

# The first generation currency crisis model finance essay



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Reinhart, 1999). A currency crisis is an episode in which the exchange rate depreciates substantially during a short period of time. The models in this literature are often categorized as first-, second- or third-generation.

#### FIRST GENERATION CURRENCY CRISIS MODEL:

The classic first-generation models are those of Krugman (1979) and Flood and Garber (1984). It is a model without uncertainty. It states that, traders speculate against fixed exchange rate in order to profit from an anticipated speculation. Speculative attacks in this framework are inevitable and respect an entirely rational market response to persistently confliction internal and external macroeconomic targets. In first-generation models the collapse of a fixed exchange rate regime is caused by unsustainable fiscal policy. A hallmark of first-generation models is that the government runs a persistent primary deficit. This deficit implies that the government must either deplete assets, such as foreign reserves, or borrow to finance the deficit. The key ingredients of a first-generation model are its assumptions regarding purchasing power parity (PPP), the government budget constraint, the timing of deficits, the money demand function, the government's rule for abandoning the fixed exchange rate, and the post-crisis monetary policy. Burnside, Eichenbaum and Rebelo argue that their model accounts for the main characteristics of the Asian currency crisis. This explanation of the Asian currency crisis stresses the link between future deficits and current movements in the exchange rate. In first-generation models the government follows an exogenous rule to decide when to abandon the fixed exchange rate regime.

The things to note about this model of currency crisis are-

The root cause of the crisis is poor government policy. The source of the upward trend in the shadow exchange rate is given by the increase in domestic credit.

The crisis, though sudden, is a deterministic event: the crisis is inevitable given the policies and the timing is in principle predictable.

The first generation currency crisis model seen to do no harm. In this model, there is no effect on output, but even a richer model will not generate a real economy slump in the aftermath of a first generation currency crisis model.

The crisis determination is a future policy stance that investors foresee, not the one observed in the past. The importance of policy choice in deciding to quit the fixed exchange rate regime.

There was no mechanical link between capital flight and abandonment of the peg.

There was no obvious trend in long-run equilibrium exchange rate.

There was no evidence of irresponsible policies in any of the countries involved.

#### SECOND GENERATION CURRENCY CRISIS MODEL:

The logic of this model is the interactions between expectations, macroeconomic trade-offs and decisions. This class of model is characterized by multiple equilibria and the interactions between market expectations and

policy outcome can lead to a self-fulfilling crises. As long as the peg is credible this is the price the government is willing to pay because there are political and/or long-run economic goals. In second-generation models the government maximizes an explicit objective function (Obstfeld, 1994). This maximization problem dictates if and when the government will abandon the fixed exchange rate regime. Second-generation models generally exhibit multiple equilibria so that speculative attacks can occur because of self-fulfilling expectations.

It differs with the first generation models in-

1. No irresponsible policy.
2. No predictability of the crisis and
3. If the country leaves the peg, there is no negative impact on employment and output. Since the monetary policy constraint is removed and the result is positive in terms of short-run macroeconomics benefits.

## **2. MORAL HAZARD**

Moral hazard is a situation in which one party in a transaction has more information than another. The party that is insulated from risk generally has more information about its actions and intentions than the party paying for the negative consequences of the risk. Moral hazard arises because an individual or institution does not take the full consequences and responsibilities of its doings, and therefore has a tendency to act less carefully than it alternately would, leaving another party to hold some responsibility for the consequences of those actions. Moral hazard also arises

in a principal-agent problem, where one party, called an agent, acts on behalf of another party, called the principal.

