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THE EUROCURRENCY MARKET

RONALD I. MCKINNON



INTERNATIONAL FINANCE SECTION

DEPARTMENT OF ECONOMICS

PRINCETON UNIVERSITY

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The author, Ronald I. McKinnon, is Professor of Economics at Stanford University and has served as consultant to various international and government agencies. He has contributed extensively to leading professional journals and is the author of Money and Capital in Economic Development (1973). The present Essay will also appear as a chapter in his forthcoming book, Money in International Exchange: The Convertible Currency System, to be published by Oxford University Press. It is his fifth contribution to the publications of the Section and was delivered as the Frank D. Graham Memorial Lecture at Princeton University in March 1977.

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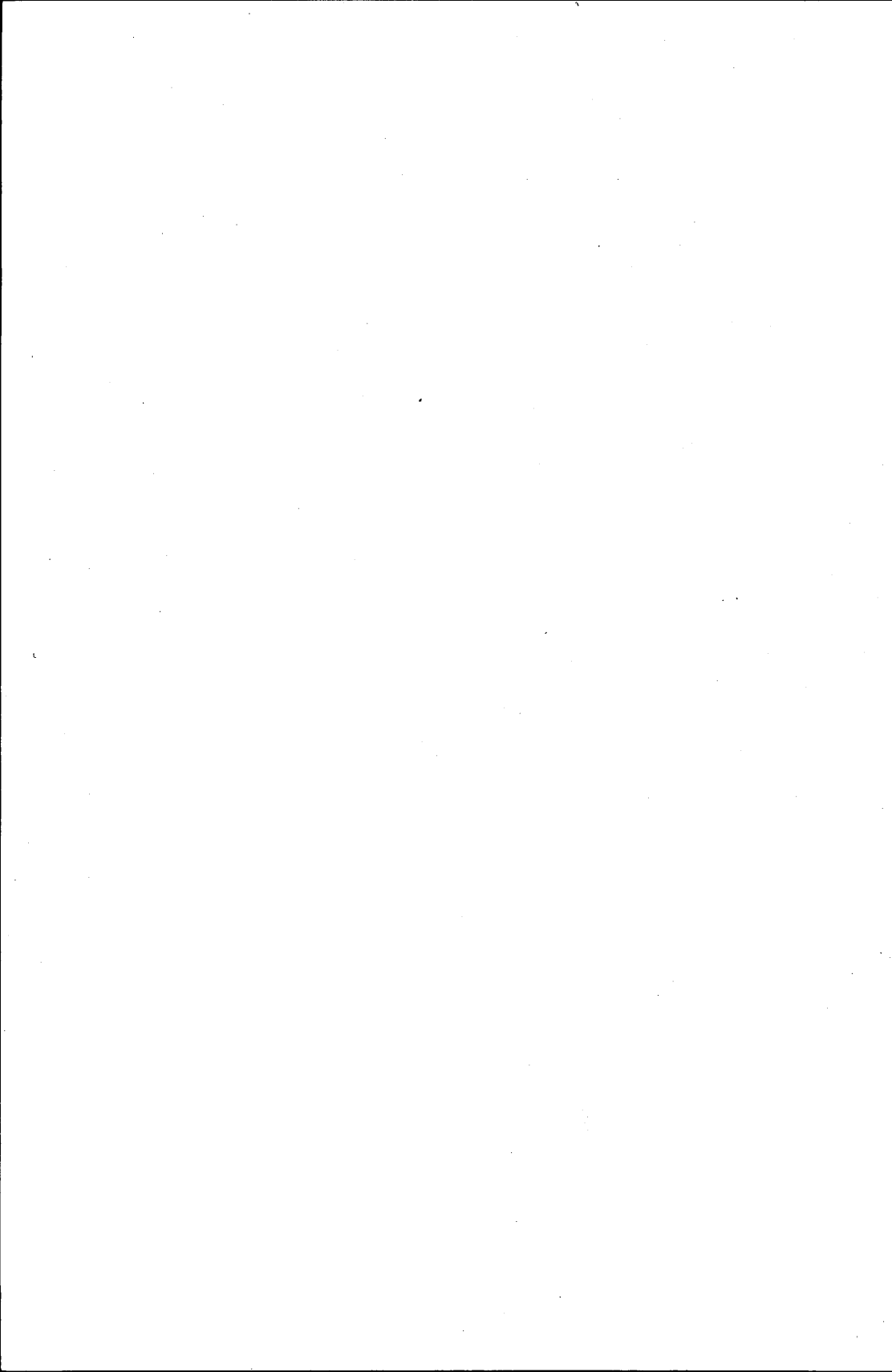
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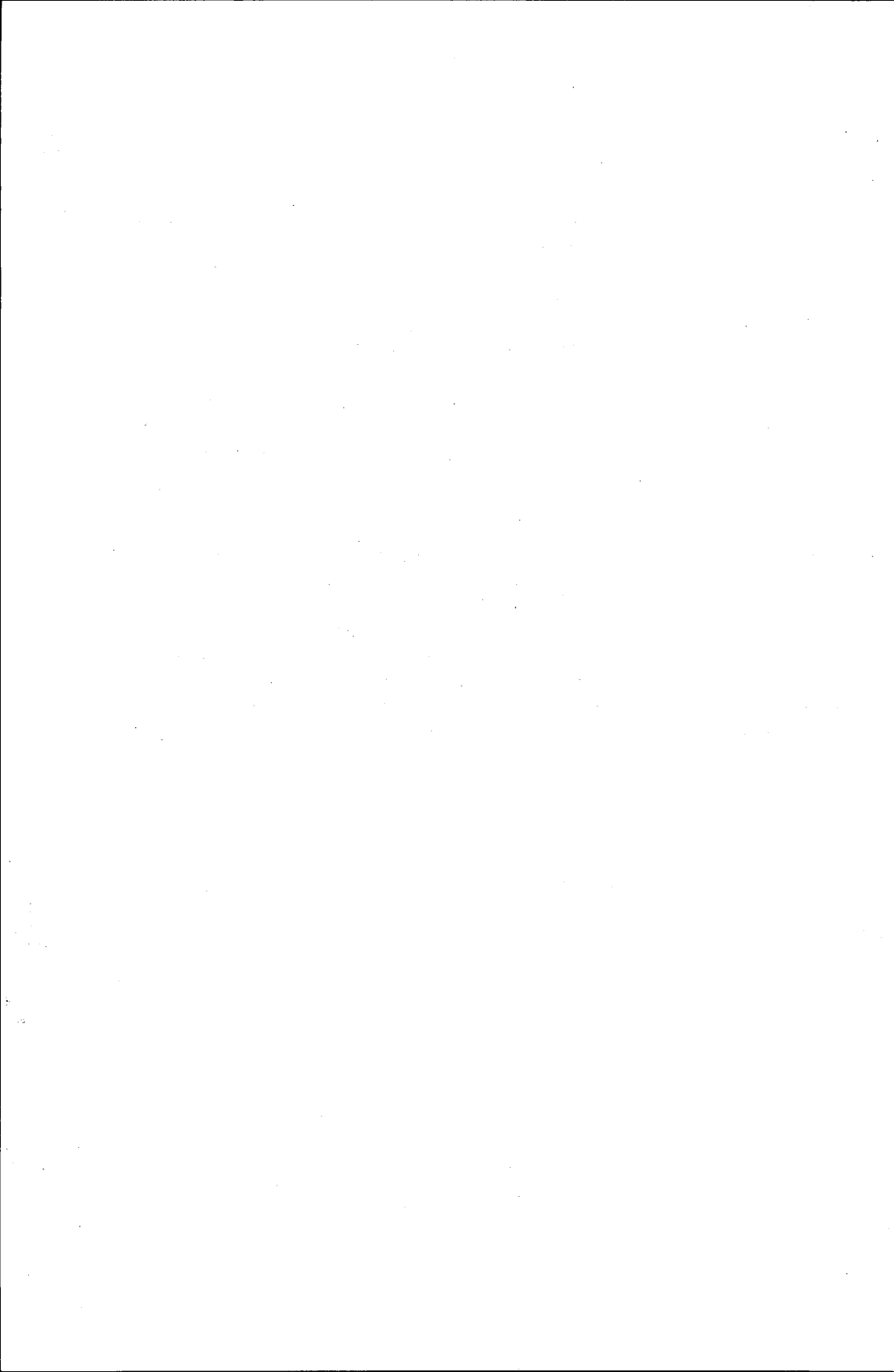


