are now, but what might happen in the future. In other words, it is important for policymakers to assess the impact on the current situation, both positive and negative, that an absence of policy action might engender. These opportunities and risks might be easily encouraged or prevented by current policy or they might require a different policy stance. Rarely, though, is inaction the prudent course.

Unfortunately, policy paralysis has been all too familiar to the Japanese economy throughout the 1990s, while in many instances, all signs pointed to the need for active policymaking. In Japan in 1998, the need for decisive policy action by Japanese policymakers was even greater than would be implied by a calculation of attainable national wealth foregone through economic stagnation. The economic challenge facing Japanese policymakers thus illustrates the dangers of not taking potential crises sufficiently into account, even for large, relatively closed, surplus economies.

RISKS TO A FRAGILE ECONOMY

There are three primary sources of downside risk to a contracting economy with a fragile financial system. First, there is a collapse of confidence on the part of private households. Since mid-1997, there is evi-

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dence of an accelerating rise in precautionary saving by Japanese citizens. This trend has sharply increased now that the downturn is more likely to directly affect these citizens' fortunes as the fiscal-policy triggered contraction of 1997-1998 has taken hold. Until the end of 1996, despite the poor performance of the Japanese economy, such a collapse of confidence did not appear to be occurring; unsurprisingly, as the Japanese labor-market situation has eroded, so has consumer confidence.¹

The second risk to such an economy is outright financial crisis. While the Japanese banking system, and the financial system in general, has weakened since the bubble burst in 1992, it is only since mid-1997 that the resulting inefficiency has begun to exert strong effects on the macroeconomy. Just as Japanese consumers lost confidence only when the risks to their employment and income became obvious, the decline in Japanese banks' ability to intermediate credit only became relevant when their own capital bases began to erode significantly. Also, analogous to the situation with consumers, the lending of Japanese banks has the potential to decline rapidly should certain events come to pass. These two sources of risk have a great potential to reinforce each other because consumers are also savers; seeing lending and investment drop because of banking problems, they will seek to remove their money from the banking system, which in turn, stands most threatened should depositors withdraw funds in large amounts.

The third source of downside risk to a stagnant economy with a weak financial system comes from the international front. Even though the poor economic performance of Japan in the 1990s is largely caused by domestic factors and policy choices, it has significant effects on the economies in Asia and the rest of the world. Moreover, these effects can feed back directly into the functioning of the Japanese economy itself. The most obvious and direct sources of feedback lie in the collapsing demand from Asian neighbors and the rising pressures for trade protectionism in the United States and other countries that have seen their current account deficits rise with the Asian crisis (and increased Japanese net exports). Still more dangerous, however, is the possibility that these events (or the risks to consumer confidence) and Japanese banks in combination with them, will prompt large-scale capital flight from Japan. As will be discussed below, this a conceivable scenario, and its implications would be far-reaching. Japan could find itself simultaneously facing a rapidly depreciating yen and a domestic financial crisis. The measures necessary to stabilize the yen could work contrary to those necessary to stabilize the financial system. If the need to inject liquidity into the financial system were emphasized, such policy could accelerate the yen's

decline. In such a dilemma, little could be done to prevent further major decline in Japanese and world economic growth.

These compounding risks are the reason why macroeconomic stabilization—of consumer confidence, the financial system and the domestic currency's purchasing power—should be the main concern of all but the healthiest countries' economic policies. Each of these can be stabilized, through a combination of fiscal, monetary and financial measures, so long as these efforts are initiated before the risks begin to be realized and to reinforce one another. It is in this regard, for example, that monetary and fiscal policy become as important as financial reform in determining the performance of the Japanese economy. As a result, there are two significant implications for economic policy in Japan and in similar situations elsewhere. First, measures to raise and anchor expectations regarding purchasing power take precedence over efforts at monetary expansion (such as yen depreciation), which might be destabilizing. Second, financial reform must focus on giving the Japanese savers and international capital markets incentives to keep their money in, or return their money to, the private banking system.

Economic reform efforts of the sort undertaken in Japan prior to October 1998—including the so-called “bridge bank” (whose purpose is uncertain)—aid matters only indirectly at best in restoring these incentives. There is a general problem when policymakers risk too much in their efforts to keep credit flowing. What might seem prudent policy restraint or a *laissez-faire* approach toward a country's economic situation can become imprudent when the risks to the economy are properly assessed. The Japanese government seems to have recognized this by Autumn 1998, and one hopes appearances are true. Prudence in manner of policymaking is no substitute for risk minimization in practice. Sometimes, active policy is the most responsible path open to policymakers if the downside risks are sufficiently great.

CONFIDENCE IS THE KEY

Economic growth is in part a self-fulfilling prophecy. If I believe that the economy will grow, and I believe that others share my belief, whether I am an individual or a business CEO, I will be more likely to invest and to spend. The reverse is true if I believe that others are unlikely to spend or invest.² Investment would appear particularly susceptible to such “animal spirits” because it involves planning for the future based on profit expectations. A project that might prove profitable when demand is rising might fail when stagnation sets in.

This intuition underlies a great number of the analyses of economic development. Economies that make the transition to growth usually do so when a sufficient number of businesses and households in the economy make the jump together. Without trust or a critical mass of mutually reinforcing contracts and expectations, no one individual or firm can afford to make the move. Self-fulfilling shifts in economic confidence also underlie the idea of market panics; that is, macroeconomic situations with viable underlying factors (fundamentals) but instability when capital is broadly withdrawn, encouraging all investors to withdraw their capital for fear of losing their stake.³ If panic is the driving force behind shifts from good to bad economic states, the restoration of confidence becomes all important. Once confidence is lost, it takes a great deal of visible economic success to bring the economy out of its perception-driven decline.

