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The Interest-Rate Constraint and the Crawling Peg

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The Interest-Rate Constraint and The Crawling Peg^{1/}

Samuel I. Katz

Advocates of the "crawling peg" have commonly recognized that, to forestall short-term capital movements under a 2% per annum crawl, the central bank would be required to "neutralize the incentive to transfer funds elsewhere by paying interest rates 2% above those available in non-depreciating currencies."^{2/} However, the notion that this "crawl incentive" would necessarily limit the flexibility of monetary policy for domestic purposes during the period of crawl has recently been challenged by Professor Willett.^{3/}

^{1/} The author is particularly indebted to Messrs. Don C. Roper, Robert Solomon, Thomas D. Willett and Ralph C. Wood for comments and suggestions.

^{2/} John H. Williamson, "Exchange Rate Policy and the Future," Moorgate and Wall Street, Spring 1967, p. 14.

^{3/} Thomas D. Willett, "Short-term Capital Movements and the Interest Rate Constraint under Systems of Limited Exchange Rate Flexibility," a paper prepared for the Conference on Proposals for Greater Flexibility of Exchange Rates held at Burgenstock Switzerland, August 1969 (mimeograph, 14 pages) which is to be published in a collection of the papers prepared for this meeting.

Domestic interest rates and the crawling peg

Willett concludes that the interest-rate constraint may be less under a crawling peg than under present exchange-rate arrangements on the basis of a comparison of a deficit country under the two systems. Such a country would have to keep a higher level of interest rates under the crawling peg in order to offset the "crawl incentive;" but under the present system, expectations of a major change in parity create the likelihood of abrupt advances in interest rates during temporary speculative crises. Such advances would push domestic rates above the levels required under the crawling peg. This pattern would, in addition, create greater strains on internal economic stability since somewhat higher rates held at a constant level would be less disturbing to the domestic economy than a mixture of lower rates most of the time with much higher rates during periodic (temporary) speculative episodes.

Willett also suggests that the private capital flows likely to respond to changes in the "effective interest rate"^{1/} would be limited in amount. Such movements would fully exploit interest-differentials only where private capital was fully mobile. But sizeable differentials often exist among major financial markets, both on a covered and on an uncovered basis, suggesting imperfect capital mobility as the general situation.

^{1/} The "effective interest rate" differential under the crawling peg is defined as the sum of "differentials in interest rates corrected for any confidently expected gradual appreciation or depreciation of the exchange rate." (pp. 11). In our terms, the effective interest rate differential is the sum of any interest-rate difference and what we have called the "crawl incentive."

In addition, he builds up a pattern of capital flows he would expect under a crawling peg on the basis of a portfolio-adjustment theory which holds that short-term capital flows in response to interest incentives would be primarily "a stock adjustment reallocation of funds rather than a continuing flow." (p. 8). Under this hypothesis, Willett would expect substantial flows initially, during the transitional stock adjustment; but once the portfolio adjustment had been substantially completed, "continuing interest-induced capital flows would be much smaller." These flows would come essentially from portfolio growth over time. On the basis of this model, Willett would advise the monetary authorities that the "initial ... flow ... would exaggerate the longer-run effects": once the stock-adjustment had been completed, a continued crawl of the exchange rate at the same pace should have much less impact on the balance of payments.

The fact that, under this theory, the capital flows induced by the expected crawls would be reversible leads him to recommend inter-governmental "recycling" agreements as a method particularly suited to finance "crawl incentive" capital flows which might occur under a crawling-parity system. He argues that, if other conditions remain the same, then once the crawl ceased "there would be a full return of the funds that had flowed abroad." (p. 9).

On the basis of this pattern of projected private capital flows under a crawling-peg system, the author is able to conclude that there would be only a limited constraint on the domestic use of credit policy

by the central bank under it. This analysis would appear to be based upon three principal propositions:

- a. That the height and variability of interest rates are the relevant criteria for measuring the relative constraints on domestic credit policy under the adjustable-peg and under the crawling-peg systems;
- b. That substantial disequilibrating tendencies are more likely to be found under the adjustable peg than under the crawling peg; and
- c. That private capital flows (in response to interest incentives under the crawling peg) would have the characteristics of a stock-adjustment model of short-term international capital movements.

We shall consider each of them in turn.

