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PERSPECTIVES ON CURRENCY CRISES

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Foreword

The frequency of currency crises in the past decade has generated a lot of interest in the genesis and the spread of these crises. Numerous hypotheses have been advanced and debated in explaining the phenomena of currency crises in the 1990s. This paper attempts to survey and summarize this literature.

As India moves towards greater exchange rate flexibility and capital account liberalisation, an understanding of these issues becomes very important. I hope that this review proves useful to policymakers and others grappling with these issues.

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Perspectives on Currency Crises

The literature on currency crises has evolved over time. Economists have come up with theoretical models in order to explain the various episodes of currency crises. Hence, we will examine the literature over time with some reference to the episodes of the 1990s.

The works of Krugman (1979) and Flood and Garber (1984) have now come to be known as the “*First Generation*” *Model of currency crises*. They typically depict the scenario of the Latin American countries in the 1970s and early 1980s. The main feature of these models has been a passive government running huge budget deficits that are financed typically by printing money. Since the economy is under a fixed exchange rate regime, the money supply is given exogenously. Hence, deficit financing through money creation leads to a decrease in foreign exchange reserves of the central bank in order to offset the increase in domestic credit. Since the central bank has limited amount of foreign exchange reserves, it cannot maintain a fixed exchange rate regime indefinitely. So the crisis occurs once the central bank reaches some minimum level of foreign exchange reserves (which could mean $R=0$ or $R>0$). At this point, the currency is either devalued or allowed to float (the floating exchange rate is known as the “shadow exchange rate”)! But a discrete devaluation of the local currency represents a windfall capital loss for those holding the local

Note: This presentation draws heavily from my paper, co-authored with Kar-yiu Wong, “Currency Crises and Capital Controls: A Selective Survey”.

currency. If the devaluation is expected (as in these models), investors will try to avoid the loss by acting earlier. They sell local currency for foreign currency. This brings the crisis forward in time.

These models suffer from some obvious weaknesses.

- The rule of deficit financing assumed is very rigid, even though it is not sustainable in the long run. While the investors are actively maximizing the returns on their assets, the government is too passive—it knows that the central bank is losing reserves, hence can give up the parity before it runs out of all reserves, but chooses not to do so.

- Theoretical models imply that the exchange rate will adjust smoothly when the exchange rate regime shifts from a fixed to a flexible one. In reality, countries experience quick, unexpected and huge devaluations. The ruling out of discrete jumps in the exchange rate in these models is partly due to perfect information, but introducing uncertainty may not be sufficient to explain why countries that let go of their exchange rates during a currency crisis face big devaluations.

Krugman (1979) and Flood and Garber (1984) consider two models with uncertainty. In the former, the local government may want to spend a fraction of its foreign reserves to defending the currency with certainty, while there is a positive probability less than unity that it will spend the rest of the reserve on defending the

currency. The investors will then purchase all the reserve that is committed to defending the currency with certainty at the time when the pegged exchange rate is equal to shadow exchange rate corresponding to the remaining reserve. They then wait and see whether the government spends the rest of the reserve. If it does not, the exchange rate becomes flexible and follows continuously the path of the shadow exchange rate. If it does, the confidence of the investors returns, and they sell the reserve back to the government, and hold the local currency. The fixed exchange rate regime is maintained, until the next crisis occurs, when the pegged exchange rate is equal to the shadow exchange rate corresponding to zero reserve.

In the uncertainty model of **Flood and Garber (1984)**, the domestic credit creation rule is uncertain, and the investors do not know with certainty whether in the next period the shadow exchange rate will be higher or lower than the pegged exchange rate. However, since the cost of holding foreign reserve is zero, investors can simply purchase foreign reserve from the government just before each period, wait and see whether the exchange rate will become flexible. If it does not, investors can simply sell the foreign reserve they hold back to the government.

The first-generation models had linear behavioral functions. Second-generation models focus on non-linearities in government behavior—studying what happens when government policy reacts to changes in private behavior or when the government faces an explicit trade-off between the fixed exchange rate policy and other objectives. The first-generation models generate an attack when inconsistent

policies before the attack *push* the economy into a crisis. In the second-generation models, even when policies are consistent with the fixed exchange rate, attack-conditional policy changes can *pull* the economy into an attack. Other models show that a shift in market expectations can alter the government's trade-offs and bring about self-fulfilling crises. The newer models admit the possibility that the economy can be at a no-attack equilibrium where speculators see, but do not pursue, available profit opportunities. In such a situation, anything that serves to coordinate the expectations and actions of speculators can suddenly cause an attack (Flood and Marion (1998)).