These intuitions are very much the stuff of reality. Historically, the worst macroeconomic collapses have occurred in the aftermath of financial crises, especially of the withdrawal of funds from banks.⁴ Given the role of financial intermediaries, particularly banks, in bringing expectations to fruition (e.g., extending loans for investment, safekeeping deposits or providing credit in times of temporary distress), this pattern is broadly consistent with the importance of confidence in determining macroeconomic fluctuations.⁵ James Hamilton and other researchers have documented that time-series data on the United States supports the picture that the economy fluctuates between states of low and high growth, rather than growth that smoothly varies over time.⁶ Economic theory has in recent years caught up with this historical pattern and deep-seated intuition and spelled out the financial mechanisms through which such switches between good and bad states of the economy arise. Ben Bernanke and Mark Gertler⁷ and Nobuhiro Kiyotaki and John Moore⁸ provide models where realistic imperfections in credit markets can strongly reinforce and transmit asset-price movements (which are presumed to be driven by expectations).

Costas Azariadis and Bruce Smith develop a particularly persuasive model of an economy characterized by switches between high and low levels of growth.⁹ The two sound assumptions that (1) capital investments require intermediated financing¹⁰ and (2) adverse selection exists¹¹ are sufficient to generate such dynamics. In their model, if people expect too low a return on investment, savers transfer money out of the banking system and into lower-yielding assets such as cash, which provokes credit rationing and a drop in investment and aggregate demand.¹² Alternatively, if enough savers are convinced that the future returns on investments in the economy are high, a rise in interest rates can be self-

fulfilling and bring higher growth. George Evans, Seppo Hankapohia and Paul Romer produce a similar model of an economy with inherent fluctuations between high and low growth states that coincide with swings in growth expectations.¹³ They work from the equally realistic assumptions of imperfect competition (due to start-up costs for firms) and complementary demand for capital goods (i.e., computers increase demand for printers and telephone networks).

From a policymaker's perspective, the combination of historical and theoretical results means that household confidence must be taken seriously. It is not simply a random variable, vacillating with whimsical disregard for the economic environment. The rational-expectation foundations of the models discussed here and the consistent historical pattern of factors that tend to lead to financial panics and bank runs (discussed below) strongly suggest that most declines in confidence are driven by actual economic events, even if random shifts in confidence cannot be ruled out. Furthermore, such shifts in confidence are not just matters of opinion or politics that can be ignored. While economic policy concerns itself with the "long-run fundamentals," economic confidence is itself a fundamental that can become self-fulfilling. Policymakers who allow slow growth to persist might find their economy locked into a stagnant or declining state.¹⁴ There may not always be a continuum of choices regarding economic performance; instead, there may sometimes be a choice between keeping the economy in a high-growth or a low-growth equilibrium. The perception of there being smooth tradeoffs and gradual variations in macroeconomic performance assumes that local, linear deviations around a steady state can occur without dislodging the economy from that state. This is a useful assumption for both modeling and policymaking in normal times, but the assumption need not always hold.¹⁵

In 1997 and 1998, the Japanese economy appeared to be making just such a switch from being in a downturn in a high-growth state to being in an ongoing low-growth state. The key was the decline in confidence among Japanese citizens and businesses. After 1996, economic forecasts had caught up with the slow-growth reality and were no longer surprised by it. The combination of strong growth the year after the September 1995 fiscal-stimulus package and the sharp contraction following the tight fiscal policy of 1996 and 1997 seems to have brought about the reassessment. The Japanese Consumer Sentiment Index, which remained at levels comparable to those of the mid-1980s (a time of normal, near potential growth) through 1993, almost returned to those levels in late 1995 and 1996. With the 1997 contraction, this measure of confidence plummeted and now seems to be hovering at a level lower than that seen in 15 years.

Similarly, in the Japanese labor market the ratio of job openings and new jobs offered to the number of applicants began to drop for the first time starting in mid-1997 to levels below those of the early 1980s. While the number of job openings is an actual measured figure and not directly a question of consumers' expectations, an increased likelihood that you, your child or someone you know will be unable to find a job, should they enter the labor force or be laid off, is one of the most visceral indicators of economic health for the average citizens. The unemployment level for new college graduates also soared as the economy sank in 1998. Here the effect is on the long-term expectations of young people—if they have trouble getting a first job or they know people who failed to enter the labor force—they must face the real possibility of being shut out of work for long periods.¹⁶ This growing sense of insecurity is based on low expectations for their own and the Japanese economy's income growth, which, in turn, is based on the extended stagnation of the Japanese economy. This insecurity, accompanied by a rise in precautionary saving by Japanese households, has potentially disastrous consequences for the financial system, to which I now turn.

THE RISK OF FINANCIAL CRISIS

The purpose of financial markets is to accumulate and evaluate information about investment opportunities. Is a proposed investment a worthwhile project? Does that investment continue to pay as expected when implemented under changing conditions? How do the changing fortunes of that investment relate to changes in other investments? Only when these questions are properly answered will capital (a society's accumulated savings) be efficiently allocated to the best projects. The job of a financial intermediary is to answer these questions, that is, to evaluate, monitor and assess risk. These are not easy tasks. Information is imperfect, which is the economist's way of saying that not all information available is equally credible and free of bias, nor that all information can be utilized without cost or judgment. In particular, information is asymmetric, meaning that the prospective borrower inherently has far better information about the project he or she proposes than the lender has when deciding whether or not to invest. This asymmetry causes two general problems to arise in capital markets: adverse selection and moral hazard. To cope with (but not eliminate) these problems, most financial transactions are conducted through financial intermediaries, which are firms specialized in screening and monitoring risks. Capital usually is invested by financial intermediaries in the form of bank loans because only

such loans allow lenders to take collateral, maintain an ongoing relationship with the borrower to monitor performance and cut off credit for nonperformance.¹⁷

A financial crisis occurs when there is a major disruption in the provision of these financial intermediary services to an economy. This may occur when something has happened to a significant number of the intermediaries or when economic conditions have caused such an increase in the adverse-selection and moral-hazard problems that the provision of capital to good investment projects declines significantly. In a financial crisis, specific borrowers lose access to their lenders, while large segments of the nonfinancial sectors of the economy lose their direct access to the securities markets.¹⁸ Ben Bernanke shows that just such a widespread loss of banking credit was a primary reason for the large real effects of the stock market crash of 1929.¹⁹ Small and medium-sized businesses are particularly hit by a loss of intermediation because their flow of liquidity depends on the information they privately make available to their lending bank. To the extent that such businesses are a source of economic innovation and growth over the long run, this inefficiency is destructive far beyond the lost firms.