PREFACE

Frank Graham is probably best known for his generalization, from two to "N" commodities, of Ricardo's theorem on comparative advantage and international specialization. And his views on world monetary affairs were also influential: Witness his imaginative advocacy of a purely international money in the form of a commodity-reserve currency that would serve both as a unit of account and as a means of payment in transactions among nations.

Graham wrote during the financial chaos of the 1930s and 1940s, when exchange controls and restrictions on converting one national currency into another were rife. He saw his proposal as a way to loosen the financial logjam that was repressing foreign trade and making bilateral barter commonplace. If national currencies could not be exchanged directly, perhaps they could be converted indirectly through a genuinely international money—one whose real purchasing power was guaranteed by its instant redeemability into one or more major primary commodities.

If he were alive today, how would Frank Graham view the totally unplanned but spectacular growth of the Eurocurrency market? Would he consider this worldwide and uninhibited use of a few national fiat monies to be an adequate substitute for his commodity-reserve currency—a plan for issuing an international money whose real value was solidly anchored? Readers can make up their own minds after reading this description and interpretation of the Eurocurrency market.



The Eurocurrency Market

... the volume and nature of transactions in Eurodollars, their large and active turnover, and the wide range of their employment, has constituted an institutional change of the utmost importance. It has created a truly international money market, and has developed a structure of international interest rates that is entirely without precedent.

Paul Einzig (1973)

Introduction

Foreign-currency deposits—those denominated in a currency other than that of the host country—have risen spectacularly in recent years. As of December 1976, the Bank for International Settlements estimated the stock of Eurocurrency deposits to be about \$310 billion—bigger than the domestic banking systems of major European countries and more than nine times the size of Eurocurrency deposits outstanding back in 1968 (see Table 1 below). The Eurocurrency system is now the focal point of the international market for short-term capital (deposits and loans of a year or less), and intermediate-term credits of three to seven years are increasingly common. Why then was this incredible growth virtually unforeseen by practical bankers or by academic observers?

In principle, the Eurocurrency market is unnecessary. The clearing of international payments, hedging forward against exchange risk, and short-term credits for trade finance can all be provided by a system in which commercial banks in each country accept deposit liabilities from foreigners and domestic nationals that are denominated exclusively in the currency of that country—one in which only Dutch banks accept guilder deposits and make guilder loans, only American banks accept dollar deposits and make dollar loans, and so on. To finance foreign trade for their customers, these commercial banks can easily obtain spot or forward foreign exchange in the interbank market that operates internationally or draw on balances of foreign currency held with correspondent banks abroad.

Let us define traditional foreign-exchange banking (TFEB) to be this conceptually simple system of “onshore” banking supported by foreign correspondents. Traditional foreign-exchange banking arises naturally

Helmut Mayer and Jürg Niehans provided particularly helpful comments—while maintaining reservations about some of the arguments presented.

from the role of domestic commercial banks as custodians of the national money supply and intracountry payments mechanism. Historically, TFEB has dominated international finance, including the twenty years of rapid growth in trade following the Second World War. For understanding the causes of exchange-rate fluctuations at the present time or the invoicing and hedging strategies of nonbank merchants and manufacturers engaged in foreign trade, the implicit assumption of TFEB is sufficient.

In a Eurocurrency market, by contrast, banks resident in country A accept deposits and make loans in the currencies of countries B, C, D, and so on, and depositors and borrowers are often nonresidents. Despite the semantic connotations, a Eurocurrency system is not necessarily located in Europe. Major Eurocurrency markets exist in Canada, Singapore, Japan, and the Caribbean, as Table 2 makes abundantly clear. Because the U.S. dollar is usually the principal currency traded abroad (see Table 1), the expression "Eurodollar market" often connotes trading in many convertible currencies. Here, however, the term "Eurodollar" is used narrowly to refer only to deposits of U.S. dollars held outside the United States. The term "Euroguilders" refers to deposits of guilders in banks not resident in the Netherlands: "offshore" markets exist in many convertible currencies other than U.S. dollars, as indicated in Table 1.

