Global asset and liability management at commercial banks

A dramatic expansion of international banking in recent years has led banks to reexamine the traditional decision-making process. Many banks had found that their international operations had grown in size and complexity, particularly regarding funding and lending. Additional effort was thus required to monitor and to coordinate these activities, especially with domestic money management. Accordingly, some banks have adopted, or are presently considering, bankwide procedures for coordinating their asset and liability decisions. Other banks have continued to rely considerably on decision making by branches and functional units.

The variety of approaches currently used stems from differences in views about the best practical approach to funds management. There is no disagreement that conceptually the consolidated balance sheet and overall profit statement are key accounting elements for bank decisions. Nor are institutional constraints an impediment to global management. Until five years ago, United States capital controls had limited the movement of funds, between domestic and foreign offices of banks, making it less necessary to have an overall perspective. Today, however, dollar funds move freely among major capital markets and the movement of other currencies is relatively unconstrained, particularly in offshore markets. In principle, there is no barrier to linking the activities of separate banking units. Operationally, however, a global decision process may not be best for all banks. It requires that senior management assimilate bankwide information quickly, assess opportunities in world markets, and communicate decisions within the organization. To integrate these activities effectively may be costly. Moreover, coordinating decisions may conflict with other goals of bank management. The decision to adopt a global management approach depends upon the circumstances at an individual bank and the philosophy of its management. This article, based on discussions in New York and other major money market centers, reviews the pros and cons of alternative methods of asset and liability management.

Bank management in a nutshell

At the heart of the bank management process are committees of high-ranking officers representing the major functions of the bank. For asset and liability management, for example, the most important areas represented are investment, money market, and lending activities, both domestic and foreign, supported by the economic analysis function. The fundamental long-run task of top management is to chart the probable course of the bank, allowing for adequate funding and capitalization to accommodate planned needs. Rarely, if ever, will events proceed exactly as planned. Lending opportunities may be greater or less than anticipated, money market conditions may tighten or ease, or currencies may come under upward or downward pressures. Therefore, management's objective is to position the bank so that it can adapt profitably to whatever conditions arise. One of the facts of life for management is that a modern international bank is dependent upon funds borrowed in the money market for a large portion of its liabilities. A bank is able to attract these funds at a favorable cost in part because of the perceived safety and liquidity of its liabilities. The guidelines set by management for sound operations are, therefore, critical for maintaining the attractiveness of the bank. A checklist of management concerns would include the following.

(1) *Adequate capital.* As the ratio of assets to capital increases, the risk to shareholders and uninsured depositors increases but, as the ratio declines, the rate of return on capital falls off. The happy medium is hard to find. When achieved, it is a blend of what competitors are doing, what supervisory authorities view as appropriate, and what the bank's own management thinks is prudent. However an acceptable ratio is determined, it will affect management decisions. In the planning process, the ratio signals the need to raise additional capital in order to meet planned growth. If the capital cannot be raised at an acceptable cost, the expansion of the bank's activities may be impeded, in the long run, by the need to stay within the range of prudent capital coverage.

(2) *Liquidity.* It is the nature of banking to make commitments to receive and to pay out funds. Some commitments may be fixed in advance. The bank may be required to make payment to the holder of a certificate of deposit or a Eurodollar account, to receive payment on a maturing Treasury bill, or to hold funds in its reserve account with the Federal Reserve. In other cases, the timing and the amount of the flows are, within limits, at the discretion of the customer. He may choose to draw down a deposit or a line of credit, to roll over a loan, to make payments against an outstanding loan, or to put funds into a demand or time deposit account. The liquidity problem for the bank is always to be able to honor commitments to make payments at an acceptable cost and without reliance on the Federal Reserve discount window. To do this, banks chart foreseeable inflows and outflows of funds. They prepare for anticipated outflows by arranging to obtain funds at the time that the funds are needed. They also try to reduce the likelihood of unforeseen shortfalls by using stable sources of funds, such as customer deposits and funds with long maturities, in order to reduce the volatility of liabilities. As a cushion on the asset side, they hold liquid assets. However, banks also rely upon their capacity to borrow in money markets as an important alternative to holding liquid assets. The markets in Federal funds, repurchase agreements, bankers' acceptances, certificates of deposit, Eurodollar deposits, and the commercial paper of the bank holding companies are sources from which banks plan to obtain funds as needed (Table 1).

