EUROCURRENCY BANKING:
ALARMIST CONCERNS AND GENUINE ISSUES

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INTRODUCTION

Common opinions about Eurocurrency banking are polarized into two camps. One camp emphasizes risks. An extreme form of that view, all too frequently encountered, describes Eurocurrency banking as an unregulated juggernaut “out of control”. The other camp stresses benefits. Its extreme form insists that Eurocurrency banking is entirely constructive and benign.

The out-of-control view has two discernibly different strands. The first is a set of prudential concerns. It is feared that “unregulated risk-taking” in the Euromarkets increases the fragility and vulnerability of banks, thereby threatening to destabilize nations’ financial systems and economies. Most recently, this fear postulates that sovereign debtors in developing countries, having been encouraged by the banks to “overborrow”, may now repudiate some of their debt (or insist on rescheduling it on terms disadvantageous to the banks), which in turn could lead to a “collapse of confidence” in the Euromarkets1.

The second strand in the out-of-control view is a set of non-prudential concerns. Those worried in this way speak of the “unbridled” expansion and contraction of Eurocurrency banking and its “undermining of policy control” by central banks. One colourful image portrays Eurocurrencies as “legions without commanders” roaming the financial markets of the world, generating excessive expansion and uncertain fluctuations in the “world money supply”. Another describes Eurocurrency deposits as “stateless money”. The general concern about unbridled expansion and contraction has several specific manifestations. It is asserted, for example, that Eurocurrency banking induces instability in exchange rates and domestic interest rates, encourages or at least permits rapid inflation in the world economy, and jeopardises the ability of central banks to control their national monetary and credit aggregates.

In sharp contrast, ardent champions of Eurocurrency banking assert that Euromarkets play a highly beneficial role in the world economy as a mechanism for efficiently channelling funds from nations with excess savings to nations where the return to investment is high. According to this efficient-markets view, the risks perceived by the out-of-control worriers are illusory or greatly exaggerated. Proponents of this view believe it would be a grave mistake for national governments to impose further supervision or regulation on Eurocurrency banking. It is not much of a caricature to label this efficient-markets
view as semi-Panglossian (if governments would only refrain from mucking about with markets, all would be for the best in the best of all possible worlds).

I believe that the out-of-control and the efficient-markets views are both wrong. By temperament I am a cowardly eclectic. I have been unable to persuade myself that the middle of the road is inferior to the ditch on either side — even though such stubbornness makes life somewhat less exciting. Similarly, I regard both sets of polar views about Eurocurrency banking as poor guides to public policy. As often expressed, both are analytically deficient. What is worse, they often deflect discussion from issues that do merit concern and a public-policy response.

This essay is an attempt to summarise the analytical points that deserve primary emphasis in a general discussion about Eurocurrency banking. The bulk of the paper evaluates the two strands of the out-of-control view in turn, trying to separate genuine issues that are worrisome from spurious issues that are not.

The essay deliberately avoids a discussion of the very current problems affecting the world economy and international banking in 1982-83. For example, I do not focus on the debt situation of developing countries or its possible implications for the commercial banks that are the principal creditors of those countries. The current problems are — quite properly — the preoccupations of policy-makers and journalists. Beneath such concerns, however, are still deeper questions about the role and nature of international banking. My purpose here is to try to articulate an appropriate analytical perspective for those deeper questions. That perspective can then serve as an anchor for a balanced discussion of the current problems.

I. WHAT IS EUROCURRENCY BANKING?

Before turning directly to the out-of-control concerns, I begin with a general caveat and a few summary facts that are essential for keeping the international aspects of banking in proper perspective.

One should resist the common tendency to perceive Eurocurrency banking as altogether different from the “regular” or “ordinary” banking characteristic of financial activity within nations. Eurocurrency banking is not a phenomenon *sui generis*, but merely one part of a general nexus of financial interrelations linking open national economies.

Eurocurrency banking is traditionally defined as the denomination of the assets and liabilities of a bank office in a currency other than the currency unit of
the nation where the office is located. Typically, the statistical data used to describe Eurocurrency aggregates include only claims or liabilities denominated in foreign currencies vis-à-vis foreign residents.

From an analytical perspective, however, that traditional definition is unfortunate. When a bank office has claims on or liabilities to foreign residents denominated in the domestic currency, those cross-border assets and liabilities are unambiguously “international” in character. Similarly, when a bank office has foreign-currency claims on or liabilities to domestic residents, the currency denomination of those assets and liabilities gives the banking relations an “external” aspect. Eurocurrency deposits and loans as traditionally defined, therefore, are certainly not the only type of banking activity with a significant international dimension.

At several points below, it will be germane to take note of the fact that supervisory and regulatory authorities in most nations differentiate between domestic-currency and external-currency assets and liabilities, and between relations vis-à-vis resident customers and non-resident customers. Those differences create differential incentives for the growth of the various categories of assets and liabilities. Whether obligations are denominated in domestic currency or external currency, moreover, can be of critical importance for many aspects of economic behaviour.

The establishment of asset-liability relations with foreigners and the denomination of obligations in external currencies, however, is a pervasive feature of life in interdependent rational economies. Upon reflection, there is no compelling reason for isolating one aspect of international banking and analysing it independently of the rest of the nexus of financial relations linking nations together. Indeed, there is no compelling reason for analysing the international aspects of banking independently of ordinary “domestic” banking.

It is difficult to assemble integrated data for all aspects of banking, domestic and international, for all the major nations and the offshore banking centres. At the time of writing, I have been able to do it satisfactorily for just a few countries, for example the United States, the United Kingdom, and Germany. In an incomplete fashion, however, I show in Table 1 a few estimates for banking aggregates, presented in the comprehensive fashion one would in principle prefer to use. The figures in Table 1 pertain to the end of December 1980.

If all the entries could be filled in correctly, each row in the table would show the total assets of all banking offices located within a particular country (or group of countries) inclusive of interbank claims (column 6), broken down into traditional domestic assets (column 1) and three types of claims having some form of “international” character (columns 2, 3, and 4). The ratio of the sub-total of assets with international characteristics (column 5) to total assets
<table>
<thead>
<tr>
<th>Country of location of banking office</th>
<th>Traditional domestic assets</th>
<th>Claims with some international characteristic</th>
<th>All assets</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1)</td>
<td>(2)  (3)    (4)    (5)</td>
<td>(6)</td>
</tr>
<tr>
<td>Claims on domestic residents denominated in home currency</td>
<td></td>
<td>Claims on domestic residents denominated in foreign currencies</td>
<td>Claims on foreign residents denominated in home currency</td>
</tr>
<tr>
<td>A1. United Kingdom</td>
<td>250</td>
<td>138</td>
<td>23</td>
</tr>
<tr>
<td>A2. Germany</td>
<td>1 123</td>
<td>2</td>
<td>52</td>
</tr>
<tr>
<td>A3. France</td>
<td>..</td>
<td>35</td>
<td>24</td>
</tr>
<tr>
<td>A4. Switzerland, excluding trustee accounts</td>
<td>197</td>
<td>6</td>
<td>29</td>
</tr>
<tr>
<td>A5. Luxembourg</td>
<td>14</td>
<td>17</td>
<td>5</td>
</tr>
<tr>
<td>A6. 7 other European countries(a)</td>
<td>..</td>
<td>57</td>
<td>21</td>
</tr>
<tr>
<td>A7. Japan</td>
<td>..</td>
<td>51</td>
<td>17</td>
</tr>
<tr>
<td>A8. Canada</td>
<td>..</td>
<td>13</td>
<td>1</td>
</tr>
<tr>
<td>A5. United States</td>
<td>1 533</td>
<td>173</td>
<td>4</td>
</tr>
<tr>
<td>A. Sub-total: 15 industrial countries(b)</td>
<td>..</td>
<td>320</td>
<td>345</td>
</tr>
<tr>
<td>B1. Bahamas</td>
<td>..</td>
<td>..</td>
<td>..</td>
</tr>
<tr>
<td>B2. Cayman Islands</td>
<td>..</td>
<td>..</td>
<td>..</td>
</tr>
<tr>
<td>B3. Panama</td>
<td>..</td>
<td>..</td>
<td>..</td>
</tr>
<tr>
<td>B4. Singapore</td>
<td>..</td>
<td>..</td>
<td>..</td>
</tr>
<tr>
<td>B5. Hong Kong</td>
<td>..</td>
<td>..</td>
<td>..</td>
</tr>
<tr>
<td>B6. Bahrain</td>
<td>1</td>
<td>..</td>
<td>..</td>
</tr>
<tr>
<td>B. Sub-total: 6 offshore banking centres(c)</td>
<td>..</td>
<td>..</td>
<td>(244 +)</td>
</tr>
<tr>
<td>C. Swiss trusts accounts(d)</td>
<td>..</td>
<td>..</td>
<td>..</td>
</tr>
<tr>
<td>D. Total for countries shown above (A + B + C)</td>
<td>..</td>
<td>(320 +)</td>
<td>(345 +)</td>
</tr>
</tbody>
</table>

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- No estimate available at time table was prepared, or not separately available.
- * Data not reported: assumed to be small.
- \(a\) Aust rie, Belgium, Denmark, Ireland, Ita, Netherlands, Sweden.
- \(b\) These 15 countries report data quarterly to the Bank for International Settlements.
- \(c\) Of the amount shown in column 5, $141 billion was attributable to offshore branches of U.S. banks.
- \(d\) The role of Swiss banks in operating these accounts is formally that of an agent, but to the extent that they advise clients where the funds should be placed they can be said virtually to be performing a banking function.

would give one broad indication of the openness of the banking system within particular countries.