#### EXPANDED GOVERNMENT GUARANTEES FOR BANK LIABILITIES:

Government provision of a financial safety net for financial institutions has long been a key element of the policy response to crises and the current crisis is no exception. This particular crisis is fairly severe however, so governments have felt obliged to go beyond the usual support measures, moving to expand existing guarantees and to introduce new ones, in some cases quite markedly. Valuation problems are also complicit in the duration of the problems. These and other related actions (such as loss sharing arrangements for assets and capital injections) appeared to have avoided a further loss of confidence on the part of market participants, by raising the likelihood that retail depositors and other creditors would continue to provide a stable source of funding for banks, thus reducing the threat of insolvency of these entities. Thus, these actions have bought time, with limited if any upfront fiscal costs. Actually, just like financial guarantee insurance companies, the government earns a small fee from the debt issuer for lending out its top credit rating. There are nonetheless potentially substantial costs associated with these measures. Even if guarantees do not generate significant upfront fiscal costs, they create large contingent fiscal liabilities, as well as other potential costs that may arise as a result of distortions of incentives and competition. In recognition of this situation, the discussions of financial safety net issues at the past CMF meeting concluded that, going forward, policy makers need to consider the issue of “ exit strategies” from expanded guarantees. Another important issue related to the additional <https://assignbuster.com/the-first-generation-currency-crisis-model-finance-essay/>

guarantees is their pricing. In this respect, the premise of the discussion in the present note is that potential distortions should be limited to the extent that government guarantees are priced appropriately. By contrast, distortions are more likely to arise where guarantees are offered at prices that appear to be substantially lower than market or some form of “ fair” prices.

It has long been known that financial intermediaries whose liabilities are guaranteed by the government pose a serious problem of moral hazard. The U. S. savings and loan debacle is the classic example: because depositors in thrifts were guaranteed by FSLIC, they had no incentive to police the lending of the institutions in which they placed their money; since the owners of thrifts did not need to put much of their own money at risk, they had every incentive to play a game of heads I win, tails the taxpayer loses.

#### WORKING OF CIRCULAR PROCESS IN REVERSE TO CAUSE ASSET PRICES COLLAPSES

The mechanism of crisis involved that same circular process in reverse: falling asset prices made the insolvency of intermediaries visible, forcing them to cease operations, leading to further asset deflation. This circularity, in turn, can explain both the remarkable severity of the crisis and the apparent vulnerability of the Asian economies to self-fulfilling crisis - which in turn helps us understand the phenomenon of contagion between economies with few visible economic links. Asian economies experienced a noticeable boom-bust cycle not only in investment but also or even especially in asset prices. Presumably this reflected the fact that assets were

in imperfectly elastic supply. The easiest way to do this is to imagine that the only available asset is land, which cannot be either created or destroyed. Again, let us initially consider a two-period model. In the first period investors bid for land, setting its price. In the second period they receive rents, which are uncertain at the time of bidding. But now suppose that there are financial intermediaries, once again able to borrow at the world interest rate (again normalized to zero) because they are perceived as being guaranteed. And also as before, we assume that owners need not put any of their own money at risk, but that competition among the intermediaries eliminates any expected economic profit. The result is obvious: intermediaries will be willing to bid on the land, based not on the expected value of future rent but on the Pangloss value - in this case 100. So all land will end up owned by intermediaries, and the price of land will be double what it would be in an undistorted economy.

### **3. MORAL HAZARD CAUSE A DEADWEIGHT SOCIAL LOSS**

The phenomenon of undertaking risky and often corrupt loans and transactions, but knowing that if the gamble fails someone else (usually the state) will pick up the tab, is known as 'moral hazard'.

In the table 1, two alternative investments are available. One yields a known present value of \$107 million; the other will yield \$120 million if conditions are favorable, but only \$80 million if they are not. The "good state" and the "bad state" are equally likely, so that the expected returns on this risky investment are \$100 million. However, the owner of the financial

intermediary knows that while he can capture the excess returns in the good  
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state, he can walk away from the losses in the bad state. So if he chooses the safe investment he gains a sure 7; but if he chooses the risky investment he gains 20 in the good state, loses nothing in the bad state, for an expected gain of 10. Thus his incentive is to choose the risky investment, even though it has a lower expected return. And this distortion of investment decisions produces a deadweight social loss: the expected net return on the invested capital falls from \$7 million to zero.

