# Recent Trends in the U.S. Foreign Exchange Market

The U.S. foreign exchange market continued to expand in the early 1980s, although not nearly as rapidly as in previous years The Federal Reserve Bank of New York's latest survey of foreign exchange turnover shows that trading volume increased to $33 5 billion per day in April 1983, a rise of 43 percent from the $23.4 billion recorded in March 1980. By contrast, during the previous three years the volume of foreign exchange transactions multiplied nearly fivefold, from about $5 billion per day in April 1977

Slower growth is not surprising, considering how rapidly the market expanded in the late 1970s Most of the changes that helped synchronize U.S. market practices with those in other major financial centers, and sharply boosted activity, had been completed by 1980. Also, the recent increase in turnover is measured from a much higher base level than was true for the 1977-80 period.[1]

Developments in the early 1980s had varying effects on the foreign exchange activity of major classes of market participants. On the one hand, financial deregulation in the United States fostered a sharp increase in foreign exchange trading by nonbank financial institutions looking for additional income or ways to complement traditional lines of business. Meanwhile, Japan, one of the world's major financial centers, relaxed its foreign exchange controls, as had the United Kingdom about a year earlier. Together, these changes created greater potential for capital flows through the diversification of international portfolios and generated increased demand for foreign exchange services.

But some developments limited activity. The worldwide recession and global debt crisis slowed or actually reduced world trade volumes and probably depressed corporate foreign exchange transactions related to trade and foreign earnings flows In addition, following major changes in foreign exchange accounting rules, many U S. multinational companies felt less need to hedge accounting exposure. This, too, diminished corporate activity in the exchanges.

The rapidly changing situation affected not only banks' customers but also the banks themselves The world debt crisis, new regulatory requirements, heightened competition, and pressure on earnings all led bank management to reassess foreign exchange operations. As a result, many institutions altered their approach to the market.

This article, based on in-depth conversations with market participants and the Federal Reserve Bank of New York's 1983 survey of foreign exchange activity in the United States, examines how major segments of the U.S. foreign exchange market reacted The first section looks at nonbank institutions, both financial and nonfinancial The second examines commercial banks and their behavior Third, the various changes in currency shares are discussed The final section considers how various aspects of market concentration have changed

[1] Seasonal factors also may have played a role In the United States both April 1983 and March 1980 had 21 business days But several financial centers overseas were closed for the Good Friday and Easter Monday holidays during April, probably reducing transactions from what they otherwise might have been, even though the New York market was open on those days Turnover in April 1983 was also diminished because European countries moved to daylight-saving time in late March, about one month ahead of the United States This decreased by one hour for most business days in April the time when European and U S foreign exchange markets were open simultaneously In addition, turnover in April 1983 may have been reduced because market participants normally advance some transactions from April into March in order to adjust balance sheets prior to the quarter-end

### The Foreign Exchange Activity of Nonbank Institutions

Nonbank institutions more than doubled their total purchases and sales of foreign currency, to $83.8 billion in April 1983 from $35.4 billion in March 1980 (Table 1). (This excludes arbitrage members of the International Monetary Market (IMM).) In March 1980, activity by nonfinancial entities was about four times that of financial institutions. But by early 1983 trading volume by the two groups was roughly equal. Overall activity (spot, swaps, and outright forwards) by nonfinancial institutions rose nearly 47 percent from $28 billion to $41.1 billion. Growth in transactions by nonbank financial entities was far more rapid, rising nearly sixfold to $42.6 billion from $7.4 billion.

*Financial institutions*

Especially noteworthy is the surge in activity by nonbank financial institutions, a category including securities and brokerage firms, commodities houses, and insurance companies. As deregulation of the U.S. financial system diminished differences among various financial industries, nonbank financial institutions moved to establish a presence in areas once dominated by banks. In particular, many committed themselves to a more active role in foreign exchange.

Many nonbank financial institutions also benefited when the United Kingdom and Japan eased foreign exchange restrictions on capital flows in 1979 and 1980, respectively. In many commercial banks, trade-related transactions tend to generate a large portion of customer business. But certain nonbank financial entities with a long-standing involvement in the securities business naturally benefited when international investors had greater opportunity to diversify their portfolios by investing abroad.

While generalizing is difficult because firms emphasize different areas, many nonbank financial institutions have become involved in one or more of the following activities.

- Providing foreign exchange services to portfolio investors and borrowers in the United States and abroad. Package deals, which accommodate customers' foreign exchange needs stemming from underlying securities transactions, have become increasingly prevalent.[2]
- Meeting corporate foreign exchange needs related to takeovers and acquisitions of foreign entities.
- Using long-term foreign currency swaps to bring together borrowers and/or investors with different currency interests.[3]
- Arbitraging to profit from price discrepancies that occur between the interbank market and the IMM, where foreign currency futures are traded.[4]
- Positioning in size on the IMM to speculate on currency