The rapid emergence in the 1960s of a worldwide Eurocurrency market that coexists and competes with TFEB resulted from the peculiarly stringent and detailed official regulations governing residents operating with their own national currencies. These regulations contrast sharply with the relatively great freedom of *nonresidents* to make deposits or borrow *foreign currencies* from these same constrained national banking systems. On an international scale, offshore unregulated financial markets compete with onshore regulated ones. Gurley and Shaw's (1960) standard analysis of unregulated versus regulated financial intermediaries¹ shows why it is not surprising that the former grow rapidly at the expense of the latter.

The quirks in foreign-exchange controls and national regulations of commercial banking that have created the huge Eurocurrency market remain to be spelled out. But their financial consequences are striking:

1. There is an important *foreign-exchange aspect*: by trading with each other in the Eurocurrency market, commercial banks can more conveniently cover the forward foreign-currency obligations undertaken on behalf of their nonbank customers and engage in covered interest

¹ Gurley and Shaw analyzed purely domestic financial intermediaries, such as tightly regulated commercial banks versus loosely regulated savings and loan associations.

TABLE 1
EXTERNAL POSITIONS IN DOLLARS AND OTHER FOREIGN CURRENCIES
OF REPORTING EUROPEAN BANKS FROM EIGHT EUROPEAN COUNTRIES^a
(in billions of U.S. dollars)

End of Year	Dollars		Other Foreign Currencies						
	Total	Vis-à-Vis Nonbanks	Total	Vis-à-Vis Nonbanks	Deutsche Marks	Swiss Francs	Pounds Sterling	Dutch Guilders	French Francs
Assets:									
1968	\$ 30.4	\$ 5.2	\$ 7.3	\$ 1.2	\$ 3.9	\$ 1.8	\$0.6	\$0.3	\$0.2
1969	47.6	6.1	10.5	2.2	6.0	3.0	0.6	0.4	0.2
1970	60.4	11.9	17.9	4.7	10.1	5.1	0.6	0.6	0.4
1971	71.5	14.4	28.6	6.8	16.2	8.2	1.6	0.7	0.5
1972	98.0	18.3	33.8	8.0	20.4	7.8	2.2	0.7	0.7
1973	132.1	24.7	55.5	14.0	31.4	15.0	3.1	1.2	1.8
1974	156.2	34.9	58.9	18.1	35.0	14.4	2.1	1.9	1.5
1975	190.2	40.9	68.0	20.5	41.6	15.4	2.0	2.1	2.6
1976	224.0	50.8	81.3	22.7	48.7	17.9	2.2	3.8	2.6
Memorandum-item positions vis-à-vis residents:									
1975	66.5	17.4	22.8	6.6					
1976	74.7	21.3	26.9	7.6					
Liabilities:									
1968	26.9	6.2	6.8	1.5	3.0	2.3	0.8	0.3	0.2
1969	46.2	10.5	10.5	1.3	4.6	4.0	0.8	0.4	0.2
1970	58.7	11.2	16.6	2.5	8.1	5.7	0.9	0.6	0.4
1971	70.8	10.0	27.0	2.7	14.6	7.8	2.1	0.9	0.4
1972	96.7	11.8	35.2	3.6	19.5	8.8	2.2	1.4	1.1
1973	131.4	17.5	60.7	5.6	32.0	17.2	4.6	2.3	2.1
1974	156.4	22.2	64.3	8.1	34.4	18.3	3.6	2.8	2.3
1975	189.5	24.3	69.2	6.7	39.9	15.3	3.1	3.6	3.4
1976	230.0	29.6	80.6	9.0	47.2	15.9	4.0	3.5	3.2
Memorandum-item positions vis-à-vis residents:									
1975	58.2	9.4	19.8	3.2					
1976	64.1	10.7	23.7	4.3					

^a Belgium-Luxembourg, France, Germany, Italy, Netherlands, Sweden, Switzerland, United Kingdom.
SOURCE: 47th Annual Report, 1976-77, BIS, 1977.