In the economy as a whole, therefore, a contraction in bank lending lowers both aggregate demand and aggregate supply, the latter because foregone or prematurely called in investment opportunities lower productive capacity. Investment demand will drop because it will be more expensive for nonfinancial firms to get credit, as they must either compete to establish a new relationship with the few remaining banks or turn to alternative sources of credit which are not as well suited to their needs. If a flood of passed-up investment projects are submitted to remaining lenders, it becomes more difficult to distinguish the promising from the unduly risky, and remaining lenders will further reduce credit availability. Meanwhile, the decline in lending perpetuates itself because every loan not rolled over harms a nonfinancial firm, whose leverage rises and collateral falls as the downturn continues.

Once these intermediation services are withdrawn, no policy response can quickly replace them. Simple injection of liquidity by the central bank, while seeking to maintain total lending, is insufficient to restore efficiency and economic growth when private information and specialized skills have been lost. As Lawrence Summers writes: "because of the relationship-specific capital each [lender] has accumulated, reserves at one bank are an imperfect substitute for reserves at another."²⁰ This is why government lending is a palliative at best. The intermediation skills and the specific knowledge of these substitute lenders are inferior to

those of the original private banks. Public lending banks also have less incentive to monitor risk properly because their motive is to maximize lending, not make a profit. This in turn engenders risk taking by borrowers beyond an efficient level as a result of eased credit standards.

The loss of financial intermediation can occur through many channels. An increase in regulatory scrutiny can lead to a contraction in lending, either through the closure of banks or by forcing those banks still open to increase their reserves and write off more of their outstanding loans. Even when regulators are simply enforcing standards of actuarial fairness, the overall supply of loans can decrease. On the whole, such fair supervision benefits the public because the public insures these banks through deposit insurance. Without supervision, insolvent banks or banks with very low net worth have incentive to engage in excessive and excessively risky lending since they have little to lose but will share fully in the benefits if their gambles pay off. Thus, although tightening supervision also tightens lending conditions in the short run, it prevents moral hazard on the part of insolvent banks and limits adverse selection, whereby only those projects willing to pay high interest rates continue to get credit. The message is that a smaller provision of proper intermediation is better than bountiful, improperly supervised intermediation.

Banks also can cut down on lending because of a "capital crunch," that is, a decline in the value of their own equity.²¹ In the current environment, where all international banks in industrialized countries are supposed to maintain capital sufficient for the Bank for International Settlements (BIS) Basle Capital Accords,²² there is a clear standard below which banks are to cut back their lending if they lack sufficient capital. A stock market decline usually leads directly to a drop in the value of a bank's equity. In economies such as Japan's, where banks own stock in other nonfinancial firms, the decline in stock prices erodes that component of their capital as well. If all banks suffer from declining equity and net worth at the same time, it becomes more difficult for banks to raise new capital by issuing equity or other securities. Subsequently, interbank lending contracts. Efforts to promote consolidation in the banking industry through mergers might prove necessary, but such changes will not restore capital ratios if they occur only after the solvent banks see their own capital ratios decline. The little remaining capital left over makes it unreasonable for solvent banks to acquire insolvent banks, absent direct government injection of funds.

A sharp fall in the banks' supply of loanable funds, that is, deposits, is the most dangerous channel through which financial intermediation can be withdrawn. In such a situation, banks must build up their reserves

and reduce lending immediately, which induces higher interest rates from sharply lessened liquidity. The trend toward removing money from the banking system is called “disintermediation” because it deprives financial intermediaries of the supplies that they need to work. In its worst form, disintermediation becomes a bank panic. Bank panics arise for three rational reasons: 1) there is a true advantage to being first in line to get one’s money out before the bank runs out of liquid assets (which even in solid banks constitute only a fraction of the liquid deposit liabilities, since banks lend long term); 2) there is poor information available to the depositors about which banks are solvent and which are not, so runs on one bank raise questions about the health of others; and 3) like confidence with regard to economic growth discussed previously, bank runs can be self-fulfilling.

Ideally, government deposit insurance will prevent bank runs by removing the advantage of being first in line and making information on specific banks irrelevant to the depositor.²³ However, the line where deposit insurance guarantees is drawn can never be made completely credible. On the one hand, if enough banks fail simultaneously, the government is tempted to partially renege on the guarantee, perhaps assessing depositors a charge or refunding them less than the announced maximum amount. This may occur because the government does not expect to engage in so widespread a payoff again anytime soon and because it has already lost its reputation in this area.

On the other hand, if a large share of deposits in the banking system—such as large corporations’ cash accounts or foreigners’ holdings—are not covered by deposit insurance, failure to extend such insurance to these accounts can result in a breakdown of the payment system. Meanwhile, the longer the financial system is left in a weakened state, with low net worth or insolvent banks, prior to either a cleanup or a run, the more incentive the banks have to keep adding to the insurance burden by attracting deposits to engage in further high-risk lending (the moral hazard previously discussed). This behavior only diminishes the credibility of the deposit guarantee: the higher the bill due, the less likely is complete repayment.