Table 1

**Summary of Foreign Exchange Transactions by Nonbank Institutions**

In billions of U.S. dollars

| Type of Transaction | March 1980 90 banks | April 1983 119 banks |
|---|---|---|
| **Spot** | | |
| Nonfinancial institutions | 10.8 | 22.2 |
| Financial institutions | 4.3 | 21.4 |
| Subtotal | 15.1 | 43.6 |
| **Swaps** | | |
| Nonfinancial institutions | 6.7 | 10.1 |
| Financial institutions | 2.0 | 17.5 |
| Subtotal | 8.7 | 27.6 |
| **Outright Forwards** | | |
| Nonfinancial institutions | 10.5 | 8.8 |
| Financial institutions | 1.1 | 3.7 |
| International Monetary Market | 6.3 | 3.3 |
| Subtotal | 17.8 | 15.8 |
| **Total Transactions** | | |
| Nonfinancial institutions | 28.0 | 41.1 |
| Financial institutions | 7.4 | 42.6 |
| International Monetary Market | 6.3 | 3.3 |
| **Grand Total** (Excluding International Monetary Market) | 35.4 | 83.8 |
| **Grand Total** (Including International Monetary Market) | 41.6 | 87.0 |

Source: Federal Reserve Bank of New York's Foreign Exchange Turnover Surveys (March 1980 and April 1983).
Because of rounding, figures may not add to totals.

[2]For example, fully-hedged commercial paper programs are available to foreign borrowers who wish to raise funds in the U.S. market, but avoid exchange rate risk. A foreign company thus can obtain financing in its home currency while fixing in home-currency terms future principal and interest payments. Not all borrowers and investors choose to obtain foreign exchange cover immediately. Instead they hope to lower effective borrowing costs or augment investment returns through subsequent favorable exchange rate movements.

[3]Suppose, for example, that a U.S. investment bank has arranged for a dollar-denominated private placement by a Japanese financial institution with a U.S. financial entity. A long-term dollar/yen swap would provide the Japanese institution with yen funds, while also hedging the dollar-denominated principal payment. Interest payments also could be hedged. Meanwhile, the U.S. institution has a dollar-denominated asset.

[4]Arbitrage entails a comparison of futures prices with outright forward prices for the same maturity in the interbank market, or with the spot or "cash" rate for that currency. Profits are made by buying a currency where it is relatively "cheap" and selling where it is relatively "dear".

movements, both for customers and for their own accounts.[5]

- Positioning in the foreign exchange swap market Swap positions are based on expectations about interest rate movements between two currencies There is interest rate risk but no exchange rate risk since the same amount of foreign currency has simultaneously been bought and sold.

- Offering foreign exchange options contracts to customers.

Several nonbank financial institutions have actually established full-fledged trading operations with professional dealing staffs to support their increased commitment to foreign exchange. Some occasionally make markets but normally do not quote rates consistently or maintain reciprocal trading relationships with commercial banks They conduct their foreign exchange transactions through banks, brokers, and sometimes the IMM.

*Nonfinancial Institutions*

Two factors largely explain the more moderate growth of foreign exchange activity by nonfinancial institutions First, in the early 1980s the world economy and trade were depressed. Second, foreign exchange accounting procedures governing corporations' international business changed significantly.

In December 1981, the Financial Accounting Standards Board adopted a set of new rules (FASB 52), replacing those in effect since early 1976 One of the most important changes, from the corporate viewpoint, was that balance sheet translation gains or losses produced by exchange rate changes were to be reflected in a separate component of stockholders' equity, rather than in current earnings, as before.[6] Following this, many U S corporations felt less compelled to protect themselves against wide swings in earnings by hedging balance sheet exposure with outright forward contracts.[7] Instead, senior management focused more intensely on transaction and/or economic exposure, accelerating a trend which was already emerging.[8]

At the same time corporations appear to have become increasingly sophisticated in foreign exchange risk management and hedging strategies. In response to volatile exchange rates, some firms modified their trading techniques Rather than using an outright forward, they now frequently engage in a spot transaction, followed by a swap. The end result is the same, but in a fast-moving market a spot price often can be obtained more quickly from banks than an outright forward price. The spot contract is done promptly to eliminate exchange rate risk. The swap can be done more leisurely because swap rates normally are less volatile than spot rates. Indeed, commercial banks normally use this technique to offset outright forward transactions done for customers

Beyond this, some large multinational companies have established their own trading operations to manage their foreign exchange exposures more aggressively and profitably Such firms frequently trade actively on an intraday and day-to-day basis, and at times position aggressively to benefit from favorable short-term movements in exchange rates. This can lead to a heavy volume of both spot and swap transactions, with the latter used to roll over positions coming due. Some corporations reportedly will even quote prices on occasion, although probably only when they have a natural interest in doing the business.

The turnover survey reflects these changes. Outright forward transactions by nonfinancial institutions declined 16 percent to $8 8 billion in April 1983 from $10.5 billion in March 1980. Meanwhile, their spot activity more than doubled to $22.2 billion from $10.8 billion, and swap transactions rose about 50 percent to $10 1 billion from $6.7 billion.

**The impact of changing conditions on commercial banks and their response**

The international debt crisis and growing list of problem loans at home, especially in the energy sector, led to mounting concern within commercial banks over creditworthiness. Also, the Federal Reserve's new requirement that large U S. banks maintain primary capital at a level equivalent to at least 5 percent of total assets focused attention on the adequacy of bank capital Meanwhile, heightened competition and rising costs prompted more emphasis on improving earnings from foreign exchange operations.