"Duration" as a constraint upon the central bank

In the Willett paper, the effective constraint on monetary policy is measured primarily in terms of comparative interest-rate levels under the two forms of limited exchange-rate flexibility being compared. But the central bank may be more hampered in attaining domestic goals by a reduced flexibility for credit policy during an extended period of crawl than it would be by the need to advance domestic interest rates sharply but temporarily.

The "duration" measure of comparative constraint becomes the more important, the more continuous the crawl in exchange rates would have to be. For example, the crawling peg is said to have clear advantages over the adjustable peg in situations where only small annual changes in par value are required to restore or maintain external equilibrium since the adjustable peg system cannot easily accommodate itself to frequent and repeated parity changes.

But suppose the crawl had to remain in effect continuously over time, and was neither intermittent nor temporary. One could anticipate a virtually continuous crawl to correct an initial position of substantial disequilibrium or one, discussed by Emminger, where German public opinion was not "ready to accept annual price increases of more than 2% except very temporarily" compared with its trading partners where residents "are prepared to tolerate annual price increases of 3% or even more."^{1/} In

^{1/} Speech by Otmar Emminger, "The Position of the D-Mark in the International Monetary System," at the University of Cologne, June 12, 1969 (mimeo.), p. 5.

this situation, it would be desirable to have the DM crawl upward at annual rates in excess of 1% "in small gradual steps with a minimum of disturbance."

Furthermore, a continuous crawl might develop because the crawling peg would work better, "the more quickly it begins to respond to disequilibrating forces."^{1/} To this end, a system of virtually continuous crawl or even, in Willett's choice, "some form of self-adjusting peg which responds automatically to market forces" might be preferable to a variant which depends on a deliberate policy decision to initiate the crawl.

Where the crawl proved to be virtually continuous in one direction, the central bank might find a "crawl incentive" factor a permanent aspect of the domestic credit situation. How much the "crawl incentive" would limit internal monetary flexibility would depend largely on the domestic economic situation at the time. It would be at a minimum in "non dilemma" cases (where the deficit country had excess, and the surplus country deficient, internal demand) because the needed change in domestic interest rates in these two cases to offset the "crawl incentive" would be in a direction consistent with internal balance. Even in these situations, however, the extent to which interest rates need to be higher or lower in order to offset the "crawl incentive" could prove to be inconsistent with the preferred mix of fiscal and monetary policy.

^{1/} Willett, op. cit., p. 17.

In "dilemma" situations, on the other hand, the existence of a "crawl incentive" would aggravate for the central bank the conflict between the credit policy needed to restore internal and to achieve external balance. Where the Surplus country was experiencing the threat of internal inflation, an upward crawl in the exchange rate would imply a relatively low level of domestic interest rates which might be inconsistent with combatting inflation; where the Deficit country was experiencing internal deflation, a downward crawl in the exchange rate would imply higher domestic interest rates which could endanger further expansion.

In summary, a "crawl incentive" which persisted over an extended period in one direction would reduce the flexibility of monetary policy to adjust to changes in the internal business situation. How substantial this constraint would prove to be under the crawling peg would depend on the domestic economic position at any particular time. By neglecting this "duration" factor, however, Willett underestimates the constraint on the flexibility of credit policy implicit in the crawling peg system.

In practice, central banks have been required under the adjustable peg to advance domestic interest rates sharply in periods of balance of payments weakness or in speculative crises, as Willett has suggested. But they have tended to do so chiefly in non-dilemma situations where the balance of payments deficits were usually associated with excessive domestic spending and where deflationary measures of some kind were usually overdue, even on domestic grounds. This generalization would cover the several instances between 1957 and 1967 when the United Kingdom

advanced Bank rate during external payments difficulties and the high interest rates in the United States in 1966 and again in 1968-69.

On the other hand, despite references to advanced interest rates under the adjustable peg in the Willett paper, the financial authorities in "dilemma" situations have usually avoided drastic interest-rate action and turned instead to selective measures to limit private capital movements or to mandatory direct controls. That is to say, they have been reluctant to take restrictive (or easing) domestic actions in periods of balance-of-payments deficits (or surpluses) when there was inadequate (or excessive) domestic aggregate demand.