All of these factors are illustrated in the experience of Japan in the late 1990s. Japan remains primarily a bank-based financial system, and as a result, much of its corporate financing is intermediated through banks. Because Japanese banks maintain long-term relationships with their borrowers and have share holdings among their borrowers, it is harder for these borrowers to substitute a new lender or nonbank financing for their specific bank’s services. Such “relationship lending” also implies that

the net worth of borrowers, their collateral and their lenders' equity all decrease in tandem, creating a vicious spiral of declining liquidity. After years of "regulatory forbearance" in hope that Japanese banks would be able to lend and grow their way out of their bad loan problems, the supervision of Japanese banks is correctly being stepped up—albeit long after the problem worsened—with the expected contractionary effect on lending. The equity of Japanese banks has declined significantly to a level well below the Basle accord standard, while loans classified as "behind in payments" down to "nonrecoverable" total at least 77 trillion yen, or 15 percent of GDP.²⁴

Japanese savers have begun to lose faith in the private banking system, further decreasing the availability of liquid funds. Despite appropriate expansion efforts by the Bank of Japan, even the growth of M1 (money held as cash or in demand deposits) has slowed significantly since 1996, and an increasing share of that is being held in cash, meaning that bank deposits are stagnating at best, while total savings are rising. There has also been a shift in the relative shares of various types of savings to total savings. More of the increase in Japanese savings is going to insurance funds and the public postal savings system, rather than into private banks. This shift also contracts credit and raises its cost, because neither option is a good substitute lender for borrowers who are dependent on banks. In fact, the share of savings held in the postal savings system has been rising steadily since the Japanese market first dipped in 1990. This trend has been strengthened by the declining differential between the interest rate offered to savers on private-sector bank accounts and that offered by the postal savings system.

Since the government directly guarantees postal savings and currency (except for the losses caused by inflation), the substitution away from bank deposits constitutes a trend toward disintermediation by the Japanese public in the face of government deposit guarantees. The demonstrated *laissez-faire* attitude by the Japanese government toward accumulating bad loans has logically eroded savers' confidence in the guarantee, even if the government only intends to prevent a credit crunch. When potential bank failures become spread throughout the economy, the value of deposit insurance diminishes inherently because people realize they will have to pay out with one hand what they receive in the other. Insurance is worthwhile when only some policyholders fall victim. This is yet another reason why slow response to financial weakness increases the likelihood of outright financial crisis. In addition, since the government has the ability to set the interest rate for postal savings (and

control its growth more broadly), the Japanese government is effectively subsidizing this disintermediation. Add to this the rising capital flows abroad and the funds going into foreign banks (which do not have Japanese deposit insurance coverage), and it is clear that savers believe that the risks of holding deposits in the Japanese banking system outweigh the perceived value of the guarantees.

Even though a true financial crisis—complete with a bank panic and a sharp drop in banking services—has not yet occurred in Japan, the availability of credit and the efficiency of financial intermediation in Japan have declined. The willingness of banks to lend to firms, as captured in the Bank of Japan's widely-cited *Tankan* survey, has declined sharply since mid-1997.²⁵ I argue that it was then that confidence began to turn and disintermediation became a factor. In fact, from the time the bubble burst through mid-1997, lending was readily available for those firms that wanted it, according to historical standards of this measure. This point is key, for until the 1997 contraction, the decline in investment came largely through a lack of demand for investment because firms had excess capacity and low net worth. The lack of available credit as reported by the *Tankan* survey should be interpreted as a decline in credit supply factors finally outpacing the fall in demand. This again is consistent with a transition from financial fragility to disintermediation and potential crisis.

The issuance of corporate bonds and commercial paper, which should rise when borrowers are forced to substitute for bank loans, has largely shown stability rather than a trend change, which may be indicative of the simple unavailability of these alternatives to Japanese firms, even when desired.²⁶ The movement of bond risk spreads between private and government borrowers reconciles these two trends. In a time of credit contraction, the interest-rate spread should widen between low- and high-quality borrowers, because lenders will be more suspicious of those who want to borrow at high interest rates. We can see occasionally interrupted but ongoing rises in both the Corporate Aaa-Japanese Government Bond and the Electricity Utility-Japanese Government Bond spreads since 1994-1995. The commercial paper spread has varied a great deal less in the 1990s and remained negligible, which is consistent with the interpretation that only the very best borrowers can access commercial paper in Japan, as it has not yet become a major alternative source of capital.²⁷

This recent credit crunch has been associated with predictable effects on the distribution of credit. Not surprisingly, the financial position of Japanese businesses has declined sharply since the fiscal contraction of 1997. More tellingly, small enterprises, which are more dependent

on bank-intermediated lending, remained in the negative, “financially difficult position,” during the upswing of 1995-1996, while large principal enterprises with access to other forms of credit were able to take financial advantage of the situation.²⁸ The gap between principal (large) and small enterprises’ financial positions widened starting at this time, and even as large enterprises’ positions have declined, the gap has remained wide, again consistent with what might be expected of a credit crunch (as opposed to the narrower gap seen throughout the 1990s until mid-1996). The liquidity ratio of firms shows less variation according to size. For both large and small firms, however, liquidity was actually rising through mid-1994, which might be associated with a voluntary cutback in investment. The decline in liquidity has been strong since then.

Finally, the rise in total monthly bankruptcies in Japan, a number which had remained within historical norms until mid-1996 despite press reports suggesting otherwise, should be noted. This should be associated with the financial fragility that is giving way to a more serious credit contraction, because Japan’s relationship-based banking system is meant traditionally to help distressed firms work through temporary illiquidity and avoid bankruptcy. Thus, the rise in bankruptcy rates must stem from a decline in this kind of traditional bridge lending.²⁹

In summary, the nature of the financial problem in Japan has changed since summer 1997 from one of financial fragility, where investment demand was low and banks were engaged in risky lending, to one of credit contraction, where banks are ceasing to lend in response to declining equity, tougher regulatory supervision and fewer available loanable funds.³⁰ The result has been an increase in credit allocation inefficiencies—which has particularly harmed small borrowers—and an increase in the amount of the macroeconomic contraction attributable to financial, rather than broader aggregate demand or fiscal, factors. This situation could turn into outright financial crisis if the trend toward disintermediation were to lead to a rapid removal of deposits from the private banking system. Such an event would lead to a contraction in bank lending much greater than seen so far and to a large decline in investment and aggregate demand. This development would interact with and reinforce the risks from a collapse of economic confidence, a risk that was already rising in the aftermath of the fiscal policy and growth reversal of 1996.