(3) *Market exposure.* Because banks depend so heavily on the money markets for liquidity, it is important for them not to exhaust their capacity to borrow. They do this by remaining within what they feel is their share of each segment of the market. The demand for funds beyond the customary level is an

Table 1

Selected Assets and Liabilities of Large Commercial Banks*

In billions of dollars

Year-end	(1) Net Federal funds purchased†	(2) Certificates of deposit	(3) Other liabilities for borrowed funds‡	(4) Net liabilities to foreign branches§	(5) Total loans and investments	Ratio to (1) to (5) (percent)	Ratio to (2) to (5) (percent)
1966	‖	15.7	6.8	‖	189.4	‖	8.3
1969	9.5	10.9	2.8	12.6	239.8	4.0	4.5
1970	10.8	26.1	1.3	6.5	261.0	4.1	10.0
1972	20.0	44.9	1.9	1.1	325.4	6.1	13.8
1974	28.4	92.8	4.3	−1.3	410.2	6.9	22.6
1976	51.3	65.9	4.2	−15.5	416.4	12.3	15.8
1978	61.4	100.0	16.9	−17.6	503.6	12.2	19.9

* Weekly reporting banks.

† Net of Federal funds sold to other commercial banks. Includes securities sold under agreements to repurchase.

‡ Excludes borrowing from the Federal Reserve.

§ A negative number indicates net funding of foreign branches.

‖ Not available.

Source: Federal Reserve *Bulletin*.

ambiguous indicator of a bank's condition. The funds may be wanted because of profitable opportunities or, if the bank is having problems, to honor commitments. Whatever the actual situation, there is the danger that the financial markets will take the pessimistic view that the bank is experiencing internal problems. Banks are, therefore, reluctant to exceed their normal share of the market for fear of tarnishing the value of their name and thereby running the risk that all segments of the market would then be closed to them.

(4) *Foreign currency positions.* A bank's net position in a foreign currency exposes it to the risk of fluctuation in the value of that currency. The bank may gain, but it also risks a loss. To limit potential losses, a bank establishes rules concerning who will take such risks and to what extent. The general practice is to limit foreign exchange risk by hedging most foreign currency positions. However, foreign exchange traders may take positions within preset limits and subject to review at a higher level.

(5) *Maturity mismatches.* Raising funds at a maturity different from that at which the funds are lent gives rise to two concerns. One is the commitment to provide funds, that is, the liquidity problem discussed above. The other is the commitment to a particular interest rate. Unexpected changes in market interest rates may result in gains or losses in the bank's portfolio. Losses may result if the bank finances its loans with relatively short-term funds and market rates rise or if relatively long-term funds are used and lending rates fall. Correspondingly, profits can be earned if interest rates move in the other direction. In practice, much of this risk is mitigated by tying the lending rate to the cost of funds. However, banks can profit from the usual interest rate differential inherent in borrowing short and lending long and from correctly anticipating changes in interest rates. Hence, to an extent, they try to harmonize the maturity structure of the portfolio with likely interest rate developments. If rates are expected to fall, for example, fixed rate loans and short-term borrowings would be preferred. As with foreign exchange positions, top management must set limits on maturity mismatches and, especially, it must see that these limits are consistent with expected money market developments.

Having established general policy for the bank and having set limits on discretionary decisions that can be made at lower management levels, senior management leaves actual operations and market strategy to officers with functional or regional responsibilities. Adherence to the limits is frequently checked in the asset and liability management process, but within the limits managers are expected to maximize profits from their activities. Typically, the performance of a funding or a lending area is judged in relation to a standard measure of the cost of funds to the bank. The three-month London interbank offer rate or the three-month certificate of deposit rate (adjusted for reserve requirements and deposit insurance) are common choices, although particular activities may be matched against other rates. A money market function would try to raise funds at a lower cost, whereas a lending function would try to obtain a higher yield. The extent to which each succeeds determines that unit's profits.

Global management

The global approach to asset and liability management shares all the features of traditional bank management just described. The concerns of management are the same. Operating responsibilities are still divided by function and by region among profit center managers, each with limits placed on his discretionary decisions. At the same time, advocates of global management recognize that in the 1970's the world economy has become more integrated and, in some ways, riskier. The geographic division of responsibilities is seen as an insufficient approach to both decision making and risk management in worldwide markets. A unified approach to funds management is thought to be a better way to interface with today's highly integrated markets. Consequently, emphasis is placed on bridging the gap between strategic planning and the bank's day-to-day currency and money market decisions. Efforts are made to know aggregate bank positions on a timely basis, to understand and to assess market conditions, and to coordinate market positions in a way consistent with an overall strategy.