The traditional data for Eurocurrency banking, the figures shown in column 4 of Table 1, are larger magnitudes than the data for the other international types of lending in columns 2 and 3. Yet for many countries sizeable magnitudes exist in columns 2 and 3 as well.

If one takes into account all the aspects of banking that have either a cross-border characteristic, an external-currency characteristic, or both, the grand total in December 1980 came to nearly $2 trillion (row D, column 5). By December 1982, the comparable figure was more than $500 billion larger than in December 1980.

The data in Table 1 are organised by the countries in which banking offices are physically located. The country distribution of the ultimate ownership of banking offices does not, of course, closely correspond to the location of the offices. In the case of virtually every row in Table 1, a significant fraction of the assets shown are on the balance sheets of branches or subsidiaries of foreign-owned banks rather than of locally-owned banks. For Luxembourg and the offshore banking centres, much the largest part of the assets are on the books of foreign-owned banks. Data are not readily available to construct a table showing the proportions of cross-border and cross-currency claims accounted for by foreign-owned banking organisations. Such a table, however, would provide even more dramatic evidence of the pervasive international character of banking today.

Table 1 does not show for each entry a breakdown between claims of banking offices on other banks (interbank claims) and claims on non-banks. Table 1 cannot therefore reveal another fact about Eurocurrency banking and international banking in general, namely, that international banking is first and foremost an interbank phenomenon. That fact, however, is salient for understanding almost any analytical aspect of international banking. To speak very roughly, less than one-third of the claims in most entries of columns 2, 3, and 4 of Table 1 represent claims on non-bank economic units.

On the liability side of Eurobanks’ balance sheets, the bulk of deposits are akin to time certificates of deposit. Unlike a bank’s demand or sight liabilities denominated in the currency of the nation where the bank is located, Eurocurrency deposits are not transactions balances that can be widely used as a means of payment. Even after estimates of interbank redepositing are subtracted from estimates of the gross size of Eurocurrency magnitudes, only a modest fraction (in the mid-1970s about one-third) of net Eurocurrency deposits is owned by non-banks.

As presently conducted, therefore, Eurocurrency banking plays a much more prominent role in channelling funds among financial institutions (from one
bank to another) than in providing direct intermediation and maturity transformation between ultimate non-bank savers and ultimate non-bank investors. Nor is Eurocurrency banking as yet an important mechanism for facilitating non-banks’ holdings of assets usable for transactions purposes. These basic facts are frequently overlooked in superficial discussions where the importance of interbank redepositing is ignored and Eurocurrency deposits are described as “stateless money”.

Table 2. International banking aggregates in relation to world trade and OECD GNP

<table>
<thead>
<tr>
<th></th>
<th>Billions of U.S. dollars at current prices and current exchange rates</th>
<th>Compound annual rate of growth, 1964-1981, per cent per year</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. BIS series for liabilities to foreigners in external currencies of banks in European reporting countries</td>
<td>12 898</td>
<td>28.9</td>
</tr>
<tr>
<td>2. BIS series for net sources and uses of funds in Eurocurrency markets (reporting European countries only)</td>
<td>9 665</td>
<td>28.0</td>
</tr>
<tr>
<td>3. Morgan Guaranty series for gross size of Eurocurrency market</td>
<td>20 1 860</td>
<td>30.6</td>
</tr>
<tr>
<td>4. Value of world trade</td>
<td>150 1 869</td>
<td>15.6</td>
</tr>
<tr>
<td>5. Value of gross national product of all OECD Member countries</td>
<td>1 276 7 565</td>
<td>11.0</td>
</tr>
</tbody>
</table>

*a) Source: BIS, Annual Reports and quarterly statistical releases on international banking developments.
*c) Source: IMF, International Financial Statistics. Series is the arithmetic average of total world exports and total world imports.
*d) Source: OECD, National Income Accounts and Main Economic Indicators.

The final fact about Eurocurrency banking to mention here is the familiar point about its extraordinarily rapid growth in the last two decades. Any aggregate series for Eurocurrency or international banking for which statistics can be compiled exhibits this growth. Three such series are shown in Table 2. Between 1964 and 1981 each of these aggregates grew at a compound rate of 29-30 per cent per year. For comparison, Table 2 also shows the sizes and corresponding rates of growth for the aggregate value of world trade and the gross national product of the OECD Member countries. Trade grew markedly faster than output over these seventeen years, thereby progressively opening up nations’ goods markets to the world economy. But financial interdependence increased still faster. If the figures for Eurocurrency banking in Table 2 are used as an indicator, international financial intermediation grew nearly twice as fast as trade and almost three times as fast as the value of economic activity.5
II. EUROCURRRENCY BANKING AS A MANIFESTATION OF FINANCIAL INTERDEPENDENCE

Seen in proper perspective, the channelling of funds among nations’ financial intermediaries that takes place through Eurocurrency banking is one key manifestation, but by no means the only one, of the financial interdependence of national economies. In turn, the rapid growth of Eurocurrency banking is a symptom of the rapid growth in interdependence itself.

The consequences of the growing financial interdependence of national economies are far-reaching. Private-sector investors (resident either in a home nation or abroad) may shift in or out of assets denominated in the home currency, thereby putting pressures on exchange rates for the home currency and on interest rates at home and abroad; changes in exchange rates and interest rates resulting from those pressures can adversely affect output, employment, and prices, both in the home economy and abroad. Financial interdependence facilitates the transmission of inflationary and recessionary stimuli from foreign nations to the home economy, and vice versa. Financial interdependence can undermine the safety and soundness of a nation’s banks. It can make it more difficult to maintain a regulatory environment for banking at home that differs from the regulatory environments abroad. And financial interdependence can undermine the autonomy of national economic policies. For example, as the financial sectors of the home economy and foreign economies become more closely integrated, more of the impacts of the policy actions of the home central bank spill over into the rest of the world; the ability of the home central bank to use its policy instruments to control prices and employment in the home economy is correspondingly weakened. Similarly, policy actions and non-policy disturbances originating abroad have progressively larger impacts at home as interdependence increases.

Because Eurocurrency banking is an important manifestation of financial interdependence, there is a correct sense in which Eurocurrency banking may be said to undermine a home government’s policy control of its financial markets and its real economy. Similarly, Eurocurrency banking can be said to induce instability in exchange rates, to foster the transmission of inflation among nations, and to weaken control over national monetary and credit aggregates. Furthermore, Eurocurrency banking can exacerbate the risks involved in financial intermediation and thereby add to potential problems threatening the safety and soundness of banks. Ardent champions of Eurocurrency banking who explain that it contributes nothing to these problems explain away too much.

But it is even more incorrect to identify “unregulated” Eurocurrency banking as the villain chiefly responsible for these problems. Imagine that all
nations in the world were able to agree on uniform banking regulations. In particular, suppose all types of private financial intermediaries, wherever located, had to hold a uniform percentage of required reserves against all types of their deposit liabilities, regardless of whether the deposits were denominated in the domestic currency or foreign currencies and regardless of whether the owners of the deposits were residents or non-residents. Assume also that banks worldwide had to maintain the same capital-to-assets ratio, observe the same type of interest-rate ceilings, obey the same restrictions on insider lending, and otherwise adhere to the same regulatory and supervisory constraints.

In such a world, it is true, the growing financial interdependence of nations would manifest itself in different channels from those we observe in present circumstances. But could shifts by private-sector investors into or out of assets denominated in a home nation’s currency lead to exchange-rate instability and to adverse effects on home employment and prices? Of course they could, perhaps no less so than under present conditions. Could excessively expansionary monetary policies in foreign nations transmit inflation to the home economy? Of course they could, perhaps no less so than now. Would a home central bank find its control over national target variables weakened by international flows of financial funds? Of course it would, to an extent not obviously less than in the present world financial environment. Would bank supervisors have cause to worry about the prudential soundness of international banking? Without doubt, they would.

The basic underlying phenomenon that gives rise to these problems is financial interdependence. Inhibiting one channel through which the interdependence manifests itself — for example, Eurocurrency banking — is, by itself, merely likely to force the interdependence into other channels.

