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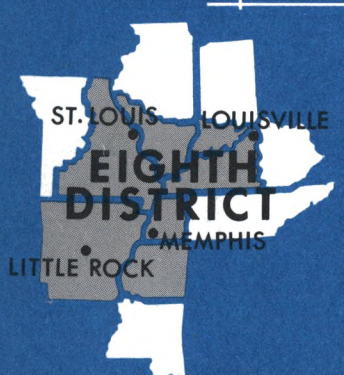
REVIEW



CONTENTS

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The "Danger" From Foreign Ownership of U.S. Farmland

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THERE has been renewed concern in recent months about purchases by foreign citizens of farmland in the United States. In addition to numerous newspaper and magazine articles on such purchases, the U.S. Congress and a number of state legislatures have become concerned with the subject.[1] Foreign ownership of farmland has been restricted in 20 states, and more recently the U.S. Congress approved legislation that would require foreign investors to report all purchases or long-term leases of American farmland to the Secretary of Agriculture.

Most of the objections to alien ownership are based on emotional factors, which, although having important economic implications, are in themselves difficult to analyze. This article examines some of the underlying implications of the objections, demonstrates the conflict between economic forces and the widely held utopian view of agriculture that farms should be largely owned by the operator, and analyzes some important economic factors implicit in the arguments against foreign ownership.

Foreign Ownership Relatively Small

Despite the great amount of discussion of the topic, the quantity of farmland in the United States owned by foreigners is relatively small — well less than one percent of the total acreage. On the basis of a survey by the U.S. Department of Commerce at the end of 1974, only about 4.9 million acres of land in the U.S. were owned by groups in which the foreign-owned equity accounted for 10 percent or more of the total (Table I). While some small tracts of land were

[1]Examples of such articles include: Jerome P. Curry, "Banks Shield Alien Owners of Farm Land," *St. Louis Post-Dispatch*, May 3, 1978, and "Foreign Investors Making Purchases of Illinois Farm Land," *St. Louis Post-Dispatch*, April 30, 1978; E. W. Kieckhefer, "Middle-Size Operation Aid Urged," *Memphis Commercial Appeal*, May 14, 1978 and "Foreign Ownership of Farmland Topic of Debate," *Memphis Commercial Appeal*, June 25, 1978; Wendell Cochran, "Limit Urged on Foreign-Owned State Land," *Kansas City Times*, January 14, 1978; Jody Cox, "Foreign Buyers May Be Shut Off from Farmland," *Columbia Missourian*, January 21, 1978; and "Senate, House Split on Farm Land Ownership Bill," *Columbia Missourian*, February 8, 1978; "Alien Land Issue Okayed," *Daily Capital News*, March 1, 1978; "Farmland Issue Put Off," *Daily Capital News*, February 21, 1978; James F. Wolfe, "Capitol Commentary," *Joplin Globe*, March 20, 1978; Don Keough, "Capitol Comment," *Columbia Tribune*, February 19, 1978; "Farmland Bill Approved," *Daily Capital News*, April 13, 1978; Jody Cox, "Assembly OKs Bill Limiting Foreign-Owned Farmland," *Columbia Missourian*, April 14, 1978; Ellen F. Harris, "A Threat to Missouri," *St. Louis Globe-Democrat*, February 6, 1978; and Vincent Coppola with Pamela Ellis Simms, "Farming: Pastaville, Ill.," *Newsweek* (May 22, 1978), pp. 55-6.

Legislative action has been taken in several states limiting or prohibiting the ownership of farmland by citizens of foreign countries. In late 1975 such restrictions were summarized as follows: General prohibition of alien ownership — 6 states; substantial restrictions on such ownership — 6 states; minor restrictions — 8 states; and no restriction — 30 states. It is not certain that any of these laws are constitutional; some may be in violation of United States treaty obligations, and in other instances the restrictions may be avoided by the use of fiduciaries. Nevertheless, legislative activity designed to restrict foreign ownership of farmland has continued in a number of states where no restrictions exist or the restrictions are minimal.

not reported, these data nevertheless greatly overstate the extent of foreign ownership in farmland since much of the land owned by foreign-affiliated groups consists of forest land, land holdings for petroleum production, and land for other industrial purposes. Ownership of farmland by foreign-affiliated groups at that time was estimated to be only one million acres or about 0.1 percent of the total U.S. farmland.[2] Foreign purchases may have increased since this survey was made, but if doubled, such holdings would total no more than 0.2 percent of the total.

Reasons for Opposition Varied

Reasons given for the opposition to foreign ownership of farmland have varied over the years. During the first wave of anti-foreign ownership legislation in the 1880s, especially during the debates on the Alien Land Act of 1887, a major objection was the fear that American farmers would become "servants of distant masters uncomprehending the rights and needs of Americans."[3] Objections to alien ownership tended to wane in the 1890s, but with the rising Japanese investment in land on the West Coast, a second wave of restrictions began in California in 1913 with racial prejudice playing a major role.

The California law, which prohibited land ownership by aliens ineligible for citizenship, became the model for anti-Japanese legislation throughout the West and as far east as Delaware. Interest in such restrictions slackened during the Great Depression and World War II, and most of the restrictions were declared unconstitutional in a 1948 Supreme Court decision which struck down the "eligibility for citizenship" test.[4]

Table I

Land Owned in the U.S. by Affiliated Foreign Groups

	Acres Owned by Foreign Groups[1] (1,000 Acres)	Percent of Total Land Area
Far West	1,541	0.24%
Southeast	1,290	0.38
Rocky Mountains	473	0.14
Southwest	356	0.10
Plains	182	0.06
Others[2]	1,054	0.39
Total	4,896	0.22%

[1]Includes all holdings as of December 31, 1974 in which foreign-owned equity either directly or indirectly accounts for ten percent of the total. Excluded from the survey were tracts of less than 200 acres and enterprises with assets and total revenues of less than $100,000.

[2]New England, Mideast, and Great Lakes.

Source: U.S. Department of Commerce, *Statistical Abstract of the United States*, 1977; and *Report to the Congress: Foreign Direct Investment in the U.S.*, Volume 2

The reasons given for opposing such ownership during the recent wave of restrictive legislation may be summarized as follows:

1. Fear for the loss of local control and concern for the survival of farming communities
2. The possibility of a feudal-type system of absentee landholdings arising from such ownership
3. Investment from abroad in U.S. farmland causing land prices to rise beyond the holding potential of local farm operators and thereby threatening the traditional family-type farm
4. The possibility of foreign ownership causing higher rents, reducing U.S. soil fertility and food supplies, and impeding the effectiveness of the nation's food production policies[5]

Objections Largely Emotional

Included among the emotional objections to foreign ownership of farmland are the fear of the loss of local control of rural communities, a feudal-like system of land control, a system of absentee landlords, and the demise of the family farm. While people's fear of these assumed impacts is an important factor affecting legislation, an analysis of historic trends indicates that there is little basis for most of the fear expressed.

The Illinois House Agricultural Committee, in April 1978, voted to recommend passage of a bill which would prohibit the purchase of Illinois land by nonresident aliens and big business organizations after June 1979. In mid-April of 1978, following a relatively long debate, the Missouri General Assembly enacted a bill which essentially banned foreign ownership of farmland in the state. See Alice Bonner, "Disclosure of Foreign Farm Holdings Booked," *Washington Post*, August 9, 1978; and "House Votes to Require Aliens to List Farmland," *The Wall Street Journal*, September 26, 1978; U.S. Department of Commerce, *Report to Congress: Foreign Direct Investment in the United States*, Vol. 2: Appendices, October 1975, pp. XI 12, 13, and XI 30-43; "Foreign Investors Making Purchases of Illinois Farm Land," *St. Louis Post-Dispatch;* and "Assembly OKs Bill Limiting Foreign-Owned Farmland," *Columbia Missourian.*

[2]U.S. Department of Commerce, *Report to the Congress: Foreign Direct Investment in the United States*, Vol. 1, p. 184.

[3]Terry L. Anderson, "A Survey of Alien Land Investment in the United States, Colonial Times to Present," U.S. Department of Commerce, *Report to the Congress: Foreign Direct Investment in the United States*, Vol. 8, p. L 14.

[4]Ibid., pp. L 13-18.

[5]Craig Currie, Michael Boehlje, Neil Harl, and Duane Harris, "Foreign Investment in Iowa Farmland," *Report to Congress*, Vol. 8, pp. L 31, 45, and 47; Curry, "Foreign Investors Making Purchases of Illinois Farm Land;" Harris, "A Threat to Missouri;" Cochran, "Limit Urged on Foreign-Owned State Land;" and Bonner, "Disclosure of Foreign Farm Holdings Booked."

For example, based on experience in recent years, there is little chance of most communities losing local control of public offices or other local affairs as a result of foreign land purchases. The quantity of farmland placed on the market in any community in any one year is a relatively small proportion of the total. Hence, the possibility of a large number of purchases by foreigners in any one community within a year or two is quite remote. Also, only a small percent of aliens who purchase land are likely to emigrate to the rural communities. In those cases of recent purchases, the land continues to be operated by American farmers and the land-use pattern remains unchanged; consequently, there is little likelihood of a change in local control as a result of alien land purchases.[6]

Similarly, the return of a feudal-like system of landholding is remote. The feudal system of landholding was a system in which a legal monopoly was maintained on the land and the peasantry by hereditary landlords. Ownership of these monopoly rights could be maintained only in the absence of a market for land and labor. Once commercial enterprise and urban labor markets were developed, the serfs obtained freedom from their landlord masters in Western Europe, and a yeoman class of landholders evolved. Free labor and land markets are thus the antithesis of the feudal system. With such markets each worker has numerous opportunities to choose alternative occupations and employers. Hence, there is no necessity for a worker to become subservient to a landlord master.

The association of the demise of the family farm with foreign investment in farmland is likewise largely emotional. The family-farm concept represents a long-standing utopian view of the idealized structure of agriculture. The proponents of the family-farm concept envisage a nation of owner-operated farms in which each fledgling farmer eventually owns his farm free of debt.[7] An objection to foreign ownership associated with the family-farm ideal is the fear that foreign investments in land will drive the prices up beyond the bidding potential of local people. Hence, the fear that the family-farm structure of agriculture will be weakened by foreigners bidding up land prices is a major factor in the objections to their ownership of farmland.