In discussing the crawling peg proposal, Willett also considers the usefulness of selective measures, at least in a range of situations, to neutralize the "crawl incentive." How effective this approach would be in practice is difficult to judge in the abstract: it would depend on the type of selective measure and the particular circumstances in which it would be employed. In general, the United States experience has thus far been concentrated on limiting long-term capital flows: there are probably greater difficulties in devising administrative procedures to control short-term flows, aside from bank credit. In addition, the U.S. selective measures have been most effective when they have applied to banks and other financial institutions and have been less effective in limiting foreign lending and investment by non-financial investors. They have not attempted to influence capital outflows by non-U.S. residents. Both non-financial investors and non-U.S. residents might be tempted to

undertake capital shifts under the crawling peg which might threaten the stability of the adjustment process under it, as we shall consider in the next section of this paper.

The adjustment process under the crawling peg

The effect on monetary policy of speculative flows during the financial crises which occur under the adjustable peg is one of the key elements of the comparative analysis in the Willett paper, but there is not sufficient attention to the possibility that disorderly adjustment processes could also arise under the crawling peg. Even though advocates favor the introduction of a crawling peg at a time when the exchange-rate structure would be in balance, the possibility that it would not be -- or that it would become unbalanced -- must be considered.^{1/} For this reason, the Furth attempt to analyze a built-in process of disequilibrium under the crawling peg usefully supplements the Willett paper.^{2/}

^{1/} See, for example, Willett, op. cit., "This is not to say that a crawling peg would not work where there is substantial initial disequilibrium or that it would place an intolerable constraint on domestic policy, but only that problems would be greater in such a situation." (p. 17, footnote 1).

^{2/} J. Herbert Furth, "International Monetary Reform and the 'Crawling Peg' -- Comment," Review, Federal Reserve Bank of St. Louis, July, 1969, pp. 23-24.

The assumptions of the Furth model are unfortunately not clearly specified,^{1/} but the Furth paper does suggest the outlines of a process of disequilibrium in the mechanics of adjustment under the crawling peg in certain circumstances. He begins his process with a tightening of credit at home, without indicating the country's external position at the time. This action leads banks and entrepreneurs to seek funds abroad; the capital inflows would push up the exchange rate under the crawling peg. Once underway, Furth argues, capital inflows would persist so long as financial markets believed the upward creep would be maintained.

The expectation of a further upward crawl in the spot rate is central to the Furth model. Because of this expectation, the argument runs, the forward rate would move to a premium and create a "crawl incentive" for capital inflows. Because of this self-reinforcing process of private capital inflow, Furth concludes that "anti-inflationary monetary policy would probably be less effective, not more effective, than under the present system." (p. 13).

^{1/} For example, there are aspects of the Furth analysis specific to the United States situation and not capable of being generalized for all countries. The significant difference is that U.S. banks can always borrow dollar balances abroad in periods of tight money without assuming an exchange risk through the Euro-dollar market. Hence, tighter credit in the U.S. is always likely to induce capital inflows, as the 1966 and 1968-69 episodes have demonstrated.

On the other hand, institutions in other countries have only limited facilities for borrowing their local currencies abroad. They can borrow dollars abroad without taking on an unbalanced foreign-currency position only by covering the risk in the forward market. Hence, such flows would be self-limiting where these institutions pay the cost of the forward exchange cover. Where such borrowings are not so covered, they reflect speculative incentives, and not interest-rate differentials.

The critical role of the expectations of further upward crawl in the exchange rate would limit the likelihood of a self-reinforcing upward crawl only to a country with a protracted surplus, and a downward crawl only to a country in continuing deficit. The emergence of a self-reinforcing process of disequilibrium under the crawling peg would seem to depend on the assumption that a further crawl in the spot rate would remain credible. For example, we could imagine self-reinforcing capital inflows into Germany in mid-1969, if the DM had begun an upward crawl, even greater than those which took place at the time; under the crawling peg, the pressures on the monetary authorities would be to relax monetary policy since the inflows would tend to be intensified so long as credit conditions continued to tighten. Similarly, capital outflows would probably have occurred in mid-1969 from the United Kingdom if the spot pound had had any freedom to crawl downwards, especially if the British authorities had come to the view that the main targets of domestic stabilization were being reached and that current levels of interest rates ought to be allowed to recede.

The distinctive character of the narrow- or moderate-band variants of the crawling peg, from an adjustment point of view, is the limited movement in the spot rate. Hence, export and import flows can change only slowly. In situations where only minor changes in trade or capital flows would restore external equilibrium, accordingly, a smooth adjustment could be expected under the crawling peg system.