For these reasons bank management began to reassess the risks and costs of active interbank trading and positioning, and to adopt a more cautious attitude toward increasing the size of balance sheets. Consequently, many major trading banks have made important changes in their approach to the foreign exchange market. Banks now are generally more conscious of costs, and more attentive to

[5]For example, commodities houses that manage investment funds for clients have shifted a portion of their portfolios into foreign exchange and applied the same charting techniques and technical analysis used for years to trade commodities Some participants also apply the techniques of spread trading to foreign currencies, hoping to take advantage of distortions in historical price relationships between two currencies, or between a currency and some other financial instrument or commodity If, for example, the price of Swiss franc futures rises relative to that of German mark futures, above a level that normally has prevailed, a spread trader might purchase mark futures and sell Swiss franc futures, speculating that the price ratio will move back into line

[6]Translation gains or losses stem from an exposed position on the balance sheet, that is, from a mismatch between those foreign-currency-denominated assets and liabilities which must be translated into U S dollars at exchange rates prevailing on the date of the balance sheet

[7]For a more detailed description of how U S companies have reacted to FASB 52, see the author's "FASB 52 Corporate Response and Related Exchange Market Effects", this *Quarterly Review* (Winter 1983-84), page 69

[8]See Patricia A Revey, "Evolution and Growth of the United States Foreign Exchange Market", this *Quarterly Review* (Autumn 1981), pages 32-44

risk-return characteristics of foreign exchange activities and indeed their entire spectrum of products and services. They have increasingly considered how foreign exchange activities affect the size, risk characteristics, and maturity and currency structure of the balance sheet, as well as the potential role of exchange operations in overall asset-liability management.

*Reassessment of risks and rewards in foreign exchange trading*

Around the turn of the decade, many large trading banks adopted a high-volume style of "in-and-out" spot trading [9] Positions were put on and unwound in hours and minutes rather than days or weeks, as traders pursued earnings over a relatively short time period Banks did this to reduce exchange rate exposure risks to more acceptable levels in an environment where exchange rates were highly variable and difficult to predict, making long-term positioning risky Some banks have continued this strategy But others, amid growing concern over creditworthiness and the size of balance sheets, became increasingly unwilling to incur the risk accompanying the large credit lines needed to support heavy intraday trading [10]

In addition, profit opportunities diminished progressively as more and more banks adopted a similar trading style With banks trading increasingly on signals provided by technical models and with advances in communication reducing the information lag, traders often found themselves reacting at the same time and in a similar way

Other factors also eroded banks' earnings from foreign exchange operations. Competition was intensifying for corporate business, which was expanding more slowly than before Banks were competing more aggressively, through both narrower spreads on bid/offer quotes and expanded corporate advisory services And beyond this, new institutions continued to enter the market The number of domestic banking institutions in the latest turnover survey increased by 11 to 59 between March 1980 and April 1983 The number of foreign banks in the United States included in the survey climbed from 42 to 60 [11] In addition, nonbank financial institutions were providing more foreign exchange services

Meanwhile, the cost of running a foreign exchange operation was growing rapidly Rising costs can be traced to several factors, including the banks' high-volume approach to trading Rapid "in-and-out" trading required costly back office support systems, particularly computer time, and a bigger clerical staff as banks struggled to process, efficiently and accurately, a large number of transactions Moreover, this trading strategy put a premium on quick access to timely information about a wide variety of financial data as well as fast-breaking economic, political, and social developments throughout the world Therefore, many banks acquired expensive new information services and communications facilities.

Heightened competitive conditions also raised costs Scrambling for customer business, many banks had established or expanded their corporate advisory services around the turn of the decade to increase, or at least maintain, market shares In addition, the proliferation of trading in the late seventies, along with continued entry of new institutions, spread trading talent thin and pushed salaries of professional dealers rapidly higher. Meanwhile, rents and utility charges were also rising

Table 2

**Foreign Exchange Turnover in the Interbank Market**

In billions of U S dollars

| Type of Transaction | March 1980<br>90 banks | April 1983<br>119 banks |
|---|---|---|
| **Spot** | | |
| Direct with banks in U S | 62 4 | 93 8 |
| Direct with banks abroad | 75 5 | 81 1 |
| Through brokers | 162 5 | 224 2 |
| Subtotal | 300 4 | 399 2 |
| **Swaps** | | |
| Direct with banks in U S | * | 22 5 |
| Direct with banks abroad | * | 51 7 |
| Through brokers | * | 130 2 |
| Subtotal | 137 8 | 204 4 |
| **Outright Forwards** | | |
| Direct with banks in U S | * | 3 1 |
| Direct with banks abroad | * | 3 7 |
| Through brokers | * | 4 6 |
| Subtotal | 11 6 | 11 4 |
| **Total Transactions** | | |
| Direct with banks in U S | * | 119 4 |
| Direct with banks abroad | * | 136 5 |
| Through brokers | * | 359 1 |
| **Grand Total** | 449 7 | 615 0 |

*Not available

Source Federal Reserve Bank of New York's Foreign Exchange Turnover Surveys (March 1980 and April 1983)

Because of rounding, figures may not add to totals

[9] For a more complete description of this development, see Patricia A Revey, *op cit*

