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POLICY ARENA

THE INTERNATIONAL FINANCIAL ARCHITECTURE AFTER THE ASIAN CRISIS: LEARNING FROM LAS VEGAS?[1]

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Abstract: Recent attempts to diagnose the causes of the Asian financial crisis are examined in this paper. The view, supported in the IMF and other influential sources, that it was the outcome of a market response to policy deficiencies is subject to critical scrutiny. It is argued that the discussion of a new international financial architecture must recognize that financial markets have the potential to generate serious economic disruption without the aid of policy incoherence. An implication is that temporary control over short-term capital movements may be a useful adjunct to a flexible exchange rate regime for capital importing countries. Copyright © 1999 John Wiley & Sons, Ltd.

INTRODUCTION

International significance beyond that normally accorded to IMF stabilization programmes in developing countries was recognized in the $41 billion intervention in support of Brazil announced during November 1998. That this programme should have been considered necessary as a safeguard against global recession reflected increasing anxiety over contagion in international capital markets. Three pre-emptive interest rate cuts by the US Federal Reserve between September and November 1998 could reasonably be traced to the devaluation of the Thai baht on 2 July 1997, and to the closure five days earlier of the aptly named finance company—Finance One.

[1] The allusion is to one of the most influential volumes in architectural postmodernism: *Learning from Las Vegas: The Forgotten Symbolism of Architectural Form*, Venturi *et al.* (1972).

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The April 1998 gathering of the IMF and the World Bank had taken place after a sequence of severe currency depreciations in Malaysia, Singapore, Indonesia and Korea. With the Russian debt moratorium of August yet to occur, and with a severe Asian contraction under way, the Washington meeting focused on a fundamental review of the 'architecture of the international monetary system' (Interim Committee 1998, pp. 2–5). The later Russian default, however, which hurried Fund intervention had sought to prevent, was to necessitate the precautionary support for Brazil. Policy was again being driven by events rather than by clear architectural principles.

A brief development of this architectural analogy may be employed to clarify the purpose and context of the present study. Modernism in architecture has its nearest financial equivalent in the period of international capital account liberalization that spread from the developed economies to the emerging markets during the 1980s. Combined with the growing support for outward trade orientation in developing countries from the 1970s the consolidation of a liberal commercial and financial regime offered a preferred 'end of history' for the international order. Unfortunately, however, while the deliberate exclusion of historical reference by architectural modernists was to be held responsible for urban anonymity, financial modernism has proved unexpectedly stimulating. The events set in train by the collapse of the Thai currency are the most recent of a series of capital account crises that have punctuated the last two decades. The difficulties of the Southern Cone economies from 1980 (culminating in the sovereign debt crisis of 1982), the ERM crisis of 1992 and the Mexican peso devaluation of December 1994 together confirm Wyplosz' view that 'financial market liberalization is the best predictor of currency crises' (Wyplosz, 1998).

In attempting to identify the issues to be addressed by reform the study distinguishes two contrasting classes of explanation for these major financial dislocations. Although compatible in principle, their associated policy implications differ in character. Financial modernism would assert that crises are the result of an incomplete application of fundamental principles. This perspective, clearly favoured by the IMF, emphasizes that they arise when informed markets exploit inappropriate public policies. Speculation against pegged exchange rates and institutional 'moral hazard' incentives are emphasized in this viewpoint (Taylor, 1998). Policy inferences include exchange rate flexibility together with effective prudential regulation of financial institutions.

Rather as architectural postmodernism would wish to retain the functionality of modern designs, such prescriptions are readily accepted by those who nevertheless doubt that policy reforms alone will stabilise financial market behaviour. While Robert Venturi and his co-authors appreciated human and historical references in the architecture of Las Vegas, the recent casino aspect of international financial markets has recalled a long tradition of instability (Venturi *et al.*, 1972). Acceptance of this second perspective may suggest, therefore, the additional need for some degree of control to be established over short-term international flows.

Before appraising this alternative position, an initial review of the more conventional crisis diagnoses will serve to highlight common elements in the two perspectives. The subsequent argument draws attention to investor calculations when new investment opportunities are being taken up. It is suggested that apparently speculative behaviour may be generated even if this does not characterize fundamentally the market psychology involved. After developing the argument in terms of recent

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literature on financial crises, a possible rationale is provided in conclusion for limited (and probably occasional) management of short-term capital movements.