While the above model of currency crisis shows the inconsistency between continuous creation of domestic credit and a fixed exchange rate, a currency crisis can also occur without the financing of fiscal deficit through domestic credit creation. The experience of certain European countries in 1992-93 lacked the features of the first-generation models. During this period of time, while maintaining fixed exchange rates, these countries faced severe speculative attacks on their currencies. In August 1993, member countries of the European Monetary System gave in to this pressure and allowed more flexibility in their exchange rates, permitting their currencies to move within a band of ± 15 percent instead of ± 2.25 percent for most Exchange Rate Mechanism (ERM) rates. However, it is interesting to note that two years later the prices of some of these currencies were at a level approximately the same as before. This means that these European countries did not have any obvious macroeconomic troubles and that currency crises can arise even when economies

have sound macroeconomic fundamentals. In other words, these countries do not have the features that are described by the first-generation models.

Looking at the breakdown of the ERM, Obstfeld (1994) suggests the following features of the crises experienced by these European countries, viz. (i) the government wants to abandon the peg (to inflate away the debt burden denominated in domestic currency, and to follow expansionary monetary policies in case of unemployment, etc), (ii) the government wants to defend the peg, (to facilitate international trade and investment, to gain credibility if has a history of high inflation, and as a source of national pride or commitment to an international cooperation), or (iii) there is a conflict between the two alternatives. The cost of defending the peg rises when people expect the peg to be abandoned. Anticipation of devaluation makes the debt-holders and worker unions demand higher interest rate and wages leading to a high debt-burden and uncompetitive industries at the current exchange rate level. Given this conflict, multiple equilibria arise from self-fulfilling expectations.

Expectations become the important trigger of a crisis, and not necessarily inconsistent policies. Obstfeld (1996) introduces the cost to holding foreign currency, which was absent in the case of first generation models of Krugman and Flood and Garber, and Obstfeld (1986, 1996) clearly bring out the following facts:

- The outcome depends very much on people's expectation: If they believe that the government will keep the prevailing exchange rate, they will take no speculative actions and the exchange rate regime will survive indefinitely. If, however, they believe that the government is going to devalue, they will acquire foreign reserve from the government, which eventually will not be able to resist the pressure and have to devalue. In this sense, the crisis is said to be self-fulfilling.

- Another feature of the above type of crisis is that the time when a crisis occurs is indeterminate because it all depends on the expectation of the people. In the indeterminate range, the economy could face an attack for sure if a large trader can take a massive position against the fixed exchange rate (like George Soros did in 1992). But if there is no large trader in the foreign exchange market, only many small credit-constrained traders, and there is no mechanism to coordinate their expectations and actions, the investors cannot mount an attack of sufficient size to move the economy from no-attack to an attack equilibrium. In this case, the economy can maintain a fixed exchange rate indefinitely.

Krugman (1996) disputes the indeterminacy of the speculative attack in the second generation models and suggests that the timing of the crisis can be determined by tracing the deteriorating fundamentals. In responding to Krugman's criticism, Kehoe (1996) and Obstfeld (1996b) point out that the new crisis models do not assert that every fixed exchange rate regime must be subject to a self-fulfilling crisis. Moreover, while a self-fulfilling crisis can occur even though a fixed exchange rate

can be sustained in the absence of speculation, there is no denying that deteriorating fundamentals can lead to a crisis, eliminating multiple equilibria and indeterminacy. Furthermore, speculative attacks can take advantage of some temporary problems faced by an economy, causing a crisis that has nothing to do with the long-run sustainability of a fixed exchange rate regime.

Despite these differing views of a currency crisis, the second-generation models do draw people's attention to the importance of speculative attacks and their pressure on the government in trying to maintain a fixed exchange rate regime. One message brought by Krugman is that in many cases speculative attacks do not appear out of the blue, and can in fact be traced to some deteriorating fundamentals of an economy.

