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FEDERAL RESERVE BANK OF CLEVELAND

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# FOREIGN CAPITAL BORROWING IN THE UNITED STATES, 1964-65

Two previous articles in the *Review* discussed the general characteristics and terms of U. S. indirect foreign investment during the period 1958-63.<sup>1</sup> The most striking development in that period was the increased dollar volume of outflows of U. S. funds, particularly in both 1962 and 1963 when foreign borrowings in the U. S. exceeded \$1 billion.

It was concluded in the earlier articles that there was no single foreign group (for example, developed nations or private borrowers), or geographical area, or major event which explained the increased capital outflow. While Canada dominated new foreign capital borrowing in the U. S. during 1958-63, accounting for over 50 percent of the total, industrially developed nations accounted for an increasingly greater percent of the total. It was also suggested in the earlier

articles that the bulk of new foreign capital was raised in the U. S. for three reasons: acceptability, accessibility, and availability of funds in the U. S. capital market.

The purpose of this article is to update the earlier articles by presenting the findings of a study of U. S. indirect foreign investment during 1964 and 1965. The article is divided into two sections; the first presents an overview using annual data, while the second examines patterns within each year. Data for the present study are similar to those for 1958-63; a description of the data is found on page 4.

## FOREIGN BORROWING IN 1964 AND 1965: AN OVERVIEW

Foreign borrowing in the U. S. in 1964 and 1965 was carried out by a number of countries at different stages of economic development and from different areas of the world. Both public and private institutions borrowed in the U. S., offering new issues with various (but overlapping) coupon rates and maturity lengths. No definite or consistent relationships can be found between or among the variables associated with foreign borrowing: geographic area, stage of

<sup>1</sup> See "Foreign Capital Borrowing in the U. S.," *Economic Review*, Federal Reserve Bank of Cleveland, Cleveland, Ohio, January 1964, and "Investment Characteristics of New Foreign Capital Borrowed in the U. S.," *Economic Review*, Federal Reserve Bank of Cleveland, Cleveland, Ohio, June 1964.

U. S. indirect foreign investment refers to the acquisition by U. S. investors of financial assets from foreigners, in contrast to direct investment which refers to the acquisition of or control over real assets.

## DESCRIPTION OF STATISTICS

The data used in this article were obtained from announcements of new issues of foreign securities and bank loans as published in financial newspapers and as available in internal memoranda of the Federal Reserve System. Information about individual security issues in 1964 was checked against a U. S. Department of Commerce publication "New Foreign Securities Offered in the U. S., 1952-64."

Tabulations were made for individual new issues of foreign bonds and stocks sold in the U. S. in amounts of \$500,000 or more, as well as for term loans by U. S. banks to foreign borrowers. The tabulations did not include secondary offerings of foreign capital issues, offerings of rights and warrants to existing stockholders, financing by foreign subsidiaries of U. S. companies, new issues of international organizations such as the World Bank, and borrowings for which terms (rates and maturities) were not available. As used in the article, total borrowing refers to issues of bonds and stocks plus notes and bank loans.

Because of the nature of data sources, as well as the confidential nature of many borrowing negotiations, the dollar amounts discussed in this article are not complete, for example, in comparison with the U. S. bal-

ance of payments statistics. (This is particularly true for bank loans made to foreigners.) Nevertheless, it is assumed that a reasonable representation of foreign borrowing was obtained and that changes in dollar volumes adequately indicate patterns and trends. Sub-totals—specifically, bank loans to foreigners—are less dependable, but were included in the analysis in order to give some idea of the shifts in dollar volumes coinciding with changes in the Interest Equalization Tax. Whenever possible, all types of foreign borrowing were cumulated so as to increase the size of the sample in an individual category or group, for example, stages of economic development, business of borrower, etc.

In view of the method of obtaining these data, comparisons with foreign borrowings published by other sources should be made with care. To illustrate, a comparison of annual totals used in this article with U. S. balance of payments statistics on "New Issues of Foreign Securities" (published quarterly by the Office of Business Economics, U. S. Department of Commerce) shows the dollar volumes in the article to be substantially smaller. But this is to be expected in view of the exclusions mentioned above (types and dollar amount) plus Commerce's access to complete primary data.

development, the nature (governmental or private) or business (manufacturing, financial, etc.) of the borrower, or form of borrowing. For example, most capital borrowing in the U. S. by underdeveloped nations was not arranged by governments rather than private concerns, as might be expected, nor did foreign borrowing chiefly take the form of notes and loans rather than other types of

debt.

The dollar volume of foreign borrowing in the U. S. in 1964 amounted to \$1,055 million, as compared with \$1,259 million in 1963 and an annual average of \$863 million during 1958-63. In 1965, the volume amounted to nearly \$1,250 million. Twenty-three foreign countries utilized the U. S. capital market in 1964 and 1965, although only eight of these

countries borrowed in both years. Of the eight, two are developed nations, two are underdeveloped, and four are agriculturally developed.<sup>2</sup> Thus, there was no strong concentration of borrowers reflecting a particular stage of development. Presumably, other characteristics were more important factors in determining the volume of funds raised.

Chart 1 shows total foreign borrowing and the percent of the total accounted for by developed, underdeveloped, and agriculturally developed nations in 1964 and 1965, compared with an average for 1958-63. Agriculturally developed nations took 74 percent of the total funds in 1964 and 79 percent in 1965, up from an average of 68 percent in the 1958-63 period. Canada, an agriculturally developed country, predominated, accounting alone for 59 percent of the total funds in 1964 and 53 percent in 1965. Excluding Canadian borrowing, agriculturally developed nations accounted for 37 percent of residual borrowings in 1964, and 55 percent in 1965; obviously, the agriculturally developed nations' demand for U. S. capital is high regardless of geographical proximity to the U. S. This was generally true in 1958-63 as well.

<sup>2</sup> The subclassifications by stage of economic development are determined by the Secretariat of the U. N., with the arbitrary addition of a separate grouping of countries—agriculturally developed—whose well-established economies are based on agriculture or natural resources rather than industry. The lines separating stages of economic development are very thin.

The two developed nations borrowing in both 1964 and 1965 were Japan and the United Kingdom; the two underdeveloped nations were Mexico and Venezuela; and the four agriculturally developed nations were Australia, Canada, Finland, and Norway.

During 1958-63, industrially developed and underdeveloped nations had averaged 18 percent and 14 percent, respectively, of foreign borrowing in the U. S. In 1964, the underdeveloped nations' share increased to 20 percent, while industrially developed nations borrowed only 6 percent of the total. In 1965, the distribution between the underdeveloped and industrially developed nations more closely resembled the 1958-63 pattern. Excluding Canada from the total, underdeveloped nations accounted for 50 percent of the remaining amount in 1964 but only 25 percent in 1965. This latter proportion was a slightly smaller share for underdeveloped countries than in the 1958-63 period. In contrast, in 1965 industrially developed nations almost tripled their share of the total, from 13 percent in 1964 to 33 percent. The latter figure was still below the average for the earlier period, as seen in the chart.

There are many ways to classify borrowers within countries. One distinction is the nature of the borrower: governmental or private. For this analysis, government borrowers are divided further into national and local governments and government corporations, primarily because in many cases public organizations can obtain funds at lower interest rates. Private borrowers are simply nongovernmental organizations, including both financial and nonfinancial concerns.

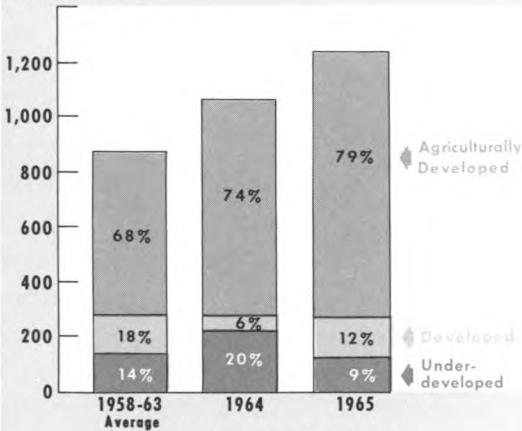
The bottom panel of Chart 1, which shows the distribution of total borrowing by the nature of the borrower, is interesting for three reasons. First, private borrowing in 1964-65 accounted for a larger share than the 1958-63 average. Second, local governments sharply increased their share of total borrowings

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1.