TABLE 2
EXTERNAL ASSETS AND LIABILITIES OF BANKS IN INDIVIDUAL REPORTING
COUNTRIES, THE UNITED STATES, THE CARIBBEAN AREA, AND SINGAPORE,
IN DOMESTIC AND FOREIGN CURRENCIES
(in billions of U.S. dollars)

	Domestic Currency			Foreign Currency		
	1974	1975	1976	1974	1975	1976
Belgium-Luxembourg:						
Assets	\$ 1.7	\$ 1.7	\$ 2.4	\$ 32.2	\$ 39.1	\$ 49.4
Liabilities	2.5	2.7	3.4	31.3	37.9	47.5
France:						
Assets	1.1	1.2	1.5	31.8	39.0	48.0
Liabilities	3.7	4.4	3.8	32.5	38.1	48.7
Germany:						
Assets	14.2	21.0	25.9	8.4	10.6	14.3
Liabilities	11.3	13.6	17.4	7.7	9.3	13.7
Italy:						
Assets	0.6	0.4	0.3	12.5	15.0	12.3
Liabilities	1.3	1.6	1.4	13.6	15.0	15.0
Netherlands:						
Assets	2.7	3.5	4.2	13.4	17.4	22.0
Liabilities	2.1	2.2	4.1	12.6	16.4	19.6
Sweden:						
Assets	0.4	0.6	0.8	2.1	2.6	2.9
Liabilities	0.5	0.6	0.7	1.0	1.8	2.3
Switzerland:						
Assets	9.2	9.1 ^a	10.9	12.3	16.3	18.4
Liabilities	8.5	4.6 ^a	5.1	10.6	12.0	15.3
United Kingdom:						
Assets	1.9	1.7	1.8	102.6	118.2	138.0
Liabilities	9.5	9.2	7.1	111.5	128.2	148.6
Total:						
Assets	\$31.7	\$39.2	\$47.7	\$215.2	\$258.1	\$305.3
Liabilities	39.4	38.9	42.9	220.8	258.7	310.7
Canada:						
Assets	\$ 0.4	\$ 0.5	\$ 0.5	\$ 13.5	\$ 13.4	\$ 17.1
Liabilities	1.6	2.0	2.0	11.7	12.1	14.6
Japan:						
Assets	1.4	1.5	2.1	19.2	18.8	19.6
Liabilities	0.9	1.5	1.9	24.1	25.2	27.2
United States:						
Assets	45.0	58.3	78.8	1.3	1.4	1.8
Liabilities ^b	59.6	58.2	69.8	0.8	0.6	0.8
Caribbean area and the Far East: ^c						
Assets ^d				33.2	51.1	74.9
Liabilities ^d				33.2	51.0	74.1

^a Break in series due to change in coverage.

^b Excludes U.S. Treasury bills and certificates held in custody for nonresidents.

^c Figures for 1974 relate to branches of U.S. banks in the Bahamas, Cayman Islands, and Panama; data for 1975 and 1976 cover branches of U.S. banks in Hong Kong and Singapore as well.

^d Includes negligible amounts in domestic currencies.

SOURCE: 47th Annual Report, 1976-77, BIS, 1977, p. 106.

arbitrage—functions that have assumed critical importance with the advent of floating exchange rates.

2. The Eurocurrency market has a purely *domestic intermediation aspect* (within the confines of a single national currency): it supplants financial intermediation between savers and investors that might otherwise flow through a purely domestic capital market, as in the case of the United States during the monetary “crunch” of 1969.

3. The Eurocurrency market is a great *international conduit* for funneling short- and medium-term capital from surplus (net saver) countries to deficit (net borrower) countries, as with the huge flow of funds arising from the formation of the OPEC oil cartel in 1973-74.