CURRENCY PEGS, INSTITUTIONAL FAILURES AND CAPITAL ACCOUNT CRISES

The financial consequences of the events surrounding the collapse of the pegged regime for the Thai currency are highlighted in Table 1 which reports current account balances and associated capital account flows for the five most immediately affected countries. The real sector consequences of the switch from an aggregate current account deficit of over $55 billion in 1996 to a projected surplus exceeding $30 billion in 1998 should be emphasized. In the three decades prior to 1996, per capita incomes in Malaysia, Indonesia and Thailand had quadrupled whereas in Korea the expansion had been seven-fold (Radelet and Sachs, 1998, p. 18). By late 1998, downward revisions of IMF forecasts were projecting GDP *contractions* of 15 per cent (8 per cent) in Indonesia, 6.4 per cent (8.6 per cent) in Malaysia, 0.6 per cent (5.7 per cent) in the Philippines, 8 per cent (5.5 per cent) in Thailand and 7 per cent (7.1 per cent) in Korea. The figures in parentheses are the corresponding GDP *growth* rates for 1996 from the same source (IMF 1998a, Tables 2.3 and 2.4).

Table 1. Current account balances ($ billions) and capital flows in five Asian countries. *Source*: Institute of International Finance (30 April 1998). Data cover South Korea, Indonesia, Malaysia, Thailand and the Philippines.

	1994	1995	1996	1997	1998
Current balance	−24.5	−41.4	−55.2	−27.1	30.6
Direct equity flows (FDI)	4.7	4.9	6.3	6.4	6.9
Portfolio equity flows	7.4	10.5	12.4	−4.3	9.5
Bank credits	23.4	49.9	55.7	−26.9	−19.8
Non-bank private creditors	2.4	13.8	22.7	12.9	3.0
Official flows	73	5.4	−1.9	30.0	26.2

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Underlying these severe adjustments has been the collapse in private capital inflows with the most dramatic development being that associated with the commercial banking sector. From receipts of over $55 billion in 1996 to an outflow of $27 billion in 1997 a shift in resource availability over one year of more than $80 billion is implied: a drain that continued during early 1998. Despite the severity of the import contraction behind the reduced current account deficit, these outflows could not have been financed without international official sector support as the table makes clear. In the early stages of Korea's Fund Programme (December 1997), for instance, official resources financed an essentially contemporaneous banking outflow (Sachs, 1998).

The magnitude of the switch in banking sector finance, and the associated currency crises faced by the countries represented in the table, have provided the focus for recent analytical discussion. The view that the crisis was the outcome of the exploitation of policy errors by well-informed private agents has drawn heavily on two strands of literature; the first is concerned with the explanation of pegged exchange rate crises and the second with moral hazard in financial institutions. In one early analysis of

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currency crises a government budget deficit results in a current account deficit which, due to borrowing constraints, must be funded through the gradual depletion of foreign exchange reserves. Recognizing that the currency peg will collapse when reserves are eventually liquidated, and that domestic prices will therefore rise, a point is reached when the expected return to foreign exchange holdings exceeds that anticipated on domestic money. Prior to the full depletion of reserves they are acquired by the private sector thereby advancing the timing of the inevitable crisis (Krugman, 1979).

Although clearly plausible in a number of actual cases, this interpretation is faced with an immediate difficulty when confronted by the Asian experience. Government budgets in the affected countries were financially sound: the combined central government budget balance of Malaysia, Indonesia, Thailand and Korea in 1996 represented a surplus of one per cent of GDP (IMF, 1998a, Table 2.7). A trigger for the currency crises must therefore be sought elsewhere and, in more recent variants, a budget deficit is not required. Markets may alternatively recognize that the authorities gain from the maintenance of a pegged exchange rate (possibly because it aids counter-inflationary policies) but also that they stand to benefit from a potential currency depreciation. Downward nominal wage rigidity and relatively high unemployment, for instance, could permit depreciation to effect the necessary adjustment in the real wage. With the government torn between conflicting objectives, a mechanism that raised the cost of maintaining the peg, and therefore raising the likelihood of an eventual depreciation, could ensure its inevitability. A risk premium associated with the unemployment problem could drive up interest rates on government debt, for instance, worsening the authorities' position. Once again, depreciation becomes probable and the previous argument begins to apply (Krugman, 1997).