I stress this point because it is often overlooked by those who wish to “do something about the unregulated Eurocurrency market”. Increasing financial interdependence brings in its train not only benefits but a pervasive set of problems for national economic policies. Yet those problems will not go away regardless of what might conceivably be done to regulate Eurocurrency banking. Eurocurrency banking is too easily blamed for being an independent source of financial difficulties and hence made into a scapegoat. Unless that tendency is resisted and countered with more perceptive analysis, policy actions intended to alleviate the perceived problems could turn out to be ineffective, harmful, or both.

With the preceding remarks as background, I now propose to consider the two types of concern identified earlier. My objective is to place each of them in better analytical perspective.
III. UNBRIDLED EXPANSION AND CONTRACTION?

As a prelude to the analysis of the growth of Eurocurrency banking, in particular whether it “creates money and credit” and as a result causes central banks to “lose control” over domestic monetary policy, it is helpful to examine similar issues in a context where international complications are absent\(^6\). For a moment, therefore, consider a hypothetical world in which the United States is the only nation and the dollar is the only currency unit.

Financial innovations and monetary policy

In this hypothetical world, as in the United States in real life, the financial system may be likened to an inverted pyramid. The pyramid is balanced on a small apex, the balance sheet of the monetary authorities (hereafter the Federal Reserve). This apex in turn supports all the upper layers of the structure.

Because of its key position at the apex of the pyramid, the Federal Reserve can strongly influence the volume of overall financial activity (which in turn can exert powerful influences on the pace of real economic activity and on the general level of prices). Other things being equal, an incremental expansion or contraction of the Federal Reserve’s balance sheet will stimulate an expansion or contraction of the pyramid as a whole.

The relationships between the apex of the pyramid and the balance sheets of the various private-sector intermediaries in the financial system, however, are complex and elastic even in the short run. Over the long run, the intermediaries can adapt their behaviour to a still greater extent, thereby secularly reducing their reliance on the quantity of bank reserves and currency supplied by the Federal Reserve. The inverted pyramid of the financial system is thus a flexible rather than rigid structure, capable of dramatic changes in size and shape that are independent of changes in the small tip at the bottom controlled by the Federal Reserve.

In the one-currency world hypothesised here, suppose that a new type of financial intermediary is invented\(^7\). Assume that the new intermediaries are not required to hold reserves against their deposit liabilities and are not subject to the interest-rate ceilings of the Federal Reserve’s Regulation Q. And assume that the new intermediaries grow much more rapidly than commercial banks.

Without doubt, the creation and rapid growth of the new intermediaries would be an incremental expansionary force in the economy\(^8\). If the Federal Reserve ignored the existence of the new intermediaries and made no adjustment in its policies, monetary policy would be too easy and output and prices would expand too rapidly. But the Federal Reserve could, and of course
should, take into account the growth of the new intermediaries and the consequences of that growth for such financial variables as interest rates and the velocity of monetary aggregates. There would therefore be no simple correct sense in which the Federal Reserve could be said to have "lost control" over the financial system or over the economy as a whole. By expanding its own balance sheet less liberally than it otherwise would have, the Federal Reserve could offset the expansionary consequences of the growth of the new intermediaries. Through the effects of the general level of interest rates on their borrowing and lending rates, the new intermediaries themselves would be responsive to the Federal Reserve's actions.

The fact that the "non-reservable" deposits of the new intermediaries grow rapidly partly at the expense of bank deposits against which reserve requirements have to be held would mean that a greater total volume of financial intermediation takes place in the economy for a given quantity of bank reserves and currency supplied by the Federal Reserve. But the high rate of growth of deposits in the new intermediaries would not by itself be evidence of a loss of Federal Reserve control.

It need not be a crucial matter, moreover, whether the deposits of the new intermediaries are deemed "money". The Federal Reserve would need to take the growth of the new intermediaries into account in its decisions regardless of whether it decided to include or exclude the new deposits from its definition of money, and regardless of how it treated the assets of the new intermediaries in its "credit" aggregates. Because the establishment and growth of the new intermediaries would be a net expansionary force in the economy for any given stance of monetary policy, there would be a correct sense in which the new intermediaries could be said to "create credit". And if their deposit liabilities were close substitutes for other types of deposits that were classified as money or near-money, then the new intermediaries could also be said to "create money". Note, however, that no resort to analysis of money or credit "multipliers" would be needed to establish those conclusions. Because of the possibility of adjustment in Federal Reserve policy actions, moreover, no particular significance would attach to those conclusions.

Furthermore, although there could be some net additional creation of deposits and credit because of the new intermediaries, a more important aspect of the changed environment would be the substitution of deposit and credit flows through the new intermediaries for deposit and credit flows that would otherwise have proceeded through the banks. The absence of reserve requirements on the deposits of the new intermediaries would be partly responsible for the competitive disparity that permits the new intermediaries to expand their deposits and loans at the expense of the traditional channels of banking activity\(^9\).
Would it be desirable in such circumstances for more and more of the deposit and credit creation in United States financial markets over time to go through the new intermediaries, especially if their competitive advantage stemmed primarily from their issuance of non-reservable liabilities? From the standpoint of the longer-run evolution of the financial structure, such a development would not be equitable or efficient. It would not be equitable because the new intermediaries, due to their lack of reserve requirements, would have an unfair competitive advantage over banks. It would not be efficient because the Federal Reserve would be required to make progressively larger, and probably progressively more uncertain, adjustments in its policy actions to achieve any desired degree of ease or tightness in the financial system as a whole. In this more subtle sense, Federal Reserve control over the financial system could be gradually compromised with the passage of time.

**Eurocurrency banking and domestic monetary policy**

The preceding discussion points the way to a frame of reference appropriate for analysing Eurocurrency banking and its consequences for domestic monetary policy.

Eurocurrency banking in the late 1950s and in the 1960s, although not a new type of financial intermediary, was a new type of intermediary activity. Banks that had traditionally accepted deposits and made loans only in domestic currency moved rapidly into foreign-currency banking. Simultaneously, foreign branches and subsidiaries of banks began to accept deposits and make loans in the domestic currency from foreign locations (for example, branches of United States’ banks accepting “Eurodollar” deposits in London, branches of German banks making “Euro-Deutschemark” loans from Luxembourg).

As emphasized above, the most basic explanation of the rapid growth of international banking is the increasing interdependence of national economies. But a second explanation is also important. Banks have been able to offer somewhat higher deposit rates and extend credits at somewhat lower lending rates in international banking than in traditional domestic banking by exploiting differences in national regulatory and tax environments. Eurocurrency banking in particular has benefited from this phenomenon.

Two broad types of regulatory differences have been important. First, the bank supervisory authorities in virtually all nations have discriminated in favour of foreign-currency banking, especially where the banks’ customers are non-residents. For example, they have imposed lower reserve requirements on deposits and fewer quantitative restrictions on lending activities denominated in foreign currencies than those applicable to domestic-currency banking; in many cases, foreign-currency banking has been altogether free of reserve requirements and quantitative restrictions. Second, some small nations – the
so-called offshore banking centres - have provided regulatory and tax environments that allow bank branches and subsidiaries a greater freedom of action in virtually all respects relative to the environments in the nations where the head offices of the banks are located.

The rapid growth of Eurocurrency banking has beyond doubt been an incremental expansionary force in the world economy. And Eurocurrency banking may thus correctly be said to have fostered "credit creation". To a limited extent, it can also be correctly said to have "created" near-money. The largest part of Eurocurrency banking, however, involves interbank transactions rather than acceptance of deposits from and extensions of credit to non-banks (see above). Furthermore, the bulk of Eurocurrency deposits and loans in a specific currency represents creditor-debtor relationships between non-residents of the nation whose currency is used. Most Eurodollar deposits and loans, for example, are booked for the account of non-residents of the United States. Hence even more than in the closed-economy case discussed earlier, the most salient feature of the new type of intermediation is its substitution of deposit and credit flows through new channels for deposit and credit flows that would formerly have proceeded through traditional channels. The net addition to the total of world credit and world money that can be attributed to Eurocurrency banking is certainly of much smaller magnitude than the gross size of this substitution from one set of channels to another\textsuperscript{10}.

Most analyses of the Eurocurrency markets based on multiplier concepts focus attention on the net creation of credit or money attributable to Eurocurrency banking. Few of them emphasize the gross substitution of deposit and credit flows out of traditional into new channels. Careless analyses in this genre can thus easily mislead and generate incorrect conclusions. Much of the extreme concern about the Eurocurrency markets as an inflationary juggernaut running out of control has been fostered by faulty multiplier analyses of this sort. It remains true, however, that an adequately careful analysis of Eurocurrency banking using multiplier concepts can come to correct conclusions about both the size of gross substitutions and the net incremental creation of deposits and credit\textsuperscript{11}.