How likely is a true financial crisis? Returning to this paper’s theme, one would hope that the likelihood need not be large for the Japanese government to want to take preemptive steps. The emphasis should be on changing the incentives for savers to put money back into the private

banking sector, and for the insolvent parts of that banking system to be quickly closed or reconstituted. Despite the real short-run macroeconomic costs of further lending declines, the emphasis of policy should not be on maintaining the flow of credit to borrowers because this might only serve to lengthen the financial reform process, would do nothing to stem disintermediation and would be at best an inferior substitute to private-bank lending. If the disintermediation can be reversed, however, the worst effects of the credit contraction will be prevented and longer-term stability assured.

In general, it is mistaken to believe that monetary policy can easily reverse the effects of a financial crisis—particularly a bank panic—once it has occurred. Not only will the central bank's monetary-policy efforts to inject liquidity be merely a partial substitute for bank lending, but the effectiveness of these efforts will be difficult to assess. In a contraction of the money supply, such as a bank run, even if the central bank makes M1 grow, the broader monetary aggregates, which include credit measures will likely decline. There will be huge velocity shocks to the normal money multiplier relationships, and credit will contract even as interest rates vary.³¹ In addition, if there is price stickiness in wages and product contracts near zero inflation, a drop in money supply will cause real interest rates to skyrocket. There is good reason for the Japanese government to get ahead of these dangerous trends by restoring confidence through a combination of fiscal stimulus and financial reform. As I discuss in the next section, monetary expansion in response to a financial crisis can have devastating international reverberations as well, especially if it is large and imprecisely controlled and would therefore have a destabilizing effect on expectations.

THE RISKS OF INTERNATIONAL REVERBERATIONS

So far, I have only spoken of the risks to an economy from internal problems of confidence and financial fragility. However, all economies are fragile to developments in the international context—even a large and relatively closed creditor economy such as Japan's. The risks to Japan from abroad include diminished trade with and demand from its neighbors should the East Asian economies decline further in their crises' aftermaths. There are additional, more pressing risks to the Japanese economy from abroad, however, and these can directly amplify the effects of a financial crisis or a collapse of confidence at home. Most critically, there are dangers of capital flight from domestic Japanese sources which could send the yen hurtling downward and exacerbate the risk of a collapse in

consumer confidence and of financial crisis. In addition, there is the serious prospect that a further rapid yen decline and capital outflow—leading inevitably to a rise in Japan's balance of payments surplus—could provoke a protectionist response, given the current political and economic climate in the United States, East Asia and perhaps the European Union.

Neither of these scenarios is farfetched at present, and as the Japanese domestic situation worsens, without policy action, likelihood of either increases. If the yen falls rapidly in combination with a financial crisis in Japan—where each is mutually provoking and reinforcing (as was the case in Korea and Thailand in the summer of 1997)—the Japanese government may find itself unable to stabilize the situation using its policy instruments alone. The monetary and fiscal policies most appropriate to restore confidence in the yen would be the opposite of those needed to restore the Japanese financial system. In such a case, Japanese recovery would require coordinated macroeconomic policies by the Group of Seven industrialized nations. Such coordination is a difficult and uncertain process, and one likely to wait until after the crisis was strongly felt abroad. For this reason, monetary stabilization and stimulation of growth should be undertaken by Japanese policymakers before such a crisis occurs. That such a limit to autonomy holds even for a wealthy, surplus-building Japan further illustrates the universality of dangers from neglected financial fragility.

Japan could experience the exact opposite of the spiral that preceded the Asian financial crisis in the summer of 1997. A persistent current account surplus and domestic lack of liquidity could produce an investment bust: higher interest rates (nominal and real) abroad than at home attract capital away from domestic uses. The outflow of capital draws down asset prices in Japan, further weakening companies' net worth and collateral and increasing the number of bad loans. More bad loans make the banks less willing to lend, decreasing liquidity. Precautionary savings by households rise and increase the trade surplus. This flight-driven credit contraction cycle—even in the absence of the domestic financial factors discussed in the previous section—would be sufficient to erode confidence and financial stability and repeat itself indefinitely. With the fragile state of the Japanese financial system and investor confidence, it could accelerate rapidly.

The effects of such a cycle would have not only financial, but also trade effects. The Japanese market absorbs 19 percent or more of the exports of China, South Korea, Indonesia, Thailand and the Philippines, as well as 13 percent of those of Taiwan and Malaysia.³² Japan's depreciation would limit imports from those countries that must export to restore

their living standards, even though Japan does not compete with (most of) them directly for export markets. As the Japanese current account surplus widens, trade frictions with the United States and other Japanese trading partners would increase, especially in the current context, where the United States, the “consumer of last resort,” is already taking in what Congress perceives to be more than its fair share from these other Asian economies.³³

Even if the cycle of trade threat and response does not play out as it historically has, there is no question that economic effects can spread from large countries to small, prompting flights to safety (mostly U.S. Treasury bills) from mobile capital everywhere, and thus, further increasing bilateral trade imbalances. It also should be remembered that, while flexible exchange rates in theory isolate one economy from another’s policy mistakes, that process takes time and is not always smooth. The resort to trade restrictions and quotas is always an alternative. As Jacob Frenkel stated, “I think it is important that we include protectionism as one of the known dangers (of internationally transmitted crises) because extended protectionism has implications beyond just trade flows. It makes the difference between an inward and an outward orientation, and between open and closed markets.”³⁴

This type of protectionist cycle can arise out of sheer neglect by the Japanese government, even in the absence of conscious efforts to depreciate the yen, because capital outflows are driven by domestic factors. While we may be unaccustomed to hearing about capital flight from wealthy, politically stable countries, it can happen (and there is anecdotal evidence in Japan that it has begun). The decisions on where to invest are made at the margin, based on the likely returns for that investment. If everything in Japan—lack of confidence, low liquidity, low interest rates—disadvantages those investments, the capital will go elsewhere. The fact that Japan has very little debt held abroad and no foreign-denominated government debt means that more has to go wrong in the Japanese economy before flight would begin in earnest, but it by no means precludes such flight.³⁵ The target-zones literature tells us that even under flexible exchange rates, small fluctuations (or perceived inaction) by the central bank can produce sharp jumps in the exchange rate.³⁶

The United States and Japan defended the yen at 140 to the dollar in mid-June 1998. They could well have created a scenario for dumping the yen if the two countries were not seen as defending that rate were it again seriously challenged. If the Japanese financial system is sufficiently fragile that foreign counterparties are withdrawing their funds from it or proving less willing to roll over loans in the interbank market

(as can be seen in the “Japan premium” that even large Japanese banks were paying in the late 1990s), then an exchange-rate attack and a financial withdrawal would reinforce each other. These will, of course, fuel further capital flight.