The newer generation models emphasize the importance of financial sector and capital flows in currency crises. Hence, the term "*twin crises*". The frequent occurrence of twin crises (Nordic countries in 1990s, Turkey in 1994, Venezuela, Argentina and Mexico in 1994, Bulgaria in 1996, and Asian countries in 1997) has been a result of a banking crisis precipitating a currency crisis, either by an increase in money supply, or by a large scale withdrawal leading to a decrease in money demand. The causation between the balance of payments and banking crises is, however, debatable.

- Stoker (1995) and Mishkin (1996) argue that *balance of payments crises lead to banking crises*. According to Stoker, an external shock, coupled with commitment to fixed exchange rate, leads to loss of reserves. If this loss of reserves is not sterilized, then a speculative attack is followed by a period of abnormally high interest rates leading to credit crunch, increased bankruptcies and financial crisis. Mishkin argues that devaluation could weaken the position of the banks if they have a large share of their liabilities denominated in foreign currency.
- However, Diaz-Alejandro (1985), Velasco (1987), Calvo (1995) and Miller (1995) argue that *banking crises lead to balance of payments crises*. The argument is that central banks bailout financial institutions by printing money, and this erodes their ability to maintain the prevailing exchange rate commitment.
- But Reinhart and Vegh (1996) suggest that the *two crises have a common cause*—an exchange rate-based inflation stabilization plan. Since prices are slow to converge to international levels, the exchange rate appreciates markedly. Initially, there is a boom in imports and economic activity, which is financed by borrowing abroad. This leads to a widening of the current account deficit. Financial markets infer that stabilization program is unsustainable, and the currency is attacked. The increase in bank credit during the boom is financed by foreign borrowings. Later when capital flows out and the asset market crashes, it leads to the collapse of the banking system as well. McKinnon and Pill (1996)

show that financial liberalization along with some microeconomic distortions—like implicit insurance deposits—can make boom-bust cycles more pronounced as they lead to a lending boom that leads to the eventual collapse of banking system. Goldfajn and Valdes (1997) show that changes in international interest rates and capital inflows are amplified by the intermediating role of banks and may lead to business cycles that end in bank runs and financial and currency crashes. Banking problems arise from borrowing short and lending long. During the withdrawal of capital, banks face enormous pressure due to the lack of liquidity.

The stylized facts that these models tend to explain are: (Kaminsky and Reinhart, 1999)

(i) Banking crises are highly correlated to currency crises, (ii) Capital inflows increase steadily before the crisis and fall sharply during the crisis, and (iii) Banking activity (intermediation) increases some time before the collapse.

In particular, Kaminsky and Reinhart (1999) show that:

1. During the 70s, when markets were highly regulated, there was no apparent link between the balance of payments and banking crises. The two crises became more intertwined in the 80s following the liberalization of financial markets in many countries. Banking sector problems predate currency crisis and knowing that the banking crisis is underway helps predict the currency crisis. The causal

link, nevertheless, is not unidirectional. Their results show that the collapse of a currency deepens the banking crisis, activating a vicious spiral. They find that the peak of the banking crisis most often comes after the currency crash, suggesting that existing problems are aggravated or new ones created by the high interest rates required to defend the exchange rate peg or the foreign exchange exposure of banks.

2. While banking crises often precede BOP crises, they are not necessarily the immediate cause of currency crises. Their results point to common causes, and the order is a matter of circumstance. Both crises are preceded by recessions or below normal economic growth, in part attributed to a worsening of the terms of trade, an overvalued exchange rate and the rising cost of credit (exports are particularly hard hit). In both types of crises, a shock to the financial institutions (possibly financial liberalization and/or increased access to international capital markets) fuels the boom phase of the cycle by providing access to financing. The financial vulnerability of the economy increases as the unbacked liabilities of the banking system climb to lofty levels.
3. The crises (external or domestic) are typically preceded by a multitude of weak and deteriorating economic fundamentals. While speculative attacks can and do occur as market sentiment shifts and, possibly, herding behavior takes over (crises tend to be bunched together), the incidence of crises coinciding with sound economic fundamentals are rare.

4. When they compare the episodes in which currency and banking crises occurred jointly to those in which the currency or banking crisis occurred in isolation, they find that for the “twin” crises, economic fundamentals tended to be worse, the economies were considerably more frail and the crises (both banking and currency) were far more severe.