The competitive strength of the Eurocurrency market in all three roles accounts for its astonishing growth and resiliency, on the one hand, and the great difficulty academic economists have had in developing a single theoretical model to describe it, on the other. Freedom from restraint has created a paragon of international banking efficiency. Yet the underlying asymmetry vis-à-vis domestic banks has also created an acute problem of second-best optimization for any single monetary authority, and national central banks have responded differently to this problem of regulating transactions in foreign currencies.

Somewhat surprisingly, however, the unregulated Eurocurrency market does not compete with TFEB in all respects. TFEB continues to provide the actual *means of payment* in international commodity trade and in capital-account transactions.

Regulatory Asymmetry: A Potted History

Why should so much Eurocurrency transacting (about 40 per cent according to Table 2) be concentrated in London? One explanation relies on historical experience. Over many decades, financial wisdom and technical skills have accumulated in the great merchant banks, discount and acceptance houses, commodity and stock exchanges, foreign-exchange brokerages, and all-purpose insurance companies located in the City.² Prior to 1914, not only was Britain a huge net supplier of saving to the rest of the world, but most world trade was invoiced in sterling and the sterling bill (often discounted or accepted by a London financial house) was the prime instrument of trade finance. In contrast, Britain is now a significant international debtor and the use of sterling by third countries as an invoice currency has sharply declined. But once firmly in place,

² For a detailed description of the unrivaled scope of commercial and financial institutions in London serving the international markets before the emergence of a substantial Eurocurrency market, see Clarke (1965).

it is often hypothesized, the accumulated expertise and associated economies of scale in financial transactions are sufficient to allow Britain to thrive as a financial entrepôt by transacting in foreign currencies and managing the savings of foreigners.

There is an alternative explanation. Among major industrial countries, the British have imposed the least regulation of offshore transactions in *foreign* currencies. At the same time, the decline in the international role of sterling has been hastened by an increasingly complex web of exchange controls on sterling transactions. How did these two dramatic, and related, changes in British financial policy come about?

For many years after the Second World War—the era of the great “dollar shortage”—European governments tightly controlled private transactions on current and capital account that involved making payments in U.S. dollars. Purely intra-European payments were progressively liberalized, however, and as a result the City of London provided sterling finance for many individual European firms engaged in European trade. In addition, London provided trade finance for the old sterling area—a large group of ex-colonies such as Australia, Kuwait, India, and Nigeria, which also maintained an imperfect web of exchange controls vis-à-vis the “dollar area.” Then, in 1957-58, two regulatory changes triggered the decline of this TFEB in sterling:

1. Partly because of the Suez crisis, but mainly because of higher inflation in Britain than in other European countries, a speculative run on sterling in 1957 threatened the Bretton Woods sterling parity of \$2.80. The British authorities placed severe new restrictions on sterling credits to nonresidents and even imposed restraints on sterling credits to countries engaging in third-party transactions *within* the sterling area. Concomitantly, British monetary policy (in sterling) was made very tight, with a sharp increase in the bank rate to a “sensational” 7 per cent that was very high in view of the limited inflationary expectations of the time. In addition, direct ceilings were imposed on bank lending for domestic and foreign purposes; these were relaxed and reimposed in a cyclical fashion in subsequent years (see Yeager, 1976, pp. 441-472).

2. In December 1958, Western Europe returned to full current-account convertibility, including short-term credits incurred in the financing of foreign trade. While some countries retained restrictions on many purely capital-account transactions by nonbanking firms, overt discrimination against dollar transactions was terminated. Authorized commercial banks and major European exporters were given wide latitude to take long or short positions in U.S. dollars, or indeed in any other currency in which they had a trading interest.

These changes, taken together, suggest a shift away from financing third-party trade with sterling credits and deposits in London. The natural beneficiaries were New York banks, which financed trade between third parties using dollars, and TFEB in each of the newly convertible European currencies. Indeed, vigorous TFEB has been restored in many European centers as well as in Japan, where full currency convertibility came somewhat later.

Nevertheless, lingering restrictions on international capital movements in Europe—with the major exceptions of Germany and Switzerland—and the sometimes heavy-handed regulation of domestic banking systems in the form of high reserve requirements, interest ceilings, and arbitrary allocations of bank credit for domestic purposes often served to limit the efficiency and flexibility of European and Japanese commercial banks engaged in TFEB. While subject to much ebb and flow, such regulatory curbs remain in Europe to the present time and were even intensified by many governments (e.g., the French) during the break-up of the Bretton Woods system in 1973 and the advent of floating exchange rates.