[10] Along with the risk of outright losses from failure of counterparties to meet contract terms, heavy intraday trading increases the risk of potential payment errors

[11] The Federal Reserve believes its survey includes banks that account for the bulk of foreign exchange transactions in the United States

*Changes in approach to positioning and spot foreign exchange trading*

Pressure on earnings and risk considerations led some active trading banks to question the wisdom of conducting rapid "in-and-out" transactions to benefit from short-term movements in exchange rates. Now banks are generally less willing to do volume for its own sake, and have reduced active short-term position-taking A few banks have begun emphasizing a more strategic approach, positioning on longer-term exchange rate expectations Many have reassessed their role in making markets and chosen a lower, more conservative profile in the interbank market. Banks are less inclined to deal directly and quote two-way prices, particularly for certain currencies or at certain times of the day, and are less enthusiastic about maintaining a consistent posture with respect to reciprocity Reflecting a more defensive attitude, banks have carefully reviewed credit lines and in some cases cut them back [12]

Consequently, relationships between trading banks have become increasingly strained. This process has tended to feed on itself, with growing complaints about lack of liquidity, deteriorating trading conditions, and the difficulty of getting business done in the New York afternoon after European centers have closed

The greater reluctance to pursue rapid intraday spot trading and deal directly is reflected to some degree in the April 1983 survey Table 2 shows that the share of spot transactions in total interbank activity slipped nearly 2 percentage points to 64 9 percent between March 1980 and April 1983 Meanwhile, the portion of interbank spot turnover accounted for by direct transactions between U.S banks and between U.S banks and banks abroad, declined to 43.8 percent from 45 9 percent.[13] Although the changes are modest, these trends seem to have continued since the survey

Banks less enthusiastic about direct dealing have had greater recourse to foreign exchange brokers The proportion of interbank spot transactions done through brokers increased to 56.2 percent in April 1983, from 54 1 percent three years before While fees can be considerable, some banks feel that dealing through brokers is cost-effective because it reduces the size and expense of a full-time professional dealing staff. Using brokers also enables business to be done when banks shrink back from dealing directly. And a bank can control its positions better, since there is no obligation to reciprocate. Brokers generally handle standard amounts in each currency (typically \$3 or \$5 million equivalent) and discourage smaller, odd-sized deals, so the average size per deal tends to be larger.[14]

*Increased emphasis on other areas of trading*

Major banks have also turned more to some other areas of trading thought to improve profits on a cost- and/or risk-adjusted basis These include.

- *Foreign exchange futures* Many banks are, or are considering becoming, more heavily involved in trading on the IMM, either through their own subsidiary or through brokers there, to profit from relatively riskless arbitrage opportunities Some are actively quoting prices to other market participants who also are arbitraging between the futures and interbank markets (Box 1).

- *Foreign currency swaps* The use of swaps as part of banks' normal funding and lending activities has increased A bank needing dollar financing to fund dollar loans, for example, can borrow dollars directly or borrow one of several foreign currencies and swap the proceeds into dollars if that is cheaper. The bank has no exchange rate risk, and matches a dollar asset with a dollar liability. Bank management has encouraged closer communication between Eurocurrency traders and foreign exchange swap dealers to facilitate this activity

- *Foreign exchange swap positioning.* This is regarded as more conservative than spot positioning since interest rate differentials typically do not move as rapidly or as much as spot exchange rates. Accordingly, less time and effort is required to monitor swap positions. Many major banks now give more attention to swap trading and, in some cases, make swaps a trader's sole responsibility. Only a few years ago, a single trader often was responsible for both spot and swap transactions The turnover statistics show a moderate increase in the relative importance of swap transactions in interbank trading to 33.2 percent in April 1983 from 30 6 percent in March 1980.

- *Cross-currency trading.*[15] In part, these transactions accommodate customer demands Additionally, some banks may now see cross-currency positioning as less risky than positioning directly in the dollar, since most cross rates have been less volatile and more predictable than dollar rates in recent years Some banks also engage in cross-currency positioning to protect themselves against unfavorable movements in dollar

[12]The large turnover in chief dealers over the last year or two may in part reflect the banks' changing attitudes

[13]Swap and outright forward transactions done directly by banks with other banks were not separately classified in the March 1980 survey. so the only comparison possible is for spot turnover

[14]The average deal size was greater for transactions reported by brokers than for those reported by banking institutions for every currency but the German mark

[15]In a cross-currency transaction a foreign currency is purchased or sold directly against another foreign currency rather than against the dollar

exchange rates. This is especially true when a position in a widely traded currency, like the German mark, can be used to hedge a position in a currency for which cover is more difficult to arrange[16] Cross-currency activity, reported for the first time in the latest survey, totalled $1.5 billion. This probably understates such transactions since some banks had problems isolating them from their records Moreover, cross-currency positioning reportedly picked up in late 1983 and early 1984, with substantial interest shown in sterling/mark, mark/yen, and sterling/yen

*Development and marketing of new products*

Heightened competitive conditions, along with the desire to enhance earnings, encouraged many large U S trading

[16] If a bank filled a customer order to buy Dutch guilders against dollars, it might prefer to cover its resulting long-dollar, short-guilder position But this could be difficult since the dollar-guilder market in New York is often thin, especially in the late afternoon Thus, the bank might purchase German marks against dollars, effectively leaving it with a long-mark, short-guilder position Should the dollar decline, losses on the dollar-guilder position would be compensated for by gains on the dollar-mark contract, as long as the mark-guilder cross rate remained stable

