REGIONAL PROGRAMME OF MONETARY STUDIES

REPORT ON CAPITAL MOVEMENTS PROJECT

by

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The project as first conceived entailed the study of capital movements in the region. As a beginning, it was felt that the treatment should cover Barbados, Guyana, Jamaica and Trinidad and Tobago. There were merits in this approach to the problem other than merely documenting and systematising the empirical material. For although it can be argued that we are here dealing with national economies that are similar, there are sufficient differences that might affect the variables that themselves govern or explain the inflow and outflow of capital. For instance, three of the economies are mineral exporters, but only one exports oil; tourism is more important to Barbados than it is to the others and so on.

Thus conceived, the study actually dovetailed easily with another project on which I am presently engaged - a doctoral thesis that seeks to understand the historical and contemporary role of the Caribbean in the process of capitalist accumulation on a world scale. Here both direct and portfolio investment are taken into consideration, and the period under study is 1938-1975.

But the apparent direct compatibility of the projects fades when one attempts to fit it into the ambit of the Programme. Of course the two studies complement each other, but they could not in any coherent way be considered as one. As a result of this after discussion with Compton Bourne, our Co-ordinator, it was decided

that the project was best limited to a shorter, more recent period (this also partially overcomes data problems) - 1966-1975 - and to short-term portfolio investment only. The idea being here, to have a study that sheds light especially on areas of concern to Central Banks, that is in addition, not immediately "dated" as well as explores theoretical areas germane to our economies as we observe them to function.

Plan of the Study:

1. The countries previously selected shall be retained and dealt with in the study, provided data is available in the required series to make sense out of theoretical constructions. Thus for the period 1966-1975 the flows of short term portfolio capital shall be analysed for Barbados, Guyana, Jamaica and Trinidad and Tobago.

2. The literature on short-term capital movements is surveyed in an attempt to determine what light may be shed on our case by previous work. Though this work shall of necessity inform ours, it is not proposed to accept the kinds of treatment as blueprints for our own.

3. A theoretical model of short term capital movements is constructed with a view to identifying empirical counterparts for analysis.

4. The data is to be analysed and such conclusions as are indicated shall be highlighted.

Projected Completion Period:

It is hoped that the study can be completed on or before 31st July, 1976.

Preliminary Discussion of the Problem:

In the treatement of the international economy and its inter-linkages, the analysis of capital movements is in a much less developed state than that of pure trade theory. Indeed, much of the literature on short-term capital movements is of recent vintage, arising particularly out of the experience of the post world war two period - more specifically since the 1950's. (Hodjera, 4). In addition the literature concentrates on the industrial countries with highly developed capital markets, to the virtual exclusion of economies such as ours. Evidently, therefore, useful and illuminating theories of the process in such countries will necessarily be strained in our context. For if the theoretical constructions are logically watertight, fit the facts fairly well and incorporate predictive power for the industrialised countries with highly developed capital markets, then the major assumption of such theory will be violated immediately as we confront them with the characteristics of our economies - Economies that are in a sense export-propelled, with a small capitalist with capital markets that are relatively highly underdeveloped, and that exhibit a clear case of unequal exchange in their international trading relationships.

Nevertheless there are useful elements in the literature

that are not of purely scientific or academic interest. The theories are worthy of study if only for the sake of knowledge yes, but in scientific enquiry work in related fields almost inevitably, indeed one might venture to say, always leads on the one hand to useful pathways for the pursuit of one's own research or, on the other, identifies areas which would prove fruitless.

It is with these considerations in mind that we embark on a preliminary survey of some aspects of the above-mentioned literature. A look at which reveals five main areas dealt with, namely, the rate of short term capital movement in the international adjustment process (balance of payments and related transfer process mechanisms); in the foreign exchange market; in arbitrage; in speculation and in trade hedging. Of note is the fact that all of these areas dealt with have direct links with or border on macro-economic and monetary policy.