Family-farm proponents are not opposed to some outside ownership of farmland, but such ownership was expected to be of a transitory nature. The extent of outside ownership desired was depicted in the so-called "agricultural ladder" which shows the individual climbing rungs from boy apprentice to hired hand, to tenant farmer, to mortgaged owner, to owner free of debt, and ultimately to the independent position of a retired landlord.[8] Some tenancy and landlordship was recognized as an essential feature in the progress of the fledgling farmer toward owner-operator status. However, the "predatory instincts" of capitalists were to be held in check.[9] The maintenance of relatively low farmland prices so as to ease the climb up the ladder from tenant to self-employed proprietor was a key factor in the perpetuation of the family-farm structure.[10]

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[6]See Currie, et. al., "Foreign Investment in Iowa Farmland," p. L 47.

[7]This simple concept of agriculture has been a dominant feature of farm policy research and farm policy. Professor Schickele stated, "From the days of Jefferson to the present, the ideal of our farm lands being owned and operated by independent, prosperous farm families has dominated people's thinking and found expression in a rather consistent series of land-settlement and tenure programs." See Rainer Schickele, *Agricultural Policy: Farm Programs and National Welfare* (New York: McGraw-Hill Book Company, Inc., 1954), p. 326. In 1923 the Department of Agriculture reported, " . . . farm ownership by the farmer has come to be regarded as normal and tenancy (renting of farmland) abnormal. See U.S. Department of Agriculture, "Farm Ownership and Tenancy," *Agricultural Yearbook,* 1923, p. 507. The "evils" of farm tenancy are often alleged but seldom discussed in agricultural research publications. A. H. Benton in his study on land rental practices stated, "No effort is made to go into the details of the evils of tenancy, to discuss its causes, or to suggest a remedy." See Leonard A. Salter, Jr., *A Critical Review of Research in Land Economics* (Minneapolis: The University of Minnesota Press, 1948), p. 181.

The family farm was strongly endorsed by the Secretary of Agriculture in 1951. He reported: "The family farm system leads to agricultural progress and good community life. It builds in the family members attitudes of self-reliance, social responsibility, individual initiative, tolerance, and self-government — the attitudes that make for a sound democracy and the human qualities that have done so much to make our Nation great." See U.S. Department of Agriculture, Charles F. Brannan, Secretary of Agriculture, "Preserving the Family Farm," *Family Farm Policy Review,* 1951, p. 1.

[8]Henry C. and Anne Dewees Taylor, *The Story of Agricultural Economics in the United States 1840-1932* (Ames: The Iowa State College Press, 1952), pp. 820-29.

[9]Professor Wehrwein argued that American land policy should be ". . . not to go beyond a normal percentage of tenant farming." Probably this percentage would be that amount of tenancy needed to provide the proper step toward ownership for the tenant and to bridge the gap for the retreating (retiring) farmer between active work on his farm and complete retirement. See G. S. Wehrwein, "Place of Tenancy in a System of Farmland Tenure," *Journal of Land and Public Utility Economics,* January 1925, as reported in Taylor, *The Story of Agricultural Economics in the United States,* pp. 828-29.

[10]Professor Spillman in discussing the ladder in 1918 stated: "In helping tenants to buy farms, it would be legitimate to limit the purchase price, say to a specified number of years' rent. This would tend to prevent farm land from rising to such prices that men can not hope to pay for their farms during their working life." See W. J. Spillman, "The Agricultural Ladder," *The American Economic Review: Supplement* (March 1919), pp. 170-79, as reported in Taylor, *The Story of Agricultural Economics in the United States,* p. 824.

Family-Farm Objective Undermined by Domestic Economic Forces, Not Foreign Investments

The major threat to the family farm as idealized by much of the public is domestic economic forces rather than foreign land investments. Because of the greatly increased efficiency in production, farmers can now manage and farm more acres than formerly. Based on data of the U.S. Department of Agriculture, local people within the county purchased 78 percent of farmland acreage sold in the nation in 1977 (Table II). Hence, it is usually the farmer next door seeking more land to enlarge his farm or others in the community looking for a good investment who purchase the farmland.

The forces contributing to a changed structure of agriculture are the result of new technologies in farm production. Improved machinery, equipment, seed, power, fertilizer and other chemicals have resulted in a sharp increase in output per farm worker, a rapid decline in the number of farm workers, an increase in the average size of farms, a decline in the number of farms and a major increase in capitalization per farm.

The North-Central Regional Committee on Land Tenure Research in 1944 proposed a number of public policies consistent with the agricultural ladder approach to family farming, and relatively low farmland prices. Included among its recommendations were: (1) appropriate measures be taken to discourage corporations from purchasing land for farming purposes; (2) that land taken in satisfaction for debt be returned to farm family ownership as promptly as practicable; (3) consideration be given to levying graduated land taxes to discourage large-scale absentee ownership of farms; (4) make an active effort to hold more Midwest farms under continuous ownership and operation by succeeding generations of the same family; and (5) take appropriate measures to discourage the inflation of land prices including persuading prospective farm owners to postpone buying farms where land prices have risen unduly, inducing both farmers and nonfarmers to use their increased wartime earnings to purchase government bonds, levying a progressive tax on the profits from the resale of real estate, and urging farm mortgage lenders to make loans on the basis of long-time earning capacity rather than on the basis of temporary prices. See *Improving Farm Tenure in the Midwest,* University of Illinois Agricultural Experiment Station, Bulletin 502, 1944, pp. 143-54.

The structure of agriculture approached the family farm ideal in the 1800s when land was relatively cheap and farming was largely self-sufficient. In 1910 more than half of the nation's farms and 52.9 percent of the land in farms was operated by owners. Farm debt was relatively low, indicating that a large portion of the owner-operators may have been free of debt. Total real estate farm debt, for example, was $3.2 billion, only about three-fourths the total net income to farm operators. In contrast, by 1964 only 28.7 percent of the farmland in the nation was operated by owner-operators, and farm real estate debt was double the net income to operators. In 1977 farm real estate debt totaled $56.0 billion or three times the net income to operators.

Table II

Farm Real Estate Buyers by Type — 1977

Type of Buyer	Percentage Distribution of Acres Purchased
Local Farmers	66%
Local Nonfarmers	12
Others	22
Total	100%

Source: USDA, *Farm Real Estate Market Developments,* July 1977

Some measures of these changes during the current century are shown in Tables III and IV. Farm production per man-hour has increased more than tenfold since 1910 and the rate of increase has accelerated since 1940. For example, during each of the decades, 1950-60 and 1960-70, production per man-hour almost doubled. The overall number of man-hours used in farm work in 1976 was 5.1 billion, or less than one-fourth the amount used in 1910. During the same period the number of farm workers declined from 13.6 million to 4.4 million. The average size of farms has more than doubled since 1910-14, rising from 140 acres to 397 acres; and as indicated in Table V the more profitable farms are well above average size. During the same period the number of farms declined from 6.4 million to 2.7 million.

The incentive for larger farms is the consequence of a sizable shift in the costs of farming. Prior to the development of labor-saving machinery and other cost-reducing technology, costs per unit of output for the average farm bottomed out at relatively low levels of output per year. With the advent of the

Table III

Farm Output Per Worker, Hours Worked and Number of Workers

Year	Real Output Per Worker	Total Hours Worked on Farms (billions)	Number of Farm Workers (millions)
1910	13	22.5	13.6
1920	14	24.0	13.4
1930	16	22.9	12.5
1940	20	20.5	11.0
1950	34	15.1	9.9
1960	65	9.8	7.1
1970	112	6.0	4.5
1976	152	5.1	4.4

Source: USDA, *Changes in Farm Production and Efficiency,* November 1977; and *Agricultural Statistics,* 1962, 1972, and 1977

Table IV

Number of Farms and Acreage, Value of Land and Buildings and Income Ratios Per Farm

	Number of Farms (thousands)[1]	Acres per Farm[2]	Value of Land and Buildings per Farm	Realized Net Income as a Percent of:[3] Gross Income	Real Estate Assets	Nonreal Estate Assets
1910-14	6,429	140	$ 5,780	55.1%	11.30%	—
1920-24	6,500	147	8,780	45.3	9.94	—
1930-34	6,672	156	5,780	40.8	8.93	—
1940	6,350	174	5,300	42.4	13.95	43.2%
1950	5,648	215	13,900	43.4	18.06	42.9
1960	3,963	311	36,200	31.5	8.85	26.6
1970	2,949	389	75,800	27.7	7.53	24.4
1977	2,706	397	180,340	22.1	4.93	19.3

[1]USDA, *Farm Income Statistics*, July 1978

[2]USDA, *Farm Real Estate Historical Series Data: 1850-1970*, June 1973; *Farm Numbers*, December 1977; and *Farm Real Estate Market Developments*, July 1977

[3]Ibid, and *Farm Income Statistics*, July 1978; and *Balance Sheet of the Farming Sector 1978*. Nonreal estate assets include livestock and poultry, machinery and motor vehicles, and crops stored on and off farms. Net income includes net rent to nonoperator landlords.

larger machines, average short-run and long-run farm cost curves shifted downward and to the right, resulting in lower per unit costs for larger farms. This shift provided great incentive for each farm operator to obtain additional assets, including farmland, in order to further reduce cost of production.

The larger farms and the rising use of farm machinery have led to a major increase in farm capitalization. The increased acreage and the larger quantity of machinery have both been factors in the rising capital requirements for profitable farming. The average value of land and buildings per farm has risen to more than 30 times its 1910-14 value. The average value of real estate per farm rose from less than $6,000 during the pre-World War I period to more than $180,000 in 1977.