## Box 1: The Changing Role of the Foreign Currency Futures Market

Trading of foreign currency futures, the bulk of which occurs on the IMM in Chicago, has grown rapidly in recent years In fact, between March 1980 and April 1983 average daily turnover in the major foreign currencies there grew over twice as rapidly as adjusted total turnover, from $1 1 billion to $2.3 billion equivalent By April 1983, turnover on the IMM had reached nearly 10 percent of adjusted total turnover, up from 6 7 percent three years earlier Growth in trading of Swiss franc and Japanese yen futures was particularly dramatic, leading to an IMM to total turnover ratio of nearly 25 percent and 12 percent, respectively

Commercial banks have contributed significantly to this expansion In addition to their arbitrage activities, many banks now regard the IMM as another source of liquidity for the foreign exchange market It enables them to conduct business and alter trading positions when the interbank market is inactive and thin Moreover, closer contact with the IMM provides important information Many participants in the futures market rely on the same charting techniques and technical analysis to predict exchange rate movements. The widespread use of this approach can generate similar behavior which in turn sometimes causes sharp, short-term price movements that spill over into the interbank market. Since banks see the IMM as a potential force in moving exchange rates, especially when the interbank market is thin, they have felt compelled to adopt a more active presence there This helps them keep abreast of developments and make judgements about their own position-taking For April 1983, banking institutions reported that foreign exchange futures contracts with organized exchanges totalled almost $2 billion

More active trading by banks and other institutions has had several related consequences The futures market has become more closely integrated with the interbank market in foreign exchange Arbitrage opportunities have therefore diminished and exchange rates in the two markets have remained in line to a greater extent and more consistently than before Consequently, the role of the IMM's "Class B" members, a special class of clearing member authorized to do only arbitrage transactions, has shrunk Between March 1980 and April 1983, their activity dropped by nearly one-half, from $6 3 billion to $3 3 billion The share of commercial banks' total customer business accounted for by arbitrage members dwindled from 15 percent to only 4 percent

### Comparison of Growth in Turnover on the IMM and in Total Turnover

Daily averages in millions of dollars equivalent

| Currency | March 1980 IMM turnover | March 1980 Total turnover* | March 1980 IMM/total (percent) | April 1983 IMM turnover | April 1983 Total turnover* | April 1983 IMM/total (percent) |
|---|---|---|---|---|---|---|
| German mark | 193 | 5 375 | 3 6 | 347 | 8,004 | 4 3 |
| Swiss franc | 179 | 1,826 | 9 8 | 793 | 3,239 | 24 5 |
| Japanese yen | 67 | 1,742 | 3 8 | 639 | 5,434 | 11 8 |
| Sterling | 288 | 4,230 | 6 8 | 241 | 4,395 | 5 5 |
| Canadian dollar | 326 | 2,535 | 12 9 | 248 | 2,246 | 11.0 |
| Total | 1,053 | 15,708 | 6 7 | 2,268 | 23,318 | 9 7 |

*Adjusted for double-counting of interbank transactions

Source IMM turnover based on International Monetary Market, *IMM Foreign Exchange Daily Information Bulletin*, various issues Adjusted total turnover based on Federal Reserve Bank of New York's Foreign Exchange Turnover Surveys (March 1980 and April 1983) banks to develop new products to attract more customer business. This is especially evident in two areas—long-dated foreign currency transactions and foreign exchange options.

Some banks have extended the maturity dates for which they will do foreign exchange swaps and outright forwards, often at the behest of their customers who are naturally interested in such arrangements. Many sophisticated multinational companies and other entities now routinely scour the world's capital markets to locate relatively inexpensive funds and minimize overall financing costs. Long-dated swaps, some reportedly extending well beyond ten years, facilitate the search since with them a company can transfer medium- and long-term borrowings from one currency to another on a fully hedged basis. The opportunity to hedge through *long-dated transactions* is also welcomed by large institutional investors who hold foreign assets to diversify risks internationally and improve overall performance.

Long-dated transactions are riskier for banks than shorter-term ones, owing both to the time element and the greater difficulty of offsetting such deals.[17] But clearly, institutions actively marketing these services believe the income earned adequately compensates for the additional risk. Not all banks reason this way, however. Some arrange long-term deals only at a customer's request, while others will get involved only if they can offset the transaction with another bank or customer. The market for long-term foreign exchange transactions reportedly is still small relative to total turnover. Nonetheless, it is growing and could become more important as banks gain experience in pricing and in dealing with the risks.

Recently some banks began to offer custom-made *foreign exchange options* contracts to their customers.[18] Over-the-counter options, as these sometimes are called, and foreign exchange options traded on organized exchanges in the United States are relatively new but could assume an important role in the market.[19]

Foreign exchange options can be useful in managing foreign exchange risk. For a fixed fee (the premium), the customer essentially purchases an insurance policy, and transfers the risk of adverse exchange rate movements onto the bank writing the option contract. Options limit the customer's downside risk, but leave open the potential for theoretically unlimited upside gains.