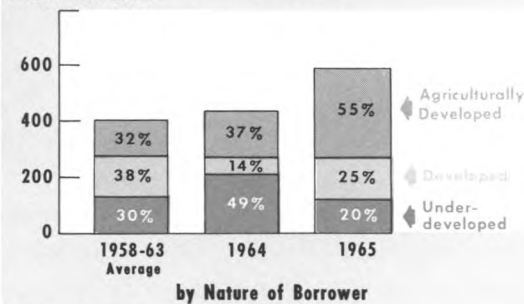
### FOREIGN CAPITAL BORROWING in the U.S. by Stage of Economic Development

Millions of dollars



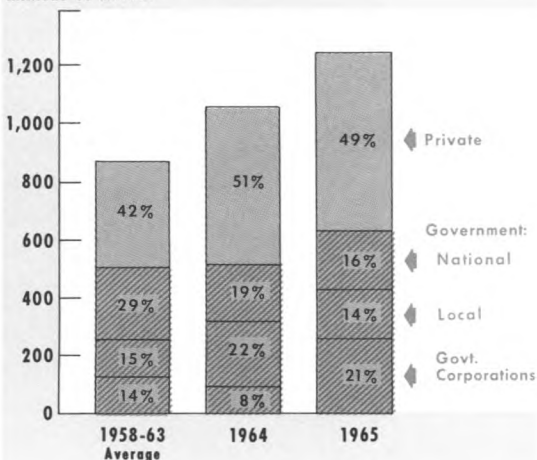
by Stage of Economic Development  
(Excluding Canada)

Millions of dollars



by Nature of Borrower

Millions of dollars



Source of data: Federal Reserve Bank of Cleveland

in 1964 from the average proportion in the 1958-63 period. Canadian city and provincial governments accounted for most of this increase; cities in Norway and Italy were responsible for the rest. Finally, government corporations more than doubled their share of the total from 1964 to 1965. Again, Canadian government corporations accounted for most of the increase, with the remainder going to those in the Philippines and Japan.

The debt instruments used (see Chart 2) were predominantly bonds and debentures, or over half of the total dollar amount in 1964 and three-quarters in 1965. As the chart shows, there was a surge of borrowing in the form of notes and loans in 1964 to 39 percent of the total. Although this form of indebtedness fell to 23 percent of total borrowing in 1965, the 1965 dollar amount was still larger than any annual volume in the 1958-63 period.

Coupon rates offered by foreign borrowers varied not only by type of issue, but also among each type of issue. In general, coupon rates rose from 1964 to 1965. The largest dollar volume of borrowing in 1965 carried rates in the range of 5 to 6 percent, contrasting to 1964 when the rates accompanying the largest dollar volume were in the 4 to 5 percent range (see Chart 2).

Similar to the wide variation in coupon rates, the different types of debt carried a range of maturity lengths. Whereas coupon rates usually are determined by the quality of the debt issue, maturity lengths of new foreign issues sold in the U. S. varied according to the type of issue and the nature of the borrower. For example, credit to governmental borrowers generally was extended for

over 20 years. Debt of transportation industries was somewhat shorter in maturity, and financial concerns borrowed for even shorter periods. Almost all of the bond issues were long-term, maturing in 10 years or more. In fact, until 1965, the largest proportion of foreign securities carried maturities of 20 to 25 years (see Chart 2). In 1965, however, over half of the dollar volume fell into the 15- to 20-year maturity range, representing an unusual concentration of maturity lengths.

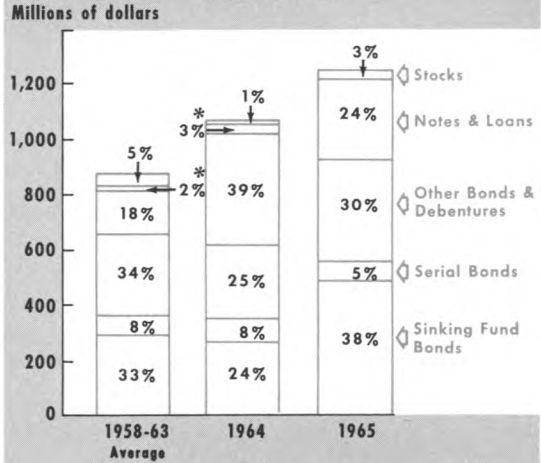
Annual data for 1964 and 1965 do not indicate any abrupt shifts in foreign use of the U. S. capital market. Generalizing, total dollar volume increased moderately in the latest year; underdeveloped nations borrowed more than developed nations in 1964; and government borrowing increased both absolutely and relatively to private borrowing. According to the annual data, 1964 and 1965 were apparently years of gradual change, insofar as foreign use of the U. S. capital market was concerned. An entirely different picture, however—one of sharp fluctuations rather than gradual change—is seen when semiannual data are analyzed.

### FOREIGN BORROWING IN 1964 AND 1965: INTRA-YEAR PATTERNS

The U. S. balance of payments with the rest of the world has been in deficit position since 1950, with the single exception of 1957. That is, more dollars have been leaving the U. S.—in the form of payments for imports of goods and services and in the form of capital investment abroad—than have been received as payment for exports of American goods and services and in the form of foreign investment in the U. S. Contributing to the

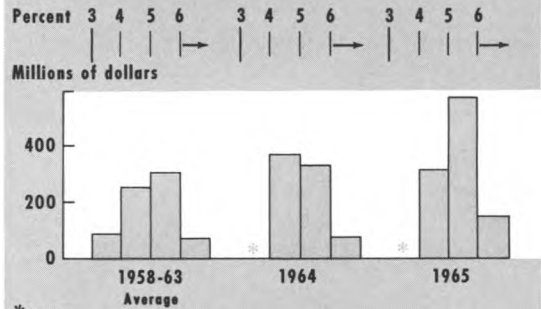
2.

### FOREIGN CAPITAL BORROWING in the U.S. by Type of Debt



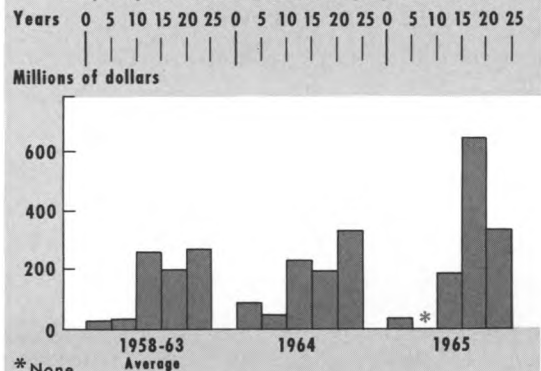
\* Convertible Debentures (none in 1965)

### Frequency Distribution of Borrowing by Interest Rates



\* None

### Frequency Distribution of Borrowing by Maturities



\* None

Source of data: Federal Reserve Bank of Cleveland

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balance of payments deficits, foreign borrowing in the U. S. gradually had increased to \$970 million by 1959. While such borrowing fell in 1961 to \$376 million, there was a sharp reversal in 1962, with an increase to \$1,235 million. It was at this time, when concern about the balance of payments was high, that attention focused on foreign capital borrowing in the U. S.

It is widely recognized that since dollar flows in the major components of the U. S. balance of payments are determined more or less simultaneously, entire blame for the payments deficits of the last fifteen years cannot be placed on any one category. In July 1963, however, in response to a marked increase in the outflow of long-term capital in the form of indirect investment—over \$1 billion alone in the first six months of 1963—selective, or direct, action was taken: Congress proposed the Interest Equalization Tax (IET). The measure places a tax on U. S. residents who buy foreign securities. The tax was designed to reduce investment yields to the U. S. investor by about one percent—in other words, to reduce the profitability of investing in foreign securities and thus deter such investing. To thwart the possibility of immediate mass borrowing by foreigners in order to escape the costs of the proposal, the tax was designed to be retroactive. It was enacted into law in August 1964 as a temporary measure, with the expiration date scheduled for December 31, 1965. Several exemptions were incorporated in the tax; the most important were those covering purchases of all Canadian issues, export credit transactions, and purchases of securities of underdeveloped countries. In addition, securities with ma-

turities of less than three years originally were not covered. The purpose of the tax, of course, was to discourage the outflow of U. S. investment capital and to help improve the U. S. balance of payments. In late 1965, the IET was extended for an additional two years with only minor revisions in content and coverage.