Even though rapid growth of Eurocurrency banking has been an incremental expansionary force in the world economy, there is no simple correct sense in which national central banks have "lost control" solely because of that new type of financial intermediation. Individual central banks could have adjusted, and to some extent presumably did adjust, their policies to try to take into account the growth of Eurocurrency banking and its consequences for domestic financial variables. By supplying less of its own monetary-base liabilities than it otherwise would have, a nation's central bank can to some degree offset the consequences for its domestic target variables of the
incrementally higher world expansion of credit. Similarly, the central banks of the major nations can – at least in principle – concert their actions to offset some of the worldwide expansionary stimulus attributable to Eurocurrency banking.

The growth of Eurocurrency banking at the expense of the older forms of cross-border lending in domestic currencies and of traditional domestic banking, particularly where Eurocurrency banking is free of reserve requirements and interest-rate ceilings while the latter are not, results in a greater volume of world credit and deposit creation for given amounts of central-bank liabilities in each nation. But that fact by itself does not have great significance. Central banks can, and to some degree presumably do, adjust their domestic monetary policies. Nor does it matter greatly whether Eurocurrency deposits are deemed to be money or near-money, or whether a nation’s central bank includes or excludes various Eurocurrency deposits in its definitions of the nation’s money stock or various Eurocurrency loans in its national credit aggregates. Central banks should take the Eurocurrency activity into account in their decisions however those definitional questions may be resolved.

Each nation’s monetary policy is of course constrained in a fundamental way by the interdependence of the national economy and the rest of the world. As emphasized earlier, however, the central bank of a significantly open economy could not exert independent control over the nation’s financial markets and economy even in the absence of Eurocurrency banking. Growth in Eurocurrency banking tends to undermine the autonomy of national monetary policy and the controllability of the national economy not because Eurocurrency deposits are non-reservable or subject to less stringent regulation but because this growth represents a further exposure of domestic economies to the global economy.

The point can be stated in terms of the analogy used earlier. Even in the hypothetical case of a closed economy, the inverted pyramid of a nation’s financial system can undergo important changes in size and shape without a change in the central bank’s balance sheet at its apex. For real-life economies with significant and increasing openness to the rest of the world and few or no restrictions on cross-border transactions, the elasticity of the pyramid is even more pronounced. In no sense is there a close, proportional relation of the upper layers of the pyramid to the home-currency liabilities supplied by the central bank. The home central bank’s actions partially leak abroad to influence financial activity in foreign nations. Strong forces originating abroad can buffet the home financial system, perhaps even overwhelming the policy actions of the home central bank.

Indeed, once the integration of home and foreign financial markets has reached an advanced degree, the analogy representing the nation’s financial system as an identifiably separate pyramid becomes misleading. Analysis must
then begin to conceptualise an international financial system that is a multi-nation, multi-currency structure inverted and jointly dependent on several apexes (the balance sheets of the different nations’ central banks). In principle, any one of the central banks would have some power to influence the total volume of financial activity in the whole structure, and somewhat more power to influence those upper layers of the structure most dependent on its currency unit and those intermediaries located within its national borders. Yet the structure as a whole, and any part of it, would also be subject to significant variations that would be independent of changes in any of the central-bank balance sheets on which it ultimately rests.

I observed earlier that central banks can in principle adjust their policies — individually, or better still in concert — to take into account the consequences of Eurocurrency banking. One reason for including the two preceding paragraphs in this discussion is to avoid any misunderstanding about that earlier point. Concerted action by central banks is of course extraordinarily difficult to achieve. To design cooperative policies that would be mutually beneficial is analytically difficult, sometimes intractable. To generate a consensus sufficient to implement such policies is politically difficult, sometimes impossible. Any unilateral policy action by a single central bank can turn out to have only limited effects of the sort intended.

Again, however, one must be careful to keep these points in perspective. The difficulties of achieving international cooperation among central banks cannot be traced to Eurocurrency banking. The fundamental problems stem from the increasing mismatch between the economic structure of the world and the political institutions charged with governing it. With or without Eurocurrency banking, national governments would be increasingly confronted with these problems.

A summary assessment

For the reasons summarised above, I am convinced that alarmist statements about the deleterious effects of Eurocurrency banking on national monetary policies are not justified. The images of a juggernaut out of control or Eurocurrencies as legions without commanders roaming the world’s financial markets are a hindrance, not a help, to sound analysis. Similarly, I believe that the imposition of reserve requirements on Eurocurrency deposits or the implementation of other types of regulations on Eurocurrency banking would not have the major salutary effects for domestic monetary control that have sometimes been claimed for them. It is far easier to appoint a commander for unruly legionnaires than it is to devise cost-effective ways for undoing worldwide financial interdependence.
Although alarmist conclusions are not justified, there are nonetheless genuine and worrisome structural problems raised by Eurocurrency banking. In future years would it be desirable for a larger and larger proportion of the world’s deposit and credit creation to go through the channels of Eurocurrency banking? From the perspective of the longer-run evolution of the financial structure in each nation and in the world as a whole, such a development would be neither equitable nor efficient. The differences among countries in financial regulations, in particular the regulations that discriminate in favour of foreign-currency banking, would continue to give some financial intermediaries and some nations a competitive advantage over others. I see no way of rationalizing those competitive disparities as equitable\textsuperscript{12}. And if growth of financial intermediation in the world were to continue to be biased against traditional domestic intermediation, each nation’s central bank might be required to make progressively larger, and also more uncertain, adjustments in its policy actions to try to achieve any desired degree of ease or tightness in domestic financial conditions. From this more subtle perspective on the problems of national monetary control, it would be more efficient to have roughly comparable regulatory and tax environments for the cross-border as well as the within-border, and for the foreign-currency as well as the domestic-currency, aspects of financial intermediation.

IV. PRUDENTIAL INSTABILITY?

As with the concern about unbridled expansion and contraction, a helpful way to analyse the prudential concerns about Eurocurrency banking is to first clarify some fundamental analytical ideas about the “soundness” and the prudential regulation of financial intermediaries. And it is again fruitful to focus on these ideas by, in the first instance, setting aside all the international aspects. As before, therefore, let us temporarily revert to a context in which the United States is the only nation in the world, the dollar is the only currency unit, and the Federal Reserve is “the” central bank.

Lender-of-last-resort facilities and bank regulation in a closed economy

As a starting point, consider the distinction between “micro-prudential” and “macro-prudential” motives for the supervision and regulation of banks. Micro-prudential motives emphasize the protection of individual banks from failure, and hence the protection of individual depositors and investors in
particular banks. Macro-prudential motives focus on stability of the financial system as a whole.

Micro-prudential rationales for supervision and regulation deserve more scrutiny than they typically receive, but a discussion of them falls outside the scope of this paper. Regulations imposed on banks that are attributable (partially or wholly) to the micro-prudential rationales include: legal requirements for the disclosure of information about income statements and balance sheets, guidelines for capital adequacy (for example, minimum values for the ratio of capital to total assets), and restrictions pertaining to self-dealing, conflicts of interest, and insider misconduct\textsuperscript{13}.

To understand the macro-prudential rationale for the supervision and regulation of banks, one must start with the well-documented phenomenon of financial panics\textsuperscript{14}. During such panics, real or rumoured events can induce a "crowd" behaviour akin to mob psychology. Even without perverse crowd behaviour, moreover, a financial crisis may result in the bankruptcy of otherwise viable organisations if allowed to run its course unchecked. Financial assets are bought and sold in what have been termed "auction markets" where prices can change quickly and by large amounts. Real tangible assets, on the other hand, tend to be traded in "customer markets" where price changes are more viscous\textsuperscript{15}. Confidence in financial institutions is a fragile thing. A decline in confidence in one financial intermediary can lead to a decline in confidence in its creditors, and "contagion" can occur so that even healthy institutions come under suspicion. Hence, it is argued, society needs to provide itself with an offset to its crowdlike behaviour and financial fragility — some institution or set of institutions that will promote the collective interest in financial stability. The traditional justification for the role of a central bank as the "lender of last resort" rests on these observations\textsuperscript{16}.

At the deepest analytical level, the rationale for a lender of last resort need not assert that individual economic agents act "irrationally". Careful analysts of economic and social behaviour have identified numerous instances in which non-cooperative competition and unconstrained maximisation by individual agents, while rational for each individual, can be irrational for all individuals together\textsuperscript{17}. In the context considered here, the contention is that an ongoing financial crisis unchecked by a lender of last resort is a situation in which each financial intermediary and each of its customers can behave rationally and yet still produce a collective outcome that is highly undesirable for society as a whole.