But this is not the whole story. As shown in Table V, the average value of all assets per farm on farms with annual sales of $100,000 and over, which sold 53 percent of all farm products in 1976, was $1.2 million. The average value of assets on farms with sales of $40,000 and over, which sold 78 percent of all farm products, was $667,000. At this level of capitalization and at current income and estate tax rates, an efficient-sized farm can neither be inherited nor acquired debt-free through earnings by most farm families as envisioned in the family-farm concept.

Part of the increase in nominal capitalization reflects a rise in the general price level, but much of it reflects the rising productivity of larger farms. The general price level rose about 6 times from the 1910-14 average to 1976 compared with the 30-fold increase in value of real estate assets per farm.

The decline in the net farm income to farm asset ratios indicate that it is increasingly difficult for a farmer to own a farm free of debt during his lifetime. As indicated in Table IV, realized net income to farm operators in 1977 was only 4.9 percent of the value of farm real estate assets.[11] Such income was only 3.6 percent of the value of all farm assets. In contrast, realized net income averaged about 10

[11]Realized net income to farm operators is the return to operators for their labor, management, and equity in the farm assets prior to an adjustment for inventory change.

Table V

Net Income and Assets Per Farm by Size Group[1]

Farms with Sales	Percent Distribution Number of Farms[2]	Percent Distribution Farm Cash Receipts	Net Income Per Farm	Assets Per Farm[2]
$100,000 and over	5.8%	52.6%	$38,310	$1,155,287
$40,000 to $99,999	12.6	25.6	18,502	466,359
$10,000 to $39,999	23.4	16.5	7,530	232,995
Less than $10,000	58.2	5.3	1,744	106,112
All Farms	100.0%	100.0%	$ 7,439	$ 241,975

[1]1977 data.

[2]Data as of January 1, 1977, based on number of farms implied in the Balance Sheet.

Source: USDA, *Balance Sheet of the Farming Sector 1978*; and *Farm Income Statistics*, 1978

percent of the value of real estate assets during the period from 1910 to 1950, and in 1950 exceeded 18 percent of the value of farm real estate. Since then the capitalization of farms has risen rapidly in absolute amounts and relative to net income. Net returns to farm operators for their labor and management, thus, have declined sharply relative to the value of such assets. Hence, the difficulty of one family owning an efficient farm debt-free has increased sharply since 1950.

The tenure pattern outlined in Table VI indicates the trend away from full owner-operators as envisaged in the family-farm concept. Land in farms operated by full owners as a percent of all farmland has generally declined since the turn of the century. The land in such farms exceeded 51 percent of the total in 1900. It rebounded slightly with the extremely favorable farm commodity prices in the late 1940s, but by 1959 the acreage in farms operated by full owners had declined to 31 percent of the total. The rate of decline has slowed since 1959, but since the recent data are not comparable the extent of the slowing is unknown.

The family-farm structure of agriculture is thus being slowly transformed not by foreign purchases of farmland but by domestic forces which contribute to the greater efficiency of larger-sized farms than the average farm family desires to acquire in a lifetime.

Restrictions on Foreign Investment in Farmland Have Little Impact on Land Prices

The major economic objective of the restrictive farm ownership legislation — lower land prices — is not likely to be achieved. The capital markets of the nation are well developed and work in a pervasive manner. Injections of new capital tend to permeate all sectors of the market regardless of where the investments are made. How does this come about? The price of any capital good is determined by the stream of net earnings expected from the good. The present value of the capital (V) may be written as $V = \frac{E}{i}$, where E is the permanent annual net earnings and i the interest rate. Hence, after allowance for risks and transactions costs, two capital assets each of which is expected to produce annual receipts in perpetuity totaling $5,000 will, for example, have about the same price (capital value) in the same market. Also, asset prices will move in the same direction in response to changing supply and demand forces in capital markets.

Table VI

Percent of Total U.S. Farmland Farmed by:

	Full Owners	Part Owners	Others
1900	51.3%	14.9%	33.8%
1925	45.4	21.3	33.3
1940	35.9	28.2	35.9
1959	31.0	44.3	24.7
1974*	35.3	52.6	12.1

*1974 data not comparable with earlier data.
Those operators formerly classified as managers now counted as full owners, part owners, or others depending on whether land was owned or rented.

Source: U.S. Department of Commerce, *1974 Census of Agriculture*

Given the tendency for capital asset values to move in response to changing supply and demand conditions, investment decisions by owners of wealth affect farmland values in the following manner. Assuming no change in the expected earnings on farmland, if foreigners bid up farmland prices in the United States, the higher prices will not be maintained very long. The higher land values will reduce the rate of return on land and some owners will observe that their rate is less than the expected rate on other similar forms of wealth. Hence, they will sell land and purchase other assets. This process will continue until the expected rates of return on all similar forms of wealth are again equal.

Similarly, if foreigners increase their investment in General Motors or other U.S. corporate stock and thereby bid up the price, other owners of such stock will find that their expected rate of return is below the expected rate for other similar assets. After allowance for risks and transactions costs, they will thus find it profitable to sell such stocks and invest in other assets, including farmland, where the expected rates of return are higher.

As a consequence of this incentive of all wealth owners to maximize returns, and for the rate of return on all assets having similar risks to move toward equality, foreign investments in the United States will have about the same impact on farmland prices regardless of where such investments are made. Other owners of wealth will tend to offset the imbalances caused by foreign investments in any one sector through the substitution of assets. Hence, it is futile to attempt to restrain land values by restricting foreign investments in land.[12]

[12]As indicated earlier, this analysis assumes that expected earnings on all assets are similar, i.e., have been adjusted for liquidity, transactions costs, and risks.

Impact On Farming Operations Also Minimal

The argument that foreign ownership of farmland has an unfavorable impact in terms of higher rents to tenants, higher food prices, lower soil fertility, and disruption of U.S. food producing policies also fails to meet the test of economic analysis. Because all individuals attempt to maximize returns from their wealth, including returns to their own labor, foreign owners of land will have the same incentive to maximize returns on their farmland as domestic landowners. Given similar incentives, cropping rental agreements and land use patterns are not likely to differ much between foreign and domestic owners. If the domestic owner of a tract of land, for example, finds that he can maximize returns by farming the tract in cash crops, the foreign owner will likely reach the same conclusion. This was the case in studies of foreign ownership which have been made to date.[13]

Similarly, foreign owners of farmland have the same incentive to preserve the productivity of the soil as domestic owners. Both have an incentive to maximize the income stream from land holdings into perpetuity, and will have equal incentive to preserve its productivity in order that the income stream will remain intact. Thus, given the same incentives to maximize the earnings stream over time, it is not likely that any major change in the land use or farm production pattern will occur as a result of foreign ownership of farmland.

Even if a major international problem occurred which indicated that U.S. farmland owned by foreigners was being operated for the benefit of another government rather than that of the private owner, this nation has the power to protect its interest without legislation restricting foreign ownership. If necessary, this nation could follow the example of a number of other less-developed nations and confiscate land. However, this should be a last resort as nations which follow such practices are generally considered high-risk investment areas and suffer from a lack of capital. Another means for protecting our nation is to hold such property in trust until the emergency is over.

[13]See, for example, Craig Currie, et. al., "Foreign Investment in Iowa Farmland," p. L 47 and Lloyd C. Irland, "Foreign Ownership and Control of U.S. Timberland and Forest Industry," in *Report to the Congress*, p. L 69. In the latter study it was found foreign ownership improved the productivity of forests in Alaska.

Foreign Investment Increases U.S. Wealth

In contrast to policies which restrain foreign investment in the United States, such investment should be encouraged. Just as domestic investment adds to the nation's stock of wealth, a major factor in determining the level of production of goods and services, so also does foreign investment in the United States.

While foreign investment in the United States involves interest payment commitments abroad, the new capital adds to production an amount sufficient to more than offset the additional interest cost. Sales of land to foreigners may not show a direct gain in the nation's wealth, but the sales will ultimately lead to an increase in real assets, such as buildings, machinery, land improvements, cars, houses, and better-trained people. Such investments occur as wealth owners substitute one form of wealth for another. All of these investments generate utility and thereby increase the nation's production. Hence, rather than being suspicious of foreign-owned capital for fear that such investors will gain control of important industries, foreign investment should be welcomed.

Foreign Investment Increases Foreign Exchange Value of the Dollar

Another feature of foreign investments in the United States is that it results in an increase in the value of the dollar in foreign exchange markets. When this nation imports petroleum and other products, it pays for the goods with dollars. The dollars acquired by foreigners are in turn used to purchase either capital assets or goods from the United States. If this nation restricts their purchases of capital assets, their demand for dollars will decline relative to the supply, causing the value of the dollar to decline relative to their own currencies. In contrast, with the privilege of investing in relatively attractive United States assets, foreigners have greater demand for dollars, and the dollar will rise in value relative to their own currencies.

Furthermore, the balance available to foreigners to purchase U.S. capital assets is limited without reducing the value of their currencies. During the five years, 1973-77 inclusive, such balances were negative; hence, any purchases of U.S. farmland could only be made as a result of liquidations of other foreign assets in the United States or as an offset to U.S. investments abroad. The largest foreign surplus in this account, $15.3 billion in 1977, was still well below the $18.4 billion surplus for the United States

in 1975. Even if the foreign surplus averaged $5 billion per year over a ten-year period and the total were invested in U.S. farmland, only about one percent of U.S. farmland could be purchased by foreigners each year.

SUMMARY

Foreigners own a relatively small amount of farmland, less than one percent of the total. Nevertheless, such ownership has been of major concern in the past year. Legislative action has been taken in a number of states prohibiting or limiting such ownership, and the U.S. Congress has approved legislation which requires reporting of such purchases.

Based on the reported objections, much of the opposition to foreign ownership of land is the result of emotional factors rather than economic forces. The objections are imbedded in utopian views with respect to the structure of agriculture. These views envision U.S. agriculture as consisting almost entirely of small owner-operated family farms. Relatively low farmland prices are necessary for maintaining this ownership pattern. Consequently, family-farm proponents are likewise proponents of a number of public policies designed to reduce farmland prices.