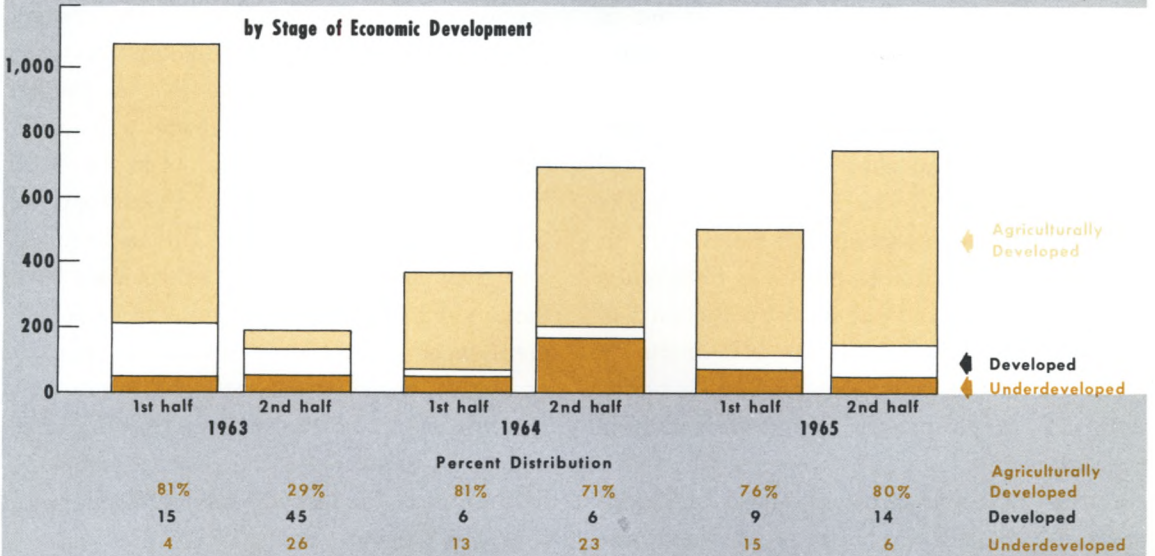
**Impact of the IET Proposal.** After the IET was proposed in July 1963, *but before the measure was enacted* in 1964, total foreign borrowing in the U. S. dropped sharply from \$1,078 million in the first half of 1963 to only \$181 million in the second half of that year (see Chart 3). Sales of debt issues by Canada—the largest foreign borrower—fell from \$699 million in the first half of the year to \$38 million in the second half. Borrowing by Japan, the second largest borrower in the first half of 1963, fell from \$139 million to \$51 million.

In addition to an abrupt change in dollar volume, other borrowing patterns shifted noticeably in the second half of 1963. In that period, the proportion of the total dollar volume borrowed by underdeveloped countries increased from 4 percent to 26 percent (see data in Chart 3), although the dollar amount of their borrowing increased by only \$4 million. While the dollar volume of borrowing by developed countries declined by half in July-December 1963, their share of the total increased to 45 percent from 15 percent in the first half. The larger proportions for developed and underdeveloped countries reflected a very sharp drop in borrowing by agriculturally developed nations. The changing shares are explained in part by the section of the proposed IET that offered an exemption

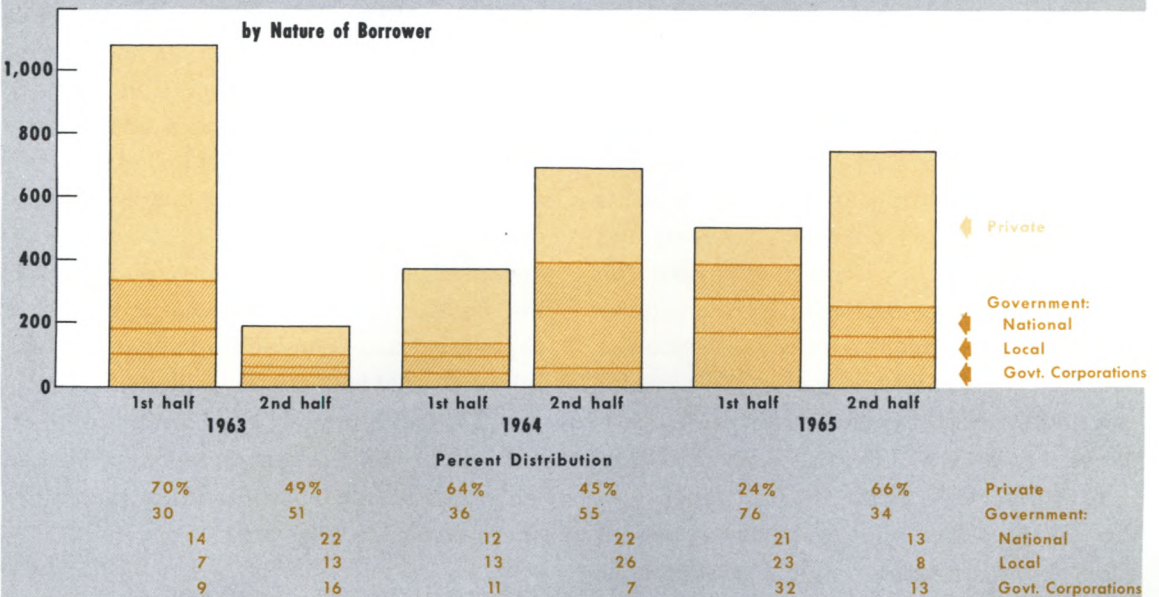


3.  
**FOREIGN CAPITAL BORROWING in the U.S. — Intra-year Patterns**

Millions of dollars



Millions of dollars



Source of data: Federal Reserve Bank of Cleveland

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for underdeveloped nations. An exclusion for Canada also was proposed, but uncertainty on the part of Canadian borrowers concerning congressional passage of this exemption apparently deterred their use of the U. S. capital market until the measure was well along the legislative route.

In regard to the nature of the debtor, private borrowers' share of total funds fell from 70 percent in the first half of 1963 to 49 percent in the second half (see Chart 3). Whether this shift was due to a preference for foreign government debt on the part of U. S. investors in light of the IET, or due to changes in the source of foreign demands for U. S. funds, cannot be determined from available data.

Terms of borrowing were influenced significantly by the IET proposal. The average coupon rate on new foreign securities sold in the U. S. rose from 5.19 percent in January-June 1963 to 5.88 percent in the second half of the year, an increase much larger than that occurring in domestic U. S. interest rates. At the same time, average maturity lengths fell almost 7 years, from 20 years and 5 months in the January-June period to 13 years and 6 months in the July-December period. The sharp jump in rates and sharp drop in maturity lengths suggest that foreign capital borrowed in the U. S. in the second half of 1963 was for planned expenditures that could not be postponed, regardless of the terms of borrowing.

**After Enactment of the IET.** The proposal of the IET thus had a sharp and depressing effect on the market for new foreign securities. As stated earlier, there was particular uncertainty on the part of Canadians concerning their exclusion from the tax. There was

also general uncertainty about the structure of the tax, that is, the amount and imposition. Nevertheless, as shown in Chart 3, in the first half of 1964 borrowings doubled over the preceding six months.<sup>3</sup> If there was market uncertainty, why did borrowings increase before final passage of the IET in August 1964? Apparently, the increase was in response to the passage of the tax in the U. S. House of Representatives on December 16, 1963. In the House bill, the final tax structure and most exemptions were established. (Although the Canadian exemption was not mentioned explicitly, under the bill the President could grant exemptions to any country in order to maintain international economic stability. It is this clause that since has been applied to both Canada and Japan.)

The enactment of the IET in August seemed to produce just the opposite effect that its proposal had had originally. In the second half of 1964, foreign borrowings in the U. S. increased sharply, advancing to almost twice the level recorded in the first half of the year, and earlier patterns in distribution by stage of development and type of borrower reappeared. With the final passage of the IET, the backlog of foreign demand for U. S. capital that had been built up apparently was released. That is to say, after the tax was proposed in 1963, a number of foreign projects that could be postponed were postponed either until enactment of the IET or to consider alternative sources of funds.

<sup>3</sup> One-third of the dollar volume in January-June 1964 was accounted for by a loan to Australia, as discussed on page 11.

It was clear by August 1964 that new Canadian issues would be exempt from the tax. Therefore, Canadian borrowers were then influenced by the facts that interest costs were lower in the U. S. than at home and that American investors might be as willing as earlier to buy Canadian debt issues. In response, Canadian borrowings increased from a low level of \$38 million in the last half of 1963 to \$462 million in the second half of 1964—and to a higher percent of the total than before the tax was passed. (In the first half of 1965, Canadian borrowings receded somewhat to \$313 million. Similarly, borrowings by foreigners other than Canadians increased to \$231 million in July-December 1964 and then slipped to \$187 million in the first half of 1965.)