But the efficacy of the crawling-peg system would be much diminished in situations where the degree of external disequilibrium was substantial. Such a situation could arise because the pattern of exchange rates was distorted when the crawling peg was introduced or because corrective exchange-rate actions had been postponed under it, just as they had been under the adjustable-peg system.

As an example, suppose the DM could crawl at a rate of only 2% per annum in a situation where an appreciation of, say, 10% seemed to be required. This kind of situation, as it actually developed under the adjustable peg, produced continuing capital inflows into Germany, augmented from time to time by bursts of heavy speculation, which were usually explained (at least by German officials) in terms of a weakness of the French franc or of the pound. In Germany, the authorities offset both the domestic and international effects of these inflows, partly through encouragement of German private capital exports and partly through dollar-swaps between the Bundesbank and local commercial banks. Nevertheless, during 1964-66 and again in 1969, the German authorities were able to raise local interest rates to slow down the internal boom, despite the threat of private capital inflows.

Under the crawling peg, however, investors and entrepreneurs might have even greater incentives to place funds in Germany than under the adjustable peg, especially when the forward DM premium was pushed up. Even if the forward DM were at interest parity (so that there was no incentive to shift funds from Euro-dollar to DM assets on a covered basis),

a holder of Euro-dollar deposits would still have an incentive to buy DM-assets on an uncovered basis. Because the DM would be crawling upward, the dollar value of his DM-assets would grow with time; in the circumstances, he might prefer to be self-insured against what he might regard as a minimal risk of a devaluation of the DM against the dollar.

On this basis, private parties would have incentives to move funds on a precautionary or outright speculative, rather than on an interest-arbitrage, basis into an upward crawling DM, as they have had under the adjustable peg. Because adjustment through the trade accounts could necessarily proceed only slowly, however, a temporarily self-reinforcing process of disorderly capital flows could develop. During the transition in these circumstances, in fact, the monetary authorities might well find these unwanted capital flows would continue over a longer period and be as difficult to bring under control as they had been during the temporary speculative crises under the adjustable peg.

What pattern of private capital flows?

The Willett paper outlines a pattern of expected private capital flows in response to the incentives under the crawling peg which must be regarded with caution. The central criticism of this pattern of flow is focused not on its theoretical foundations but on the reliability of the pattern of flows which he outlines. In the sequence presented in the paper, these capital flows:

- a. Would be much reduced, once a transitional stock adjustment had been completed;
- b. Would thereafter be limited, even with a continued crawl of the exchange rate at the same pace; and
- c. Would be reversible in character so that, when the crawl ceased, a full return of the funds that had flowed abroad would be anticipated.

That is, crawl-induced flows, once underway, would be expected: (i) to diminish; (ii) to be limited in amount; and (iii) to be reversible. It is the credibility of this particular response to an interest differential or "crawl incentive" which we must consider in this section.

This pattern of response rests of course upon familiar portfolio theory, supported by econometric tests designed to measure the response of capital flows to changes in interest rate differentials. The analysis, based on a stock-adjustment concept of capital flows, concentrates upon the given portfolios of investors: how investors alter the distribution among investment outlets when interest-rate incentives are changed and how their portfolios grow over time. The theory can, in fact, be broadened to encompass short-term capital movements associated with the pattern of

trade financing (so-called "leads and lags" in commercial transactions) and even extended to include a range of assets of longer-term maturities.

For our present purpose, questions about the magnitude of capital movements from such portfolio adjustments are of secondary importance. Estimates of interest-sensitive funds under the adjustable peg have become much larger in recent years; they reflect both improvements in estimating techniques and an increased capital mobility in the real world. Under a Branson estimate referred to in the paper, the interest sensitivity of U.S. short-term capital movements would produce on the average a stock-adjustment of \$1.5 billion in response to a one percentage point change in U.S. interest rates relative to those abroad.^{1/}

But the actual flows in the real world under the adjustable peg seem to have substantial variation. There are undoubtedly major data imperfections in this area. In addition, there are technical difficulties. Interest rates in the real world may not fully reflect variations in availability (so that they do not fully reflect the demand for loanable funds) or variations in credit market conditions (so that there can be substantial differences in the supply of loanable funds at identical levels of interest rates). Furthermore, variable expectations about exchange rates, whether or not reflected in forward rates, could produce differing capital flows at identical interest differentials. Finally,

^{1/} Willett, Ibid., pp. 13-14 and especially footnote 1, page 13 which provides references to selected primary sources.

differences in balance-of-payments trends at identical interest differentials could produce different magnitudes of capital flow.