Such a rapid fall in the yen would not only occasion trade frictions, it also would likely bring about a rapid rise in Japanese inflation.³⁷ While there are factors that would limit the rise in inflation, such as underutilized capacity in the Japanese economy and favorable shocks to commodity prices, these cannot completely shield an open economy that must pay world prices for a number of inputs and consumer goods. Moreover, even to the extent that yen depreciation contributes to growth by increasing net exports, it does so in a selective way: on the first pass, it harms everyone but stakeholders of equity in the traded-goods sector. Japanese consumers, feeling their purchasing power erode, would likely withdraw more money from the economy, both by hoarding savings and by moving capital abroad. It also would not be seen as a sustainable restoration of profits and, therefore, of investment expectations, given the political and economic reasons for an eventual reversal of the yen’s course. Finally, it would do nothing to stabilize the financial system or to increase deposits to it, because Japan is far from an exporter of financial services.

Most pressing, however, is the conflict between external and internal stabilization that would be engendered by capital flight and yen depreciation. To restore liquidity to the financial system, which is likely to be harmed by disintermediation to overseas markets and certainly by having to bear more bad loans with ever lower equity, the Bank of Japan would have to lower interest rates or increase the money supply. To restore the confidence in the stability of the yen, the Bank of Japan would have to raise interest rates to halt depreciation and close the gap in returns with dollar and euro-denominated assets. The Bank of Japan’s duties as lender of last resort would be in direct conflict with its commitment to price stability, and it would have only one policy instrument with which to address this dilemma. This is a general problem when neglect of financial fragility interacts with international pressures.³⁸ Clearly, low inflation is strongly preferred to deflation, especially under conditions of financial fragility, but it is dangerous to attempt to engineer such price stability (or slight inflation) through exchange rates, which tend to overshoot without a nominal anchor. Moreover, capital that leaves tends to be reluctant to come back unless returns are front-loaded via high interest rates, which adds to the conflict facing the central bank.³⁹

So, to summarize the downside risks to the Japanese economy, consider the following scenario:⁴⁰ markets come to believe that the U.S.

Treasury Department will not defend the dollar/yen exchange rate any further without a change in Japanese macroeconomic policy, nor will the U.S. Congress accept huge additional imports of Japanese steel, autos and electronics.⁴¹ Before the Japanese government can affect the situation, the credibility of this threat, given the obvious pressures for trade protection, prompts capital flight from Japanese assets. The Nikkei stock index plummets, putting some securities firms that had taken too many risks out of business. Rumors of nonpayment by these collapsed firms lead counterparties of banks associated with those firms to withhold payments from those banks (as collateral in case of payments failure). Although the threatened companies are securities firms and not banks, lines of depositors begin to form at Japanese banks, visible for all to see, to withdraw their deposits and put them into the postal savings system or dollar-denominated assets abroad. Foreign holders of credits to Japanese banks fear further declines in the yen as a result of the impending capital flight and refuse to roll loans over.

The Japanese government announces the extension of the deposit guarantee of 10 million yen per account to all customers at securities firms, but the announcement (in line with the discussion above) is interpreted more by those who apparently will not be protected. So, when the Bank of Japan follows the announcement by making guarantees of liquidity to any major bank, those doing business with small banks and non-individual account holders such as corporations join in the panic. The government's infusion of liquidity is more than offset by the decline in money supply, as the deposits go abroad or under the mattress. Although most labor and debt contracts remain in fixed nominal terms, deflation results in a substantial short-run spike in Japanese real interest rates.

Those Japanese banks still standing pull in their lines of credit. Any liquidity given to them by the Bank of Japan or the Japanese government is invested in Japanese government bonds or U.S. Treasury bills, given the extreme adverse selection of who is willing to borrow at the prevailing interest rate. Nominal interest rates then rapidly drop, and Japanese financial markets go into wholesale decline. Aggressive lender-of-last-resort action to increase liquidity decreases further the return on deposits, capital flight continues and expectations for further yen depreciation become entrenched. Government deficits, meanwhile, rise sharply when the downturn becomes severe, unemployment exceeds its historical highs and there is a collapse in tax revenues. The Japanese government, under the guidance of the Ministry of Finance, calls for extreme fiscal austerity to restore confidence in the Japanese economy and to pay

for the various financial infusions. As shown in 1996 and 1997, fiscal consolidation is anything but expansionary in Japan, provoking further panic by increasing precautionary saving and lowering confidence in the economic future (as much by government justifications given for the contraction as by the direct impact on growth).⁴²

There is, therefore, a complete conflict between responding to the liquidity crisis and the currency crisis, between restoring faith in the financial system and restoring faith in the yen. The size of these capital flows and the uncertainties they cause would provoke renewed crisis in the rest of East Asia, with capital exiting these markets even faster than in Japan. World economic growth and stability is imperiled. The only way out of the dilemma would be for foreign central banks, primarily the United States Federal Reserve and the new European Central Bank, to lower their interest rates sufficiently to encourage capital to flow back into Japan. In theory, stabilization of the currency by closing of international interest rate differentials would allow Japanese monetary and fiscal policy to dedicate themselves to their domestic financial requirements. Whether the independent Federal Reserve and European Central Bank would be willing to engage in such a coordinated loosening is in doubt, given that their economies' interest rates would have been dropping already from the inflow of funds from the Pacific Rim and because their self-interpreted mandates for price stability would appear to preclude response to international factors, until they hit hard at home. Even if such a coordinated interest rate cut were made, it would more likely staunch the outflow, than restore to Asia the capital necessary to end the crisis. Perhaps this scenario sounds exaggerated for Japan, but it is difficult to point to any step in the scenario that seems particularly unlikely.