A: The Role of Short-Term Capital Movements in The International Adjustment Process:

Concern from the earliest times, with international trade and payments focussed on balance of payments adjustment as well as the influence on domestic monetary policy. The familiar price specie flow mechanism and its related rules of the game that subjected domestic policy to international dictates formed the basis of such discussion. This "Classical View" of the adjustment mechanism reigned alsmost supreme until at least up to the

publication of Keynes "General Theory" in 1936 (Hume, Smith, Mill, Ricardo among others propagated this view).[1]

In this view, flows of gold (money) in response to imbalance leads to changes in money supply which in turn leads to adjustments in the price level. The argument rests on an automatic adjustment predicated on price sensitivity in international trade and a domestic money supply responding automatically.

Later on a more modern version of the quantity theory of money was utilised and account taken of the influence of interest rates on capital movements. Fractional reserve banking was also introduced without fundamentally altering the theory. After Keynes however, the influence of changes in employment or the income effect resulting from shifts in the saving/investment function relationship were incorporated. Thus coming closer to an understanding of the process.

A further development was explicit recognition of the fact that Central Banks did not, indeed play their supposedly passive role, merely providing a clearing function as between domestic and foreign currency and gold. But even after recognition of this, it had later to be demonstrated that the postulated sterilisation process could not be of indefinite duration.

It had thus become evident that many variables entered the process - domestic and foreign price levels as well as money supplies; the exchange rate and interest rate(s), levels of income, real and money wages, productivity as well as such institutional

details such as fiscal,monetary and commercial policy. Indeed in true fashion, our knowledge of economic phenomena in this sphere was proceeding by the limitation of falsehood.

B: The Foreign Exchange Market:

Beyond the a priori conception of short-term capital movements responding to interest rate differentials, during the period of the gold standard and the concomitant stability of exchange rates, there could on reflection have been little interest in attempts to analyse the influence of such movements on the foreign exchange market, and exchange rates. Unprecedented and unpredictable movements in exchange rates in the 1920's, however, led to forward cover in international financial transactions. Keynes (5) in a mainly pragmatic approach, saw "the importance of a developed forward market under conditions of exchange rate uncertainty as (1) a facility that would eliminate exchange risk from foreign trade finance and thus stimulate trade and (2) an instrument that to some extent, could insulate domestic interest rate policy from the vagaries of gold and speculative capital flows".[2]

Although other writers in the interim attempted theoretical formulations, it was Tsiang in 1959/60 (6) who linked together in a rigorous theoretical system, the activities of hedging, speculation, interest arbitrage and transactions on the spot exchange market to show how they "jointly played a role in an equilibrium determining both the spot and forward rates. This integration of the spot and forward exchange markets was a key to the explanation

of international short-term capital movements".[3]

Tsiang treated hedging, speculation and interest arbitrage as independent of each other. This was quite legitimate, for though the same transactor is often engaged in all three activities, they can be considered conceptually separate. The shortcoming of this approach, however, as Hodjera points out is the fact that some influences such as risk that affects all three activities simultaneously cannot be adequately treated in the system.[4] The analysis proceeds to deal with the other three main areas earlier mentioned viz., arbitrage, speculation and trade hedging.

C: Arbitrage:

Arbitrage occurs as there is a net flow of short-term capital between two countries in which one of the two currencies either has no forward premium,[5] or if it does, such premium is not equal to the difference in short-term interest rates between the two countries. The assumption is of course investment behaviour under conditions of risk - not exchange rate risk since this is covered forward, but rather the risk associated with conditions in foreign financial markets and such institutional details as government intervention in short-term capital market transactions. Clearly this type of activity is highly sensitive to exchange control regulations in force or anticipated.

The arbitrageur thus has a demand curve that is not perfectly elastic. In his calculus will occur the risk factors above,

the budget constraint and the portfolio balance constraint - or the weight of previous unexpired commitments.

D: Speculation

Theories dealing with speculation are in a real sense speculations themselves. Expectations formation is still a hard nut to crack even with sophisticated tools of probability and statistics. Generally, however, speculation depends on a transactor maintaining an open or long foreign currency position. The variables that are postulated to determine the position of an individual speculators include the expected difference between the spot rate at some time in the future (t_f) and the current forward rate for a contract to mature at the same future time (t_f), as well as the probability of the speculator's realizing his expectations.

This aspect of the theory is still in difficulties, for until a satisfactory basis for the formation of expectations of exchange rates in the future is postulated, then the whole analysis resting on a shaky foundation comes into question. To this end, efforts have been, and are being made to come to grips with this problem, the most difficult of which is to find a theoretical basis for expectations formation that is capable at one and the same time of explaining both stabilizing and destabilizing speculation.