Banks writing foreign exchange options contracts take on significant risk. They do not know their ultimate exposure until the holder exercises the option. Accordingly, much time and effort must be spent monitoring the relationship between the contract's strike price and the spot price in the interbank market.[20]

Banks tend to build into the premium price the heavy risk of writing foreign exchange options contracts. So, although corporations have expressed considerable interest, the actual volume of business so far seems to have been fairly limited.

**Currency Shares**

The main shift in currency shares was a dramatic rise in the Japanese yen's relative importance, largely offset by declines in sterling and the Canadian dollar. The chart shows that the Japanese yen became the second most actively traded currency, accounting for 22.0 percent of total turnover. Three years earlier the yen was fourth, with a 10.2 percent share. Trading in German marks remained the most active, accounting for 32.5 percent of all transactions, very close to March 1980's figure of 31.7 percent.

The doubling of the yen's share largely reflects Japan's relaxation, in December 1980, of foreign exchange restrictions on capital transactions.[21] The new law increased foreign access to Japanese markets and liberalized transactions abroad by Japanese residents.

By most accounts, two-way capital flows between residents of Japan and the rest of the world have risen sharply in recent years, with an accompanying increase in foreign exchange transactions.[22] Although gross data for all capital flows in and out of Japan are not readily available, their magnitude is suggested by total transactions related to foreign portfolio investments by Japanese residents, and portfolio investments in Japan by nonresidents. Since 1980, such purchases and sales of stocks and bonds have more than doubled to $171.8 billion in 1983 from $72.6 billion.[23] Over the same period, Japan's share of world trade also grew from 7.1 percent to 8.1 percent.[24]

[17]The long-term swap market is less liquid than both the spot and short-term swap markets.

[18]An options contract provides the right—but not the obligation—to purchase (call) or sell (put) an agreed-upon amount of foreign currency at a specified price (strike price) on or before the maturity date of the contract.

[19]Trading in sterling options contracts began on the Philadelphia Stock Exchange on December 10, 1982, and over the next two months the exchange added options contracts in Japanese yen, Swiss francs, German marks, and Canadian dollars. Also, option contracts on German mark futures began trading on the IMM early this year.

[20]Banks have devised computer programs to help manage these exposures. Ratioed hedging techniques often are used. They call for covering a certain fraction of the option in the interbank spot market, depending on the gap between the strike price and spot rate. Some banks also try to offset options contracts on the IMM or in Philadelphia, although this is relatively new since no options contracts with organized exchanges were reported in the turnover survey. Moreover, it can be difficult, as these options markets are still rather thin.

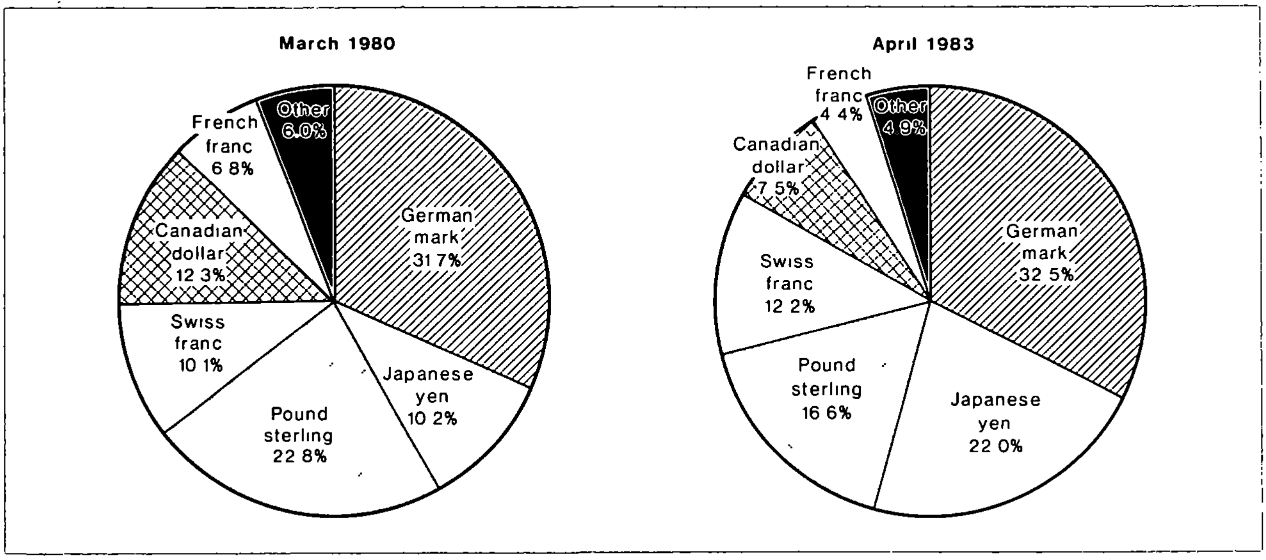
[21]The new Foreign Exchange law ratified and accelerated moves toward relaxation that had been gradually occurring since the early 1970s. See *Japan Economic Institute Report*, "Capital Market Liberalization in Japan", Number 10A (March 9, 1984).

[22]The growth in capital transactions also may help explain why swaps account for a larger proportion of yen turnover than is true for other key currencies. Swaps are frequently used to fund investment and lending activities.