If accepted, as it ought to be, the rationale for action in a financial crisis by a lender of last resort creates a fundamental dilemma. If financial intermediaries can confidently count on the ready availability of assistance from a lender of last resort on a rainy day, on sunny days they will have insufficient incentives to behave prudently. Financial intermediation necessarily entails the assumption
of risk (liquidity risk and default risk). The intermediaries will be tempted to take risks that are excessive from society’s point of view (and perhaps to behave irresponsibly in other ways as well) if they believe that emergency funding will be readily available to bail them out of trouble. Hence “the public good of the lender of last resort weakens the private responsibility of ‘sound’ banking.” This temptation to excessive risk-taking is a paradigmatic example of the general problem now referred to by economists as “moral hazard”.

The dilemma that lender-of-last-resort assistance could become necessary and be used only because it exists leads many analysts to the macro-prudential rationale for supervision and regulation of financial intermediaries. These analysts argue that the government cannot acknowledge its residual responsibility as lender of last resort unless it also engages in oversight of the intermediaries to ensure sound practices and to prevent excessive risk-taking.

The detailed regulations and supervisory procedures applied to banks exist partly because of the micro-prudential considerations alluded to above. But those regulations and procedures can also be justified, at least in part, as a response to the moral hazard created by contingent lender-of-last-resort assistance.

At the most basic level of analysis, therefore, it is impossible to separate the issues of lender-of-last-resort policy and of policy for the regulation and supervision of banks. One often hears these issues discussed separately, with no attention paid to their symbiosis. But that is a serious analytical mistake.

Like lender-of-last-resort assistance, deposit insurance can be a double-edged sword in its implications for financial stability. Prior to its adoption in the United States in the 1930s, the classic case against a guarantee of the deposits of financial intermediaries was that the guarantee would mitigate the threat of withdrawal of deposits, thereby removing a check on imprudent risk-taking and irresponsibility by the management of the intermediaries. Once made, however, the decision to provide deposit insurance led to concomitant regulation of the intermediaries to avert the moral-hazard problem that would otherwise exist.

I cannot explore these basic issues further in this paper. But the need for such an exploration, by banks and bank regulators, certainly exists. One way of convincing yourself of the need is to imagine that you are an employee of a large American bank and have been asked to draft a speech to be given by its chief executive officer. Suppose you share the strong views of the chief executive officer in favour of deregulating financial intermediaries and permitting them to compete freely with each other. What remarks could you include in the speech about deposit insurance and lender-of-last-resort assistance by the Federal
Reserve that would define a sensible policy in the national interest and yet be logically consistent with advocacy of financial deregulation?

To continue the analysis, still for the hypothetical case of a closed economy, let us now postulate a situation in which conditions of general financial distress begin to be observed. Such conditions might be triggered by, for example, the bankruptcies of several important non-financial firms. Those bankruptcies might in turn generate a deterioration in confidence in the individual banks lending to the bankrupt firms, with contagion then spreading the distress to still other banks and financial intermediaries.

Under such conditions, what should be the paramount responsibility of the Federal Reserve? What actions should it take first? The first priority, it seems clear, is to promptly consider and implement adjustments in the overall conduct of monetary policy. Because economic units in the private sectors of the economy will be scrambling to protect themselves by acquiring additional liquid assets, the Federal Reserve will need to carry out open-market purchases of securities, thereby providing more bank reserves to support the scramble for additional liquidity. Moreover, the Federal Reserve should not wait to accommodate the increased demands for liquidity by lending through the discount window. It needs to act promptly, even in anticipation of further private demands. In addition to open-market purchases, reductions in reserve requirements may also be desirable.

The preceding point is important enough to be considered a cardinal proposition in the theory of central banking: lender-of-last-resort policy should be first and foremost a question of the conduct of overall monetary policy under conditions of financial distress.20

Secondarily — still important, but nonetheless secondary — the Federal Reserve may need to counter the conditions of financial distress by direct loans to individual banks through the discount window. The basic activity of financial intermediation depends on the intermediaries maintaining their depositors' confidence and maintaining their own ability to initiate borrowings to meet temporary deposit drains. When grave suspicions have arisen about an individual intermediary, depositors may suddenly withdraw large amounts of funds; market borrowings to finance the deposit losses, moreover, may not be possible. A temporary squeezing out of the market can occur for an individual intermediary even when suspicions about its solvency are unjustified. In a crisis situation, bank examiners and the Federal Reserve may be able to appraise the balance sheet of an individual intermediary more dispassionately than market participants subject to panic psychology. The bank examiners and the Federal Reserve are in any case likely to have, or to be able to acquire, more accurate and complete information. Even if the Federal Reserve has judged correctly in its general provision of liquidity to the financial system as a whole, therefore, in principle some direct lending to individual intermediaries may be desirable.
When the Federal Reserve contemplates direct lending through the discount window, it must try to distinguish between would-be borrowers that are merely illiquid and those that are in deep enough trouble to be actually insolvent (that is, have zero or negative net worth). This distinction deserves emphasis because another cardinal proposition in the traditional doctrine of the lender of last resort states that the central bank should lend for the purpose of maintaining liquidity only to institutions believed to be solvent.

What would be the consequences if a central bank were prepared, during conditions of financial distress, to lend to banks known to be insolvent? For one thing, such action on the stormy day would engender severe moral-hazard problems for the sunny days that will eventually follow the crisis. The probability of more stormy days in the future would accordingly rise.

Equally important, lending to an insolvent bank would involve the central bank in a policy of “socialising” the losses associated with the financial crisis. Once it becomes certain that a financial intermediary no longer has a positive net worth, the only thing that further lending to it can accomplish is a redistribution of the losses among the members of society. There is no way that society as a whole can avert the losses; the losses have already occurred. Discount-window lending to an insolvent institution would thus make the central bank a direct participant in decisions to redistribute income and wealth. Distributional issues inevitably arise in an acute form during and after a financial crisis. They are politically tricky and highly controversial. Central banks cannot avoid distributional issues altogether. Most advocates of the need for a central bank, however, are reluctant to see the central bank get deeply involved in the issues of socialising losses.

Even in non-crisis conditions, it is difficult in practice to make the distinction between illiquidity and insolvency. The distinction cannot be made independently of such general economic conditions (current and prospective) as the level of interest rates, the pace of inflation, and the relationship of actual output to the economy’s capacity to produce goods and services. In conditions of severe financial distress, the distinction is even more difficult to make. In bad times, problems invariably come to light that hitherto were not readily visible. (The worst managed institutions can get by for a while when the sun is shining brightly.) On the other hand, even the strongest of banks with the best managers can perish in an unforeseen storm that blows the entire economy into a depression. In a bad storm, the central bank will want to resolve uncertainties about the condition of particular banks by erring on the side of judging them solvent. Nonetheless, the central bank must make a judgment in each individual case, and should avoid lending to institutions that will obviously have a negative net worth after the dust clears and the distress conditions have eased.
The proposition that central banks should lend only to solvent banks is merely an extension of a widely accepted tenet of capitalism. Few members of Western democratic societies argue that a badly managed, unprofitable non-financial corporation should be kept alive through government action. For the same reasons, a bank should presumably be allowed to fail if it has been poorly managed and taken foolish risks. A certain Admiral John Byng in the British Navy was executed in 1757 for his failure to relieve Minorca. Voltaire, commenting satirically on the incident, suggested that it was a good thing to kill an admiral from time to time, “pour encourager les autres”. I would not like to see a bank fail from time to time, to encourage the others. But I do believe that it would be a mistake, even in conditions of financial distress, to use public funds to keep a bank alive that has consistently been badly managed.

**International aspects and complications**

I have summarised the preceding propositions because those ideas should govern our analysis of the prudential soundness of Eurocurrency banking, and international banking in general. Modifications to the closed-economy propositions are of course needed, some of them quite important. Yet the essentials of the analysis are the same.

Is there a possibility of financial distress occurring in the Eurocurrency markets? Such a possibility of course exists, just as it exists for any type of financial intermediation. The distress could conceivably originate in Eurocurrency markets, and in any case could be exacerbated there after having originated elsewhere.

In several ways the international aspects of banking can heighten the probability of conditions of severe financial distress.

- **a)** Eurocurrency markets, because they are predominantly interbank in nature, can spread a deterioration in confidence especially rapidly. The risks of “contagion” are therefore at least as great in international as in domestic banking.

- **b)** The supervision and examination of the international aspects of banking are less stringent than for the domestic aspects.

- **c)** Individual banks can get into trouble because of poorly managed foreign-exchange positions (in addition to all the other ways they have of getting into trouble in a closed economy).

- **d)** Banks may have less adequate information on foreign customers than is available for their domestic borrowers, and are therefore less able to make good judgments about creditworthiness in their international activities.

- **e)** Bank lending to sovereign governments involves “political risks” that are not present in domestic lending.
f) Because large banks with significant cross-border assets and liabilities are de facto "multinational" in their operations, national bank supervisors and national central banks may be unable adequately to supervise all aspects of their operations and may be unable to cope effectively with the need to provide lender-of-last-resort assistance in all contingencies\textsuperscript{23}.