This framework appears pertinent to the sequence of events surrounding the ERM crisis of 1992 although reservations arise in attempting to apply it to the Asian examples of 1997. The economies involved had experienced up to three decades of unprecedented economic expansion: unemployment was low and, at least in the cases of Thailand and Malaysia, declining (Corbett and Vines (1998), Tables 5a to 12a inclusive). While it would therefore have been difficult before the event to identify a benefit from the potential abandonment of their currency pegs, the extent of the economic damage subsequently endured by these countries emphasizes the costs associated with that outcome. This conclusion is further supported when the rather modest extent of real currency appreciation before the crisis is taken into account (Radelet and Sachs, 1998, p. 24).

Recognition that the collapse of the Asian currency pegs cannot readily be attributed to inconsistencies in macroeconomic policy has served to shift attention to the large and volatile banking flows highlighted in connection with Table 1. These inter-bank flows had very much enlarged the credit creating capacity of local intermediaries and, as the following data for 1997 indicate, had generated a latent threat to the pegged exchange rate regimes.

In at least the three cases where the ratio of accumulated short-term debt owed to banks overseas exceeded available foreign exchange reserves, any sudden withdrawal of those claims could have been sufficient to explain a currency crisis without recourse to the earlier theorizing. In its place an understanding of the emergence of the risk exposure of banks would be required and the notion of moral hazard has been widely exploited to this end. As in the currency crisis literature, the source of the instability

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Table 2. Short term debt and external vulnerability ($ billions). *Source*: Radelet and Sachs (1998), Table 5: 26.

	Banking sector external debt	Total short-term external debt	Foreign exchange reserves	Ratio: short term debt to reserves
Indonesia	12.4	34.7	20.3	1.7
Malaysia	10.5	16.3	26.6	0.6
Philippines	5.5	8.3	9.8	0.8
Thailand	26.1	45.6	31.4	1.5
Korea	67.3	70.2	34.1	2.1

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studied is generated by the (unintended) consequences of official policies on the optimizing calculations of well-informed private actors. The mechanism arises when investors believe that deposits at certain intermediaries are protected against loss arising from insolvency by a public guarantee (or by deposit insurance). If the intermediary can raise finance on this basis, its funding costs will be insensitive to its balance sheet risks and the management faces an incentive to undertake risky lending. The following example from Krugman (1998) offers a simple illustration of the consequences for the choice of loan:

	Safe investment	Risky investment
Return in good state	107	120
Return in bad state	107	80
Expected return	107	100
Expected return to owner	7	10

Due to the assumed public guarantee, the intermediary is able to obtain finance at the same (assumed zero) interest rate whether it chooses the safe or the risky investments. In each case there is an equal probability of the favourable and the unfavourable outcomes indicated and the amount of the loan is 100. The safe investment always generates a 7 per cent return while the expected (mean) return for the risky investment is only 100 (a zero net gain). Nevertheless, if the bank owners are risk neutral (and under the extreme assumption that they stand to lose no capital if the bank fails) they will choose the risky project. If the favourable result materializes, they gain the reward of 20 whereas the potential net loss of 20 in the unfavourable case will be absorbed by the public sector's guarantee. The resulting expectation of a return to the owner of 10 exceeds the safe return of 7 ensuring that the socially less desirable project will be undertaken.

Noting that the financial sectors of the Asian countries were experiencing crises *before* the collapse of their currencies, Krugman employs this principle to offer a simple explanation of events. In a three period framework he assumes that the implicit depositor guarantee may be withdrawn for the third period if, during the second, a costly bank rescue has proved to be necessary. Since land prices will have been bid up excessively by previously protected institutions, the withdrawal of the privilege precipitates a collapse of land values as banks are obliged to withdraw from the

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market. Falling property prices and mounting loan losses provoke a withdrawal of foreign deposits and a currency crisis becomes unavoidable.