The changing environment

The increased use of global management techniques is a logical response to the changes that occurred in the world economy during the early 1970's. First, United States capital controls were removed, allowing free interactions between the domestic and international operations of banks. Second, the volume of international banking transactions, particularly through offshore offices, had grown into a major component of the total business of United States banks. Last, fluctuating exchange rates and wider variations in interest rates added to the risk of open currency and maturity positions.

The removal of capital controls

In the 1960's, United States authorities initiated three programs that limited the ability of banks to move funds internationally. In 1965, in the hope of alleviating persistent balance-of-payments outflows, the United States extended the coverage of its interest equalization tax (IET)—a tax on foreign equity and debt issues purchased by United States residents—to include long-term bank loans to foreigners. At the same time, voluntary limits on bank lending abroad were adopted under the voluntary foreign credit restraint (VFCR) program. In 1969, under Regulation M, the Federal Reserve adopted measures to stem inflows of funds from foreign branches of United States banks during the period of tight monetary policy. As the result of these restrictions, the domestic activities of United States banks tended to be isolated from their international ones.

The IET and VFCR restrictions on banks were removed early in 1974, and the Regulation M reserve requirement was reduced in stages between 1973 and 1978. The end of capital controls removed the main institutional wedge that had segmented the dollar financial markets. Consequently, the degree of interdependence between domestic and foreign operations increased significantly. Domestic funds could, and did, support foreign business; equally, foreign funds could support domestic business. When capital controls limited bank options, there had been no great cost in compartmentalizing the bank decision process; but with the end of these controls the cost of, and return from, funds became the primary concern—the more so with the increasing volume of business.

The growth of international banking

International banking, by United States banks and banks of other countries, has grown very rapidly since the 1960's. Claims on foreigners of United States banks (including their foreign branches) have increased 30 percent per year since 1969 (the earliest year for which reliable foreign branch data are available), while liabilities to foreigners have grown 21 percent per year during the same period. By comparison, assets of domestic offices of large United States banks have grown much more slowly, 9 percent per year. Abroad, Bank for International Settlements statistics indicate an eightfold jump in Eurocurrency deposits of banks in eight reporting European countries (including branches of United States banks located there) since 1969 (Table 2). The boom of United States banking abroad has been very profitable for banks. In recent years some United States banks have derived 50 percent or more of their total profits from international activities, compared with more modest earnings a decade ago.

The major factor behind the impressive growth of international banking activities is the increasing interdependence of the world's economies: the growth of world trade, the global investment of multinational corporations, the rapid economic growth of some developing countries, and the imbalance in world payments, particularly since the 1973 OPEC oil price increase. It is natural that much of the increased payments flows associated with these events would occur through banks.

Significantly, much of the growth of international banking has occurred through offshore banking centers. Claims of foreign branches of United States banks on foreigners have grown at an annual rate of 33 percent since 1969, while their liabilities to foreigners have increased at a 22 percent rate (Table 2). The use of offshore centers is related mainly to the lower cost of bank activities there. The restricted access to the United States capital markets during the period of controls, helped to promote the use of offshore facilities during that period. More important, though, has been freedom from other regulations, particularly reserve requirements, deposit insurance, and interest rate ceilings. Alternative tax structures abroad also offer some cost advantages to offshore banking. Moreover, offshore centers offer a choice of location to some depositors who are concerned that their accounts may be blocked or expropriated.

As international activities grew, the impetus for top level bank management to monitor the international function increased. The consequence of errors was no longer small. Moreover, in the mid-1970's the risk from international activities seemed less hypothetical than before. Questions were being raised about the soundness of bank loans to tanker companies and to developing countries, while the failure of a few prominent banks underlined the need for sound management. The environment was right for head offices to take a closer look at their global operations.

Increasing risks in the marketplace

In the 1970's exchange rates and interest rates have become more variable than they had been in the recent past. Central banks stopped pegging exchange rates in 1973, allowing them to float (although some countries, such as those in the European Community maintained currency arrangements that provided for a degree of cohesiveness among their exchange rates). Whipsawed by events—widespread inflation, an oil embargo and price increases, recession in industrial countries followed by an uneven recovery, and persistent trade imbalances among major countries—both exchange rates and interest rates have moved by wider amounts than in the past.