A balanced analysis should also acknowledge that some aspects of international banking reduce risk and are therefore a stabilizing factor. In particular, an internationally diversified loan portfolio can easily be less risky than a purely domestic portfolio\textsuperscript{24}. When banking is done through separately chartered affiliates in different countries, the legal liability of a parent bank can be more limited than when done through branches (though the de facto situation may afford much less protection for the parent than the de jure provisions suggest and some aspects of the limited liability of subsidiaries may actually foster rather than reduce risk).

No less than in the hypothetical case of a closed economy, the moral-hazard dilemma associated with the provision of lender-of-last-resort assistance is present when the international aspects and complications of banking are taken into account. Moreover, the dilemma takes on some additional interesting dimensions. I will mention just one by way of illustration. When the major commercial banks engaged in international banking lent large amounts to sovereign borrowers in recent years, such as government agencies in Mexico and Brazil, did they evaluate the risks less carefully than would have been desirable (or did they charge excessively low spreads on their loans) because of an assumption that major central banks and the International Monetary Fund would "have no choice but to bail them out" if the going got rough? At the time the lending was growing rapidly, should the central banks have given different signals about their readiness to help in times of crisis? And when central-bank assistance of one sort or another is given to commercial banks involved in debt reschedulings, can it be given in a manner that will minimise the moral-hazard implications for the future behaviour of the commercial banks?

To continue the examination of the international aspects of prudential stability, imagine now that some sort of event triggers conditions of financial distress in banking markets. The originating event may or may not be "international" in character. In any case, suppose the ensuing deterioration in confidence and scramble for liquidity strongly affects Eurocurrency banks.

What should be the first-priority response from central banks to the crisis conditions? As in the closed-economy analysis, the primary responsibility of central banks is to make appropriate adaptations in overall monetary policy. Because of the international dimensions of the financial distress, an even larger
menu of problems exists. In particular, two types of cross-border shifts of funds can occur because of Eurocurrency banking; these shifts may be superimposed on the shifts of funds between individual banks that are in any case endemic to a financial crisis. Non-bank depositors and other banks can try to shift funds out of Eurocurrency deposits into deposits denominated in the same currency but held in parent banks located in the country of the currency unit (e.g., shifts of Eurodollar deposits away from London and Luxembourg to New York). Even more troublesome, shifts of funds can occur out of deposits in one currency into deposits denominated in a different currency (e.g., shifts out of Euro-DM deposits in London or DM deposits in Frankfurt into Eurodollar deposits in London or dollar deposits in New York). The second type of international shift, because of its consequences for exchange rates as well as for interest rates, can be a difficulty of great importance for particular countries whose currencies are strongly affected.

Despite the added complications, central banks in principle have general policy tools that are capable of coping with all the types of asset shifts that may occur, international as well as domestic. Open-market purchases of securities denominated in currency A by the central bank of country A can in principle offset increased demands for liquid assets denominated in currency A. If shifts in currency preferences occur, for example sales of assets denominated in currency A for B-currency assets, exchange-market sales of B-currency assets by the central banks of countries A and B (separately or jointly) can in principle offset the shifts in private asset preferences. Deciding on and implementing the appropriate offsetting transactions is of course a very difficult matter in practice. Nonetheless, the general principles to be followed are clear enough. Central banks should accommodate a general scramble for liquidity in domestic currencies by aggressively expanding their own balance sheets. Shifts by the world private sector from one currency to another should be accommodated by opposite changes in the currency composition of the assets or liabilities of central banks.\(^\text{25}\)

When analysing the short-run consequences of a disorderly scramble for liquidity in Eurocurrency markets, it is important to remember that the financial markets of the major nations, taken together, are tantamount to a closed system. Funds cannot "disappear". In that respect, conditions now are genuinely different — and in important respects much less fragile — than in the 1920s and 1930s or in the nineteenth century. In those earlier times central banks had statutory obligations to supply gold to the private sector, often at a fixed price, and to keep a gold backing for their liabilities. As long as those obligations were in force, a scramble for liquidity by private economic units that took the form of purchases of gold could cause a sharp contraction in the balance sheets of central banks. In a severe crisis, central banks were therefore
unable to prevent a "disappearance" of money and credit. At the present time, however, central banks do not assume obligations to sell gold to private economic units at a fixed price. Furthermore, central banks are more willing to tolerate fluctuations in exchange rates. To a first approximation, therefore, the "world monetary base" — the consolidated balance sheet of all the major central banks taken together — cannot be contracted by private decisions and thus provides a much firmer anchor for financial markets than in earlier eras.

Although adjustments in overall monetary policies are the first-priority tasks of national central banks when distressed conditions threaten, some direct lending to individual banks through discount windows may also be needed. Some of this lending may well involve cross-border transactions (directly to a foreign subsidiary of a bank, or indirectly by the provision of liquidity support to a bank's head office which then channels the funds to a foreign branch or subsidiary). The basic reasons why this supplementary option may be required are the same as those given above in the closed-economy discussion.

Central banks are certainly aware of this contingent need for discount-window lending. Extended discussions of the international issues involved have taken place both within and among the individual central banks.

The only official multilateral statement on this subject in recent times was made in September 1974, following the failure of the Herstatt bank, at the time of a meeting of central bankers in Basel, Switzerland. The statement observed "it was not practical to lay down in advance detailed rules and procedures for the provision of temporary support to banks experiencing liquidity difficulties" but "the means were available for that purpose and would be used if and when necessary." Not surprisingly, the September 1974 statement leaves several questions unanswered. But at least one thing is not in doubt: the central banks of the major nations understand that circumstances can arise, including situations with cross-border complexities, in which one of their number, or several of them in concert, may be required to make liquidity assistance available to individual banks through direct lending.

In the international context no less than in the domestic, provision of lender-of-last-resort assistance must try to distinguish between insolvent and illiquid banks and try to refrain from direct lending to banks that are unambiguously insolvent. If central banks are prepared to make lender-of-last-resort assistance too easily available — for example, if large banks engaged in international banking are allowed to believe that they can get assistance at the discount window of their parent central bank no matter how poorly they have made loan and maturity-transformation decisions — the central banks will encourage a banking environment that will become untenable in the longer run. National banking regulations already discriminate in favour of
bank relations with external residents and bank transactions denominated in external currencies. If banks heavily engaged in international banking have greater assurance of lender-of-last-resort assistance than smaller domestic banks, the existing regulatory bias in favour of international banking would be increased still further.

An important issue about lender-of-last-resort assistance is suggested by the preceding point. Should central banks, because of the inherent moral-hazard dilemma, keep their willingness to provide lender-of-last-resort assistance uncertain? In particular, should they keep banks guessing about the conditions and terms under which temporary liquidity support may be forthcoming? This issue raises complex expectational and game-theoretic questions; I doubt that satisfactory answers to them can be given with the rudimentary state of our existing knowledge about these matters. My own current inclination, however, is to agree with those who regard a deliberate fostering of uncertainty as a poor way of preventing an excessive reliance by banks on the availability of lender-of-last resort assistance.\textsuperscript{28}

Still other international aspects of prudential stability need to be mentioned. There may be a few international banking institutions for whom it is not clear where they can turn for lender-of-last-resort assistance or whether adequate assistance is available. Some banks are headquartered in smaller countries which have inadequate facilities or none at all. Some central banks may have inadequate foreign-exchange reserves to deal with large-scale needs of banks headquartered in their countries for coverage of transactions denominated in foreign currencies. Consortium banks owned by parent banks located in different countries could conceivably fall between stools, with none of the parent-country central banks coming forward with temporary liquidity assistance in time of need. I personally believe that these potential difficulties are relatively minor — not trivial, but not of major importance either.

Still another potential problem is the likely tendency of an individual central bank to be excessively “national” in its outlook, and therefore to fail to worry sufficiently about foreign non-bank borrowers getting cut off from borrowing facilities in a panic. During a general scramble for liquidity, non-bank borrowers, even when unambiguously solvent, can temporarily be denied credit. In a domestic context, the central bank can sometimes twist the arms of the non-bank’s creditors to continue their lending; in extremis, the central bank can even lend to the non-bank itself through the discount window. A central bank may be much less concerned, however, if the non-bank borrower is a foreigner. Less complete and reliable information may be available about the status of the foreign non-bank. In any case, the inevitable tendency of national governments to be preoccupied with the welfare of only their own citizens may lead to relative neglect of these problems. This source of difficulty seems more serious to me than the preceding one.\textsuperscript{29} Nonetheless it too would be a
manageable problem if central banks and governments were willing to consult and cooperate with each other extensively.

A summary assessment

When I weigh against each other the various points made above about the safety and soundness of Eurocurrency banking, I emerge with an overall perspective that again is non-alarmist. I do not believe—despite the troubled conditions in today’s world economy—that new policy initiatives are urgently needed to shore up the stability of Eurocurrency banking. For example, I am not aware of proposals for new prudential regulations on banks or for new official institutions to provide lender-of-last-resort assistance that seem feasible and at the same time obviously helpful. Some of the more extreme suggestions that have been offered seem to me based on inadequate analysis, including a failure to appreciate some of the points summarised above.