In contrast, in 1959-60 the United States imposed no restrictions on capital movements, set modest reserve requirements on commercial banks, and ran a highly developed international market for primary securities of all kinds (including a huge stock of short-term Treasury bills, in which foreign central banks held much of their exchange reserves). Thus the decline of sterling finance in London and the restoration of dollar convertibility for European currencies left the United States well placed to be the dominant world financial center, based on the techniques of TFEB. But this idyllic development, as seen through the eyes of the New York banking community, was soon to be disrupted by the American government:

First, restraints were imposed on the flow of both long-term and short-term capital from the United States by (a) the Interest Equalization Tax, introduced by President Kennedy in 1963, which imposed a substantial levy on the sales of foreign bonds and equities in the United States; (b) guidelines imposed in 1965 on American commercial banks that limited their acquisitions of foreign assets (i.e., curtailed short-term lending to foreigners); and (c) the 1968 requirement that American multinational corporations raise funds for new direct investment (reinvestment) outside the United States.³

³ For a more complete history of these controls, see Yeager (1976, Chap. 27). The imposition of exchange controls on capital account by the American authorities, despite surpluses in the current account of the balance of payments, arose partly from a peculiar accounting definition of a "deficit" in international payments to which the

Second, interest ceilings were imposed on time and savings deposits in U.S. banks. These "usury" restrictions became more onerous as nominal rates of interest rose in the uncontrolled open market because of heightened inflationary expectations, while the ceilings on nominal deposit rates of interest remained relatively inflexible.

Hence, on both the lending and the deposit sides, TFEB in the United States became distinctly less attractive in the early 1960s. While these regulatory distortions were intensified throughout the later 1960s, most were eventually terminated. In 1974, as concern for specific balance-of-payments targets diminished, the controls and levies on capital outflows were lifted entirely. Although now much less onerous,⁴ these American controls undoubtedly did much to shift international finance to the Eurocurrency market during its period of rapid adolescent growth.

While the American financial system was thus tying itself in knots, the British authorities began separating deposit and loan transactions in foreign currencies from those in sterling. An important class of British merchant banks—many of which are British residents but American-owned—could accept deposits and make loans in *dollars* (or any currency but sterling) completely free of regulatory restraint. Neither interest ceilings nor reserve requirements are imposed, and only informal monitoring of these transactions is undertaken by the Bank of England. The big British clearing banks, on the other hand, were initially confined to sterling transactions and to TFEB because of their customary cash and liquidity requirements. Eventually, however, even the clearing banks were allowed to undertake Eurocurrency transactions, which are exempt from these requirements.

From the point of view of the British government, an essential element in maintaining this oasis of freedom in foreign-currency transactions is

American authorities responded. Almost two decades later, in May 1976, the American authorities wisely discarded any formal definition that involves an implicit assessment of equilibrium or disequilibrium transactions in U.S. foreign payments, given the complex role of the American capital market as an international financial intermediary. Also, European governments at that time could and did convert their official dollar holdings so as to deplete the American stock of gold. For a more detailed discussion of the failure of the American authorities to understand their proper monetary role in the world economy, see McKinnon (1969).

⁴ Because of competition from the Eurodollar market, the Federal Reserve System allowed the development of a new kind of financial instrument, the certificate of deposit, on which interest ceilings were eventually abolished and against which reserve requirements are kept low. Much like Eurocurrency deposits, certificates of deposit are confined to firms making very large financial transactions: the minimum deposit size permitted by law is \$100,000. Repressive controls still exist on smaller-scale time and savings deposits in the form of interest ceilings and reserve requirements.