This interpretation certainly evokes the experience in Thailand following the initial external debt difficulties of Somprasong Land in early February 1997. As anxieties over those institutions exposed to the property sector grew, the Thai authorities initially committed themselves to the purchase of £3.9 billion of bad property debt from the sector only to abandon the policy. In consequence, its apparent commitment to support the exposed Finance One lacked force and speculation against the currency intensified. Recent deliberations of the Interim Committee of the IMF attest to the influence of this viewpoint. Improvements in prudential regulation of domestic banks together with raised standards of auditing and disclosure are seen as central to the recovery of financial market confidence (Krugman, 1998, paragraph 3a). Similar conclusions have been prominent in the academic literature with emphasis placed on the need to develop the 'value at risk' framework of control in which an attempt is made to assess the degree of balance sheet risk over a specified time horizon (Dornbusch 1998, p. 5). Such an approach, while monitoring closely the ratio of foreign to total liabilities and the fraction in the former represented by short-term claims, would also estimate the variability of asset prices on the balance sheet (Dornbusch, 1998).

Although proposals for this type are unlikely seriously to be opposed, except by some institutions targeted, the view expressed by Dornbusch that institutional reforms of the type indicated could (largely) prevent recurrence must be questioned. An implicit assumption, naturally attractive from the perspective of economic theory, is that in the absence of policy induced distortions financial markets would not act as an independent source of instability. While the history of international financial crises from at least the Napoleonic era would be sufficient to cast doubt on this position, the dominance of lending to governments in the earlier episodes suggests that *inherent* instability in market behaviour need not have been the cause. Nevertheless, if implicit public guarantees were thought responsible, the evidence suggests that investors did not discriminate against countries with an established record of *actual* default: overall market conditions seem to have dominated access to sovereign credits (Lindert and Morton, 1988, p. 63). Moreover, the failure to discriminate *ex ante* between good and bad risks in the Asian context may not be fully explained by moral hazard incentives.

It has been noted, for instance, that excessive credits for the South Korean *chaebol* (conglomerate firms) cannot be explained on this basis. Government rescues had not occurred during the 1980s (while enterprise restructurings threatened owner-managers with loss of control) and three of the largest were, in fact, allowed to fail between 1990 and 1997 (Taylor, 1998, p. 12). More generally, Radelet and Sachs conclude that there was considerable continuity in the patterns of bank lending in the affected countries and only little evidence of a speculative shift (compatible with moral hazard calculations) towards real estate. Loan allocations appear to have been mainly consistent with those that had proven so successful in the 1980s and foreign investors may well have expected 'more of the same' in terms of growth performance. They conclude that there is little evidence to suggest the markets anticipated a financial crisis (Taylor, 1998, pp. 35–42).

Although hardly conclusive, these observations suggest that the potential for financial instability may derive from other than policy induced perverse incentives.

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The distinguishing feature of the theoretical arguments below is that they acknowledge a role for the operation of the market itself in the generation of financial crises.

'POSTMODERN' REAPPRAISAL: INHERENT INSTABILITY IN FINANCIAL MARKETS?

Recent developments in the analysis of foreign exchange crises illustrate grounds for consideration of this less conventional perspective. Explanations for speculative runs against pegged exchange rates were noted earlier to have relied on inconsistencies in public policy. While individual investors anticipate that other agents will draw similar conclusions, their joint reaction simply precipitates an unavoidable collapse of the peg. Subsequent arguments, however, have suggested that speculative runs may produce this result even if it had not been inevitable before the event (e.g. Wyplosz, 1998).

The emergence of a 'spontaneous' crisis is thought, nevertheless, to require an initial element of doubt as to the economy's trajectory. Ambiguity over future policy directions could be sufficient to generate an environment in which investors come to believe that others might withdraw their funds. Recognition that such a withdrawal would imply a collapse of the peg could then 'endogenously' bring about its own realisation. By contrast, a fully credible commitment to support a currency would seem to rule out speculation against it (Krugman, 1997). While this qualification might serve to reassert the primacy of policy considerations, two implications of the new viewpoint are of interest here.

The potential for speculative runs to be provoked by eventual policy developments suggests that their avoidance may require a demanding degree of coherence in economic management. As Wyplosz notes, the Asian crisis has demonstrated that fiscal rectitude must at least be supplemented by strict prudential regulation in the financial sector. Perhaps more fundamentally, this linkage between financial and currency crises suggests that market developments themselves may generate the policy conflicts needed to spark a currency collapse. The exposed condition of Asian enterprises and banks inhibited the employment of interest rate policy in defence of the exchange rate peg. Only if the currency exposure was generated through moral hazard assumptions of support could it then be argued that policy had primary responsibility for the crisis.