To be sanguine or altogether unconcerned about the safety and soundness of Eurocurrency banking, however, would be an error in the opposite direction. Several genuine problems about prudential stability, referred to above, require continuing attention. Others could no doubt be added to the list.

V. THE LONGER-RUN NEED FOR INTERNATIONAL COOPERATION IN BANKING REGULATION

Much of what has been said so far is intended to place alarmist concerns about Eurocurrency banking in clearer perspective. To conclude, I want to add some problems to the agenda for debate about Eurocurrency banking that are frequently neglected. The issues I have in mind bear on both the non-prudential concerns about unbridled growth and on the prudential concerns about financial stability. For short, I refer to the issues under the heading of longer-run problems in bank regulation requiring cooperation among national governments.

One point of departure for raising these issues is an observed fact already noted earlier: the supervisory, regulatory, and tax environments within which commercial banks and other private financial intermediaries operate differ in important ways from one nation to another. The existence of these disparities in national environments leads to competitive inequities among national banking systems. These in turn give strong incentives to banks to locate their borrowing and lending activities in those countries with lower taxes and less stringent regulations and supervision.
In a world of increasing economic interdependence, disparities in national regulatory and tax environments become more difficult to maintain. As banks compete, in home markets and third markets, they become more aware of the way that the disparities produce competitive inequities. Those banks at a competitive disadvantage see the consequences of the inequities reflected in their profits. Hence the incentives become still stronger for the disadvantaged banks to shift their activities to the countries with less stringent regulations and tax policies.

All nations are probably affected in some degree by the pressures resulting from disparities in national regulatory and tax environments. The United States, in particular, is beginning to encounter significant problems because of its generally more stringent and more pervasive regulations. To an extent that is not widely appreciated, some banking business in the United States that is primarily “domestic” in nature is being conducted through “international” transactions, thereby enabling banks and their customers to avoid “domestic” regulatory restrictions.

The erosion of national regulatory environments associated with increasing economic interdependence is a salient example of the general phenomenon of innovations in response to regulations. In a closed domestic context, financial intermediaries trying to avoid regulations must devise a new financial instrument or find some other innovation that will escape the existing regulatory constraint. In an open economy, another and potentially more powerful alternative exists: a financial intermediary can decide to move the regulated activities outside the jurisdiction of the national regulators. Unless the home regulatory authorities can induce their counterparts in other countries to adopt a posture as stringent as that in the home country, the financial intermediary will very likely succeed in its efforts to escape the home regulations. (Alternatively, the national regulators may see that they cannot prevent the relocation of the intermediary’s activities, and may therefore decide to relax the home regulations sufficiently to keep the activities at home.)

A second point of departure for concern with issues of bank regulation that require international cooperation is another fact already stressed earlier: supervision and regulation in the major countries tend to discriminate in favour of banking relations with non-residents and bank assets and liabilities denominated in foreign currencies. The United States was until recently an important exception to this generalisation. Even the United States, however, took significant steps in this direction with the authorisation of International Banking Facilities (IBFs) in December 198130.

The growing importance of the offshore banking centres is a heightened manifestation of this general phenomenon. Banking activity is more “foot-loose” than many other industries. It can therefore shift locations relatively easily without incurring large costs. Even more than in the case of industry in
general, therefore, the scope exists for an individual nation to try to lure banking activity within its borders by imposing less stringent regulation, supervision, and taxation. A major part of the rapid growth of such banking centres as Luxembourg, the Bahamas, the Cayman Islands, Panama, Singapore, Hong Kong, and Bahrain can be attributed to this phenomenon.

Some might argue that there is no moral-hazard element in the evolution of the offshore banking centres. While supervision and regulation are less stringent, there is also no local provision of lender-of-last-resort assistance. Hence, it might be argued, banks have disincentives as well as incentives to locate in the offshore centres. Even if banks do locate there, moreover, the major nations can be unconcerned because their central banks have no obligation to extend lender-of-last-resort assistance in the event that a bank in an offshore centre gets into liquidity trouble. It takes only a little reflection, however, to see that the preceding line of reasoning is faulty. It is not credible that the major countries would never let their own lender-of-last-resort assistance be extended, directly or indirectly, to banking offices operating out of the offshore centres.

The underlying dilemma posed by the offshore banking centres can be provocatively stated by asking whether the major nations in the world could be satisfied with an ever larger proportion of the world’s banking activities being conducted from offices located in Macao and the Netherlands Antilles.

More generally, even in the absence of the offshore banking centres, there exists what may be termed a set of collective, global problems of bank supervision and regulation. If one country alone discriminates in favour of international banking, its banking offices can unambiguously benefit from an enhanced attractiveness for the location of banking activity within its jurisdiction. It is less obvious that any one country or the world as a whole benefit if all nations adopt this regulatory bias. At least in principle, the relaxation of supervision and regulation could go so far as to drive all countries to the least common denominator of regulation, leaving the geographical location of banking little different from what it would have been in the absence of the competition in laxity. Similar problems exist for taxation.

It could be argued that this process would have a benign outcome, resulting merely in a worldwide elimination of unnecessary and onerous government regulations. That argument, however, ignores the inextricable links between lender-of-last-resort policies and the oversight and regulation of banks. It is logically inconsistent to sanction the complete elimination of bank regulation and supervision and to continue to advocate the desirability of the central bank’s acting as a lender of last resort.

Because of the increasing integration of financial markets and because of the inevitable interdependence of bank regulation and lender-of-last-resort assistance, a more likely outcome than worldwide financial deregulation is a
gradual increase in pressures for international cooperation and harmonization of banking regulation. These pressures will probably not be of the "crisis" type. Even though not dramatic, however, they will get gradually more insistent.

The global problems of bank regulation are yet another manifestation of the tendency of each nation to regard itself as individually "small" in relation to the rest of the world. Each nation regulates intensively only those aspects of banking that are perceived as most directly affecting its own economy. It then adopts a hands-off policy, or in any event a less stringent regulatory posture, with respect to the remaining (international) activities of banks located within its borders. Some nations, as pointed out above, go even further and actively try to lure banks to relocate their international activities in the home nation. Implicitly if not explicitly, the attitude is to let every other nation cope with its own problems as best it can. Few if any nations try to develop a systemic, global view about bank regulation.

In such a world environment, no nation can effectively act on its own to deal with adverse consequences attributable to this situation. Unilateral tightening of supervision and regulation by a single nation, for banking offices within its borders or for banking offices located abroad controlled by national residents, might merely induce a transfer of business away from its banking offices to those of other nations.

If eventual action of some sort is called for, only collective action is likely to be successful. Yet international cooperation in these circumstances is in essence a "public good". Like other public goods, the supply of international cooperation is likely to fall short of what would be mutually beneficial because each nation, acting rationally on an individual basis, ignores the potential benefits of the greater cooperation for others. Each nation's tendency to assume that it is sufficiently small to ignore the consequences of its actions for the rest of the world is an integral part of the collective problem. From theoretical analysis of similar situations at the micro-economic and national level, it is well known that such situations can produce a sub-optimal outcome for all nations collectively. The larger the group of nations involved, furthermore, the higher is the probability that some nations will act as "free riders" and hence the less likely it is that the group of nations will further their common interests. Only the exercise of political leadership by some national governments and the gradual evolution of international political institutions can correct this inherent bias against cooperative responses to systemic, global problems.

The most important mechanism now in place for catalysing international cooperation among banking supervisory authorities is the so-called Cooke Committee, meeting under the auspices of the Bank for International Settlements. The European Community has created several institutions for discussing these problems within the EEC (the "Groupe de Contact" in which
the banking supervisors of the Community countries have met periodically since 1969, and the Banking Advisory Committee, a steering group set up under the First banking co-ordinating Directive of 1977 with responsibilities for the planning and co-ordination of bank regulation. The Organisation for Economic Cooperation and Development has also sponsored a study of these issues in recent years (conducted by an Expert Group on Banking responsible to the Committee on Financial Markets).

The Cooke Committee was not formed until 1975. Since then it seems to have made significant progress on several fronts, and with little fanfare. The “Concordat” of December 1975 clarified several aspects of the division of responsibilities among national supervisory authorities. The members of the Committee were able to agree on the principle that banks’ international business should be monitored on a consolidated basis. And the Committee has encouraged the collection of more complete and improved data (for example, on the maturity composition of Eurobanks’ balance sheets and on the country allocation of bank lending).

As the 1980s and 1990s progress, the existing institutional mechanisms for cooperation about bank supervision and regulation will almost surely have to be strengthened, and possibly supplemented with consultation and cooperation through still other channels.