The IET also had a pronounced effect on the distribution of funds by stage of economic development in the second half of 1964. Since Canadian issues and loans continued to dominate foreign borrowing in the U. S. in 1964, it may be useful to consider again the distribution excluding Canada. The agriculturally developed nations accounted for 65 percent of total borrowing in the first half of 1964 (excluding Canada). Most of this proportion was accounted for by a loan of \$117 million to Australia. (This single transaction in 1964 involving an aluminum plant in Australia was closely connected to American concerns supplying financial and technical assistance.) In the second half, however, borrowings by agriculturally developed nations (excluding Canada) fell to only 13 percent of the total, thus revealing the pronounced rise in Canadian demands for funds.

Borrowing by underdeveloped nations held steady in the first half of 1964, but then tripled to \$162 million (70 percent of the total) in the second half. The exclusion of underdeveloped nations from the IET made their securities relatively attractive in the U. S. market and thus may have stimulated new debt issues from these countries.

Foreign capital borrowing is extremely complex. Patterns for individual countries differ; in fact, the motivation behind individual transactions differ. Even so, it seems that the impact of the IET was greatest at the time it was proposed and not when it was enacted. The data suggest that the IET may have used up much of its desired effect by the time it was made law in August 1964. The purpose of the tax was to restrain foreign capital borrowing in the U. S. As stated earlier, foreign borrowing actually increased in the second half of 1964 after enactment of the IET. But this does not imply that the tax did not have any lasting beneficial effect; indeed, borrowing might have been quite a bit higher if the tax had not been placed on new foreign issues.

The rationale behind the IET was that foreign borrowers in the U. S. capital markets would assume all the increased investment cost to U. S. residents by offering higher coupon rates and accepting higher borrowing costs of about one percentage point. In fact, this was not always the case. Average coupon rates on all new foreign issues were only 18 basis points higher, on balance, in the first half of 1964 than in the first half of 1963 (see accompanying table); the decreased

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### Rates on Foreign Borrowing in the U. S. and Selected Domestic Rates in the U. S. and Abroad

Half-year Periods	Average Coupon Rates on Foreign Securities Sold in the U. S.*			U. S. Domestic Rates		Canadian Borrowing Costs		Japanese Borrowing Costs	
	All Issues	Non-exempt Issues†	Range for all Issues	Corp. Baa	U. S. Govt. Long-term Bonds	Canadian Borrowing Costs		Japanese Borrowing Costs	
						In U. S.	At Home‡	In U. S.	At Home§
<b>1963</b>									
1st half . . . . .	5.19%		4-7.50%	4.87%	3.95%	4.93%	5.39%	6.05%	7.49%
2nd half . . . . .	5.88		5-7	4.84	4.06	5.18	5.54	6.17	7.49
<b>1964</b>									
1st half . . . . .	5.37	5.69%	4-7	4.84	4.16	4.96	5.56	5.87	7.49
2nd half . . . . .	5.26	5.57	4.5-6.75	4.82	4.14	5.06	5.53	5.50	7.48
<b>1965</b>									
1st half . . . . .	5.31	5.80	4.5-6.75	4.80	4.15	4.97	5.49	5.87	7.48
2nd half . . . . .	5.53	5.83	4.75-7.25	4.93	4.27	5.05	5.82	6.50	7.48

\* For each issue for which a coupon rate was available, the rate was weighted by the dollar amount of the issue. The weighted rates were then averaged.

† Includes issues of all countries except Canada, underdeveloped nations, and in 1965, Japan. Bank loans were exempt in 1964 but not in 1965. A classification of rates on nonexempt securities is not necessary before the IET was passed in the House of Representatives in December 1963.

‡ Forty-bond yield average compiled by McLeod, Young, Weir of Toronto.

§ Industrial bond yields published by the Bank of Japan.

Other Sources: Domestic U. S. rates, *Federal Reserve Bulletin*, Board of Governors of the Federal Reserve System, and average coupon rates on foreign issues, Federal Reserve Bank of Cleveland

demand for funds by foreigners in early 1964 described earlier may have been a factor.<sup>4</sup> On the other hand, average coupon rates on only those foreign issues subject to the IET rose by 50 basis points between the first half of 1963 and the same period in 1964, more accurately reflecting the burden of the tax. Average coupon rates on all issues fell slightly in the second half of 1964.

If the equivalent of the Interest Equalization Tax is subtracted from 1964 rates on securi-

ties not exempt from the tax—that is, if one percentage point is subtracted—resulting yields fall within a range of market rates on U. S. domestic long-term issues. (See accompanying table, column 2 and columns 4 and 5 where, for example, 5.69 percent would be reduced to 4.69 percent, and compared with a range of 4.16-4.84 percent.) A greater proportion of these nonexempt securities were issued by governments, however, and perhaps yields on such foreign securities should be compared only with yields on long-term U. S. Government securities. On this basis, foreign issues held a small yield advantage after taking account of the IET (4.69 percent versus 4.16 percent). Relative rates of return, plus other factors such as diversification

<sup>4</sup> The large jump in rates on foreign securities in the last half of 1963 must be discounted because of its temporary nature and the small dollar volume transacted in that period. In other words, rates may have been less representative.

of asset holdings, were important enough for U. S. residents to invest \$99 million in non-exempt foreign securities in 1964.

**Intra-Year Patterns in 1965.** From the data, it appears that 1965, especially the last half of the year, was an adjustment period, with the U. S. market for new foreign issues and the distribution of funds returning to conditions that existed before the IET was proposed. The dollar volume of foreign borrowing increased in 1965 as a whole, but the borrowing was somewhat more evenly distributed within the year than in the previous two years (see Chart 3). In the first half of 1965, \$500 million was borrowed and in the second half, \$742 million, for an annual total of \$1,242 million.

In the second half of 1965, underdeveloped nations accounted for only 6 percent of the total dollar volume of foreign capital borrowing in the U. S. (see Chart 3). It was concluded in the article in the January 1964 *Economic Review* that underdeveloped countries were relatively absent from U. S. markets because the quality of their debt issues may be lower (as measured by the possibility of default, the degree of political instability, and economic policies of the countries that may not place foreign investor interest first). Also, many underdeveloped countries fear foreign economic domination and do not encourage foreign investment and control. On the other hand, exclusion of underdeveloped nations from coverage under the IET probably had motivated increased interest in their securities on the part of U. S. investors from the second half of 1963 throughout 1964. (In the President's balance of payments report in July 1963, when the IET was requested, he

suggested an exclusion for underdeveloped nations.) Nevertheless, in 1965, probably because of the reasons listed above, the underdeveloped countries were once again relatively absent from U. S. capital markets, with their borrowing falling from \$162 million in the second half of 1964 to \$43 million in the second half of 1965.

Industrially developed nations, on the other hand, increased their share of total borrowing from 6 percent in the second half of 1964 to 14 percent in the second half of 1965, with the dollar amount rising from \$39 million to \$102 million. In July-December 1965, borrowing by industrially developed nations was 2½ times larger than that by underdeveloped nations.<sup>5</sup> In the last half of 1965, borrowing by agriculturally developed nations was particularly large, accounting for 80 percent of total funds borrowed by foreigners. Such borrowing included the sale of a \$135 million debenture by an Australian corporation, similar to the issue sold in the first half of 1964.

Regarding the nature of the borrower, it seems that the IET may have diverted U. S. investment funds from foreign private con-

<sup>5</sup> It had been hoped that the imposition of the IET would assist the U. S. balance of payments situation by encouraging industrial nations in Western Europe to expand their own capital markets sufficiently to ease world demand for U. S. capital. Although capital markets abroad are developing, demand for U. S. funds remains large. There is some reason, moreover, to expect a near-term increase in borrowing in the U. S. by foreigners. Planned U. S. direct investment in foreign countries is at an all-time high, suggesting that plant and equipment spending by foreigners also may be high. In addition, current labor shortages abroad are being met increasingly by capital investment in labor-saving equipment. Demands for funds for this increased investment may be reflected to some extent in the U. S. capital market.

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cerns seeking funds. Private borrowers' share of total foreign borrowing fell from about 65 percent in January-June 1963 to about 45 percent in the second half of 1964, when the IET was passed (see Chart 3). Whether the IET affected the demand for funds by foreign borrowers, or the supply of funds from U. S. sources, cannot be determined from the data used in this study. In the first half of 1965, private borrowing fell further to only 24 percent of total new capital. A major factor in this decline was reduced borrowings in the form of notes and loans, down \$130 million in the first half of 1965 alone.