[23]Based on data provided by the Japanese authorities.

[24]International Monetary Fund, *International Financial Statistics* (June 1984).

**Distribution of Foreign Exchange Turnover by Currency**




Because of rounding, figures do not add to 100 percent

Source Data based on Federal Reserve Bank of New York s Foreign Exchange Turnover Surveys (March 1980 and April 1983)

With activity in the yen picking up, many banks began placing more emphasis on trading the currency, replacing junior traders with more senior, experienced personnel who were given larger position limits and generated a larger volume of transactions The recent agreement between Japan and the United States to further open Japanese financial markets and make the yen more of an international currency is likely to increase the yen's share of overall turnover even more

**Concentration in the Foreign Exchange Market**

Changing conditions in the foreign exchanges had varying effects on concentration, depending on which aspect is examined The following discussion looks at concentration from several perspectives

- *The overall market.* Measured by the share of total turnover accounted for by the ten most active trading banks, overall concentration changed little It rose slightly to 39 9 percent in April 1983 from 39 2 percent in March 1980

- *Individual currency markets* Of the major foreign currencies, only trading in the German mark became less concentrated, as the share of the ten most active banks declined from 47 4 percent to 41 1 percent Concentration in the pound sterling, Japanese yen, and Swiss franc markets rose Meanwhile, trading in the less active currencies became less concentrated, even so, these markets remained more concentrated than most of those in the major currencies

- *Total turnover accounted for by foreign banks.* Foreign banks in the United States continued to enjoy a significant presence in the U S foreign exchange market Indeed, in April 1983, they comprised fully one-half of the turnover survey's bank respondents, compared with 46.7 percent in March 1980, they also accounted for 43 5 percent of total turnover, up from 39 percent three years earlier

- *Home-currency trading accounted for by foreign banks* Foreign banks accounted for an important share of activity in their home-currencies in April 1983, ranging from 16 percent for trading in sterling to 45 percent for the French franc (Table 3A) The market share of home-currency trading of foreign banks from Canada, Japan, and Switzerland rose appreciably from March 1980, but the share of German mark trading accounted for by banks from Germany declined

- *Foreign banks' specialization in home-currencies.*

## Box 2: Comparison of Foreign Exchange Turnover in Selected Markets

Comparing foreign exchange activity in different markets is limited by the lack of published data However, turnover statistics on the Tokyo, Canadian, and Singapore markets allow activity in those markets to be compared with that in the U.S. market. The Table shows foreign exchange turnover in April 1983 for the United States, Tokyo, Canada, and Singapore. The data are adjusted to eliminate double-counting of interbank transactions within, but not between, markets.

*Tokyo**
Total adjusted turnover of $249 billion in the Tokyo market was less than half of adjusted turnover in the U.S. market of $544 billion during April 1983. However, yen turnover in Tokyo ($229 billion) was twice as large as in the United States ($114 billion), accounting for about 92 percent of total activity, compared with about 21 percent in the United States. As in Canada and Singapore, virtually all foreign exchange trading is conducted against the U.S dollar. Banks' transactions through brokers accounted for about 49 percent of interbank activity in Tokyo, somewhat lower than the 57 percent in the United States Unlike brokers in the United States, brokers in Japan currently are not allowed to arrange transactions between domestic banks and banks abroad.† Customer transactions comprised 26 percent of total Tokyo turnover, considerably more than the 16 percent in the United States

*Foreign exchange trading also takes place in Osaka, where activity is estimated to be about 2 percent of that in Tokyo.

†This will change soon Beginning August 1, 1984 for nonyen transactions and early next year for yen transactions, brokers in Japan may accept bids and offers from banks abroad

*Canada*
The volume of foreign exchange transactions in Canada totalled $102 billion in April 1983, about 19 percent of adjusted total turnover in the United States. In the Canadian market, activity in the Canadian dollar was nearly two-thirds larger than in the U.S market, accounting for about 76 percent of total turnover there, compared with about 8.5 percent in the United States. In addition, a larger share of interbank transactions by Canadian banks was done through brokers (68 percent) than was true for U.S. banks (57 percent). Customer business accounted for 26 percent of total turnover in Canada, compared with 16 percent in the United States.

*Singapore*
Total adjusted foreign exchange turnover in Singapore amounted to $123 billion in April 1983, about 23 percent of activity in the U.S market The share of overall activity accounted for by the Singapore dollar was about 18 percent. The portion of interbank turnover conducted through brokers is not known, since these transactions are included in the figures showing direct transactions. Customer transactions accounted for 4 percent of all activity in the Singapore market, significantly less than in the United States, Tokyo, and Canada. However, the relative importance of customer business in Singapore is probably understated, since transactions by Singapore banks with nonbanks outside Singapore are included in transactions done with banks abroad.