For banks, this movement has accentuated the risks of foreign currency exposure and maturity mismatches discussed above. Because potential gains and losses have increased, the interest of bank management in

Table 2

Selected Measures of the Growth of International Banking

In billions of dollars

Year-end	Claims of United States banks on foreigners: Head office*	Claims of United States banks on foreigners: Foreign branch†	Claims of United States banks on foreigners: Adjusted total‡	Liabilities of United States banks to foreigners: Head office*	Liabilities of United States banks to foreigners: Foreign branch†	Liabilities of United States banks to foreigners: Adjusted total‡	Assets of United States offices of large banks§	Gross Eurocurrency deposits in eight countries‖
1962	7 3	¶	¶	22 0	¶	¶	168 4	¶
1966	12 0	¶	¶	29 1	¶	¶	242 2	¶
1969	12 9	15 9	28 1	42 6	27 8	59.2	316.4	56.9
1970	13 9	28 6	41.8	43 5	35 7	71 9	337 1	75.3
1972	20 7	59 8	79 5	61 7	61 0	120 6	410 2	131 9
1974	46 2	111 2	151.6	96 1	106 0	197.6	529 5	220.8
1976	79 3	158 5	218 1	110.7	135 6	241.9	552 4	310.7
1978	125 2	207 4	302 7	166 3	168 9	323.0	689 9	447 9**

* The figures include head-office claims on, and liabilities to, their own foreign branches Custody claims and liabilities are not separable from the bank's own claims and liabilities prior to 1978. In 1978, head-office claims and liabilities net of custody claims and liabilities items were $114 2 billion and $77 8 billion, respectively

† Net of claims on, or liabilities to, sister branches

‡ Net of head-office claims on, or liabilities to, its own foreign branches

§ Weekly reporting banks

‖ The data do not include bank positions *vis-a-vis* residents of the country in which the bank is located The reporting banks are those located in Belgium-Luxembourg, France, Germany, Italy, the Netherlands, Sweden, Switzerland, and the United Kingdom.

¶ Not available.

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Sources Federal Reserve *Bulletin*. Bank for International Settlements, *Annual Report* ("External Positions of Reporting European Banks in Dollars and Other Foreign Currencies")

managing these positions closely has also increased. For the bank as a whole, risk stems from exposures that do not net out from the overall balance sheet. In this sense, the interest in global management is directly related to an interest in managing foreign currency and maturity exposures.

Pros and cons of central coordination

The growth of international banking and the greater interdependence and riskiness of money markets and foreign exchange markets increased the incentive for some banks to use a global approach. Not all banks involved with international business have adopted global asset and liability management, however. Bank managements differ in the assessment of the relative merits of global management versus decentralized management. Some banks feel that central coordination enables them to manage better the flow of funds within the organization and to initiate profitable transactions that otherwise would not have been undertaken. Other banks feel that they are more effective if operated as individual profit centers with the looser coordination inherent in the traditional management review process. Particularly, they are concerned with the way in which central coordination shifts responsibilities to head office personnel, reducing motivation at lower levels and in foreign branches.

Much of the impetus for global management comes from the desire for a unified approach toward sources of, and uses for, funds in world markets, particularly world dollar markets. The primary goal is for the bank to be more effective in its use of the money markets To the extent that it succeeds, the bank will be more profitable

In practical terms, global management may help a bank fund itself at the lowest rate and lend at the highest Since all banks compare rates in various markets when seeking or placing funds, the advantage of centralized information flow may be small under usual circumstances. However, where timing is crucial—as with an unexpected change in market conditions, for example—the difference between the two banking arrangements may be important. The authority to act, as well as the information *per se,* may be critical. The officer in charge of global management not only has flexibility in his choice of markets, but generally has wider limits on the positions he can take than his counterparts at individual profit centers. By contrast, the relative effectiveness of officers of branch profit centers would depend in part upon the ease with which they could obtain permission from the head office to exceed their limits in special situations.

Global management may also enhance a bank's ability to arbitrage favorable rate differentials. For example, six-month dollar funds may be available at 10.50 percent (adjusting for reserve requirements and deposit insurance) in the New York certificate of deposit market but may earn 10 75 percent in the London Eurodollar market. By placing $1 million in the London market financed from funds raised in New York, the bank would earn a profit of $1,250. In the process of bidding for funds in one market and offering them in the other market, the bank helps to narrow the arbitrage differentials between the rates in the two markets. In that way, the degree of integration between the two segments of the market is increased. In some banks organized as separate profit centers, the arbitrage function is handled by having funds managers deal at arm's length with their counterparts in other locations within the bank. Each manager could initiate an arbitrage transaction. At most banks, however, the decision to transact simultaneously in two markets requires agreement between the managers responsible for each market. Without central coordination, they would have to decide on a means of splitting the profits ($1,250 in the example) and each would have to determine that the transaction is in the interest of his profit center. Global management facilitates arbitrage transactions by establishing a clear management responsibility to exploit such profit opportunities in the interest of the bank as a whole. Moreover, the close contact that the parent bank keeps with the world market through its branches provides an important flow of information which helps spot arbitrage opportunities.