Among attempts at this are Arndt (1) who treats stabilizing speculation using an adaptive exchange rate expectations model based on Baumol's (2) treatment of speculative Behaviour. This

approach ends up as the Koyck-type distributed lag model in which

$$D_{fxs} = f(\Delta XCR, D_{fxst-1})$$

where D_{fx} = speculative demand for foreign exchange

XCR = exchange rate

Δ = change in

subscript t = time period

The problem with this approach to expectations formation is that the only explanatory factor turns out to be the past values of the dependent variable (Hodjera 4) p. 692. It is clear that many other variables enter into this process. The difficulty lies, however, in finding reliable empirical counterparts for any theoretical conceptions formulated. This of course does not prohibit theorising but it nevertheless makes empirical verification that much more difficult if not impossible.

The other case of destabilizing speculation is even more difficult to handle as Hodjera points out (4, p.693). The difficulties include the "band" in the "fixed" exchange rate system that in effect creates a discontinuity and the complex of motives that influence speculation in this system. "Each country, each capital market, and each time period has specific features that are a major factor in the formation of expectations."[6] So for instance a major trading country's trade performance may be an important indication in terms of exchange rate expectation formation or relative rates

of inflation can feature in the calculus, also changes in monetary policy and so on.

All in all this is the weakest area of the theory, even though much work has been done in it.

E: Trade Hedging:

Trade hedging essentially consists in the covering forward for trade contracts yet to be fulfilled, i.e. payment is contracted for in the future. This source of short term capital movement is quite important among industrial countries and one expects this to be so in the Caribbean as well.

Traders finance such transactions where interest rates ceteris paribus are lowest. In effect, Traders by this activity behave in the same way as interest arbitrageurs. In Tsiang's (6) work all traders are assumed to hedge, hence all trade not financed by long term credits generates short term capital movements. Clearly then, the direction of the net movement would depend on interest rates charged traders. If this could be shown to be so this would be a powerful element in the explanation of short term capital movements.

The problem, however, has to do with the assumption that all traders behave in this way. Again this derives from the initial conceptual separation of acitivites so that speculator ≠ Trade Hedger ≠ Interest Arbitrageur. But here we come upon the problem in operation, for traders do speculate by leaving positions uncovered if they expect exchange rates to move in a way as to benefit them-

selves. Or they may even do so by leads and lags in making and fulfilling commitments.

Lessons for Our Research:

The foregoing has been a very brief look at theory spawned in an attempt to explain the movement of short-term capital What is abundantly clear from this is the state of the theory at the moment - like much else it is still in process of development even though already highly illuminating.

For our purposes, it is clear that the attempt to deal with the Caribbean will require explicit recognition of institutional features in our assumptions. The characteristics of the economies must be inbuilt and inter-relationships with major trading partners rigorously considered. The area of trade credits looms significantly on <u>a priori</u> considerations. When one considers also the stated aims of some of our governments, which aims will of necessity have to be achieved through agencies such as for instance Central Banks, it becomes clear that a firm understanding of the former activity is necessary..

Also clear is the fact that interest rates, exchange rates and foreign exchange regulations have to be considered. The precise way in which these must be incorporated has of course to be worked out by both theoretical and <u>a priori</u> formulations and empirical testing. Preliminary work on the project, such as the survey of existing literature is still in progress, but it is to the latter formulation that much of the coming year will be dedicated.

N O T E S

(1) CLEMENT, PFISTER, ROTHWELL, (3) p. 216-217.

(2) HODJERA, (4), p. 687, emphasis added.

(3) " p. 688

(4) " p. 688

(5) The forward premium on discount is defined as as the difference between forward and spot rates expressed as a percentage of the spot rate, so that

P = (FR-SR/SR)

where P = premium

FR = forward rate

SR = spot rate

(6) HODJERA, (4) p. 693.

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(5) KEYNES, J.M., "Monetary Reform", New York, 1924.

(6) TSIANG, S.L., "The Theory of Forward Exchange and Effects of Government Intervention on the Forward Exchange Market", IMF Staff Papers, Vol. VII, (1959-60), p. 75-106.

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