However, trying to keep farmland "cheap" by restrictive legislation is inconsistent with efficient capital markets and modern commercial farming. Expected returns to similar investments tend to be equalized throughout the economy through the capitalization of anticipated returns. As a result, farmland values tend to rise and fall with expected returns on farmland and the rate of capitalization of all forms of capital. Efforts to reduce farmland values through exclusion of foreign purchases are thus not likely to succeed given our well-developed capital markets.

Efforts to limit farm size are also inconsistent with profit motives. Farm technology has resulted in greatly reduced costs for the larger farm units. Therefore, adjustments in farm size quickly occur in response to the profit incentive despite the idealistic views as to desired ownership patterns.

The original family-farm structure of agriculture is declining and will likely continue to decline with or without restrictions on foreign purchases of land. The size of land holdings necessary to farm efficiently is already larger than most farm families can acquire in a lifetime through saving alone. Consequently, there is little chance that most farm operators in the next half-century can obtain an efficient-sized farm free of debt within their lifetime. The capital requirements for efficient farming operations are becoming too large for the one-family ownership structure, and such requirements are not appreciably altered by foreign investments in land.

The objection that alien owners will have an unfavorable impact on the type of rental agreement, farming patterns, and food prices is not compatible with basic human incentives. Such owners have the same desire as domestic owners to maximize returns and will tend to carry on farming operations, including tenant relationships, in about the same manner as domestic owners.

In addition, any reduction in foreign investment in the United States will tend to reduce the nation's stock of wealth and its well-being. Our stock of wealth is a major factor in determining our level of production of goods and services. Also, any reduction in foreign investment in the United States reduces the value of the dollar in world trade and increases the price of imported goods for domestic consumers.

Furthermore, there is little chance of foreign interests obtaining control of a large percent of U.S. farmland. The exchange balances available abroad for total investment in the United States are not sufficient to purchase enough farmland to control more than a small percent of U.S. agriculture within the next decade. Also it is most unlikely that the total will be invested in agriculture.

Disintermediation: An Old Disorder With A New Remedy

R. ALTON GILBERT and JEAN M. LOVATI

IN the summer of 1977, yields on short-term U.S. Treasury bills rose above the maximum interest rates that commercial banks and most thrift institutions are legally permitted to pay on passbook savings deposits.[1] By the end of that year, interest rates on U.S. Treasury securities had risen above ceiling interest rates on time deposits with longer maturities. In the past, when market interest rates have risen above legal ceiling rates on time and savings deposits by similar margins, the growth of these deposits has slowed sharply. This is called *disintermediation*.

Thrift institutions provide a major source of residential construction and mortgage credit, and thus, disintermediation tends to reduce the supply of credit available to the housing market. Since residential construction is a major industry, and since the stabilization of housing construction has a high priority in public policy, disintermediation at thrift institutions is of special concern to policymakers.

In an attempt to reduce the extent of disintermediation, Federal regulators of depository institutions authorized a new category of six-month time deposits called money market certificates (MMCs), which commercial banks, savings and loan associations, and mutual savings banks were permitted to offer after June 1, 1978. This paper analyzes the role of MMCs in preventing disintermediation and the implications of continued growth of deposits through MMCs for expansion of mortgage lending and residential construction activity.

CHARACTERISTICS AND GROWTH OF MMCs

The ceiling rate on MMCs at commercial banks is equal to the current discount yield on six-month Treasury bills; at thrift institutions, the ceiling rate is one-quarter of a percentage point higher.[2] The rate for *new* MMCs is adjusted weekly to the yield on six-month bills at the most recent bill auction. For previously issued MMCs, the ceiling rate remains unchanged until maturity. The minimum denomination in which MMCs are issued is $10,000, the same as that for Treasury bills.

Around 11,700 commercial banks — approximately 79 percent of all insured commercial banks — are estimated to have been offering MMCs at the end of last year (Table I). These banks recorded an out-

[1] Thrift institutions are savings and loan associations, mutual savings banks, and credit unions. The maximum interest rates which federally-regulated credit unions are allowed to offer on time and savings deposits are slightly higher than the ceiling rates at commercial banks, savings and loan associations, and mutual savings banks.

[2] A Treasury bill has a face value which is payable by the U.S. Treasury at maturity. Investors pay various fractions of the face value of Treasury bills, the fractions reflecting maturity and discount yield of the bills. To illustrate the calculation of discount yield, consider a one-year bill for which an investor pays 90 percent of face value. The discount yield on that bill is 10 percent. For a discussion of how discount yields may be converted to a bond equivalent basis, see footnote 4.

Table I

Growth of Money Market Certificates

	Interest Rate on 6-month Treasury Bills[1]	Commercial Banks[2]		Mutual Savings Banks[3]		Savings & Loan Associations[4]
		Number of Offering Institutions	Amount Outstanding ($ millions)	Number of Offering Institutions	Amount Outstanding ($ millions)	Amount Outstanding ($ millions)
June 7	7.16%	6,455	$ 774	224	$ 847	$ —
June 28	7.23	7,963	2,055	258	1,596	5,400
July 26	7.50	8,961	5,470	273	3,504	11,790
August 30	7.47	9,825	7,792	331	5,009	15,080
September 27	7.98	9,886	9,679	364	6,136	19,338
October 25	8.56	10,552	13,858	319	8,908	26,660[5]
November 29	9.00	11,065	19,729	349	10,841	34,630[5]
December 27	9.52	11,658	22,956	431	12,822	not available

[1]New issue rate, for week ending Saturday four days earlier than date shown.
[2]Based on a sample of 527 commercial banks.
[3]Based on a sample of 95 mutual savings banks.
[4]Data for end of month.
[5]Estimated figures; FSLIC - insured associations.
SOURCE: Federal Reserve releases G.13, H.6 and Federal Home Loan Bank Board *News*.

standing balance in MMCs of $23 billion in December, representing 4.5 percent of their net time and savings deposits (not seasonally adjusted).[3]

Thrifts have experienced even larger growth in MMCs. Mutual savings banks are estimated to have had about $12.8 billion of these certificates outstanding at the end of the year. At the end of November, MMCs represented 7.7 percent of total mutual savings bank deposits. Total MMCs outstanding at insured savings and loan associations is estimated to have been about $34.6 billion in late November, or 8.3 percent of savings capital.

Growth of MMCs has had a substantial effect on deposit growth at commercial banks and thrift institutions and, thus, has enabled the institutions to avert major disintermediation. Conditions for disintermediation began to develop in 1977 when the interest rate on three-month Treasury bills (bond equivalent yield) rose above the ceiling rate on savings deposits at commercial banks in May, and above the ceiling rate on savings deposits at savings and loan associations and mutual savings banks in July (see Chart I).[4] By the end of 1977, market interest rates on U.S. Treasury securities were above ceiling rates on time deposits of all maturity classes at commercial banks and thrifts, and in 1978, market interest rates rose even higher relative to ceiling rates.

As a result of increases in interest rates, growth of net time and savings deposits at commercial banks slowed gradually from July 1977 through May 1978 (Table II). In contrast, growth of net time and savings deposits at commercial banks began to accelerate in June 1978, the month that MMCs became available. Deposits at thrift institutions have followed a similar pattern, with growth rates slowing from August 1977 through May 1978 and accelerating thereafter.

COMPARISON TO PAST PERIODS OF DISINTERMEDIATION

Comparison of the growth rates of deposits before and after June 1978 underestimates the full effect of MMCs in preventing disintermediation. Market interest rates have risen substantially since June 1978,

[3]Net time and savings deposits of commercial banks exclude large ($100,000 and over) negotiable certificates of deposit at large commercial banks.

[4]Yields on Treasury bills must be converted to a bond equivalent basis in order to compare them to interest rates on deposits. To illustrate the difference between discount and bond equivalent yields, consider a one-year Treasury bill with a face value of $10,000 which is sold at a discount yield of 8 percent. The buyer would pay $9,200 for the bill and receive $10,000 at maturity one year later. The bill is sold on a discount basis, meaning that the buyer pays less than the face amount, and the discount yield is determined by calculating the difference between the purchase price and the face amount as a percentage of the *face amount* (i.e., $800 as a percentage of $10,000). Converting the discount yield to a bond equivalent yield involves calculating the difference between the purchase price and the face amount as a percentage of the *purchase price*. For the Treasury bill described above, the bond equivalent yield is 8.70 percent ($800 as a percentage of $9,200).

Table II

Annual Rates of Deposit Growth

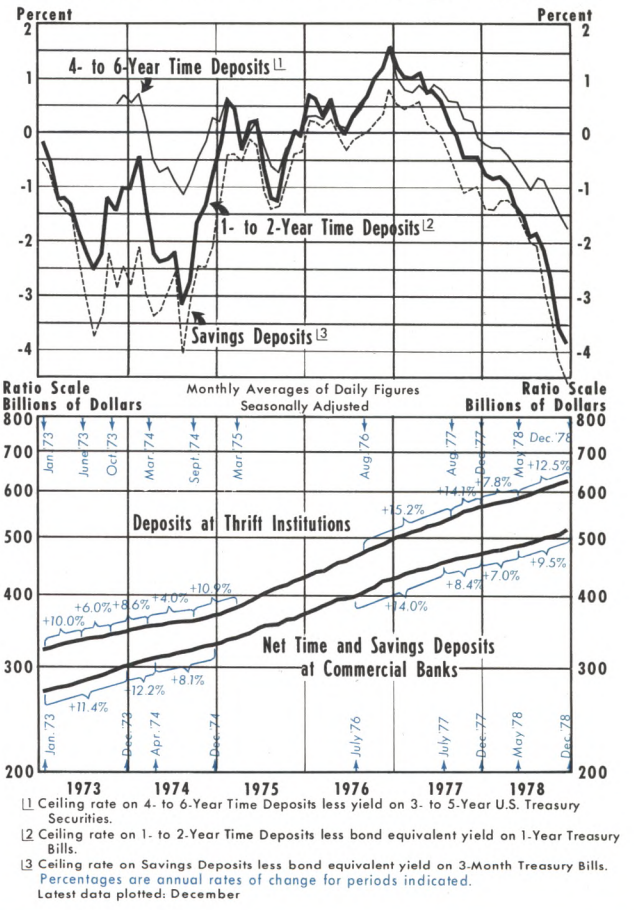
Month	Net Time and Savings Deposits at Commercial Banks	Deposits at Nonbank Thrift Institutions
1977 Jan.	13.4%	16.1%
Feb.	12.6	13.7
Mar.	11.6	12.2
Apr.	8.8	11.8
May	8.7	12.5
June	11.0	13.1
July	16.0	15.8
Aug.	8.8	19.0
Sept.	9.3	18.4
Oct.	9.2	15.6
Nov.	10.0	11.8
Dec.	4.7	11.0
1978 Jan.	8.7	9.0
Feb.	7.9	7.2
Mar.	6.2	8.0
Apr.	5.4	7.5
May	6.9	7.5
June	8.5	9.6
July	10.8	11.8
Aug.	12.1	14.8
Sept.	12.5	17.2
Oct.	9.5	14.5
Nov.	11.0	10.4
Dec.	2.4	9.7

and thus the differentials between market interest rates and fixed ceiling rates on time and savings deposits have widened in recent months. Therefore, without authorization of MMCs, and with all other ceiling rates unchanged, deposit growth would have been expected to slow substantially after June 1978.

