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External Currency Market Equilibrium and its Implications for Regulation of the Eurocurrency Market: Discussion

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REFERENCES

1. Adler, M. and B. Dumas, "International Portfolio Choice and Corporate Finance: A Survey," Unpublished Paper, 1982.
2. Black, F., "International Capital Market Equilibrium with Investment Barriers," *Journal of Financial Economics* 1, (December 1974), pp. 337-352.
3. Breeden, D. T., "Futures Markets and Commodity Options: Hedging and Optimality in Incomplete Markets," forthcoming, *Journal of Economic Theory*, 1982.
4. Buitier, W. H., "Time Preference and International Lending and Borrowing in an Overlapping-Generations Model," *Journal of Political Economy* 89, (August 1981), pp. 769-797.
5. Cox, J. C., J. Ingersoll and S. A. Ross, "A Theory of the Term Structure of Interest Rates," Unpublished Paper, 1978.
6. Eaton, J. and M. Gersovitz, "Debt With Potential Repudiation: Theoretical and Empirical Analysis," *Review of Economic Studies* 58 (April 1981), pp. 289-310.
7. Macedo, J. B., "Optimal Currency Diversification for a Class of Risk-Averse International Investors," Econometric Research Program, Research Memorandum No. 273, Princeton University, 1980.
8. Merton, R., "Optimum Consumption and Portfolio Rules in a Continuous-Time Model," *Journal of Economic Theory* 3 (1971), pp. 373-413.
9. Pomery, J., "Uncertainty in Trade Models," *Handbook of International Economics*, R. W. Jones and P. B. Kenen, Editors, North-Holland, 1983.
10. Solnik, B., *European Capital Markets*, Lexington Books, 1973.
11. Stulz, R., "A Model of International Asset Pricing," *Journal of Financial Economics* 9 (December 1981), pp. 383-406.
12. Stulz, R., "On the Effects of Barriers to International Investment," *Journal of Finance* 36, (September 1981), pp. 923-934.
13. Stulz, R., "The Demand for Foreign Bonds," *Journal of International Economics*, forthcoming, 1983.

DISCUSSION

BERNARD DUMAS*: General equilibrium financial theory in its present form is incapable of explaining institutions. The Value Additivity Principle which guarantees the absence of externalities in valuation, implies that nothing is gained by pooling several risks into one corporate entity. A pure financial institution in this context is inconceivable since no value can possibly be gained (except via a fiscal factor perhaps) by trading financial assets.

The existence of banks and similar institutions may be rationalized by using one or several of the following stories none of which can be easily handled in a general equilibrium framework:

(a) Banks provide a payment mechanism. Of course we cannot explain why in a world where trading is frictionless, payments could not be made by means of securities. Even if some "money" is designated as legal tender, one could still go in and out of money costlessly and never hold it. So, transactions costs must be at the heart of the issue. Banks *are* in the transactions business.

(b) Banks provide a richer menu of securities than could possibly be achieved in a financial market. Each loan has a special individual risk attached to it. Without the banks these risks would not be traded. In this view, incomplete markets would be at the heart of the issue.

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(c) Closely linked to (b) is the hypothesis that banks provide an information processing service. The screening of loan applicants is better done by one or a few entities than by an army of investors each performing analysis on his own. So, information processing and the externalities attached to it would give us a *raison d'être* for financial institutions.

Unless at least one of these features is introduced explicitly into a model, the decisions of banks individually *and in the aggregate* are irrelevant.

Logue and Senbet have produced a model from which the above mechanisms are absent. Instead it is meant to incorporate and balance out two forces explaining the existence of offshore Banking Firms. These forces are:

- the lower cost of offshore banking operations (parameter $\theta > 0$)
- the higher interest to be paid to offshore depositors because of the possible default of offshore banks (parameter $\lambda > 0$). Political risk, however, is lower on offshore deposits and may tend to reduce λ .

This model has the great merit of providing a synthesis between the “new view” of banking activity and the Miller (“Debt and Taxes”) reasoning on taxes. The important insight which emerges is that the decisions of each bank may be irrelevant; but the actions of the aggregate banking system do matter.