Two developments undoubtedly contributed to the decrease in notes and loans. For one thing, coverage of the IET was amended to include notes and loans; for another, the President's Voluntary Credit Restraint Program was instituted, imposing a ceiling on credits granted by U. S. banks to foreign borrowers. In February 1965, the IET was applied to bank loans of one year or more under authority available (in the original act) to the President. When Congress extended the life of the IET to December 1967, the tax measure also was amended to include non-bank credit of one to three years' maturity, retroactive to February 1965. The President's voluntary program, which also was announced in February 1965, asked, in part, that U. S. financial institutions hold capital outflows to 105 percent of their loans outstanding as of December 31, 1964. As it happened, banks met the President's request by sharply reducing foreign credits in the first half of 1965, thus permitting a small increase in the last six months of that year. Notes and loans in the second half increased by \$150 million,

accounting for 40 percent of the increase in private borrowing in that period. Thus, by the second half of 1965, private borrowing reestablished its previous share of total borrowings, about 66 percent.

## INTEREST RATE PATTERNS

Coupon rates on new foreign securities sold in 1965 were generally higher than in any previous period except the second half of 1963 (see accompanying table). Higher coupon rates in 1965 reflected the fact that U. S. capital market yields began to rise after midyear in response to increased domestic demands for funds. In addition, foreign borrowers probably assumed some of the IET cost in order to attract U. S. investors by offering higher coupon rates. As examples, Canadian and Japanese borrowing illustrated the impact of higher interest rates in U. S. markets, while foreign issues not exempt from the IET were more affected by a partial absorption of the cost of the tax.

Canada increased the dollar volume of its borrowings in the U. S. in 1965, but the year-to-year changes in the average yield on selected securities of that country issued in the U. S. showed little change (4.96 percent in the first half of 1964 and 4.97 percent in the first half of 1965; in the corresponding second half of each year, the rates were 5.06 percent and 5.05 percent). Increasing U. S. rates may have influenced yields on Canadian securities. Even though there appears to be a seasonal rise in rates in the second half of the year, it is interesting to note that after October 1965 all Canadian securities sold in the U. S. carried rates of 5 percent or more.

Coupon rates on new Japanese issues offered to U. S. investors increased from 5.5 percent in the second half of 1964 to 6.5 percent in the second half of 1965, even though only \$20 million was borrowed in the U. S. in the latter period. Securities guaranteed by the Government of Japan are exempt from the IET if the total amount borrowed does not exceed \$100 million in a calendar year. Japanese borrowings in 1965 apparently were within this limit. Accordingly, higher coupon rates on Japanese issues reflected U. S. capital market conditions rather than an IET impact. Looking further, the increased cost of borrowing in the U. S. as contrasted to no change in rates in Japan (see accompanying table) may explain in part the decline in Japanese borrowings in the U. S. from \$139 million in the first half of 1963 to only \$20 million in the second half of 1965. The \$100 million limit also may have acted as a constraint on the dollar volume of Japanese borrowing.

While average interest costs to all foreigners borrowing in the U. S. rose from 5.19 percent in the first six months of 1963 to an average 5.32 percent in 1964, rates paid by foreigners not exempt from the IET in the latter period averaged 5.63 percent (see accompanying table). (For this study, the group of nonexempt securities includes all issues except those of the underdeveloped nations, Canada, and, in 1965, Japan. There were no Japanese issues in the U. S. in 1965 before the Executive Order exempting them from the IET.) The larger increase in nonexempt

rates can be interpreted to represent that part of the IET assumed by foreign borrowers. Average interest costs on nonexempt issues rose 23 basis points further in the first half of 1965, perhaps representing an additional absorption of the IET by foreigners. The seeming stability of interest costs to nonexempt foreigners during 1965 is misleading. The second half average of 5.83 percent was held down by a large British issue bearing a 5.5 percent coupon rate. If this issue were excluded, the average rate for the second half would be considerably higher. In fact, after October, the weighted average rate on new foreign issues not exempt from the IET was almost 6 percent.

#### CONCLUDING COMMENTS

Annual data on foreign capital borrowing in the U. S. for 1964 and 1965 do not suggest new developments as sharp as those that occurred in the 1958-63 period. Nonetheless, intra-year patterns reveal that there was a definite impact on foreign borrowing when the Interest Equalization Tax was first proposed and then passed.

After the impact of the IET had apparently worked itself through by the second half of 1965, earlier characteristics reappeared in the dollar volume of borrowing, the distribution of funds among countries (by stage of development) and groups (government or private), and in the terms of borrowing. Whether the same characteristics will prevail in 1966, or whether new ones will appear, will not be known until the data become available.

# DISTRIBUTION OF BANK DEPOSITS IN THE FOURTH DISTRICT, 1954-65

An earlier article in the *Economic Review* traced the changes that had occurred in the number of banks, branches, and banking offices in the Fourth District during 1954-65.<sup>1</sup> As that article pointed out, no clear-cut overall pattern emerged from the changes in the numbers taken by themselves. To go a step further, this article considers changes in the number of banks, branches, and banking offices in relationship to changes in the distribution of bank deposits. The purpose of the analysis is to develop some impression of possible influences of these types of changes on banking structure and banking competition in the Fourth District during 1954-65.<sup>2</sup>

The analysis relies largely on the "deposit concentration ratio." The deposit concentration ratio is not necessarily a complete or

fully satisfactory measure of banking structure and banking competition, but it is one of the very few tools available, and is frequently used by analysts.<sup>3</sup> In the following discussion, deposit concentration ratios are used to measure changes in the distribution of bank deposits by counties and Standard Metropolitan Statistical Areas within the Fourth District

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<sup>1</sup> "The Anatomy of Fourth District Banking, 1954-65," *Economic Review*, Federal Reserve Bank of Cleveland, Cleveland, Ohio, May 1966.

<sup>2</sup> There is no discussion in this article of the relationship between population and the number of banks, branches, and banking offices, nor of the relationship between population and deposit concentration; this will be done in a subsequent article.

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<sup>3</sup> "One commonly used measure of the potential market power of individual firms is the ratio of the size of the firm to the size of the industry in the relevant market area. For commercial banking, this 'concentration' ratio is frequently computed in terms of deposits . . . deposits represent only one of the many services offered by banks. Furthermore, the market area for customers having large deposits may be expected to be quite different than for customers having small deposits. Hence, concentration ratios based on total deposits provide an over-simplified view of market structure and probably tend to overstate the relative importance of large banks in most metropolitan areas. In addition, this concentration ratio does not reflect the importance of either banks located outside the area but having customers in the area or non-bank financial institutions . . . Nevertheless, these ratios provide a crude basis for comparing the structure of banking in more or less similar communities." See "The Structure of Banking in the District States," *Business Conditions*, Federal Reserve Bank of Chicago, December 1965, p. 16.



during the period 1954-65.<sup>4</sup>

## DISTRIBUTION OF DEPOSITS WITHIN COUNTIES

A majority of counties within the Fourth District experienced increases in the proportion of total deposits accounted for by the largest bank and the top three banks during 1954-65. Such a pattern was not limited to major metropolitan centers, and in fact occurred in counties of various sizes and locations.<sup>5</sup>

<sup>4</sup> Total deposit figures for banks in the Fourth District were obtained from June 1954 and June 1964 call reports of the Federal Deposit Insurance Corporation, the Board of Governors of the Federal Reserve System, and the Federal Reserve Bank of Cleveland. Total deposits for counties within the District, as of the end of June, were obtained from the biennial *Distribution of Bank Deposits by Counties and Standard Metropolitan Areas*, published by the Board of Governors of the Federal Reserve System. In computing the percentage of deposits held by the largest 100 banks in the District, the banks were ranked according to total deposits as of June 1954 and June 1964. On the county level, the concentration ratios were derived by taking the total of deposits held by the largest bank and the top three banks as a percent of total deposits in the country. The fact that deposit figures for June 1964 are compared with end of 1965 data for banks, branches, and banking offices should not distort the evaluation.

<sup>5</sup> Because Pennsylvania state law permits branch banking in contiguous counties, the 19 counties of western Pennsylvania lying within the Fourth District were lumped into ten districts in order to better measure changes in deposit distribution. The ten districts and the counties included are: (1) Erie; (2) Venango, Mercer, Clarion, Crawford; (3) Warren; (4) Forest; (5) Jefferson; (6) Lawrence; (7) Indiana; (8) Allegheny, Armstrong, Beaver, Butler, Washington, and Westmoreland; (9) Greene, Fayette; (10) Somerset. While not a "perfect" redistricting, such a procedure more closely approximates the realities of the situation than do county boundaries.