To develop further the view that market instability may not require policy encouragement, a recent analysis of international 'over-borrowing' is illuminating (McKinnon and Pill, 1998). Although moral hazard incentives are involved, the starting point of the analysis is a positive real 'shock' to the economy, (a liberalization programme), which raises the potential productivity of investment. The introduction of a banking system subject to moral hazard incentives, indicated by a willingness to lend at relatively low interest rates, has two effects. Firstly, the extended supply of credit permits investment in the new technologies associated with the reforms. Secondly, recalling the uncertainty of the new environment, low interest loans signal that the banks (assumed to have privileged information) have confidence in the security of the projects they are financing. Especially when combined with the availability to banks of foreign inflows at a constant interest rate, the model generates over-borrowing (and eventual external crisis) as a consequence of the false signal emitted by the banks.

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Although the non-bank public hold rational 'beliefs' in this framework, they are confronted by unknown risks in the new environment and by an unpredicted (single event) change in bank behaviour. If moral hazard is central to this interpretation, the role of investor uncertainty resulting from novel policy developments is of particular interest in the present context. The authors implicitly raise the possibility that such uncertainty could alone generate financial instability. Referring to historical literature on 'manias, panics and crashes', they suggest that the initial investment boom may generate 'euphoric' behaviour as investors become increasingly convinced of the payoff from the reforms (McKinnon and Pill, 1988, p. 1275, reference to Kindleberger, 1989).

Kindleberger's characterization of historical episodes had earlier offered support for Minsky's theory in which financial fragility is generated endogenously by private behaviour (Minsky, 1977). Unfortunately, while historically convincing, the recurrent waves of optimism and pessimism that characterize Minsky's framework are not readily reconciled with the prevailing theoretical view that expectations in financial markets are formed optimally (rationally). It will be argued below, however, that these apparently alternative perspectives may be consistent when investors confront uncertainty of the type described by McKinnon and Pill.

The possibility that the conditions for a financial crisis may arise through investor behaviour under uncertainty may be illustrated with reference to portfolio equity investment in the Asian countries. Evidence in Table 1 of an abrupt reversal of these flows in 1997 has, understandably, received less attention than the much larger switch in bank lending at that time. Whatever the role of moral hazard in generating the initial exposure in the latter case, however, portfolio flows are not thought susceptible to this influence. The evidence, rather, is that the dominant external interests in this case (equity market mutual funds) remain substantially 'underweight' in their portfolio exposure to the emerging economies (IMF, 1997, Annex 1). Lacking an obvious explanation in terms of moral hazard, commentators have suggested that the continued buying through 1996 until the eruption of the crisis provides evidence of 'herding' behaviour and other varieties of market inefficiency (Krugman, 1998, p. 10).

Recalling the relatively recent phenomenon of equity investment in emerging markets, however, an alternative interpretation suggests that vulnerability to subsequent 'panic' (defined below) may result from investors attempting to maximize returns while trying to manage the uncertainties with which they are confronted To illustrate the argument, the position of an external investment organization contemplating the purchase of shares in a recently opened 'emerging' equity market may be considered. The fund, envisaging the possibility of a relatively high return to compensate for the unfamiliar setting, allocates a small part of its total portfolio to the purchase of locally quoted shares at the unit price P_t. For simplicity, a single holding period is considered after which the fund manager believes that the price may have risen to P^{e}_{t+1}. While this figure is a 'best guess' the novelty of the investment suggests that considerable uncertainty will surround it.

With the investor being 'early' into the market it may be assumed that other external interests begin to appraise the new market and to commit some funds to it. The price of the representative share rises to P'_t and the original investor must decide whether to sell. As an early (marginal) purchaser, it is likely that for some time the rising prices will support the initial belief that a high rate of return was likely to be achieved. Nevertheless, assuming prices continue to rise and original calculations

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(P^{e}_{t+1}) remain unchanged, a point will be reached when the investor would be prompted to sell. Recalling the uncertain initial circumstances, however, the timing of the sale will pose a dilemma. Improving prices may suggest that the original tentative expectations as to the gains involved were unduly conservative: other investors are presumably being attracted after having completed their own research.