Let us probe into the determinants of at least one of the two fundamental parameters and into the description of equilibrium.

The cost advantage θ of offshore banking is said to arise from the absence of regulations such as reserve requirements, bank capital-to-deposit ratios, etc. Note, however, that these regulations are mostly in the form of constraints, imposed on bank portfolios. The imputed (shadow) cost is positive only if these constraints can be shown to be binding and if relaxing them permits an increase in the objective function which banks maximize. Hence θ cannot be positive unless we have reasons to postulate an objective function which is not identically invariant to the composition of the bank portfolio. Conversely if this objective were value maximization, as postulated in this paper and in the context of standard financial theory, then we would have: $\theta = 0$, since value is independent of the bank's portfolio.¹

Other types of regulations (such as Regulation Q) imposed constraints not on banks' balance sheet structures but on the rate of return on some balance sheet items. In that case the bank may be *rationed* in the amount of liabilities it is able to place or in the amount of loans it is able to grant. But the stringency of this rationing depends on the public's behavior. Surely this situation, which, it has been claimed, has been a major impetus for offshore banking, cannot be represented simply by different costs in a standard financial model as Logue and Senbet do.

In short, it is probably illegitimate to treat θ as a given function. In Miller, the tax rates are given functions because the tax schedules are set by Congress. But no analogous argument applies to the present context.

Equilibrium between domestic and offshore banking is analyzed in Section II.C. The method is again that of Miller's “Debt and Taxes.” Recall, however,

¹ Admittedly U.S. banks are compelled to hold non interest bearing reserves. But banks actually hold excess reserves and this constraint is not binding.

the role played by the tax rate in Miller's work: people pay tax as a function of their *total* income from debt and equity securities and, irrespective of which firm pays the income, the same tax schedule is applicable. That is the reason why Miller reaches the conclusion that at equilibrium only the aggregate amount of debt matters but not the amount of debt of each firm.

I fail, however, to see why the external currency market equilibrium is analogous to Miller's equilibrium. The cost saving θ per dollar deposited for a particular bank can only depend on the amount of *its* offshore involvement. Similarly, the risk premium λ is meant to reflect, among other things, the bank's risk of default; evidently, it is specific to the bank and depends on the amount of deposit *it* has received. It is not clear, therefore, what economic reasoning allows Logue and Senbet to draw θ and λ , in Figure 1, as a function only of the *aggregate* amount of deposits received by the offshore system. I have of course no quibble with the fact that, at the margin, each bank is indifferent between increasing its domestic or its offshore activity. That is simply the optimality condition. The mystery is rather why this decision becomes indeterminate at the level of the individual bank as soon as some aggregate marginal condition is satisfied. There is no apparent reason why θ and λ may be treated as if they were market wide prices which depend on aggregate supply and demand, and on them only. Perhaps, the analysis could be clarified on this point.

This paper does represent a welcome attempt to model some of the economic motivations of offshore banking, which everyone feels are important. But some additional light thrown on microeconomic foundations would be even more welcome.

DISCUSSION

ALLAN W. KLEIDON AND PAUL PFLEIDERER*: This paper examines the consequences of putting the word "International" in front of Ross's Arbitrage Pricing Theory, or, in shortened form, of putting an "I" in front of "APT". Professor Solnik has played an important role in putting that same letter in front of another important acronym in asset pricing theory. The outcome of that effort was, of course, the IAPM, and it appears that it is largely dissatisfaction with the testability of that theory which motivates the work presented here. Professor Solnik discusses his work primarily in terms of international pricing and his results are, of course, interesting for that application. He also notes other potential applications, e.g. asset pricing with relative price uncertainty. First we want to discuss the theoretical considerations involved in extending the APT to an international setting and then consider what is gained on the empirical front by making this extension.

The major pitfalls one encounters in making a pricing theory international in its scope arise because of differences in investors' perspectives or their opportunities. Under differences in opportunities we recognize that foreigners may not be able to invest in the same assets as domestic investors due to outright restrictions on the flow of capital. Likewise, they may not have the opportunity to earn the

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