As shown in Table I, the proportion of deposits accounted for by *the largest bank* in each county did not follow a consistent pattern in each subarea of the District. Thus, in Ohio 55 counties showed increases in concentration of deposits and 31 showed decreases. In Kentucky, the number of counties where concentration increased barely exceeded the number of counties where concentration fell.<sup>6</sup> West Virginia had four counties where concentration decreased, but only two where it increased. Finally, in Pennsylvania the share of deposits held by the largest bank increased in seven of the ten districts.

As shown in Table II, the share of total deposits accounted for by *the three largest banks* in each county of the District increased much more frequently than it decreased during 1954-65. Concentration of deposits based on the three largest banks increased more than was the case for the largest bank.<sup>7</sup>

Additional light on changes in banking structure and deposit concentration is provided by the relationship between the net change in banks and banking offices, on the one hand, and the distribution of deposits, on the other. Table III illustrates the relationship between the number of banks and deposit distribution within the subareas of the District. In Ohio, more than one-half of the counties experienced increased deposit concentration for the largest bank, while the number of banks either declined or were unchanged (see columns 1 and 2). In Kentucky

<sup>6</sup> Concentration ratios are meaningless in counties having no banks, or only one bank.

<sup>7</sup> A number of counties are excluded from the computation because they had three or less banks.

## ECONOMIC REVIEW

**TABLE I**  
**Changes in Deposit Concentration**  
**for the Largest Bank in Each County of**  
**the Fourth District**  
**1954-65**

	Increase in Deposit Concentration:		Decrease in Deposit Concentration:			Does Not Apply— Not Enough Banks in Sample
	Less Than 1%	More Than 1%	Less Than 1%	More Than 1%	No Change	
Ohio (88 counties)	9	46	10	21	2	0
Pennsylvania (10 districts)	2	5	0	3	0	0
Kentucky (56 counties)	3	16	2	16	0	19
West Virginia (6 counties)	0	2	0	4	0	0

Source: Federal Reserve Bank of Cleveland

**TABLE II**  
**Changes in Deposit Concentration**  
**for the Three Largest Banks in Each County of**  
**the Fourth District**  
**1954-65**

	Increase in Deposit Concentration:		Decrease in Deposit Concentration:			Does Not Apply— Not Enough Banks in Sample
	Less Than 1%	More Than 1%	Less Than 1%	More Than 1%	No Change	
Ohio (88 counties)	9	47	1	17	4	10
Pennsylvania (10 districts)	0	6	0	2	0	2
Kentucky (56 counties)	1	14	0	4	6	31
West Virginia (6 counties)	1	2	0	2	0	1

Source: Federal Reserve Bank of Cleveland

**TABLE III**  
**Change in Number of Banks Related to Change in Percent of**  
**Total Deposits Held by Largest Bank, by County, Fourth District**  
**1954-65**

	Counties With:							
	(1) No. of Banks Down and Deposit Concentration Up	(2) No. of Banks No Change and Deposit Concentration Up	(3) No. of Banks Up and Deposit Concentration Up	(4) No. of Banks Down and Deposit Concentration Down	(5) No. of Banks Up and Deposit Concentration Down	(6) No. of Banks No Change and Deposit Concentration Down	(7) No Change in No. of Banks or Deposit Concentration	(8) Does Not Apply—Not Enough Banks in Sample
Ohio (88 counties)	24*	18*	4*	9*	2*	10*	2	0
	2**	7**	0	5**	0	5**	0	0
Pennsylvania (10 districts)	4*	1*	0	2*	1*	0	0	0
	1**	1	0	0	0	0	0	0
Kentucky (56 counties)	8*	8*	0	1*	0	15*	0	19
	0	3**	0	1**	0	1**	0	0
West Virginia (6 counties)	1*	1*	0	1*	1*	2*	0	0
	0	0	0	0	0	0	0	0

\* More than 1% change in deposit share.

\*\* Less than 1% change in deposit share.

Source: Federal Reserve Bank of Cleveland

counties where there were enough banks for evaluation, the majority had increases in deposit concentration similar to the pattern in Ohio (19 counties in Kentucky had less than three banks and were excluded). Seven of Pennsylvania's ten districts also had increased concentration, while two of West Virginia's six counties had an increased share of deposits for the largest bank in the face of a declining or unchanged number of banks.

As columns 5 and 6 of Table III show, 37 counties (and districts) in the District experienced reduced concentration of deposits at the largest bank, along with either more or an unchanged number of banks; such a pattern, however, was not nearly as dominant as the one in which increased deposit concentration was associated with the same number or less banks. Finally, 23 counties (and districts) in the District experienced "mixed" trends during the period under review, that is, either a declining number of banks and a decrease in the largest bank's share or a larger number of banks and increased deposit concentration. The "mixed" pattern predominated in Ohio where there were 14 counties with the number of banks down and concentration down, and four counties where both deposit share and the number of banks rose. As a general matter, the dominant pattern throughout the District was increased deposit concentration by a county's largest bank with the number of banks remaining stable or decreasing in number (columns 1 and 2 of Table III).

Increased concentration of deposits also prevailed when the change in the deposit share of the three largest banks in each county was compared with a decline or no change in

the number of banks (see Table IV). In Ohio, the number of counties experiencing increased deposit concentration rose to 54 (from 51) when the deposit share of the three largest banks was considered. In Pennsylvania, five districts experienced increased deposit concentration, while in West Virginia three counties had increased concentration.

A comparison of Tables III and IV shows that deposit concentration declined in less counties when the three largest banks in each county are considered than when the largest bank is considered. While increased concentration was generally evident throughout the District, the results for Kentucky are not as conclusive because of the small number of counties for which the figures can be used.

It was noted in the earlier article that changes in the number of banks were quite different from that of banking offices within the District during 1954-65. Thus, it is interesting to compare the trend of deposit concentration by county with changes in the number of banking offices. The most frequent pattern revealed in the data was an increase in both the number of banking offices and the percentage of deposits held by the total banking offices of the largest and the three largest banks.

Table V shows the number of counties (and districts) in which the deposit concentration of the largest bank increased or decreased as compared with changes in the number of banking offices. Only in West Virginia was there a majority of counties in which deposit concentration decreased. In Kentucky, the counties were almost equally distributed between concentration increases and decreases, and nonapplicable counties. In both Ohio

**TABLE IV**  
**Change in Number of Banks Related to Change in Percent of**  
**Total Deposits Held by Three Largest Banks, by County, Fourth District**  
**1954-65**

	Counties With:									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	No. of Banks Down and Deposit Concentration Up	No. of Banks No Change and Deposit Concentration Up	No. of Banks Up and Deposit Concentration Up	No. of Banks Down and Deposit Concentration Down	No. of Banks Up and Deposit Concentration Down	No. of Banks No Change and Deposit Concentration Down	No. of Banks Up and Deposit Concentration No Change	No. of Banks Down and Deposit Concentration No Change	No Change in No. of Banks or Deposit Concentration	Does Not Apply—Not Enough Banks in Sample
Ohio (88 counties)	31* 0	15* 8**	1* 1**	6* 1**	1* 0	10* 0	0 0	0 0	4 0	10 0
Pennsylvania (10 districts)	4* 0	1* 0	1* 0	2* 0	0 0	0 0	0 0	0 0	0 0	2 0
Kentucky (56 counties)	7* 0	7* 1**	0 0	0 0	0 0	4* 0	0 0	1* 0	5* 0	31 0
West Virginia (6 counties)	1* 1**	1* 0	0 0	0 0	0 0	2* 0	0 0	0 0	0 0	1 0

\* More than 1% change in deposit share.

\*\* Less than 1% change in deposit share.

Source: Federal Reserve Bank of Cleveland

**TABLE V**  
**Change in Number of Banking Offices Related to Change in Percent**  
**of Total Deposits Held by Largest Bank, by County, Fourth District**  
**1954-65**

	Counties With:								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	No. of Banking Offices Down; Deposit Concentration Up	No. of Banking Offices No Change; Deposit Concentration Up	No. of Banking Offices Up; Deposit Concentration Up	No. of Banking Offices Up; Deposit Concentration Down	No. of Banking Offices No Change; Deposit Concentration Down	No. of Banking Offices Down; Deposit Concentration Down	No. of Banking Offices Up; Deposit Concentration No Change	No Change in No. of Banking Offices or Deposit Concentration	Does Not Apply—Not Enough Banks in Sample
Ohio (88 counties)	1* 0	9* 2**	36* 7**	19* 7**	1* 3**	1* 0	2* 0	0 0	0 0
Pennsylvania (10 districts)	2* 0	0 1*	3* 1**	3* 0	0 0	0 0	0 0	0 0	0 0
Kentucky (56 counties)	1* 0	6* 1**	9* 2**	7* 0	8* 2**	1* 0	0 0	0 0	19 0
West Virginia (6 counties)	1* 0	1* 0	0 0	1* 0	2* 0	1* 0	0 0	0 0	0 0

\* More than 1% change in deposit share.