Another way in which global asset and liability management may be beneficial to banks is by increasing their ability to net out opposing transactions before they reach the market. Not uncommonly, a branch at one location may need funds at the same time that another branch wishes to supply funds. If they recognize their offsetting needs, they would transact with each other. Otherwise, the transactions would be made in the market, potentially at a cost to the bank of the spread between the bid and offer rates for funds. With global asset and liability management, the parent bank maintains close contact with each branch. These communications increase the chance that the offsetting transfers are handled internally, enabling the bank to avoid the potential market cost.

Many banks take positions and earn profits on expected fluctuations in market rates over time. Proponents of both the global and decentralized approaches each regard their form of management as being the better way of handling these positions. Advocates of decentralized management take the view that there is no monopoly on information in the market and that local managers are as likely to exercise good judgment as their counterparts in the head office. By managing individually part of the total bank portfolio, they help assure that the bank will respond, at least in part, to favorable market opportunities. It is hoped that such errors in judgment as occur will be more than offset in other profit centers and that large mistakes will be avoided. Thus, the decentralized approach is seen as the best way to maximize the bank's profits.

By contrast, the view of globally managed banks is that it is better to formulate a single bank strategy. Because contacts are maintained with personnel in local markets, it is felt that the head office is not at a disadvantage with regard to either information or ideas, compared with the decentralized approach If more astute managers are at the head office, their judgment may be better than that of lower level officers. Most important, however, is the greater control of the total position inherent in global management Because the response to market events is closely monitored by top management, some banks have been more willing to take market positions after adopting global management techniques than they had been previously.

A major class of concerns about global asset and liability management involve personnel management. At a basic level, resistance to change from existing managers often makes a shift to global management awkward People who have held important decision-making functions at various profit-making units tend to resent new lines of authority, particularly if they have less authority under the new arrangement. Reluctance to alienate key staff people has sometimes been a barrier to adopting the global view.

Lack of personnel who are generally familiar with various bank functions has also acted as a barrier to global management. Knowledge of both the domestic and foreign sides of banking is a key ingredient to coordinating global activities. Banks thin in personnel with this experience have difficulty in shifting to global management. The long-run solution is to rotate people in various jobs so that they receive the proper training.

Beyond these initial barriers to change, though, there are deeper reasons for questioning the viability of global management. Coordination at the center is crucially dependent upon information on conditions in diverse market locations. It requires tacticians who continually probe the markets, execute trades, and report on events. The danger in central coordination is that it could unintentionally supplant thinking and decision making on the periphery. If that were to happen, global management would no longer get the information it needs to function effectively.

For this reason, some banks prefer decentralized organization. The challenge to earn profits, the freedom to manage a department or trading position without daily direction from superiors, and the feeling of being trusted with responsibility motivates people to be effective bankers. In this way, decentralized organization also helps train and select people for higher positions. In the view of those who favor this approach, it is the more effective way to run a bank.

Intermediate cases

The polar cases of global management of assets and liabilities and decentralized decision making are not the only possibilities. Intermediate cases exist. One large bank, for example, has a policy of never interfering with the decisions of local managers. Nonetheless, these managers report daily to the head office, which can hedge market positions that, in the aggregate, appear to it to be unsound. In that event, the offsetting transactions would be done at the head office to maintain the spirit of local autonomy.

Centralized management need not be extended to all of a bank's operations. Eurodollar activity booked in Nassau or the Cayman Islands is usually the first international area to be coordinated with domestic money market trading. London, because of its importance, is often next, followed by other Euromarket centers. The movement to at least partial integration of management at some banks is an indication of the current strength of the shift to global management. One interesting case is a bank whose highest level officers strongly endorse the autonomy of local units. Nevertheless, lower level officers in the domestic and international areas at the head office and in London have recognized the advantages of close central coordination. Informally, a supervisory unit at the parent bank has become a vehicle for coordinating much of their activities.

Thus, while there are grounds for debating the merits for global management methods in their purest form, banks continue to experiment with alternative approaches. The reasons for doing so are clear. Banks are adapting to their larger presence in world markets, the tighter integration of domestic and foreign markets, and increased risks inherent in the economic environment.

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