The Japanese case illustrates two important general points about forward-looking economic policy. First, there is the mutually reinforcing nature of downside risks for an economy that has both a fragile financial system and declining economic growth. Second, preemptive policies are sometimes required, because policies in reaction to a crisis may be ineffective or have perverse effects. I offer such a program of policies for sustainable Japanese economic recovery in Posen (1998).

The potential need for international coordination, if the crisis gets out of hand, should not obscure the reality that such coordination cannot substitute for appropriate changes to an economy's domestic policy. If the country is subject to leverage because it is small or has a trade deficit, international pressures perhaps can induce such a change. The unwillingness of such open, foreign-trade and financing-dependent economies as Korea and Thailand to make the necessary shifts before crisis hit

in 1997, however, should make us cautious about the likely effectiveness of international pressures. Worse, when the country is large and in surplus, as is the case in Japan in the 1990s, its domestic mistakes can be internationally destructive. We have known since the founding of the Bretton Woods system that there is no international architecture that can force such a country to follow proper policies until the country itself recognizes its self-interest in changing course. This should put a limit on our optimism about the benefits of even broad ranging reform of the international financial system and increase our emphasis on convincing policymakers to consider their domestic financial choices in a forward-looking manner. ■

NOTES

¹ I give an analysis of economic developments and the role of fiscal policy in Japan in the 1990s in *Restoring Japan's Economic Growth* (Washington, DC: Institute for International Economics, 1998).

² This is a more general statement of what drives the "paradox of thrift," which John Maynard Keynes describes as a source of recessions.

³ See Stephen Radelet and Jeffrey Sachs, "The Onset of the East Asian Financial Crisis," mimeo, Harvard University (1997) and Joseph Stiglitz, "Bad Private Sector Decisions," *Wall Street Journal*, February 4, 1998 for characterizations of the Asian financial crisis (outside of Japan) in just these terms.

⁴ See Milton Friedman and Anna Schwartz, *A Monetary History of the United States, 1867-1960* (Princeton, NJ: Princeton University Press, 1963) for a history explaining most of the pre-Second World War economic fluctuations in the United States in terms of such financial breakdowns. Frederic Mishkin, "Preventing Financial Crises: An Integrated Perspective," NBER Working Paper 4634 (February 1994) gives additional examples.

⁵ Of course, financial firms have effects on the economy directly, as well as through confidence, and their disruption has other effects, which I discuss in the following section.

⁶ See James Hamilton, "A New Approach to the Analysis of Non-Stationary Time Series and the Business Cycle," *Econometrica* 572 (March 1989):357-84, and "Analysis of Times Series Subject to Changes in Regime," *Journal of Econometrics* 451 (July 1990): 39-70.

⁷ Ben Bernanke and Mark Gertler, "Financial Fragility and Economic Performance," *Quarterly Journal of Economics* 105 (February 1989): 87-114.

⁸ Nobuhiro Kiyotaki and John Moore, "Credit Cycles," *Journal of Political Economy* 105, no. 2 (1997): 211-248.

⁹ Costas Azariadis and Bruce Smith, "Financial Intermediation and Regime Switching in Business Cycles," *American Economic Review* 88, no. 3 (June 1998): 516-36.

¹⁰ Intermediate financing includes bank loans rather than the issuance of securities, which is true for most investment in the United States and particularly Japan, where banks play a much larger role.

¹¹ This means that because lenders cannot always tell who the good borrowers are, movements in interest rates can attract too many of the poor risks, so lenders sometimes lend less than they could given outstanding demand.

¹² This is similar to a Keynesian “liquidity trap.” See the discussion in Posen (1998), Chapter 3.

¹³ George Evans, Seppo Hankapohia and Paul Romer, “Growth Cycles,” *American Economic Review* 88, No. 3 (June 1998) 495-515.

¹⁴ I have argued that Japanese policymakers have done this from 1994 through 1998.

¹⁵ As Rudiger Dornbusch, “Discussion: International Aspects of Financial Crises,” in *The Risk of Economic Crisis*, ed. Martin Feldstein (Chicago: The University of Chicago Press, 1991) put it when discussing a related gap between historical instances where economic shocks transmitted widely across borders and our generally small estimates of cross-border economic linkages, “A highly synchronized decline in world demand is not studied with macroeconomic models because we only feed them small sympathetic shocks; we do not feed them crisis scenarios in which everybody says, ‘Oh, no, the world is going down, bad idea to invest today.’”

¹⁶ These periods could perhaps last until an economy maintains sufficiently solid growth for long enough to drag those potential workers back into employment, as arguably seen in the United States in the mid-1990s.

¹⁷ Another reason for the predominance of lending as the form of corporate financing is the inability of all but the most well-established and largest firms to issue securities and go to capital markets directly. This also reflects the adverse selection aspects of asymmetric information. See Stewart Myers and Nicholas S. Majluf, “Corporate Financing and Investment Decisions When Firms Have Information That Investors Do Not Have,” *Journal of Financial Economics* 132 (June 1984):187-221.

¹⁸ It is possible for instances of extreme financial volatility to arise that do not occasion such crises or loss of intermediation services (e.g., the 1987 U.S. stock market crash). It also is possible for an economy’s capital markets to operate inefficiently for an extended period because of a rise in information problems or institutional failings without that causing a sharp crisis. One could argue such was the case in Asia prior to the summer of 1998 crisis. See Morris Goldstein, *The Asian Financial Crisis: Causes, Cures, and Systemic Implications* (Washington, DC: Institute for International Economics, 1998). Frederic Mishkin, “Preventing Financial Crises: An Integrated Perspective,” NBER Working Paper, No. 4634 (February 1994) discusses some of these definitions of financial fragility versus crisis.

¹⁹ Ben Bernanke, “Non-monetary Effects of the Financial Crisis in the Propagation of the Great Depression,” *American Economic Review* 73, no. 3 (June 1983): 257-71.