**Foreign Exchange Turnover in Selected Markets for April 1983***

In billions of U S dollars

| | United States | | | Tokyo | | Canada | | Singapore | |
|---|---|---|---|---|---|---|---|---|---|
| Transactions | Total turnover | Turnover in Japanese Yen | Turnover in Canadian Dollars | Total turnover | Turnover in Japanese Yen | Total turnover | Turnover in Canadian Dollars | Total turnover | Turnover in Singapore Dollars |
| Interbank | 456 | 95 | 36 | 183 | 167 | 75 | 52 | 118 | 18 |
| Direct with domestic banks | 60 | 14 | 3 | — | — | 3 | 3 | 27† | 11† |
| Direct with banks abroad | 136 | 25 | 12 | 92 | 84 | 21 | 14 | 91†‡ | 7†‡ |
| Through brokers | 260 | 56 | 21 | 90§ | 82§ | 51 | 35 | — | — |
| Customer | 87 | 19 | 11 | 65 | 62 | 27 | 26 | 5 | 4 |
| Total | 544 | 114 | 47 | 249 | 229 | 102 | 78 | 123 | 22 |

*Data adjusted to eliminate double-counting of interbank transactions
†Includes transactions done through brokers
‡Includes transactions with banks and nonbanks outside Singapore
§Includes only transactions involving two domestic banks Brokers in Japan currently are not permitted to arrange transactions with banks abroad
Source Data based on foreign exchange turnover surveys conducted by the Federal Reserve Bank of New York, Bank of Canada, and Monetary Authority of Singapore Data on the Tokyo market are estimates based on information provided by the Japanese authorities and other market participants Adjustments to eliminate double-counting in Singapore's and Japan's data were done by the Federal Reserve Bank of New York
Because of rounding, figures may not add to totals

Table 3A

**Market Share of Home-Currency Trading of Foreign Banks in the United States**
In percent

| | March 1980 | | April 1983 | |
|---|---|---|---|---|
| Country of origin | Number of banks | Market share | Number of banks | Market share |
| Germany | 8 | 24 2 | 11 | 19 5 |
| United Kingdom | 4 | 16 5 | 5 | 15 6 |
| Canada | 5 | 14 4 | 5 | 24 3 |
| Japan | 9 | 27 0 | 13 | 31 4 |
| Switzerland | 3 | 20 8 | 4 | 28 5 |
| France | 6 | 46 7 | 9 | 45 2 |

Table 3B

**Relative Importance of Home-Currency Trading in Total Activity of Foreign Banks in the United States**
In percent

| | March 1980 | | April 1983 | |
|---|---|---|---|---|
| Country of Origin | Number of Banks | Share of Activity | Number of Banks | Share of Activity |
| Germany | 8 | 89 9 | 11 | 85 6 |
| United Kingdom | 4 | 52 8 | 5 | 37 8 |
| Canada | 5 | 46 5 | 5 | 38 1 |
| Japan | 9 | 69 8 | 13 | 86 6 |
| Switzerland | 3 | 51 9 | 4 | 49 7 |
| France | 6 | 42 2 | 9 | 34 4 |

Source Data based on Federal Reserve Bank of New York's Foreign Exchange Turnover Surveys (March 1980 and April 1983)

Home-currency transactions comprised a large share of the total activity of foreign banks, extending from about 34 percent for French banks to 86 percent for German and Japanese banks But except for Japanese banks, the relative importance of home-currency trading in total activity declined, in some cases substantially, from three years before (Table 3B)

## Conclusion

Overall, growth in foreign exchange turnover in the United States slowed significantly in the early 1980s, compared with its rapid pace in the late 1970s But this was not true for all major classes of market participants, whose experiences differed widely

- Nonbank financial institutions greatly expanded their foreign exchange activities Deregulation of the U S. financial system encouraged them to become more active in meeting customers' foreign exchange needs previously handled by commercial banks In addition, firms in the securities industry naturally benefited when the United Kingdom and Japan eased controls on capital movements, since that increased opportunities to diversify portfolios internationally and led to greater demand for foreign exchange services

- Activity of nonbank nonfinancial institutions grew much more moderately Global recession and the debt payment crisis depressed world trade volumes and thus the need for foreign exchange transactions At the same time, new foreign exchange accounting rules prompted many U S multinational corporations to reduce, or end altogether, certain foreign exchange activities designed to hedge balance sheet exposures.

- Heightened competition, rising costs, and concern over creditworthiness and the size of balance sheets led many commercial banks to reassess their foreign exchange activities Some became more reluctant to pursue a high-volume, rapid "in-and-out" trading style, to deal directly, or to make markets To improve earnings, many placed increased emphasis on other areas of trading and began offering new products to attract customer business

Assessing prospects for future growth in foreign exchange transactions is difficult All things considered, a recurrence of the explosive growth in the late seventies seems unlikely More probable is that the more moderate pace of recent years will continue As economic recovery spreads, world trade volumes should pick up, creating a greater need for foreign exchange transactions In addition, ample scope for greater diversification of investment portfolios, together with planned further reductions of restrictions on capital movements in and out of Japan, suggest that foreign exchange activity related to capital flows will continue to expand

Less clear, however, is whether the change in corporate balance sheet hedging practices is permanent To some extent, companies are still sorting out the full implications of the new foreign exchange accounting rules The answer may depend on the course of the U S dollar Should the dollar continue to strengthen, many firms would experience balance sheet translation losses At some point the impact of cumulative losses on equity might prompt them to renew balance sheet hedging, to forestall a negative reaction by analysts and stockholders Likewise, the decision by some major trading banks to step back from the high-volume approach to foreign exchange trading may also be mercurial

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