In brief, under the adjustable peg, estimates which relate short-term capital flows to interest-rate differentials (under the stock-adjustment model) or to levels of interest rates (under a flow-adjustment model) show substantial variance. The common experience is that, up to now, measurement estimates have had a notoriously poor performance in predicting capital flows. In part, these results may reflect non-interest sensitive funds which are not measured by these estimates; in addition, the econometric estimates are necessarily based on a given set of expectations and would be altered by any change in them.

If we turn to the pattern of capital flows to be expected under the crawling peg, the principal theoretical question to be asked is whether the crawl itself -- as it progresses in financial markets -- would have effects on expectations which would be destabilizing. Consider the case of a country like Italy in 1963-64 which experienced substantial capital outflows, prompted by a growing uncertainty about internal political stability as much as by domestic inflation. Under the adjustable peg, the capital flows themselves, which were based on fears about the political outlook, contributed to a major deterioration in the internal political climate.

As the situation developed under the adjustable peg, however, the Italian authorities did not devalue the lira. Instead they introduced a stabilization program which was accepted by financial markets as credible

and quickly proved to be effective in transforming the balance of payments into surplus and the internal inflation into mild recession. What would have been the course of events had the spot lira begun to crawl downward? Would a crawl have sparked additional capital outflows and would they, in turn, have contributed to a further deterioration in Italy's domestic political situation?

The proposition that a downward crawl in the lira in the 1963-64 period would have adversely affected expectations is difficult to evaluate in analytical terms, in large part because non-economic factors are the dominant uncertainties in such situations. The effects on expectations of a stable rate subject to the threat of devaluation compared with the effects on them of an actual downward crawl raise difficulties beyond the technical resources of economic analysis.

A downward crawl might, or might not, stimulate private capital flows additional to those under the adjustable peg. In economic terms, the case for a positive answer would seem to rest on the signal effect of a declining spot rate: that is, a wider group of investors and entrepreneurs might be alerted to the currency's weakness if the spot rate began to decline than would be alerted by reserve losses at an unchanged spot rate in the exchange market. This argument would be strengthened by the general consideration that the monetary authorities now have techniques for postponing, or offsetting, the effects of reserve losses on the official reserve assets shown in published statistical series. This factor could have been especially important in the Italian episode because the effects

of the growing Italian deficit on official reserves were much diminished by substantial private Italian borrowings in the Euro-dollar market in 1963 and early 1964.

The question can also be raised as to whether entrepreneurs would respond with a different pattern of "leads and lags" in commercial payments under the crawling peg than they would under the present system. Under present arrangements, such flows occur as uncertainties about a par value mount; they tend to erupt into massive volume during the acute phase of balance-of-payments crises; but they also tend to be reversed when the government presents a credible stabilization program, whether the par value is altered or not. This sequence of flows occurred in Britain in mid-1966, in Italy in the spring of 1964 and could (hopefully) take place in France in late 1969 or in 1970. The return flow into sterling was limited after the devaluation in November 1967, despite a broadly-based stabilization effort, because British policies were not fully effective in strengthening expectations.

Under the crawling peg, by contrast, there would be two main differences in the situation. First, entrepreneurs would face the certainty of a slowly declining par value. Again we have the question about the signal effect: would a broader group of entrepreneurs shift "leads and lags" against a weakening, and in favor of a strengthening, currency where the spot rate actually began to move than they would in situations where the spot rate was held?

Secondly, could we expect the "leads and lags" to be reversed under the crawling peg as they might be under present conditions? The critical element under the adjustable peg is the presentation of a credible program of domestic stabilization; such a program would also be necessary to halt the downward crawl, although in some situations the downward crawl could itself ease the conflict between the domestic and external goals of economic stabilization policies.^{1/}

To summarize, there are grounds for doubting whether the comfortable pattern of short-term capital flows, and even of purely interest-sensitive funds, outlined in the Willett paper can be expected to materialize under either an adjustable peg or a crawling peg. These doubts rest on major data imperfections but also upon the reliability of market interest