In distilling the information content of the price increases the original investor must therefore make a calculation of the likely returns from delaying sale of the shares. A simple representation of this calculation would be a weighted average of the (percentage) returns should the *original* expectations turn out to have been correct (with weight $0 < \alpha < 1$) and of a modified expectation of the future price ($P^{e'}_{t+1}$) based on the recent price movement (with weight $(1 - \alpha)$):

$$E(\rho) = \alpha\left(\frac{P^{e}_{t+1} - P'_{t}}{P'_{t}}\right) + (1 - \alpha)\left(\frac{P^{e'}_{t+1} - P'_{t}}{P'_{t}}\right).$$

When market prices (P'_{t}) reach a level that would prompt a sale on the basis of the investor's original expectations, the formulation suggests that the joint operation of two influences may delay the sale. As prices rise, confidence in the original forecast may decline (represented by a fall in the value of α) while the influence of recent market prices on expectations generates a bullish adjustment ($P^{e'}_{t+1} > P^{e}_{t+1}$). Although only one time period is involved in this presentation, the suggested adjustments may also be accompanied by a reduction in the length of the holding period implied. A shortened horizon would reduce the scope for adverse developments to upset the (probably tentatively) revised expectations, while rising prices on which they were based would further imply high liquidity for the shares should their sale be contemplated in the near term.

The key element of this interpretation is the possibility that, under uncertain conditions, investors may allow their expectations of return to be influenced by the 'signal' of current price movements. With the initial 'fundamental' calculations (P^{e}_{t+1}) somewhat attenuated by this influence, the investor's position acquires a speculative character that may have been absent in the original purchase. The behaviour proposed here reflects closely Keynes' well-known reservations concerning market valuation in conditions of long term uncertainty and emphasizes the possibly insubstantial basis of prevailing expectations (Keynes, 1936, ch. 12). More directly relevant is that the emphasis on valuation being contingent on the behaviour of other investors, rather than on fundamentals, is shared by models of 'rational financial panics' to which attention has been drawn in the Asian context (Radelet and Sachs, 1998, pp. 7–11 and 43–49).

A rational panic arises where the debtor (a bank or country) is fundamentally solvent: when its investments mature, the income streams will be adequate to repay all claims. In the interim period, however, more loans must be sought to permit the payment of interest on existing debts. Since the investments are currently yielding no income, and assuming that no lender is in a position to offer a new loan to refinance the entire debt, a panic withdrawal of deposits (or unwillingness to extend new country loans) may arise. If lenders fear that other lenders will not contribute to the new provision, they will expect (correctly) that the borrower will be forced to default. If this disruption damages the borrower's ultimate capacity to service debt, any new lending will share that loss and none will therefore be forthcoming.

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Although readily accepted in the context of domestic deposit banking, the application of this illiquidity model to sovereign borrowing crises is subject to the objection that there must be some doubt about the ultimate solvency of the borrower. If not, longer-term loans could have been sought which matched the maturity of the underlying projects.[2] This criticism implies that panic would require the trigger of a suspicion, on the arrival of adverse news, that earlier inflows had ben excessive. Recalling the earlier parallel discussion in which investor expectations were being positively influenced by recent price movements, a sudden suspicion that values had risen too far could instigate panic withdrawal.

That such a shift in equity markets appears to have occurred is evident in the net portfolio outflow recorded for 1997 in Table 1. The capital losses involved in many of these sales must have been severe and their timing was probably poorly judged. Fund estimates suggest that price and currency declines together produced a 56 per cent loss on Asian equities in the second half of the year whereas, during the first quarter of 1998, the same factors produced a recovery of 19 per cent (IMF, 1998b, p. 31). From mid-1993 through the first half of 1997, price-earnings ratios on Asian markets had been consistently higher than in any other region (IMF, 1998b). Fund estimates suggest that pre-crisis equity prices were discounting a continuation of the high recent growth rates in the region (IMF, 1997, pp. 84–85). If investors believed that these prospects had evaporated, they also displayed no faith that moral hazard considerations would result in the rescue of enterprises in which they had invested.

Although the argument above has been developed in terms of equity investment, the suggestion that investor commitments would be subject to shortened horizons could be applied to the much larger banking flows. While extreme reliance on short-term facilities by the Asian banks may have arisen with poor prudential supervision, it may also have represented an attempt by foreign banks to benefit from relatively high yields while monitoring on a regular basis the extent of their commitment. The relevance of the overall perspective adopted here to the recent debate on the management of short-term capital flows will be considered briefly in conclusion.