In a classic paper, Diamond-Dybvig (1983) provide an analysis of the demand for liquidity and the “transformation” service provided by banks. Uninsured demand deposit contracts are able to provide liquidity but leave the banks vulnerable to runs. This vulnerability occurs because there are multiple equilibria with differing levels of confidence. Their model demonstrates 3 important points, i.e., (i) Banks issuing demand deposits can improve on a competitive market by providing better risk sharing among people who need to consume at different random times, (ii) The demand deposit contract providing this improvement has an undesirable equilibrium (a bank run) in which all depositors panic and withdraw immediately, including even those who would prefer to leave their deposits in if they were not concerned about the bank failing, and (iii) Bank runs cause real economic problems because even “healthy” banks can fail, causing the recall of loans and the termination of productive investment.

The bank run literature takes us into a similar explanation of currency crises: *herd behavior*. Herding, which is an example of information cascade, is said to exist

when individuals tend to choose actions similar to previous actions chosen by other individuals. In other words, with herding effects, individuals tend to move in conformity, and a small shock to society could lead to a mass shift in the actions of people. In some special cases, people can choose to give up the private information or signals they possess and follow the actions of others, even though the private information or signals they have would suggest them to act otherwise. Yet, given the behavior of others, it is rational for each individual to herd as well.

Earlier work on herding includes Keynes' famous beauty contest example² and the papers by Leibenstein (1950) on bandwagon effects. Recently, more rigorous models have been suggested to explain herd behavior.³ Several models that have been introduced to explain investment behavior are mentioned here.

Froot, et al (1992) show that speculators with short horizons may herd on the same information, trying to learn what the other informed traders know. These could lead to multiple equilibria, and herding speculators may even choose to study information that is completely unrelated to fundamentals. So, the large perceived penalty for missing a bull market leads managers to follow the pack even if fundamentals do not warrant it; conversely, the penalty of losses during the bear market are lower as all other managers are losing money as well.⁴

Krugman (1998a) suggests similar reasons why herding might occur.

² In a beauty pageant, a judge picks up the girl who he thinks others would pick, rather than who he considers to be the most beautiful.

³ See, for example, Banerjee (1992), Bikhchandani, et al (1992), and Froot, et al (1992).

- There is a *bandwagon effect*, which is driven by the awareness that investors have private information—where investors ignore their own information and thrive on the information of other investors. Suppose that investor 1 has special information about the Thai real estate market, investor 2 has special information about the financial conditions of the banks and investor 3 has information about the internal discussions of the government. If investor 1 gets some negative information, he may sell, since that is all he has to go by; if investor 2 learns that 1 has sold, he may sell also even if his own private information is neutral or slightly positive. And investor 3 may end up selling even if his own information is positive because the fact that 1 and 2 have sold leads him to conclude that both may well have received bad news, even when in fact they have not. It has been argued that bandwagon effects in markets with private information create a sort of “hot money” that at least sometimes causes foreign exchange markets to overreact to news about national economic prospects.
- Much of the money invested in crisis-prone countries is managed by agents rather than directly by principals—giving rise to *principal-agent problems*. Imagine a pension-fund manager investing in emerging market funds. She surely has far more to lose from staying in a currently unpopular market and turning out to be wrong than she does to gain from sticking with the market and turning out to be right. To the extent that money managers are compensated based on a

⁴ As Krugman (1998a) puts it: “I will feel worse if I lose money in a Thai devaluation when others don’t, than I will if I lose the same in the general rout.”

comparison with other money managers, they may have strong incentives to act alike even if they have information suggesting that the market's judgement is in fact wrong.

Chari and Kehoe (1997) link debt-default actions of the governments to herding behavior. In their model, investors have private information about the state of the economy and have priors about the competence of the government. The credibility of the government is built on its ability to pay its debts—the government is competent if it could repay foreign debt in a crisis state. If the prior that the government is competent is either very high or very low, then the investors ignore their private information and either lend or not lend, respectively. If the prior is in the intermediate range, the possibility of herding arises. In this range, capital flows are very sensitive to small pieces of information and hence volatile.