²⁰ Lawrence Summers, “Macroeconomic Consequences of Financial Crises” in *The Risk of Economic Crisis*, ed. Martin Feldstein (Chicago: The University of Chicago Press, 1991).

²¹ Ben Bernanke and Cara Lown, “The Credit Crunch,” *Brookings Paper on Economic Activity*, 2 (1991): 204-39, analyze this situation in the United States in 1990-1991, arguing that lending did drop significantly with a decline in bank capital at that time.

²² The Basle Capital Accord was an agreement among developed-nation bank regulators that any commercial banks engaged in international transactions should have on hand a minimum level of capital proportional to outstanding liabilities. The proportion is 8 percent but that 8 percent is risk-weighted in terms of the safety of the assets held, with riskier assets being marked down versus safer assets.

²³ Of course, this is precisely why there must be strict bank supervision where deposit insurance exists, because the depositors themselves have no incentives to monitor the lending standards of the bank, whereas the insurer has the incentive to make sure that it does not incur unnecessary losses. Meanwhile, the bank has an incentive to gamble for high returns with the deposit-protected money because its losses are bounded from below at zero.

²⁴ Hiro Ito and Andrew Zzamosszegi, *A Cure for Japan’s Sick Banks* (Washington, DC: Economic Strategy Institute, 1998). Japanese banks also have unrealized gains on their

books from stock holdings in other firms, which are recorded at historical purchase value. Historical purchase value means that banks get to carry on their books the value of investments (particularly stocks) at the price they originally paid. In Japan, this can be lower than the current value if the stocks were bought long ago, and the economy has grown since then; it can also be higher than the current market value of the stock, if they were bought during the bubble years of the 1980s. In general, when the Nikkei stock index sinks below 15,000, banks move from unrealized gains to unrealized losses on this set of assets as well.

²⁵ The question on the business survey asks firms whether they believe lending conditions that they face are tight or not, and the score is the number of “yes” answers minus the number of “no” answers. This is done separately for small versus large enterprises, given that large enterprises normally have more alternatives to bank lending.

²⁶ More recent anecdotal data, however, does indicate a sharp rise in commercial paper issuance as those nonfinancial firms that can go directly to credit markets do so.

²⁷ Bond-rate data on lower-quality Japanese borrowers is difficult to come by because so few firms get access to Japanese credit markets without bank intermediation, another sign of the importance of this channel. Benjamin Friedman and Kenneth Kuttner, “Indicator Properties of the Paper-Bill Spread: Lessons from Recent Experience,” *NBER Working Paper*, 4969 (1994), discuss risk spreads and the reasons for their predictive powers in general terms, with particular attention to the commercial paper-government bond spread.

²⁸ This also may be attributable, in part, to the fact that net exports were strong in 1996-1997, and fewer small firms tend to be export oriented.

²⁹ See Takeo Hoshi, Anil Kashyap and David Scharfstein, “The Role of Banks in Reducing the Costs of Financial Distress in Japan,” *Journal of Financial Economics* (September 1990):67-88, for a discussion, both in theory and prior to the present period, of Japanese banks’ relation to those borrowers in financial distress.

³⁰ Working with data through 1995, Michael Bordo, Takatoshi Ito and Tokuo Iwaisako, “Banking Crises and Monetary Policy: Japan in the 1990s and U.S. in the 1930s,” mimeo, Rutgers University (November 1997), decided that there was no financial crisis in Japan to that point, precisely because there were no signs of a significant rise in the currency/deposit ratio or a flight to currency. As documented here, however, that situation has since changed for the worse.

³¹ Paul Volcker, “Discussion: Financial Crisis and the Macroeconomy,” in *The Risk of Economic Crisis*, ed. Martin Feldstein (Chicago: The University of Chicago Press, 1991) and Bernanke and Lown, 1991: 237.

³² Marcus Noland, Li-Gang Liu, Sherman Robinson and Zhi Wang, *Global Economic Effects of the Asian Currency Devaluations* (Washington, DC: Institute for International Economics, 1998).

³³ In 1998, the Congress generally was opposed to global cooperative efforts, having voted down fast-track authority and slowed IMF funding.

³⁴ Jacob Frenkel, “Discussion: International Aspects of Financial Crises,” in *The Risk of Economic Crisis*, ed. Martin Feldstein (Chicago: The University of Chicago Press, 1991), 124.

³⁵ William Poole, “Discussion: Macroeconomic Effects of Financial Crises” in *The Risk of Economic Crisis*, ed. Martin Feldstein (Chicago: The University of Chicago Press, 1991), 174, came to the same conclusion discussing the opposite situation in the United States, then and now the world’s largest debtor. “The argument that we will have to pay increasing attention to the exchange market as the amount of foreign-owned capital in the United States rises does not make good sense to me. U.S.-owned capital is just as mobile as

foreign-owned capital. Capital flows respond to relative risks and returns; policy constraints (on the United States) have changed little over the last decade” as foreign holdings of treasuries rose.

³⁶ See Paul Krugman, “Macroeconomic Aspects of Financial Crises, International Aspects of Financial Crises,” in *The Risk of Economic Crisis*, ed. Martin Feldstein (Chicago: The University of Chicago Press, 1991), for a brief summary of these results.

³⁷ The advantages of a *limited and expected* rise in Japanese inflation are discussed in Posen (1998), Chapter 5.

³⁸ “[I]n the stabilization crisis, there are no ‘right’ answers, because the general tools that one uses to deal with the crisis, particularly easing the money supply, may undermine confidence. Further, the international financial repercussions can lead to a depreciation of the (currency) which feeds back to internal inflation,” Volcker (1991) 175.

³⁹ See Dornbusch (1991).

⁴⁰ This scenario was inspired by Summers’ scenario (1991) about the hypothetical possibility of an international crisis beginning in the United States through policy mistakes.

⁴¹ Noland, et al, (1998) analyze the likely trade effects of further Japanese contraction or yen depreciation and determine that these U.S. industries will feel it most.

⁴² See Posen (1998), Chapters 2 and 3, for a discussion of this pattern of Japanese fiscal policymaking in the 1990s.