The appropriate method of analyzing the role of MMCs in preventing disintermediation is to compare the rates of deposit growth in recent months to those of past periods when the differentials between market interest rates and fixed ceiling rates on time and saving deposits were comparable to current differentials. The historical patterns of differentials between ceiling interest rates on three categories of time and savings deposits at thrifts and market interest rates on U.S. Treasury securities of comparable maturities are presented in Charts I and II. These differentials during recent months have been similar to the prevailing differentials during parts of 1969, 1973, and 1974, when the three-month Treasury bill rate rose to more than 3 percentage points above the ceiling rate on passbook savings accounts at thrift institutions, and yields

Chart I

Ceiling Interest Rates on Deposits at Thrift Institutions Less Market Interest Rates, and Growth of Time and Savings Deposits



[1] Ceiling rate on 4- to 6-Year Time Deposits less yield on 3- to 5-Year U.S. Treasury Securities.
[2] Ceiling rate on 1- to 2-Year Time Deposits less bond equivalent yield on 1-Year Treasury Bills.
[3] Ceiling rate on Savings Deposits less bond equivalent yield on 3-Month Treasury Bills.
Percentages are annual rates of change for periods indicated.
Latest data plotted: December

on one-year Treasury bills rose to about 2.50 percentage points above the ceiling rate on one- to two-year time deposits.

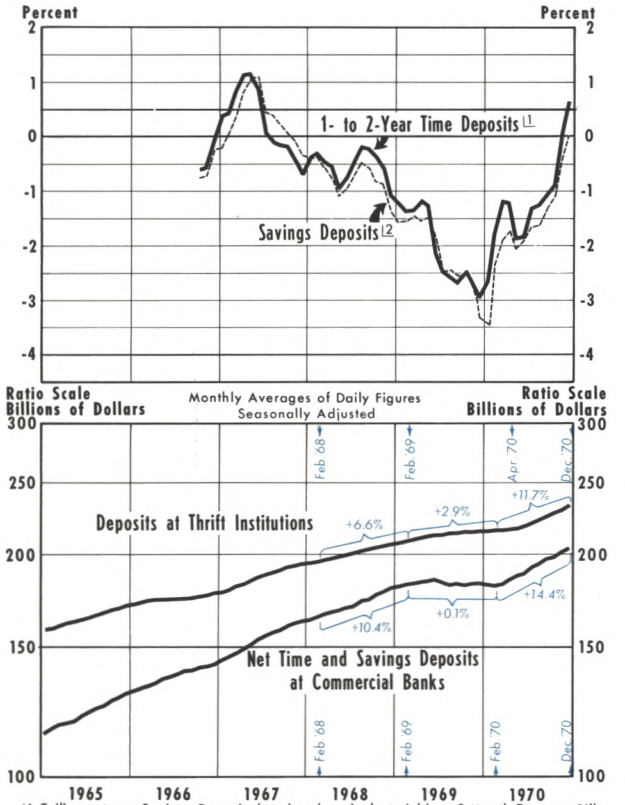
Disintermediation in 1969

Economic activity during 1969 is comparable in several ways to economic activity in 1978. The economy had been expanding for several years prior to 1969, and real disposable personal income rose throughout that year. Therefore, to the extent that deposit growth slowed as market interest rates rose above ceiling rates on time and savings deposits, depositors reacted to relative yields, and not to a decline in personal savings.

By early 1969 the differentials between market rates and ceiling rates were having a marked impact on deposit growth. Net time and savings deposits at com-

Chart II

Ceiling Interest Rates on Deposits at Thrift Institutions Less Market Interest Rates, and Growth of Time and Savings Deposits



[1] Ceiling rate on Savings Deposits less bond equivalent yield on 3-Month Treasury Bills.
[2] Ceiling rate on 1- to 2-Year Time Deposits less bond equivalent yield on 1-Year Treasury Bills.
Percentages are annual rates of change for periods indicated.
Latest data plotted: December

mercial banks were essentially unchanged from February 1969 to February 1970, compared to a 10 percent increase in the previous year. However, as short-term interest rates declined in 1970, net time and savings deposits resumed rapid growth.

Growth of deposits at thrift institutions also was affected by the rise of short-term market interest rates relative to ceiling rates. From February 1969 to April 1970, deposits at nonbank thrift institutions rose at a 3 percent rate. As market interest rates declined in 1970, growth of deposits at thrifts increased, rising at a 12 percent rate from April to December 1970.

Disintermediation in 1973

Economic activity in 1978 also was similar to that in 1973. The economy again had been expanding for several years prior to 1973, with real disposable personal income rising throughout the year. However, interest ceiling rates were changed during several months in 1973, having a significant effect on growth of deposits. The ceiling rates on time deposits of $1,000 or more with maturities of at least four years were suspended in July 1973, thus permitting commercial banks and thrift institutions to offer competitive rates of interest on these deposits (commonly called "wild card" deposits). The ceiling rates were reinstated in November 1973.

Commercial banks were able to maintain rapid growth of net time and savings deposits during 1973 because of the significant growth in long-term time deposits, even though market interest rates were substantially above ceiling rates on savings deposits and time deposits with maturities of less than four years. Thrift institutions experienced relatively slow deposit growth for four months in 1973, possibly as a result of competition with commercial banks for "wild card" deposits. Deposits of thrifts grew at a 6 percent rate from June through October 1973, compared to a 14 percent increase in the previous year.

Disintermediation in 1974

It is difficult to compare the influence of deposit interest ceilings on growth of deposits in 1978 to that in 1974 because some of the factors which influence deposit growth were different in the two years. For example, growth of personal savings, an important determinant of deposit growth at financial institutions, was slowed by the recession in 1974.[5] Nevertheless, deposit interest rate ceilings also appear to have influenced the pattern of deposit growth during 1974. This effect was more pronounced at thrifts than at commercial banks.

Deposits at thrifts grew at a 4 percent rate from March through September 1974, compared to an 8.6 percent rate of increase in the previous five months. Market interest rates began declining sharply in the fall of 1974, and deposit growth increased at a 10.9 percent rate from September 1974 through March 1975, the trough month of the past recession. Thus, the rate of deposit growth increased as market interest rates declined relative to ceiling rates on time and savings deposits, even though economic activity was still declining. This observation indicates that the slow deposit growth at thrifts during the six months

[5] For a survey of empirical studies on the determinants of deposits at financial institutions, see Edward F. McKelvey, *Interest Rate Ceilings and Disintermediation*, Staff Economic Studies, Board of Governors of the Federal Reserve System (April 1978).

ending in September 1974 was influenced not only by the effects of the recession on personal savings, but also significantly by the ceilings on deposit interest rates.

Comparison to 1978

In contrast to past experience, deposit growth at commercial banks and thrifts has accelerated in recent months, even though the margins between market interest rates and ceiling rates on categories of time and saving deposits other than MMCs have been about the same as during past periods of disintermediation. The differences between growth rates of deposits in recent months and in other periods analyzed above indicate that MMCs have had a significant role in preventing disintermediation.

SIGNIFICANCE OF MMCs FOR THE HOUSING MARKET

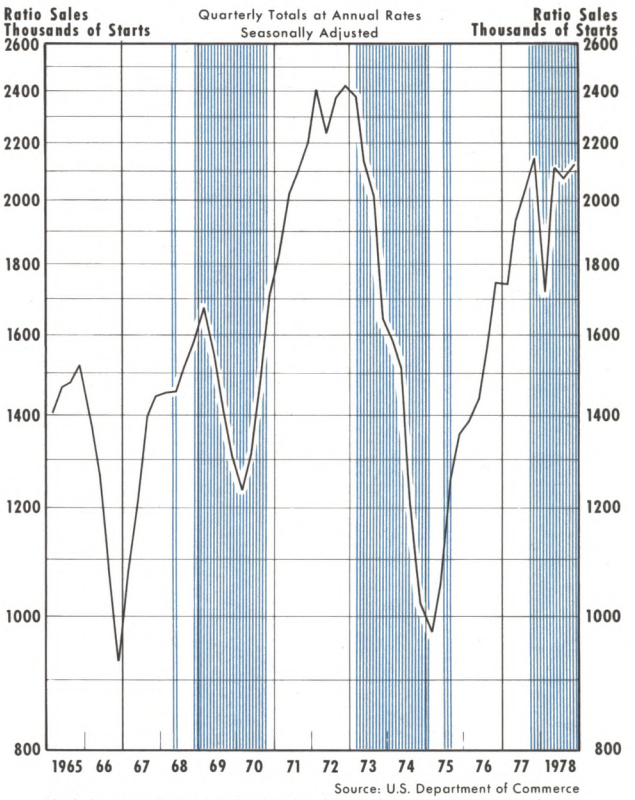
The availability of credit from thrift institutions is essential for financing residential construction. Since thrift institutions provide a major portion of both residential construction credit and residential mortgages, a reduction in deposit growth at thrifts limits the credit available to the housing market, and substantially reduces residential construction activity.