Herding is a type of distortion in the economy in the sense that the actions of some individuals can produce externalities. This has two implications that are important in explaining the occurrence of a crisis. *First*, the actions of a limited number of individuals may produce at best some limiting adverse effect on an economy. The same action of a large number of individuals can make a possible damage unbearable. For example, Obstfeld (1996) argues that in some cases, the attacks of a limited number of speculators on the local currency are harmless, as the central bank has enough foreign reserves to defend. However, if a large number of speculators launch similar attacks, the central bank could run out of reserve and the

country could face a crisis. Another example is the 1997 crisis in Asia. For countries like Thailand or South Korea, failure of firms is common, and as long as the number of failures during any period of time is limited, the economy usually has the capacity to absorb these losses. However, if widespread failures exist at about the same time, a substantial amount of bad loans can be created, and financial institutions could have difficulty in repaying foreign loans.⁵ Furthermore, if the value of bad loans is not high, these financial institutions can borrow more to ease the cash flow problem, but if the bad loans are high, it is difficult to borrow such large amounts in a short time.

Another externality created by herding is that while certain massive actions may hurt the economy, these actions could be entirely rational from individuals' point of view.⁶ Such rational behaviors occur when there are payoff externalities (payoffs to an agent adopting an action increases as the number of agents adopting that action increases) or principal-agent problems (managers have an incentive to hide in the herd so that their actions cannot be evaluated).

⁵ For example, Thailand passed the Bangkok International Banking Facility in 1992, allowing domestic banks and financial institutions to borrow from abroad to finance local investment projects. As capital was available in other countries at very low interest rates, the new policy of Thailand led to huge inflow of foreign capital. Much of this money went to the housing/real estate sector, creating big jumps in supply. When these investments went sour, bad loans were created and these banks and financial institutions did not have the money to repay the loans they borrowed from abroad. The worst part was that most of these foreign loans were denominated in foreign currency such as the yen or the dollar, and usually no hedging against currency depreciation had been made. When the Thai baht was devalued, these financial institutions suffered double hits.

⁶ Interested readers are referred to Devenow and Welch (1996) for a summary on rational herding literature.

The above models usually assume sequential actions by individuals, so that those who take actions later will observe what actions others have taken previously. Calvo and Mendoza (1998) introduce a model in which herding can exist even when individuals have simultaneous decision making. They find that with informational frictions, herding behavior may become more prevalent as the world capital market grows. With globalization, the cost of collecting country-specific information to discredit rumors increases and managers, facing reputational costs, choose to mimic the market portfolio.⁷ Hence, small rumors can induce herding behavior and move the economy from a no-attack to an attack-equilibrium.

Flood and Marion (1998) argue that herding could explain only a part of the currency crisis in Asia. *First*, individuals are less likely to ignore their own or new information in a world where they can adjust their strategies continuously to new information. *Second*, if strategic interactions are important, then the cascade story is unsatisfactory, because the potential capital gains arising from the action of one agent does not depend on actions chosen by others.

Another way crises propagate is through *contagion*. The currency crises of the 1990s have consisted of 3 regional waves: the ERM crisis (1992-3), the Latin American crisis (1994-5) and the Asian crisis (1997-8). But why should there be

⁷ The details in country credit ratings (CCRs) is assumed to be costly; They find an empirical regularity about the CCRs that new information changes the perceptions of investment conditions significantly in emerging markets than in developed and least developed countries. Also, information gathering requires larger adjustments in mean and variance of the returns on assets in emerging markets than in OECD countries.

such regional waves? Ronald Reagan asked after visiting Latin America—they are all different countries, so why should they experience a common crisis? (Krugman 1998)

Contagion could be explained in terms of real linkages between the countries: a crisis in country A worsens the fundamentals of country B. Example: Suppose Thailand and Malaysia export the same products in the world markets. Thai devaluation would depress Malaysian exports, and could push Malaysia past the critical point that triggers a crisis. In Europe, there was an element of competitive devaluation: depreciation of the pound adversely affected the trade and employment of France, and increased pressure on the French government to abandon its own commitment to a fixed exchange rate.

In addition, there could be direct financial linkages. Financial institutions in the home country may have credit exposure or equity stakes in corporations, financial institutions, or real estate in the neighboring countries. A crisis in the neighboring country could then spillover by causing weakness in the home country's financial sector. There are indirect financial linkages too—for e.g., propagation of the crisis from Russia to Brazil. The investors liquidate holdings in one part of their portfolio due to losses in another part.