#### **4, 5, 6 & 7. DIFFERENCES BETWEEN THE EXPECTED VALUE OF LAND RENT AND ITS CORRESPONDING PENGLOSS VALUE.**

There is a two period model to explain land value. In the first period, investors bid for land and setting its price. In the second period they receive rents, which are uncertain at the time of bidding. The financial intermediaries will be willing to bid on the land, based not on the expected value of future rent but on the Pangloss value. So all land will end up owned by intermediaries, and the price of land will be double what it would be in an undistorted economy. In an undistorted economy we can solve backwards for the price. The expected rent in period 3, and therefore the price of land purchased at the end of period 2, is 50. The expected return on land purchased in period 1 is therefore the expected rent in period 2 (50) plus the expected price at which it can be sold (also 50), for a first-period price of 100. This is also, of course, the total expected rent over the two periods. Now suppose that intermediaries are in a position to borrow with guarantees. Again working backward, at the end of period 2 they will be willing to pay the Pangloss value of third-period rent, 100. In period 1 they will be willing to



pay the most they could hope to realize off a piece of land: the Pangloss rent in period 2, plus the Pangloss price of land at the end of that period. So the price of land with intermediation will be 200 in period 1 - again, twice the undistorted price. It seems, then, that the multi-period version of the model, in which part of the return to investment depends on the future prices of assets, makes no real difference to the distortion of those prices imposed by guaranteed intermediaries. However, this result changes in a dramatic way once we allow for the possibility of changes in the financial regime - that is, if we believe that moral hazard may be a sometime thing.

## **8. KRUGMAN'S MODEL JUSTIFICATION ON OCCURRENCE OF SELF-FULFILLING FINANCIAL CRISIS**

Using a signalling approach-based EWS model, this paper has attempted to provide more empirical evidence on the causes of the 1997 Asian financial crisis, with a view to discriminating between the two hypotheses of "weak fundamentals" and "investors' panic." The results show that the overall composite leading index of the EWS model issued persistent warning signals prior to the 1997 crisis in not just a few, but all of the five countries most affected by the crisis. This finding appears not to square well with the "investor panic, market overreaction and regional contagion" postulate. Instead, it lends support to the hypothesis that weaknesses in economic and financial fundamentals in these countries triggered the crisis. First, in most countries under consideration, there were appreciations in the real exchange rate against both the US dollar and the basket currencies of their major trading partners. The real appreciations appeared to have contributed to the

deteriorations in these countries' trade and current account positions.

Second, there were apparent problems in the capital account, as indicated by persistent warning signals by the ratio of M2 to foreign reserves in the case of Indonesia, and the ratio of foreign liabilities to foreign assets of the banking sector in Indonesia, Malaysia, and Thailand. Third, there was strong evidence of excessive growth of domestic credit, particularly in Korea, Malaysia, Philippines, and Thailand. Last, there was also evidence of deteriorations in the real sector in most countries, and the burst of asset price bubbles, especially in Korea and Thailand. The fact that all these individual leading indicators issued warning signals prior to the 1997 Asian crisis indicates that they had reached the critical levels that historically had often triggered currency crises, lending further support to the "weak fundamentals" hypothesis.

## **9. EXPLANATION OF ASIAN CRISIS 1997 BY KRUGMAN'S MODEL**

The crucial point here is that capital is not so much interested in aggregate growth rates as sectorial profitability—thus a growing economy might still experience declining profitability in certain sectors which in turn can scare off financial capital and possibly later productive capital. However, in East Asia, this would have meant hundreds of banks and finance houses being forced to shut down—threatening not only the financial system of Asia, but also institutions across the globe with which they have myriads of dealings. The credit crunch that followed led to massive layoffs—this is the classic 'paying for the crisis'.

The East Asian crisis does shed light on developments in the world economy which make it highly likely that similar crises will erupt in the future. Such developments relate to the deregulated nature of world financial markets, so that the triggering mechanism of a crisis may be financial (currency devaluations, runs on banks, etc) even though the ultimate origins lie in the real economy. This is not to deny that financial panics may also emanate in situations where there has been no significant deterioration in the real economy—above all on the profit rates.

Hence when profits start to dip, or are likely to fall below expectation, a careful calculation needs to be made—either stay with the gamble or move elsewhere. In regard to direct investment, the decision naturally cannot be acted upon with immediate effect, but in financial markets exiting from markets can be done almost instantaneously—and this potentially accentuates the stampede and contagion. Evidence suggests that the origins of financial instability in East Asia do indeed reside within the real economy—above all in the falling returns on investment.