^{1/} In my view, such "leads and lags" would respond only marginally to minor changes in credit costs, because entrepreneurs are assumed to be risk-aversers rather than profit-maximizers. (See, for example, Samuel I. Katz, Sterling Speculation and European Convertibility: 1955-1958, Princeton Essays in International Finance No. 37, October 1961, especially pp. 3-6). In this case, the decision would not be based on a calculation of the probability of a change in par value compared with the amount of change as Willett suggests in his Table 1 on "Expected Mark Appreciation Values At Annual Rates Under Alternative Sets of Expectations" for other types of investors. On the contrary, "leads and lags" are precautionary and, to the entrepreneur, risk-reducing and not risk-increasing in character. The certainty of a continued decline in the spot rate could only lead them to maintain an unbalanced foreign-currency position for the duration of the crawl: they would try to reduce accounts-receivables and assets in downward-crawling currencies and to reduce accounts-payable and liabilities in upward-crawling currencies as much as they could. In my view, the primary factor which would affect the decisions of entrepreneurs would not be small differences in interest costs but more general considerations of their confidence in the government's capacity to govern and the credibility of its stabilization program to halt the decline in the spot rate.

rates (and of other economic indicators) as measures of variations in the demand and supply of loanable funds in financial markets and of expectational factors which shape investor portfolio behavior in the real world. Furthermore, if the pattern of these flows varied from the three characteristics he has outlined, the case for using temporary "recycling" credits as a neutralizing device for crawl-induced flows would be much weakened.

But our concern about the assumption of a regular pattern of crawl-induced capital flows goes beyond these technical considerations. The crawling peg system is unique in that, unlike the adjustable peg, the spot rate will always be in motion in periods of unbalance. The question must therefore be asked: could the crawl itself have effects on expectations which were destabilizing, either in the downward or upward direction? Economic analysis cannot provide a clear-cut answer to the question, in part because non-economic factors may sometimes be more important determinants of the weakness or strength of a currency than purely economic factors. But there have been enough episodes in the real world to confirm the importance of this possibility under the crawling peg.

Concluding observations

To focus fresh attention on the constraints on credit policy under the crawling peg, as the Willett paper does, is particularly constructive at a time when various forms of limited exchange-rate flexibility are being seriously explored. His contention that the constraints would be limited in situations where only small changes in the exchange rate are required to correct international imbalances should be recognized. The analysis becomes more controversial when he compares the processes of adjustment between a situation of mild disequilibrium under the crawling peg with one of substantial disequilibrium under the adjustable peg. The possibility of substantial disequilibrium under the crawling peg must also be introduced into the analysis.

Within this broader appraisal of the crawling peg, Willett's conclusions may understate the magnitude of the constraints on the central bank, even in his own terms. The preferred form of crawling peg, from an adjustment point of view, may be one characterized by a continuous crawl, whether self-adjusting or discretionary in character, as he recognizes. Because it would create the most enduring "crawl incentive" within the domestic credit system, this form might greatly reduce the flexibility of monetary policy to respond to short-term variations in internal effective demand. In this case, the exchange-rate arrangement which might promote more effective adjustment than has taken place under the adjustable peg since 1958 might well be at the expense of a loss of flexibility in using monetary tools for

internal stabilization. On the other hand, the central banks can hope to retain their present freedom to use credit policy for domestic stabilization objectives only if they can agree upon ways to make the adjustment process function more smoothly under the adjustable peg.

From an adjustment point of view, the great need is for the monetary authorities to be prepared to respond to external disequilibrium with more prompt exchange-rate action in the future than they have in the past, whether we have an adjustable-peg or a crawling-peg exchange rate system. The founding fathers at Bretton Woods sought to create a form of limited exchange-rate flexibility in the adjustable peg: under their intentions, exchange rates were to be stable in the short-run and flexible in the long-run. But the rigidity of exchange rates between 1958 and 1967 made the adjustable peg system, as it was interpreted in practice, more nearly kin to a pre-1913 fixed-rate system than to any recognizable form of limited flexibility.

For this reason, Willett may be unduly pessimistic in his assumption that the adjustable peg would function no more flexibly in the future than it has in the past. The same shift in official thinking which would lead the major industrial countries to accept a system of crawling pegs could also be reasonably expected to produce more flexibility under the adjustable peg.