However, trade links in Asia and Europe were weak⁸ and in Latin America nil! Mexico is neither an important market nor an important competitor for Argentina; why, then, should one peso crisis have triggered another? (Krugman 1998)

Two rational explanations have been advanced for crisis contagion between seemingly unlinked economies (Drazen 1997):

- Countries are perceived as a group with some common, but imperfectly observed characteristics. For example, Latin American countries share a common culture and therefore, a “Latin temperament”; but the implications of this temperament for economic policy may be unclear. Once investors have seen one country with a given cultural background abandon the peg under pressure, they may revise downward their estimates of the willingness of other countries to defend their parities—“wake up call”. That partly explains what happened in Asia. There was no external shock—just a re-examination and re-evaluation of the already existing information because countries with similar background gave up their parities.

- The political commitment to a fixed exchange rate itself is subject to herding effects. European crisis presents a perfect example. Once Britain and Italy left the ERM, it was politically less costly for Sweden to abandon its peg to the deutsche mark than it would have been to devalue on its own.

⁸ A mere devaluation in the case of Europe would not have meant a unilateral increase in exports, as the European trading partners were all in a recession.

Contagion could be positive as well! During the wave of optimism that followed Mexican and Argentine reforms in the early 90s, countries that had done little actual reform, like Brazil, were also lifted by the rising tide. The apparent myopia of markets about Asian risks seems to have been fed by a general sense of optimism about Asian economies

Lastly, currency crises have been attributed to a problem of *Moral Hazard*. Moral hazard can occur under asymmetric information because borrowers can alter their behavior after the transaction has taken place in ways that lenders regard as undesirable. In financial markets, however, moral hazard could occur in the absence of asymmetric information; i.e., moral hazard arises from the possibility that investor behavior will be altered by the extension of government guarantees that relieve investors of some of the consequences of risk taking.

Krugman (1998b) and Corsetti, et al (1998) have proposed moral hazard as a possible explanation for currency crises, especially the Asian crisis of 1997. Krugman considers a case of over-guaranteed and under-regulated financial intermediaries. Since these institutions do not have to put any capital up-front, and have the liberty to walk away at no personal cost in case of bankruptcy, they engage in excessive lending. This situation is made worse off by globalization. If the country did not have access to world capital market, then excessive investment demand would lead to high interest rates, not excessive investment. But access to the

world market allows the moral hazard in the financial sector to translate into real excess capital accumulation.

Corsetti, ET al (1998) also recognize moral hazard as a source of over-investment, excessive external borrowing and current account deficits. Unprofitable projects and cash shortfalls are re-financed through external borrowing as long as foreign creditors lend to domestic agents against future bail-out revenue from the government. Government deficits need not be high before the crisis, but refusal of foreign creditors to re-finance the debt (knowing that the government's stock of foreign reserves is below a critical minimum) forces the government to step in and guarantee the outstanding stock of external liabilities. The government could either raise revenues from explicit taxation or from seigniorage (printing money). In the former case, the financial crisis doesn't coincide with an exchange rate collapse. In the latter case, expectations of inflationary financing leads to expectations about exchange rate depreciation, driving a wedge between the domestic and international interest rates, causing the collapse of the currency. Corsetti, et al show that money growth is not the only factor that causes a foreign exchange rate crisis. To the extent that new investment is no longer guaranteed, productive capital and output drop, driving money demand and the exchange rate further down.

In fact, the argument of moral hazard is not only applicable to intermediaries, but also to governments. Proponents of moral hazard argue that the IMF bails out governments and investors in the event of a crisis.

However, Radelet and Sachs (1998) do not see the 1997 Asian crisis as a result of carelessness on the part of the investors because they were sure to be bailed out. First of all, only state-owned enterprises can be bailed out in a crisis. According to Radelet and Sachs, if the creditors perceived a risk of a crisis in Asia, then spreads on Asian bonds should have increased, but they did not. If the creditors foresaw an increased risk of government-led bailout, then ratings of long term government bonds should have gone down, but they did not either. A large part of the investment went into the risky equity market, and bank loans went to the non-financial corporate sector, where the direct government bailout was least possible. Creditors have been aware of weak bankruptcy laws and ineffective judicial systems in Asia. Hence, the foreign investors lent because they anticipated these economies to perform well, and not because they believed that they would be bailed out.

To sum up, while the nature of crises has changed over time, investors have continued to exhibit rational behavior in terms of speculative attack. The crises in the 1990s have been more frequent and more severe when compared to the crises of the earlier decades. A frequently advanced reasoning is “globalization” and immediate transfer of news due to development in information technology. However, these crises have once again reinforced that the policymakers need to pursue prudent macroeconomic policies, or they will be punished by the market.

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