Authorization of MMCs has enabled thrift institutions to remain competitive for deposits during a period when market interest rates have been above ceiling rates on other categories of time and savings deposits. Thus, permission to offer MMCs has allowed thrift institutions to remain potential suppliers of mortgage credit, and thrifts have increased their residential mortgages substantially. During the year ending October 1978, residential mortgages held by savings and loan associations increased 14.4 percent, and mutual savings banks increased their residential mortgages 8.2 percent.

The significance of MMCs to the continuing high rate of housing starts in the current expansion can be analyzed by examining Chart III. The shaded areas represent periods when yields on three-month Treasury bills were 100 basis points or more above ceiling rates on savings deposits at thrift institutions. In 1969-70 and 1973-74, the shaded areas correspond closely to periods of declining housing starts. In contrast, yields on three-month Treasury bills have been 100 basis points or more above the ceiling rate on

Chart III

New Privately Owned Housing Units Started



Source: U.S. Department of Commerce

Shaded areas indicate periods when bond equivalent yield on Three-Month Treasury Bills is greater than thrift institution passbook rate by 100 or more basis points.

Latest data plotted: 4th quarter

savings deposits since the fall of 1977, yet the pace of residential construction activity remains relatively strong.

Housing starts have averaged an annual rate of about 2.1 million units in recent months, just below the highest rate of housing starts in the current expansion. This relatively high level of housing starts continues after almost four years into the current expansion. For comparison, housing starts in early 1969 peaked after a little over two years of expanding residential construction, and similarly, housing starts in late 1972 peaked two years after the previous recession trough.

However, permission for thrifts to offer MMCs does not assure a continued flow of mortgage credit. The ceiling interest rate on MMCs at thrifts is currently about 9.75 percent which, under daily compounding, is adjusted to about 10.25 percent. That rate is at or above the usury ceilings on residential mortgages in several states. Even in states with no usury ceilings or with usury ceilings above prevail-

ing interest rates, the spread between rates being paid on new MMCs and the yields on new residential mortgages is relatively narrow.

With the yields on MMCs approximately the same as mortgage yields, thrifts which increase their mortgages outstanding by issuing additional MMCs may eventually experience losses on such transactions if interest rates continue to rise. Most residential mortgages remain outstanding for several years and have fixed interest rates. Deposits attracted by issuing MMCs must be reissued at prevailing interest rates every six months as they mature to avoid deposit outflows. Thrifts which make additional mortgage loans face the risk that the interest rates on their deposit liabilities will continue to rise while the yields on their assets remain fixed. Therefore, thrifts cannot determine the profitability of increasing their residential mortgages solely by comparing the yields on mortgages to current interest rates on MMCs. They must consider, in addition, the possibility that interest rates will continue to rise.

Thrifts which attract additional deposits through MMCs may find investments other than residential mortgages more profitable. Although thrifts keep a relatively high proportion of their assets in residential mortgages to maintain special tax benefits, they have some margin within which they can change the mix of their assets without altering their tax status. Some thrift institutions reportedly are issuing MMCs and using those funds to buy large short-term certificates of deposit of commercial banks.[6] A shift of investments by thrifts from residential mortgages to short-term securities, however, is not yet indicated by aggregate information. In recent months, thrifts have increased their holdings of mortgages at about the same rate as the increase in their deposits.[7]

CONCLUSIONS

Deposit growth at commercial banks and thrift institutions has slowed in past periods when market interest rates rose above ceiling interest rates on time and savings deposits, a reaction called *disintermediation*. During the current phase of rising interest rates, Federal regulators have dealt with the threat of disintermediation by permitting commercial banks and thrift institutions to offer money market certificates, with ceiling interest rates which change weekly in line with discount yields on six-month Treasury bills. Growth rates of net time and savings deposits at commercial banks and deposits at thrifts have increased substantially since this new category of time deposits was authorized.

Growth of deposits at thrift institutions in recent months has facilitated the rapid expansion of mortgage lending, and residential construction activity has remained at a relatively high level, especially for a period with such high interest rates. However, the continued expansion of mortgage lending and residential construction is not assured by permission for thrifts to offer MMCs. Even if thrift institutions continue to have rapid deposit growth, they will not necessarily invest these funds in residential mortgages, since other types of investment may be more profitable.

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[6]"A Surprisingly Simple CD Rollover," *Business Week*, December 4, 1978, pp. 84-85, and "Money Market Certificates Are Selling Well, But Most Proceeds Aren't Going to Mortgages," *Wall Street Journal*, December 7, 1978.

[7]From May 1978 (the month before MMCs were authorized) to November, the rate of increase in mortgages outstanding at savings and loan associations was slightly higher than the rate of increase in their deposits (a 6.8 percent increase in mortgages and a 5.8 percent increase in deposits). Mortgages held by mutual savings banks (MSBs) increased 3.9 percent from May to November 1978 (the latest month for which data are available), while deposits of MSBs rose 2.8 percent.

Operations of the Federal Reserve Bank of St. Louis – 1978

A. CLIFFORD SAXTON, JR.

As the central bank of the United States, the Federal Reserve System performs a number of key functions within the nation's financial community, conducting monetary policy, supervising and regulating member banks, and providing various services to the public, the Treasury, and commercial banks.

These functions are performed by the Federal Reserve System's Board of Governors in Washington, the 12 regional Reserve Banks — located in Boston, New York, Philadelphia, Cleveland, Richmond, Atlanta, Chicago, St. Louis, Minneapolis, Kansas City, Dallas, and San Francisco — and the 25 branches of the regional Reserve Banks.

The Eighth Federal Reserve District is served by the Federal Reserve Bank of St. Louis, headquartered in St. Louis with branches in Little Rock, Louisville, and Memphis. The district encompasses Arkansas and portions of Illinois, Indiana, Kentucky, Mississippi, Missouri, and Tennessee.

This report reviews the operations of the Federal Reserve Bank of St. Louis during calendar year 1978.

Bank Supervision and Regulation

The Federal Reserve Bank of St. Louis, together with state banking authorities, has responsibility for the supervision of 71 state-chartered banks in the Eighth District which have elected to become members of the Federal Reserve System. The Bank makes annual examinations of state member banks in order to evaluate their assets, liabilities, capital accounts, liquidity, operations, and management. Attention also is focused on compliance with applicable laws and regulations.

Banking authorities use the information gathered through such examinations to direct attention to potential problems or unsatisfactory conditions at the banks. Supervision seeks to foster an effective banking system in which the public interest is safeguarded.

Although they have authority to examine all member banks, Federal Reserve Banks generally do not examine national banks, all of which are required to be members of the Federal Reserve System. Primary responsibility for examination of the 336 national banks in the Eighth District lies with the office of the Comptroller of the Currency. The Federal Deposit Insurance Corporation (FDIC) and respective state banking authorities examine state nonmember banks that are insured by the FDIC, while noninsured banks are examined only by state authorities.

Federal Reserve Banks also are responsible for supervision and regulation of bank holding companies. At the end of 1978, the Federal Reserve Bank of St. Louis had jurisdiction over 20 multibank and 97 one-bank holding companies, compared to 20 and 88, respectively, at the end of 1977. Prior approval must be obtained from the Federal Reserve System for bank holding company formations, acquisitions of additional banks and nonbank subsidiaries, and *de novo* expansions of existing subsidiaries. Applications for such bank holding company activities are analyzed by the Bank Supervision and Regulation Department, as well as the Bank's Legal and Research Departments. These departments consider the history, financial condition, and future prospects of the institutions involved and evaluate the quality of management. They also assess the legal aspects of any proposal and its likely effect on banking and nonbanking competition. During 1978, the Federal Reserve Bank of St. Louis received 20 applications to form bank holding companies and 25 applications from holding companies to acquire additional subsidiaries, engage *de novo* in nonbank activities, or establish new locations. An additional 15 applications were received for informal review.

After formation, bank holding companies must register and file annual reports with Federal Reserve Banks. These annual reports are analyzed by the staff of the Bank Holding Companies Division to

verify accuracy and completeness, to ascertain the current financial condition of the holding company and its subsidiaries, and to determine compliance with applicable laws and regulations. Examination reports prepared by the primary Federal supervisory agency of the respective bank subsidiaries also are analyzed to determine the overall condition of such subsidiaries. In addition, on-site inspections of bank holding companies and their nonbank subsidiaries are conducted by Division personnel. The purpose of these inspections is similar to that of examinations of banks.

Check Collection

The service of collecting and clearing checks drawn on member and nonmember banks is a major activity of this Bank. Payment for the items cleared is accomplished on the day of presentment by a charge to the reserve account of the member bank or to the reserve account of a member correspondent. Checks drawn on nonmember banks also are paid for on the day of presentment by a charge to the account of a specified member correspondent.

During 1978, the four Federal Reserve Bank of St. Louis offices cleared 744 million checks totaling $317 billion. This reflects increases of more than 7 percent in the number of checks cleared and 11 percent in dollar value when compared with 1977 check clearing activity.

A major goal of the Federal Reserve System is to provide a speedy check payments mechanism. To this end, a Regional Check Processing Center (RCPC) program was implemented during the early 1970s to increase the speed of the check payment process and to facilitate return of dishonored items. The RCPCs that have been in operation in the Eighth Federal Reserve District since 1972 continue to facilitate the overnight collection of items drawn on banks in the RCPC area, thereby permitting prompt credit and payment for these checks.

Electronic Transfer of Funds

"Electronic funds transfers" — or "wire transfers" — have been used for many years to facilitate transfers of balances between banks. The Federal Reserve and its member banks utilize a computer network for transferring funds nationwide. Using this system, many member banks render more efficient service to their customers and effect payment for the purchase and sale of Fed funds. Nonmember banks benefit from this service indirectly through correspondent member banks.