strict control on the conversion of sterling assets owned by British residents into assets denominated in any other currency—particularly into foreign-currency deposits that also happen to be direct claims on London banking establishments! Except for specially authorized direct investments abroad or the granting of trade credit by exporters, nonbank firms and individuals in Britain can acquire foreign-currency assets only by buying special “investment dollars” at a high premium over the regular commercial exchange rate—say, 30 to 50 per cent.⁵ And when such assets are eventually liquidated, an additional 25 per cent of the proceeds must be surrendered to the exchange authorities, so that the pool available for purchases of foreign exchange diminishes continually. The purpose of this investment-dollar control mechanism is to prevent capital flight from sterling by restricting portfolio diversification by British residents into foreign-exchange securities and real estate. Only U.K. companies with a large stake in international trade can hold Eurocurrency deposits. Hence, the unregulated part of the British banking establishment serves mainly *nonresidents*—although in recent years local governmental authorities and private firms in Britain have been entering the Eurocurrency market as net *borrowers* and, as such, have incurred substantial obligations in foreign monies.

Is this remarkable freedom of foreign-currency banking from regulation sufficient to establish London as the principal center for Eurocurrency transactions? Eurocurrency markets still exist in Paris, Frankfurt, Amsterdam, and elsewhere. Why should London dominate? The answer is that, except for small countries such as Singapore, the Cayman Islands, and Hong Kong, which may be mainly tax havens, other European centers are not so free of regulation. At the other extreme, for example, Germany does not accord special treatment to foreign deposits. In normal times, the same reserve requirements and interest ceilings apply to deposits in Deutsche Marks as to deposits in foreign currency. Because the Deutsche Mark is a relatively stable currency, moreover, most banking transactions with foreigners are denominated in DM according to the canons of TFEB (see Table 2). Frankfurt has not become a major Eurocurrency center.

⁵ Needless to say, strict controls also exist on Britons trafficking in foreign exchange at the ordinary commercial exchange rate. The *Economist* (May 1976, pp. 78-79) gives some of the legal constraints: All British residents must surrender immediately any foreign currency they own. That includes exporters who are paid in foreign currency. Foreign-currency payments for exports must be received no more than six months after the goods are shipped. Any businessman wishing to buy foreign currency (to pay for imports, for example) must provide his bank with documentary evidence of the underlying transaction. Further detailed and complex rules exist for forward transacting.

(The other major country that does not discriminate in favor of offshore banking is the United States, where Eurocurrency transacting is negligible.) Other European countries and Japan lie somewhere between the extreme British and German approaches to the regulation of Eurocurrency transactions, so that Eurocurrency trading predominates over TFEB except in Germany and the United States.

Countries with convertible currencies and active Eurocurrency markets, such as Belgium, France, Italy, and Japan, often insulate the purely domestic portion of their banking system by a web of exchange controls on capital-account transactions similar to the British. The logic here is straightforward. If there are no controls on capital-account transfers into foreign monies by domestic residents, the authorities tend to regulate foreign-currency deposits more severely to prevent a decline in the use of the domestic currency as domestic money. Among major countries, Britain seems to grant the greatest regulatory freedom to commercial banks accepting deposits and loans in foreign currencies. Consequently, Britain has the greatest need to protect the domain of sterling with exchange controls. The other countries mentioned, however, are not too far behind.

To summarize by returning to the question posed at the beginning of this section, financial expertise—the debris of history—is only a partial explanation of London's importance. On the supply side of financial services, freedom from reserve requirements or interest-rate restrictions gives London in particular—and Eurocurrency centers generally—a competitive advantage in providing higher deposit rates of interest and lower lending rates to each class of borrower. On the demand side, freedom from exchange controls on capital account for nonbanks is necessary in at least some countries (say, Switzerland and the Persian Gulf) to create a pool of funds to be invested in Eurocurrency markets in yet other countries (say, the Bahamas). In addition, in almost all developed countries, *domestic commercial banks*—which are also authorized dealers in foreign exchange—are generally quite free to take positions in foreign currency in these offshore centers.

Hence we can begin our analysis by presuming that banks and non-banking enterprises which are not subject to effective exchange control and which acquire and want to hold convertible foreign monies are likely to place much of this money with a Eurocurrency bank.

The Mechanics of Transacting and the Scope of the Market

A Eurodollar claim on a London bank has an exchange rate that is exactly one-to-one with a dollar deposit located in New York or San