Because a change in official attitudes needed to make the crawling peg work would also make the adjustable peg function more

smoothly, the emphasis in the Willett paper upon the competitive elements between these two systems obscures an essential similarity. Both depend upon a willingness of officials to permit exchange rates to be altered in the interest of international adjustment and they are, in a sense, complementary. To avoid a disorderly process of self-reinforcing capital flows in situations of substantial disequilibrium, advocates of a crawling peg would support larger discrete changes in parity when required to erase accumulated imbalances.^{1/} On the other hand, advocates of the adjustable peg would hardly recommend continuous discrete changes in par value in situations where only minor disequilibrium was evident: they might well welcome correction through a crawling peg.

Within this conception of complementarity, the central banks ought to recognize a special interest of their own. They have been able under the adjustable peg to direct credit policy towards domestic stabilization goals even when this focus conflicted with balance-of-payments considerations. This has been true both for the surplus

^{1/} As a practical matter, advocates of the crawling peg recognize that the system would work better the more closely the initial position corresponds to equilibrium. (p. 17). Hence, a one-time change in par values would seem an essential prerequisite to the introduction of the system. If a substantial disequilibrium were to come into being under the crawling peg, this reasoning would also support recourse to discrete parity changes even after the system had been in operation.

countries of the European Economic Community^{1/} and for the United States during the past decade. A shift from an adjustable peg (that is, infrequent discrete changes in exchange parities) to one in which par values were very frequently, if not continuously, changing would introduce a "crawl incentive" factor into the domestic credit situations of both deficit and surplus countries. This would produce a constraint on the flexibility of monetary policy rapidly to be adapted to changes in internal business conditions which would be more substantial than the Willett paper implies, at least over a significant range of situations. Central banks would thus face the problem of adjusting their credit policies to counter the constraint; making special arrangements to finance the capital flows; introducing selective measures to offset the crawl incentive; or, where possible, passively watching the flows of funds add to the country's current balance-of-payments deficit or surplus.

^{1/} Between 1958 and 1967, for example, adaptations in the techniques of central banking -- as a substitute for a domestic interest-rate policy inconsistent with the balance of payments position -- enabled the central banks in the E.E.C. countries to maintain control over key internal credit aggregates in the unpromising conditions of domestic boom and continuing external surpluses. They were also able to make monetary policy the primary instrument of domestic economic stabilization, often with only limited support from fiscal policy, during this period. This they were able to do only after they had learned to supplement or to replace discount-rate policy and, to a lesser extent, uniform reserve ratios with new tool of credit policy or novel adaptations of older ones. For a general review of these developments, see Samuel I. Katz, External Surpluses, Capital Flows, and Credit Policy in the European Economic Community, 1958 to 1967, Princeton Studies in International Finance No. 22, February 1969, especially pp. 4-10 and 43-45. The experiences of the individual E.E.C. countries are summarized on pp. 11-31.

Samuel I. Katz

Book Review: The Economics of Interdependence^{1/}

Professor Cooper's survey of international monetary affairs since 1944 is focused on what he considers the central international problem today: how to keep the benefits of world trade and investment and still enable each country to pursue its legitimate economic objectives. The quality of the analytical and empirical materials and the experience of the author in international financial matters recommend this work. It is also important as a statement of the case for creating liquidity to finance protracted deficits and for proposing "a realistic program involving the use of orderly restrictions on international payments" in order to preserve our fixed exchange-rate system.

The book begins with an analysis of the process of balance-of-payments adjustment. A country with a payments imbalance can: (i) adopt either internal measures (such as incomes policy or deflation) which indirectly affect foreign trade and capital flows; or (ii) external measures (such as devaluation or restrictions on trade and/or payments) which directly affect the foreign transactions of residents; or, alternatively, (iii) seek liberal liquidity to finance the imbalance.

^{1/} Richard N. Cooper, The Economics of Interdependence: Economic Policy in the Atlantic Community (New York: McGraw-Hill, 1968), pp. 302. To be published in the Journal of Finance, September 1969.

From the beginning, the author states a preference for "some sort of financing" as necessary "for an efficiently functioning Atlantic economic community under a regime of fixed rates." (p. 22).