CONCLUDING SUMMARY

The main themes I have discussed in this paper can be summarised in terms of four broad generalisations.

- In the short run, it is not urgent or desirable to “do something to control Eurocurrency banking”. Such action is not needed to mitigate world inflationary pressures, to reduce exchange-rate instability, to remedy the fragility of international banking, or to regain autonomy for nations’ domestic monetary policies. Attempted action in the short run on the basis of these motives would rest on weak analytical foundations, and would generate false expectations about what could and should be accomplished.

- For the longer run, the United States and the other major industrial nations do face major international problems of shaping a sound structure of national and world financial regulation. These problems cannot be resolved quickly. But they will merit increasing study and discussion, by analysts of banking and by supervisory authorities in national governments, as the issues become gradually more insistent in the years to come.
• The efficient-markets view that Eurocurrency banking is altogether benign and poses no problems for public policy errs virtually as far in the sanguine direction as the out-of-control view errs in exaggerating the problems. Just because international financial intermediation is associated with great benefits does not mean that all in international banking is for the best in this less than best of all possible worlds.

• The international aspects of bank regulation are inseparable from domestic regulatory issues. The traditional distinction between domestic and international banking is becoming more and more elusive. Scarcely a single regulatory issue that formerly was viewed as a solely domestic matter can now be intelligently discussed without reference to international banking and the regulatory environments in foreign countries.

NOTES

1. The issue of The New Yorker magazine of 1st November, 1982—immediately after Hallowe'en—contained a cartoon of two witches in the moonlight, one pouring ingredients into a cauldron, the other reading a recipe book and exclaiming: "Don’t stint! Remember, we’re competing with mammoth deficits, skyrocketing unemployment, and a collapsing international banking system". New Yorker cartoons tend to be a reliable indicator (coincident, not leading) of pseudo-sophisticated opinion on issues of public policy. On this evidence, worries of a banking "collapse" were especially widespread in the fall of 1982.

2. To give a concrete example: the amount of external lending (claims on non-residents) of banking offices in the 15 countries reporting regularly to the Bank for International Settlements was $1 185 billion in December 1980 (row A, the sum of columns 3 and 4). Of that amount, only about $347 billion (29 per cent) represented lending to non-banks.

3. This statement applies even to the bulk of call Eurocurrency deposits (those without a fixed maturity and redeemable immediately at the request of the depositor).

4. For detailed discussion of the distinction between the gross and net sizes of the Eurocurrency market, see Mayer (May 1976, and August 1979).

5. All the figures in the first two columns of Table 2 are nominal magnitudes, and hence all are greatly affected by inflation. If the 1964-81 period were split into sub-periods, the rates of growth would be markedly slower in the earlier sub-periods than in the later years of higher inflation. Note, however, that inflation does not account for the large relative differences in growth rates between the international-banking aggregates on the one hand and the trade and output measures on the other.

6. For verbal simplicity, I speak here of growth in Eurocurrency banking. With minor modifications, the analysis applies equally to the possibility of insufficient growth or actual contraction.

7. For concreteness, assume that the time is the second half of the 1970s and that the new intermediaries are money market mutual funds. The rapid postwar growth of savings and loan associations (from the depressed levels of the 1930s) is another salient example.

8. See, for example, Brainard (1967).
9. This and the three preceding paragraphs briefly summarise a complex analysis and hence necessarily omit details and qualifications that would merit discussion in an extended treatment. The omitted details and qualifications do not alter the broad conclusions summarised here.

10. The most important type of substitution is a replacement of interbank cross-border lending in domestic currency (the home currency of either the creditor or debtor bank) by interbank cross-border lending in foreign currency (a third currency unit that is not domestic from the perspective of either banking office participating in the transaction). But substitutions from more traditional to newer channels of credit and deposit flows vis-à-vis non-banks have also been significant.

11. For many years the academic and journalistic literature was filled with controversy about the net creation of credit or money due to Eurocurrency banking. The debate has now finally begun to converge to the position summarised here. For a more extended discussion of the analytical issues and references to the literature, see Swoboda (1980); Mayer (November 1979); Niehans and Hewson (February 1976).

12. I return to this set of problems at the end of the essay.

13. We do not typically suppose that investors in non-financial firms require special protection of the sort accorded to depositors and investors in banks and other financial intermediaries. Why not? Is the banking industry more prone to insider misconduct than other industries? Do we regulate individual banks so closely because we regard their depositors as “little people” rather than “suppliers of elite capital”? Do equity investors in banks deserve more protection than equity investors in non-financial firms? Are there still other characteristics of financial intermediation and the firms engaged in it that require closer governmental supervision than “ordinary” firms? Questions such as these do not have obvious answers.

14. For example, see Kindleberger (1978); McKay (1932); Minsky (June 1972 and Autumn 1978).

15. For analysis of the different behaviour of auction markets and customer markets, see Okun (1982).

16. The classic statement of the case for a central bank acting in a crisis as a lender of last resort is in Bagehot (1873); See also Hirsch (September 1977) and Kindleberger (1978), Chapters 9–10.

17. See, for example, Bator (August 1958); Arrow (December 1963); Olson (1971); Kahn (1966) Arrow (June 1968); Arrow (March 1974); Schelling (1974); Hirsch (1976).


19. For discussion see, for example, Kareken (1981). The moral-hazard problem arises with “level-premium” insurance. Proposals for the reform of deposit insurance that recommend relating the premium paid by a bank to the riskiness of the bank’s asset portfolio are intended to mitigate the moral-hazard problem.

20. This point, and several others that I emphasize below, are enunciated clearly in Shafer (July 1982). My views about lender-of-last-resort problems have also been influenced by the research of Guttentag and Herring (May 1983).

21. Some problems that arise with insolvent banks may require government action. Action may need to be taken to prevent an insolvent institution from luring new private creditors into lending and to protect existing creditors by preventing the institution’s management from dissipating the bank’s assets at the expense of the creditors. And government action may be desirable to preserve the “going concern” value of the institution (for example, by merging the institution with a viable bank rather than forcing a liquidation). Such government actions, however, are not the traditional responsibilities of a central bank, or at least are separate from its responsibilities as a lender of last resort. For a further discussion of these points, see Guttentag and Herring (May 1983).

22. For two accounts of the complexities and difficulties involved in making such judgments, the first in the context of the United Kingdom and the second in the United States, see Reid (1982) and Spero (1980).

23. These and other aspects of the risks associated with international banking have been discussed in some detail by Guttentag and Herring (December 1982 and May 1983).

24. The basic analytical points supporting this statement are applications of the Markowitz-Tobin theory of portfolio selection to a world of several nations and several currency units. See, for example, Grubel (December 1968).
25. Of course, after the conditions of financial distress have passed, central banks will have to reverse some or all of their earlier accommodating transactions as private asset preferences return to normal. A failure to reverse can cause highly adverse developments (for example, faster inflation) just as a failure to accommodate in the first place can generate highly adverse changes in economic conditions (for example, a financial bust worsening an ongoing recession).

26. If private investors shift into U.S. dollars out of other currencies and the central banks of the countries with weakening currencies use their dollar reserves in exchange-market intervention to support their currencies, it is possible for the monetary base to contract in the weak-currency countries without a corresponding increase in the U.S. monetary base. The reserve-currency status of the U.S. dollar gives rise to this possibility. Even in such cases, however, cooperative action among the central banks – for example, use of the Federal Reserve network of “swap” arrangements – can prevent this possibility from actually occurring.


28. This issue is discussed by Guttentag and Herring (May 1983), and by Shafer (July 1982). Shafer argues, I believe correctly, that making assistance available at an interest rate somewhat above prevailing interbank interest rates would be preferable to keeping banks guessing about the central bank’s true intentions. For reasons often discussed in the domestic debate about operation of the discount window, a graduated structure of discount rates (rising with the amounts borrowed by an individual bank) would be better than a simple “tying” of the discount rate to a market interest rate at a penalty surcharge; for discussion, see Bryant (1983).

29. The problems mentioned in this and the preceding paragraph are discussed in more detail by Guttentag and Herring, (May 1983).

30. See Key (October 1982).

31. To the extent that a public good is supplied, all who value the good tend to benefit whether or not they contribute to the cost of supplying it. Hence a disproportionately large share of the costs tends to be borne by a few “less small” participants in the collective action. For a general development of these arguments, see Olson (1971).

32. W.P. Cooke, the Head of Banking Supervision at the Bank of England, is the chairman of this group; its formal title is the Committee on Banking Regulations and Supervisory Practices. For the origins of the group and a summary of its activities, see Bank of England (June 1981).

33. The text of the initial version of the Concordat is reprinted as an annex to International Capital Markets: Recent Developments and Short-term Prospects, 1981, IMF Occasional Paper No. 7 (International Monetary Fund, August 1981). A new version of the Concordat was prepared by the Cooke Committee in 1983.
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