CONCLUSIONS

Lacking the usual culprit of unsustainable public finance, the consensus response to the Asian financial crisis has been to emphasize the need for reforms across a wider spectrum of public policy. Externally, support for pegged exchange rates has been severely undermined whereas the focus of domestic policy attention has been on financial sector regulation, monitoring and transparency. The wide acceptance of such proposals highlights an important recognition that market forces do not themselves produce an adequate degree of control (Wolf, 1998). The reasons for this shortcoming, observed frequently in both developing and developed economies, however, are less certain.

Moral hazard incentives deriving from implied commitments of public support to institutions in difficulty provide a favoured explanation. Prudential control of the sector by domestic central banks has, after all, traditionally been justified by the need

[2] This point is emphasized by Christopher Sims in the reported general discussion of Radelet and Sachs (1998).

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to prevent reckless behaviour by 'insured' institutions.The alternative position, for which one rationale was proposed above, is that markets may be capable of generating the threat of instability without policy assistance. This perspective, although not necessarily in conflict, has distinct implications for policy reform.

The view that moral hazard is the underlying cause of financial instability would lead to the conclusion that policy must, indeed, concentrate on effective banking supervision. With recent experience emphasizing that the net foreign exchange exposure (and associated maturity mismatches) of banks would be a central element, an indirect form of control over short-term capital inflows would be established. Advocacy of more direct measures would need to rely on additional considerations.

In this connection, the discussion of portfolio equity investor behaviour suggested that prices could be pushed away from fundamental values when a rising price trend had become established. An initial price adjustment, reflecting either improved fundamentals or lower yields in the major financial centres, may thus inaugurate a period of ready access to external funds. Prudential controls over bank access to these sources may then result in their being accessed by other means. Approximately 30 per cent of Thailand's external debt was accumulated directly by the non-financial corporate sector while domestic banks were essentially irrelevant to the Indonesian inflows (World Bank, 1998, p. 106). The main supply of these corporate debts had been foreign banks and, while moral hazard could have been relevant to their calculations (the belief that 'crony capitalism' would ensure a state rescue if necessary), the World Bank report makes clear that other factors were involved. A precipitate decline in the required yields on emerging market debt instruments in general occurred in the mid 1990s, a development evidently unjustified on the grounds of diminishing risk (World Bank, 1998, p. 66).

As was indicated in Table 2, the lethal combination proved to be an accumulation of short-term *monetary* claims in a context where pegged, or managed, exchange rate regimes were in operation. Lacking access to an international lender of last resort, foreign exchange reserves were unable to cope with a flow reversal of the magnitude that occurred. Assuming the continued absence of such an international body, the domestic banking literature suggests two possible policy responses at the national level. The suspension of convertibility of deposits into cash would parallel closely the imposition of controls on short-term capital movements and would be essential if a currency peg was to survive. Indeed, acceptance of a floating exchange rate (allowing substantial depreciation of the currency in these circumstances) could be seen in part as a policy alternative (Klein, 1974).

The recent adoption of more flexible exchange rate policies in capital importing countries, however, may not undermine the case for control over short-term flows. It should be recalled that the small open economies involved had initially preferred pegged regimes, presumably because exchange rate variability was perceived as imposing economic costs of some importance. In this connection, the earlier formulation in which recent market price movements influenced near term investor expectations is formally identical to a simple model of a floating rate currency 'bubble' (Blanchard, 1979; Dornbusch, 1986). The potential return on a monetary claim involving a floating currency thus introduces the same potential departure from fundamentals as in the discussion of portfolio pricing. Transferred to this context, the framework would indicate potential currency 'overshooting' under conditions similar

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to those discussed here. If the source of this behaviour arises from the expectations mechanism described, some degree of fiscal disincentive to short-term flows may offer a more directed, and less disruptive, corrective than the currency swings that may otherwise be implied.

By obliging investors to base their expectations of return on a longer holding period, the influence of fundamental attributes might be expected to increase at the expense of recent market momentum (whether in securities or exchange markets). Moreover, the interpretation suggests that the fiscal controls need not be permanent. The threat of destabilizing inflows is likely to be most acute when markets are adjusting either to a perceived change in the investment environment in the host country or to a decline in asset returns in major markets. While the freeing of short-term capital flows should be the last measure in programmes of economic liberalization, therefore, their reintroduction in response to major periods of monetary relaxation in the main financial centres could serve to minimize subsequent adjustment costs together with unwelcome interim currency misalignments.

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