A second introductory chapter traces the changes in the Bretton Woods payments mechanism amid the unprecedented postwar expansion in international trade and capital movements. The I.M.F. is presented as a result of a compromise -- an inadequate compromise -- which made much smaller provision for financing and more direction of national economic policy than was envisaged by Keynes in the British plan, but somewhat more generous financing and much less direction of national policy than was envisaged in the earlier American proposals. There was "something of a gap in the logic of the arrangement" since occasions might arise where members might lack the resources needed to protect the domestic autonomy which was permitted. But the Fund can also be viewed more loosely as a framework within which the industrial countries would regularly consult together to work out the international difficulties which would emerge in the dynamic post-Bretton Woods era. In this approach, there would be less emphasis upon the Fund as a faulty institutional arrangement and more upon the relevance of the policies adopted by its members to the objectives of the Articles of Agreement. The focus of official attention during the past decade upon problems of international liquidity and the decision by the major industrial countries to make "rather slight use ... of the instruments of balance-of-payments adjustment that were provided

at Bretton Woods"^{1/} were deliberate policy choices.

The central portion of the book is particularly valuable. The chapters on the flows of goods, capital, technology and labor and on international financial markets are models of clarity, both of exposition and of analysis. Experienced economists will find them rewarding as summaries of postwar developments, and students in international economics can refer to them as guides for their own creative work.

Cooper then identifies three alternative courses of action open to the members of the Atlantic Community. The first, the joint determination of economic objectives and policies, is limited in its relevance by the lack of an "encouraging degree of identification with the economic problems of other countries." (p. 201). He points out, for example, that the reaction of the European surplus countries to the "imported inflation" of the 1960's was to choose "between price stability in Europe and unemployment in the United States." (p. 202).

Cooper seems to find the second course -- a willingness of trading partners to provide liquidity -- personally congenial. He would favor "some change in judgment about 'deficits'" (p. 225). They should be "assessed on their merits ... and a confrontation of costs and benefits should be made with a view to determining which deficits -- even long-lasting ones -- should perhaps be financed rather than eliminated." (pp. 272-273). On these grounds, he criticizes the various proposals

^{1/} The International Monetary Fund Annual Report, 1965, p. 12.

for international monetary reform -- including the Special Drawing Right (the SDR) -- as not providing "for extremely generous balance-of-payments financing ... their radicalism is institutional, not conceptual." (p.222). In any case, Cooper proceeds to eliminate this alternative because "the Group of Ten countries have not developed the mutual trust required to underwrite payments deficits for prolonged periods." (p. 227).

Having thus eliminated the first two possible solutions, he finds that the third -- deliberate imposition of barriers to trade and payments flows -- "seems to win by default." (p. 264). He prefers capital over trade controls. All restrictions are to be imposed cooperatively and in an orderly fashion. (p. 256). He considers the case for limited rate flexibility fairly, but seems to have only limited enthusiasm for this approach. His criticism is in terms of longer-term strategic goals. In his view,

"flexible rates, even limited by bands, do not automatically foster the type of cooperation in policy formation which many observers desire. Flexible use of controls over trade and capital movements lend themselves more readily to the continuous international consultation which may eventually produce close policy coordination in a world which is not yet ready for it." (p. 234).

With the advantage of hindsight, we find that international financial developments since the body of this book was written raise questions about the author's recommendations. Somehow the conclusions of this book -- with the advocacy of "orderly restrictions" -- may be less than the sum of its excellent individual parts. The DM/franc

crisis of November 1968 was marked by stalemate and unpleasantness; if partners within the E.E.C. cannot agree upon cooperative action, how can the major industrial countries be expected to achieve orderly adjustment through consultations?

Furthermore, the world payments mechanism has demonstrated greater strain than the book would seem to suggest. On three occasions since mid-1967 -- that is, during the pound devaluation in November 1967, the gold crisis in March 1968 and the recent DM/franc impasse -- international financial markets became so disorderly that they had to be temporarily closed. From these experiences, in fact, a recent worldwide interest has developed in ways to speed up adjustment of payments imbalances, and not merely to finance them: limited exchange-rate flexibility and other specific measures of adjustment are now being regarded in a distinctly new light as realistic possibilities for improving the process of adjustment.

Against the background of the growth in world trade and investment since the mid-1950's, can we expect a general program of limited restrictions to be effective as an instrument of payments adjustment in a world experiencing such radical changes in communications, transportation and business organization? If controls have to be continuously extended, there will be some point at which their costs can negate the benefits which recommend a fixed-rate system. A further proliferation of such devices would only lead us back to the autarkic world from which we have only recently escaped.