\*\* Less than 1% change in deposit share.

Source: Federal Reserve Bank of Cleveland

and Pennsylvania, the dominant characteristic was increased concentration of deposits coupled with an increased number of banking offices.

When changes in deposit concentration of the three largest banks in a county are compared with changes in the number of banking offices, as shown in Table VI, the relationships are almost identical to those of the preceding paragraph—the largest bank situation. Accordingly, although many counties experienced decreases in the number of banking offices and increases in deposit concentration, as well as decreases in both banking offices and deposit concentration, the most frequent

situation was an increase in both the number of banking offices and the deposit share held by the three largest banks (column 3). The most striking difference in behavior patterns, perhaps, is that three counties in Kentucky experienced no change either in banking offices or in the share of deposits held by the three largest banks (see column 8). These three counties plus the 31 counties in which no banking offices were located indicate that over half of the counties in the portion of Kentucky within the Fourth District were unaffected significantly by changes in banking structure and shifts in deposits in the period under study.

**TABLE VI**  
**Change in Number of Banking Offices Related to Change in Percent of Total Deposits Held by Three Largest Banks, by County, Fourth District 1954-65**

	Counties With:								
	(1) No. of Banking Offices Down; Deposit Concentration Up	(2) No. of Banking Offices No Change; Deposit Concentration Up	(3) No. of Banking Offices Up; Deposit Concentration Up	(4) No. of Banking Offices Up; Deposit Concentration Down	(5) No. of Banking Offices No Change; Deposit Concentration Down	(6) No. of Banking Offices Down; Deposit Concentration Down	(7) No. of Banking Offices Up; Deposit Concentration No Change	(8) No Change in No. of Banking Offices or Deposit Concentration	(9) Does Not Apply— Not Enough Banks in Sample
Ohio (88 counties)	2* 0	4* 3**	41* 6**	14* 1**	3* 0	0 0	3* 0	1* 0	10 0
Pennsylvania (10 districts)	1* 0	0 0	5* 0	2* 0	0 0	0 0	0 0	0 0	2 0
Kentucky (56 counties)	2* 0	4* 1**	8* 0	3* 0	1* 0	0 0	3* 0	3* 0	31 0
West Virginia (6 counties)	1* 1**	1* 0	0 0	0 0	2* 0	0 0	0 0	0 0	1 0

\* More than 1% change in deposit share.  
 \*\* Less than 1% change in deposit share.

Source: Federal Reserve Bank of Cleveland

## ECONOMIC REVIEW

**TABLE VII**  
**Changes in Deposit Concentration Within**  
**the SMSA's of the Fourth District**  
**1954-64**

SMSA	Share of Deposits Held By Largest Bank in SMSA			Share of Deposits Held By Three Largest Banks in SMSA		
	1954	1964	Net Change (percentage points)	1954	1964	Net Change (percentage points)
<b>OHIO</b>						
Akron . . . . .	36.6%	43.0%	+ 6.4	74.0%	78.3%	+ 4.3
Canton . . . . .	19.1	21.5	+ 2.4	50.4	61.5	+11.1
Cincinnati . . . . .	25.3	27.9	+ 2.6	63.0	70.4	+ 7.4
Cleveland . . . . .	41.6	35.8	- 5.8	79.8	73.3	- 6.5
Columbus . . . . .	46.6	43.3	- 3.3	82.1	87.8	+ 5.7
Dayton . . . . .	42.5	39.3	- 3.2	64.9	69.6	+ 4.7
Hamilton-Middletown . . . . .	28.5	31.3	+ 2.8	68.1	72.5	+ 4.4
Lima . . . . .	37.0	39.9	+ 2.9	81.4	83.2	+ 1.8
Lorain-Elyria . . . . .	22.7	22.1	- 0.6	50.4	61.9	+11.5
Springfield . . . . .	31.5	33.5	+ 2.0	87.2	72.7	-14.5
Steubenville-Weirton . . . . .	24.3	32.1	+ 7.8	65.9	70.3	+ 4.4
Toledo . . . . .	46.5	44.0	- 2.5	72.4	76.2	+ 3.8
Youngstown-Warren . . . . .	23.8	23.3	- 0.5	63.4	57.4	- 6.0
<b>PENNSYLVANIA</b>						
Erie . . . . .	32.9	31.6	- 1.3	74.7	71.6	- 3.1
Johnstown . . . . .	14.3	13.2	- 1.1	35.1	32.3	- 2.8
Pittsburgh . . . . .	49.0	49.4	+ 0.4	70.3	79.0	+ 8.7
<b>KENTUCKY</b>						
Huntington-Ashland . . . . .	48.5	40.1	- 8.5	85.0	81.2	- 3.8
Lexington . . . . .	31.4	50.0	+18.6	54.5	80.0	+25.5
<b>WEST VIRGINIA</b>						
Wheeling . . . . .	41.9	31.1	-10.8	66.9	64.5	- 2.4

Note: Deposit figures as of June 30, 1954 and June 30, 1964.

Source: Federal Reserve Bank of Cleveland

### DISTRIBUTION OF DEPOSITS WITHIN SMSA'S

In addition to a breakdown of changes in deposit concentration in each county of the District, a breakdown has been assembled for the metropolitan areas of the Fourth District. These figures assume special significance when it is remembered that most banking structure changes in the District occurred

within the 19 SMSA's.<sup>8</sup> (See earlier article.) As the data in Table VII show, changes in deposit concentration in the 19 SMSA's were mixed during 1954-64. Thus, the share of deposits held by *the largest bank* within each

<sup>8</sup> During the first half of 1966, Richland County, Ohio, was designated a Standard Metropolitan Area, increasing the number of SMSA's in the Fourth District to 20. Banking structure changes in the Richland SMSA are not included in the article.

SMSA of the District decreased more frequently (10) than it increased (9). Except for the Lexington and Wheeling SMSA's, net changes in deposit concentration in either direction were less than eight percentage points, reflecting relative stability in deposit share despite significant changes in banking structure within the same area. Especially significant, perhaps, was the pattern in each of the District's largest SMSA's—Pittsburgh, Cleveland, Columbus, and Cincinnati; in only Cincinnati was there a significant increase in the largest bank's share of total deposits. According to the deposit concentration, Columbus and Cleveland showed less concentration of deposits in 1964 than in 1954, at least based on the position of the largest bank, with the figures for Pittsburgh virtually unchanged.

In contrast to the situation in share of deposits held by the largest bank in each SMSA in the Fourth District, a majority of SMSA's showed increased deposit concentration when *the three largest banks* were considered. Twelve SMSA's experienced an increase in the share of deposits held by the three largest banks and seven, a decrease. In four of the SMSA's—Columbus, Dayton, Lorain-Elyria, and Toledo—the share of deposits held by the three largest banks increased, while that of the largest bank declined; in the Springfield, Ohio SMSA, the share of the three largest banks decreased at the same time that the largest bank increased its share. The largest increase in deposit concentration in the District occurred in the Lexington SMSA.

Most changes in deposit share were within a narrow range, however, with only four metropolitan areas experiencing a shift of more

than eight percentage points in the share of deposits held by the three largest banks. Furthermore, only Cleveland of the larger SMSA's had less deposit concentration at the end of the period than at the beginning—for the three largest banks as well as the largest. In the case of Pittsburgh, where there were 26 mergers, 44 less banks but 120 more offices by the end of the period, the concentration figures were virtually unchanged for the largest bank and up nearly 9 percent for the three largest banks.

If the deposit concentration figures for the Cleveland and Pittsburgh SMSA's are extended to cover the share of deposits of the five largest banks the following pattern emerges: Pittsburgh's five largest banks, through merger and expansion, improved their share of deposits from 77 percent to 90 percent of the total deposits in the SMSA, while the share of Cleveland's five major banks declined from 97 percent to 94 percent of total deposits in the SMSA.