Settlement for such transfers is made by debits and credits to reserve accounts. Generally, transfers through this network are for large amounts, with no charge levied for transfers of $1,000 or more. Member banks also utilize these facilities to transfer marketable government securities. All four Federal Reserve offices and 23 commercial banks in the Eighth District with a significant volume of transfers are currently participating in this network. Several other banks are considering the installation of terminals to take advantage of the service, whose reliability and speed permit major efficiencies in comparison to the standard procedure of shipping checks. Nearly 400 member banks nationwide have installed on-line terminals connected to their Federal Reserve District computers. Member banks not having on-line terminals may telephone their transfers to their local Federal Reserve office where transfers are entered into the wire transfer system over Federal Reserve Bank terminals.

Table 1

Volume of Operations[1]

	Number (thousands)		Percent Change	Dollar Amount (millions)		Percent Change
	1978	1977		1978	1977	
Checks handled[2]	743,661	692,723	7.4%	$ 317,437	$ 285,868	11.0%
Transfers of funds	1,476	1,141	29.4%	1,153,708	1,035,000	11.5%
Currency received and counted	311,439	318,000	−2.1%	2,836	2,900	−2.2%
Government securities issued, serviced, and redeemed	13,902	13,300	4.5%	97,018	36,388	166.6%
U.S. Government coupons paid	313[3]	400	−21.8%	78[3]	185	−57.8%
Food stamps received and counted	122,926	120,000	2.4%	504	504	—

[1]Total for the St. Louis, Little Rock, Louisville, and Memphis offices.
[2]Excludes U.S. Government checks and postal money orders.
[3]Reflects conversion to book entry in handling of definitive coupons.

Terminal installations at the banks are connected to the computer at the St. Louis Federal Reserve office, which is the switching center for the Eighth District. Operators of the terminals in the commercial banks can initiate transfers directly from their banks, at which time the transfers are processed automatically through the computer at the St. Louis office and directed through a central switching computer at Culpeper, Virginia, to another Federal Reserve District for the account of the receiving commercial bank. Transfers of funds may also be made between member banks in the same District. If the receiving bank is on-line, transfers are switched automatically to that bank's terminals through its Federal Reserve District computer.

By transferring funds electronically, all necessary information for completing the transfer is obtained. Third-party information may be entered to identify the originator and/or the recipient of the funds. Member bank reserve accounts are debited and credited automatically, and banks with on-line terminals receive an immediate record of each transaction at its conclusion. The use of electronic equipment for transfers of funds has reduced the time required for completion of a typical transaction from almost an hour to a matter of minutes.

With the installation of on-line terminals at the 23 District commercial banks, about 4,200 transactions per day are sent and received electronically and thus do not require manual processing by Eighth District personnel. This represents 71 percent of total transfers processed.

Volume and dollar amounts of transfers processed by the Eighth District continue to increase. During 1978, nearly 1.5 million transfers amounting to $1,154 billion were completed by the Federal Reserve Bank of St. Louis and its branches. This is a 29.4 percent increase in number and an 11.5 percent increase in value over the previous year. More on-line banks are expected to be added to the system in 1979.

Federal Recurring Payments

The Federal Reserve computer systems, on a recurring basis, process electronic data representing U.S. Government payments. Payments are received on magnetic tape from Government disbursing centers, processed, and distributed to financial organizations.

The Eighth District has processed such payments since August 1975, when the Federal Reserve System began handling the payroll for the Air Force. In 1978, these operations were expanded to include payments to Navy retirees.

The electronic funds transfer system (EFTS) currently is used in the Eighth District for the settlement of a variety of Federal recurring payments. Social Security payments constitute the largest category, with a monthly volume of 387,000 payments. Monthly volumes also include 19,000 Civil Service Annuity payments, 14,000 railroad retirement payments, 32,000 Veterans Administration payments, 44,000 Air Force payments, 14 CIA retirement payments, and 3,000 Navy retirement payments. In addition, 2,000 revenue-sharing payments are processed on a quarterly basis.

Automated Clearing Houses

An automated clearing house (ACH) provides for the exchange of payments on magnetic tape, in contrast to traditional clearing houses which provide for such payment exchanges with batches of paper checks.

The St. Louis Reserve Bank and each of its branches operate automated clearing houses and, since late 1978, are linked to a coast-to-coast network of financial institutions automatically handling pre-authorized payments via electronic communications and using Federal Reserve System facilities. The interregional network consists of 32 automated clearing house associations. It links approximately 9,400 banks and 1,500 thrift institutions which are members of these associations with 6,000 customer corporations.

Within the Eighth District, the Kentuckiana Automated Clearing House, operated by the Louisville Branch, began operating in April 1976. The Mid-America Payments Exchange, operated by the Bank's head office in St. Louis, has been operational since July 1976. In February 1977, the Mid-South Automated Clearing House, operated by the Memphis Branch, began operations, followed in October 1977, by the Arkansas Automated Clearing House, operated by the Little Rock Branch.

Collectively, the District's four ACH facilities process approximately 42,000 commercial debits and 20,000 credit items each month.

Coin and Currency

Coin and currency, approximately 26.4 percent of the money stock, are used more widely than demand deposits in consummating small transactions, pri-

marily because of convenience. Personal checks generally are used for transactions of larger amounts. The Federal Reserve Banks supply virtually all of the coin and currency in circulation through the commercial banking system, and excess coin and currency are returned to Federal Reserve Banks through this system.

Approximately 311 million pieces of currency valued at $2.8 billion were received and verified at the four Federal Reserve offices in the Eighth District during 1978. This was a decrease of about 2 percent in number of pieces and a 2 percent decline in dollar volume from 1977. The number and value of coins received and verified showed a decline from 1977 levels. Combined sorting, counting, and wrapping of coin and currency at the four Eighth District offices averaged almost 5.6 million pieces per working day in 1978, slightly less than in 1977.

Currency which is no longer usable is removed from circulation and destroyed. During 1978, the Federal Reserve Bank of St. Louis and its branches verified and destroyed currency totaling $761 million.

Lending

Three types of credit are available to member banks in the Eighth Federal Reserve District: short-term adjustment, seasonal, and emergency credit. Member banks may make temporary adjustments in their reserve positions due to deposit losses, unexpected or unusual requests for loans, or other changes they encounter. Member banks which have highly seasonal loan demands may apply to this Bank for seasonal credit. Such loan demands are due primarily to a recurring pattern of change in deposits and loans. Under seasonal credit, member banks may maintain a portion of their liquid assets in the form of Federal funds (loans of excess reserves to other banks), as long as such holdings conform to the bank's normal operating experience. Arrangements for this type of credit should be made in advance. Credit for longer periods also is available to member banks to meet emergency conditions which may result from unusual local, regional, or national financial situations, or adverse circumstances where member banks are involved.

The discount rate is the rate of interest charged by the Federal Reserve Bank on loans to member banks. The level of the discount rate, in relation to other short-term market rates, has an influence on the volume of credit extended by the Federal Reserve Bank. When the discount rate is higher than other market interest rates, member banks usually choose to obtain funds from other sources to make temporary reserve adjustments. When the discount rate is low in relation to other market rates, member banks tend to rely more heavily on the Federal Reserve for funds.

At the beginning of 1978, the discount rate stood at 6 percent. The rate was increased seven times during the year and, at year's end, was 9½ percent, the highest since the Eighth District began operations in 1914. Throughout virtually all of 1978, however, the discount rate was below other short-term interest rates. As a result of this difference between rates, member bank borrowings in the Eighth District were relatively high, with daily average outstanding loans amounting to $57.8 million in 1978, more than twice the $23.7 million figure of 1977. There were 2,440 loans totaling $10.5 billion made to 119 Eighth District member banks by the Federal Reserve Bank of St. Louis during 1978. This is a substantial increase over 1977, when 860 loans amounting to $5 billion were made to 63 member banks.

Fiscal Agent

As a fiscal agent of the Federal Government, the Federal Reserve Bank performs many services. The U.S. Treasury makes payments for various types of Government spending through accounts maintained in the System. Funds received by the Treasury are deposited into its account at the Federal Reserve Banks or into tax and loan accounts at designated commercial banks. These funds mainly represent receipts from payment of taxes and collections from the sale of Government securities to the public. Balances in the tax and loan accounts are transferred upon call to the account of the Treasury of the United States at Federal Reserve Banks in order for the Treasury Department to have use of the funds.

The Federal Reserve Banks also act on behalf of the Government in marketing Treasury securities. When the Treasury offers new securities, the Reserve Banks prepare and distribute applications and official offering circulars, receive subscriptions from those wishing to buy, allot the securities among the subscribers according to the terms of the offering, collect payment, and make delivery to the purchasers. With funds from the Treasury's account, Federal Reserve Banks pay interest on securities and redeem them at maturity. Reserve Banks also pay interest on and redeem securities of most Government-sponsored corporations.

As of January 24, 1979

DIRECTORS

St. Louis

Chairman of the Board and Federal Reserve Agent

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General American Life Insurance Company, St. Louis, Missouri

VIRGINIA M. BAILEY, Owner, Eldo Properties, Little Rock, Arkansas

RALPH C. BAIN, Vice President, Wabash Plastics, Inc., Evansville, Indiana

DONALD N. BRANDIN, Chairman of the Board and Chief Executive Officer, The Boatmen's National Bank of St. Louis, St. Louis, Missouri

RAYMOND C. BURROUGHS, President and Chief Executive Officer, The City National Bank of Murphysboro, Murphysboro, Illinois

GEORGE M. RYRIE, President, First National Bank & Trust Company, Alton, Illinois

TOM K. SMITH, JR., Senior Vice President, Monsanto Company, St. Louis, Missouri

WILLIAM H. STROUBE, Associate Dean of Faculty Programs, Western Kentucky University, Bowling Green, Kentucky

WILLIAM B. WALTON, Vice Chairman of the Board, Holiday Inns, Inc., Memphis, Tennessee

Little Rock Branch

RONALD W. BAILEY, Executive Vice President and General Manager, Producers Rice Mill, Inc., Stuttgart, Arkansas

THOMAS E. HAYS, JR., President and Chief Executive Officer, The First National Bank of Hope, Hope, Arkansas

G. LARRY KELLEY, President, Pickens-Bond Construction Co., Little Rock, Arkansas

E. RAY KEMP, JR., Vice Chairman of the Board and Chief Administrative Officer, Dillard Department Stores, Inc., Little Rock, Arkansas

GORDON E. PARKER, President, The First National Bank of El Dorado, El Dorado, Arkansas

SHIRLEY J. PINE, Speech Communication, University of Arkansas at Little Rock, Little Rock, Arkansas

B. FINLEY VINSON, Vice Chairman of the Board, The First National Bank in Little Rock, Little Rock, Arkansas

Louisville Branch

Chairman of the Board

JAMES F. THOMPSON, Professor of Economics
Murray State University, Murray, Kentucky

HOWARD BRENNER, Vice Chairman of the Board, Tell City National Bank, Tell City, Indiana

RICHARD O. DONEGAN, Vice President and Group Executive, Major Appliance Business Group, General Electric Company, Louisville, Kentucky

SISTER EILEEN M. EGAN, President, Spalding College, Louisville, Kentucky

J. DAVID GRISSOM, Chairman and Chief Executive Officer, Citizens Fidelity Bank and Trust Company, Louisville, Kentucky

FRED B. ONEY, President, The First National Bank of Carrollton, Carrollton, Kentucky

WENDELL G. RAYBURN, Dean of University College, University of Louisville, Louisville, Kentucky

Memphis Branch

Chairman of the Board

FRANK A. JONES, JR., President
Cook Industries, Inc., Memphis, Tennessee

BRUCE E. CAMPBELL, JR., Chairman of the Board and President, National Bank of Commerce, Memphis, Tennessee

STALLINGS LIPFORD, President, First-Citizens National Bank of Dyersburg, Dyersburg, Tennessee

EARL L. MCCARROLL, President, The Farmers Bank & Trust Co., Blytheville, Arkansas

BENJAMIN P. PIERCE, President, Tyrone Hydraulics, Inc., Corinth, Mississippi

WALTER L. WALKER, President, LeMoyne-Owen College, Memphis, Tennessee

CHARLES S. YOUNGBLOOD, President and Chief Executive Officer, First Columbus National Bank, Columbus, Mississippi

Member, Federal Advisory Council

CLARENCE C. BARKSDALE, Chairman of the Board and Chief Executive Officer
First National Bank in St. Louis, St. Louis, Missouri

OFFICERS

St. Louis

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DONALD W. MORIARTY, JR., First Vice President

ANATOL B. BALBACH, *Senior Vice President*

JOSEPH P. GARBARINI, *Senior Vice President & Controller*

F. GARLAND RUSSELL, JR., *Senior Vice President, General Counsel, and Secretary*

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EUGENE F. ORF, *Special Adviser*

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EDWARD R. SCHOTT, *Assistant Vice President*

WILLIAM J. SNEED, *Assistant Vice President*

ALAN C. WHEELER, *Assistant Vice President*

Little Rock Branch

JOHN F. BREEN, *Vice President and Manager*

MICHAEL T. MORIARTY, *Assistant Vice President and Assistant Manager*

DAVID T. RENNIE, *Assistant Vice President*

Louisville Branch

DONALD L. HENRY, *Senior Vice President and Manager*

JAMES E. CONRAD, *Assistant Vice President and Assistant Manager*

GEORGE E. REITER, JR., *Assistant Vice President*

THOMAS J. WILSON, *Assistant Vice President*

Memphis Branch

L. TERRY BRITT, *Vice President and Manager*

PAUL I. BLACK, JR., *Assistant Vice President and Assistant Manager*

ANTHONY C. CREMERIUS, JR., *Assistant Vice President*

The Federal Reserve Banks, as fiscal agents, will hold in safekeeping securities pledged to secure Government deposits in tax and loan accounts at commercial banks. Federal Reserve Banks also will hold securities of member banks in safekeeping. U.S. Treasury and most Government agency securities are held in book-entry form by the Reserve Banks.

Securities of the U.S. Government and various Government agencies are issued, serviced, and redeemed by Federal Reserve Banks. In 1978, the Federal Reserve Bank of St. Louis and its branches processed 38,526 original-issue transactions, 113,160 servicing transactions, and 30,503 redemption transactions on behalf of the Treasury and various agencies, handling 13.9 million securities with a value of $97 billion. Also during 1978, 313,000 redemption transactions involving coupons of U.S. Treasury and agency securities were processed by the Eighth District offices, amounting to $78 million.

U.S. Government food stamps also are redeemed by Federal Reserve Banks. A total of 123 million food stamps amounting to $504 million were received and counted by the Federal Reserve Bank of St. Louis and its branch offices in 1978.

The Federal Reserve Banks also act as issuing and redemption agents for United States Savings Bonds. In this capacity in 1978, the Eighth District offices processed 13,597,669 Savings Bonds on original issue and redemption as well as reissue and replacement transactions.

Research

The Federal Reserve System, working closely with other policymaking agencies in the Government, has the primary responsibility of formulating and implementing monetary policy. Through representation on the Federal Open Market Committee (FOMC), Federal Reserve Banks play an important role in formulating System policy.[1] The President of this Bank uses the information gathered in policy discussions at meetings of the FOMC. In addition, the 12 regional Federal Reserve Banks contribute to System awareness of local and regional business conditions through the collection of business, monetary, and financial data.

[1]The Federal Open Market Committee consists of the seven members of the Federal Reserve's Board of Governors and the President of the Federal Reserve Bank of New York as permanent members, with four of the remaining 11 Reserve Bank Presidents serving on a rotating basis. The FOMC directs the purchase and sale of Treasury and Government agency securities on the open market.

Table II

Combined Comparative Statement of Condition

(in thousands of dollars)

	December 31, 1978	December 31, 1977
ASSETS		
U.S. Government Securities:		
Bills	$1,721,549	$1,763,667
Certificates	—	—
Notes	2,240,002	2,148,021
Bonds	508,999	370,930
TOTAL U.S. GOVERNMENT SECURITIES	$4,470,550	$4,282,618
Gold Certificate Reserves	$ 466,025	$ 468,914
Special Drawing Rights Certificate Account	55,000	53,000
Coin	21,666	19,869
Loans and Securities:		
Discounts and Advances Secured by U.S. Government and Agency Obligations	31,705	6,600
Other Discounts and Advances	29,855	—
Federal Agency Obligations Bought Outright	322,415	339,654
Cash Items in Process of Collection	582,892	565,391
Bank Premises (net)	12,865	12,833
Other Assets	155,101	75,292
Interdistrict Settlement Account	68,589	—
TOTAL ASSETS	$6,216,663	$5,824,171
LIABILITIES		
Deposits:		
Member Bank — Reserve Accounts	$ 888,203	$ 817,447
U.S. Treasurer — General Account	246,465	474,331
Foreign	6,284	9,098
Other Deposits	22,431	22,260
TOTAL DEPOSITS	$1,163,383	$1,323,136
Federal Reserve Notes (Net)	$4,539,975	$3,912,126
Deferred Availability Cash Items	380,254	362,632
Interdistrict Settlement Account	—	114,545
Other Liabilities	66,111	47,458
TOTAL LIABILITIES	$6,149,723	$5,759,897
CAPITAL ACCOUNTS		
Capital Paid In	$ 33,470	$ 32,137
Surplus	33,470	32,137
TOTAL CAPITAL ACCOUNTS	$ 66,940	$ 64,274
TOTAL LIABILITIES AND CAPITAL ACCOUNTS	$6,216,663	$5,824,171

The public also has access to data and information relating to economic developments through regular publications of the St. Louis Research Department. Comprehensive analysis of economic problems and conditions provides the basis for articles appearing in the *Review*, published monthly by this department. The *Review* has a circulation of about 42,000 copies and is distributed both nationally and internationally.

The Research Department also assists in the bank regulatory function by reviewing the impact of bank

Table III

Comparative Profit and Loss Statement
(in thousands of dollars)

	1978	1977	Percent Change
Total Earnings	$347,018	$284,888	21.8%
Net Expenses	33,759	33,619	.4
Current Net Earnings	$313,259	$251,269	24.7%
Net Additions (+) or Deductions (−)	−21,065	−5,829	261.4
Assessments for Expenses of Board of Governors	−1,667	−1,563	6.7%
Net Earnings before Payments to U.S. Treasury	$290,527	$243,877	19.1%
Distribution of Net Earnings:			
Dividends	1,975	1,963	.6%
Interest on Federal Reserve Notes	287,219	242,329	18.5
Transferred to Surplus	1,333	−415	—
TOTAL	$290,527	$243,877	19.1%

mergers and holding company acquisitions on the communities to be served.

Bank Relations and Public Information

The Bank Relations and Public Information Department establishes and maintains personal contact with all banks located in the Eighth Federal Reserve District through a structured bank call program and attendance at various banking functions. An effort also is made to increase public understanding of the functions, responsibilities, and policies of the Federal Reserve System by distributing films and publications, providing in-house tours, delivering speeches, and conducting seminars. Emphasis is placed on maintaining contact with schools and colleges in this District.

The Functional Cost Analysis Program offered to member banks is administered by this Department. This program provides participating member banks with bank operating costs by function and permits comparison with banks of similar size. Technical assistance is furnished during the first year to banks desiring to take part in the program. Last year, 46 Eighth District member banks participated in the activity.

In maintaining contact with the banking industry and the general public during 1978, the officers and staff members of the Federal Reserve Bank of St. Louis and its branches delivered 423 addresses before bankers, business groups, and educators. The Bank was represented at 161 banker, 89 professional, and 285 miscellaneous meetings. Under the bank call program, 836 banks in the District were visited. During 1978, 987 groups requested films from the Bank Relations film library, and 6,554 visitors toured the four Federal Reserve offices in the Eighth District.

Financial Statements

The net expenses of the Federal Reserve Bank of St. Louis in 1978 were .4 percent higher than net expenses for 1977. Although the increase in expenses was small, the Bank's payments to the Treasury increased by 18.5 percent — from $242 million in 1977 to $287 million in 1978.

The $287 million paid to the Treasury was 82.8 percent of total earnings. In 1977, by comparison, 85.1 percent of total earnings was paid to the Treasury.