#### DEPOSITS HELD BY LARGEST 100 BANKS IN FOURTH DISTRICT

A third way to measure deposit concentration in the Fourth District is to compute the shares of total deposits accounted for by the 100 largest banks. As background, it might be noted that the range of deposits held by the 100 largest banks in the Fourth District, as of June 30, 1964, was from \$2.5 billion down to \$25 million, or alternatively stated, the 100th largest bank held an amount of deposits equivalent to one percent of that of the largest bank in the Fourth District. This means that the other 743 banks in the Fourth District each held less than \$25 million in deposits,

## ECONOMIC REVIEW

**TABLE VIII**  
**Deposit Shares of 100 Largest Banks**  
**in the Fourth District**  
**1954-64**

	1954		1964	
	Cumulative Deposits	Cumulative Percentage of Total Deposits in District	Cumulative Deposits	Cumulative Percentage of Total Deposits in District
1st Bank	\$1,613,926	11.3%	\$ 2,543,037	12.0%
Top 2	2,856,972	20.0	4,139,876	19.5
3	3,559,875	24.9	5,218,635	24.5
4	4,148,578	29.0	6,137,567	28.8
5	4,603,704	32.2	6,889,284	32.4
10	6,135,417	43.0	9,143,757	43.0
20	7,568,641	53.0	11,879,797	55.8
30	8,248,031	57.8	12,981,931	61.0
40	8,679,152	60.8	13,789,762	64.8
50	8,976,502	62.9	14,340,233	67.4
60	9,220,387	64.6	14,767,665	71.1
70	9,425,181	66.0	15,132,089	71.1
80	9,607,639	67.3	15,458,306	72.7
90	9,762,937	68.4	15,749,173	75.2
100	9,901,184	69.3	16,010,649	75.2

Note: Deposit figures as of June 30, 1954 and June 30, 1964.

Source: Federal Reserve Bank of Cleveland

with the smallest holding deposits of \$202,000. Thus, 100 banks, or 12 percent of all banks in the District, held 75 percent of total deposits, while the remaining 88 percent of the banks held only 25 percent of total deposits.<sup>9</sup>

As Table VIII shows, the 100 largest banks held 69.3 percent of District bank deposits in 1954. By mid-1964, the share had increased to 75.2 percent. Although this represented an increase in deposit concentration that may not be significant, it was not accompanied by a uniform pattern throughout the range of the

<sup>9</sup> The economic and financial influence of the 100 largest banks in the Fourth District is currently under study, with emphasis on relationships between and among rates of growth, location, and merger and branching activity since 1954. If the results of the study are meaningful, they will be discussed in a subsequent article.

100 largest banks.<sup>10</sup> As the table shows, the share of total deposits held by the ten largest banks in the District did not increase at all during the period under review. However, moving down the bank-size range, deposit concentration increases gradually but steadily, until it is almost six percentage points greater for the 100 largest banks. The unchanged share of deposits held by the ten largest banks tends to support the earlier indications that increased deposit concentration did not occur in many of the major centers of the Fourth District—implying that, as a general matter, the largest banks did not grow as fast as banks

<sup>10</sup> Due to attrition and expansion of facilities the 100 largest banks in June 1964 were not totally the same banks that made up the top 100 in 1954; in fact only 80 of the original 100 were still so classified in 1964.



behind them on the size scale.

What this does suggest is that the second, third, and fourth largest banks in major metropolitan centers other than the largest centers and large banks in other Fourth District areas experienced greater rates of expansion, which enabled them to gain increased shares of total deposits in the District, as reflected in the gradual but steady increase in the percentages shown in Table VIII. These patterns are currently under study (see footnote 8). At this point, it seems conceivable that the expansion patterns of the less than largest banks are associated with the advance of economic activity in the faster growing major metropolitan areas in the District, for example, Columbus, Dayton, Toledo, and Cincinnati.

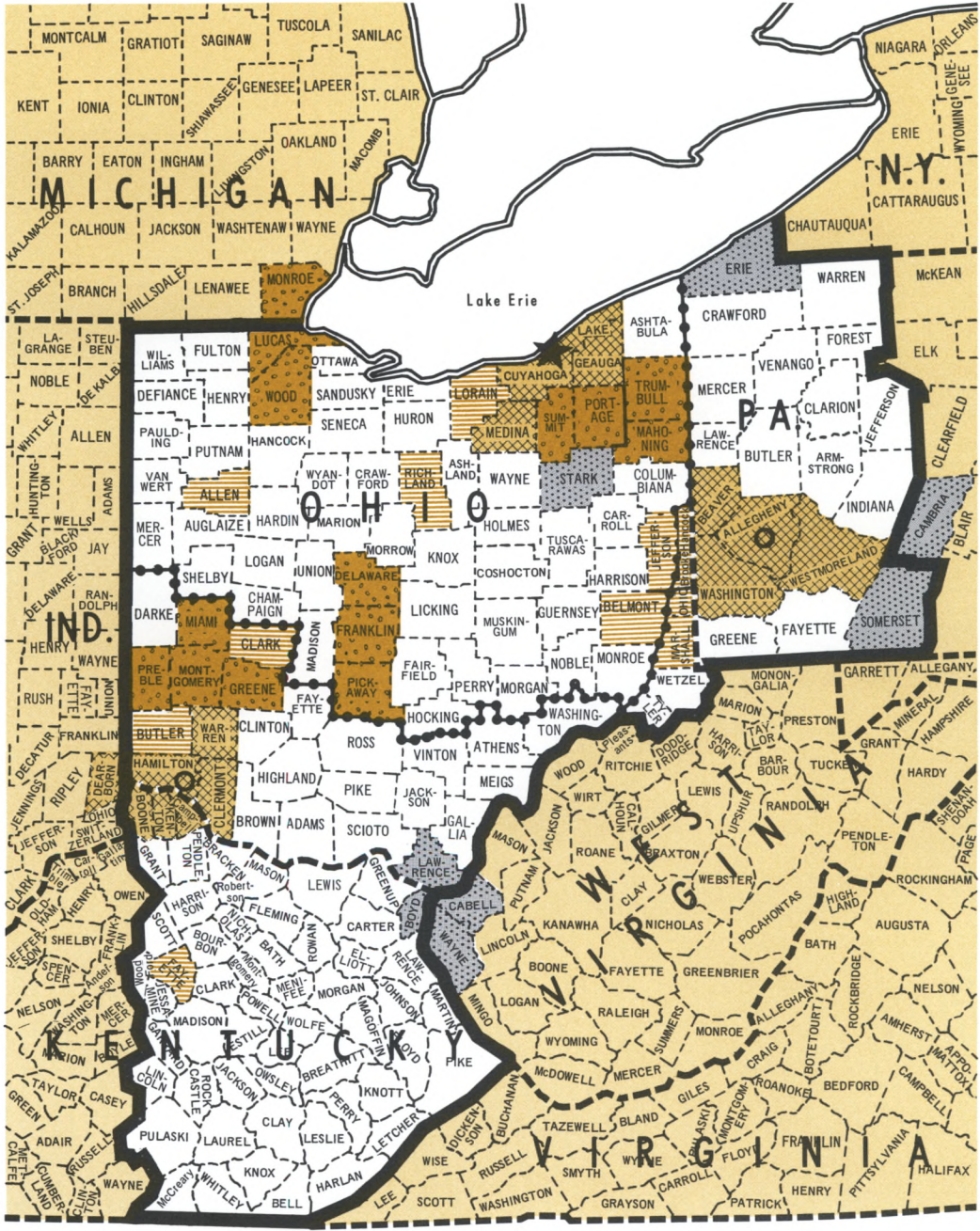
#### CONCLUDING COMMENTS

Generally speaking, deposit concentration within the Fourth District increased during

1954-65, while the number of banks declined and the number of banking offices increased. Nevertheless, the mixed trends in banking structure and deposit concentration changes for the Fourth District as a whole do not permit a generalization concerning the current status of banking competition within the Fourth District. It would appear that, on the basis of limited evidence and *a priori* reasoning, increased deposit concentration within many individual counties and metropolitan areas of the Fourth District could not help but have had some adverse influence on banking competition in those areas. It is conceivable that a more detailed evaluation of patterns of growth, locational factors, and the like should shed some light on this matter of banking competition. If current research is successful, as indicated earlier, the results will be reported in a future article.

**Additional copies of the map on the inside back cover of this issue are available upon request from the Research Department, Federal Reserve Bank of Cleveland, P. O. Box 6387, Cleveland, Ohio 44101.**

# Fourth Federal Reserve District



- ★ Main Office — Cleveland, Ohio
- Branches — Cincinnati, Ohio  
Pittsburgh, Pa.
- District Boundary
- Branch Boundaries

- ▨ Federal Reserve Office SMSA's
- Other SMSA's over 500,000 Population
- ▨ SMSA's — 250,000 — 499,000
- ▨ SMSA's less than 250,000

