Thrifts Compete with Banks: Getting a Clearer View of a Changing Picture

By Howard Keen, Jr.*

The U.S. financial system has seen large-scale changes in recent years, and there is no shortage of change in sight. Rulings by regulators in the 1970s have transformed the environment in which commercial banks and their rivals compete. And current legislative proposals, along with a recent court ruling, open the door for even more far-reaching innovations.

In the process of trying to adjust to this new climate, and perhaps to shape it, policy-makers, bankers, and consumers alike need to get a clear view of just what the competitive landscape looks like. There is more than one way to take a picture of this landscape, however, and as a study of banking markets in the Third Federal Reserve District shows, the angle that's chosen can make a big

"The author, who received his Ph.D. from Bryn Mawr College, is an economist at the Philadelphia Fed. He specializes in banking and business conditions analysis. difference in what the camera records.

A CHANGING WORLD OF COMPETITION

Because commercial banks are the department stores of the financial industry, they compete on many fronts and with various types of other financial institutions. And while the forces of change probably are active on most of these fronts, nowhere are they more in evidence than in payments services. This is an area that has undergone considerable change already and one that is likely to undergo even more in the near future.

New Payments Powers for Thrifts, Regulatory developments in the 1970s have given thrift institutions—mutual savings banks (MSBs), savings and loan associations (S&Ls), and credit unions (CUs)—the authority to offer their depositors various forms of checking-type services which used to be the exclusive domain of commercial banks (banks).

BUSINESS REVIEW

New payments services give depositors the opportunity to write what are essentially checks on their accounts at thrifts. Negotiable order of withdrawal (NOW) accounts, noninterest-bearing negotiable order of withdrawal (NINOW) accounts, and share draft accounts are examples of this; and in the case of NOWs and share drafts, interest is paid on the funds to boot. Further, preauthorized bill-paying allows depositors to make payments to third parties from their savings accounts, and automatic transfer services (ATS) provide for the automatic transfer of funds from a savings account to a checkingtype account at the same institution. Finally, innovative banking devices, such as remote service units (RSUs) and automatic teller machines (ATMs), increase the spendability of funds held in thrift savings accounts by permitting consumers to make deposits, withdrawals, and transfers from one account to another without a trip to the MSB or S&L office (Figure 1).

Allowing thrift institutions to offer payments services adds a new dimension to the banking business. It gives consumers a larger menu of financial institutions to choose from and in some cases (such as NOW accounts and preauthorized transfers from savings accounts) allows them to earn interest income on their transaction balances. At the same time, it provides thrifts with an additional weapon in their battle with banks for household funds. Thrifts can use their

FIGURE 1

NE	W PAYMENTS POWERS FOR THRIFTS*
September 1970	Federally chartered S&Ls permitted to make preauthorized nonnegotiable transfers from savings accounts to third parties for household-related expenditures.
January 1974	Federal legislation permits all banks and thrifts (except CUs) in Massachusetts and New Hampshire to offer negotiable order of withdrawal (NOW) accounts. NOW accounts are functionally equivalent to interest-bearing checking accounts.
January 1974	Federal S&Ls authorized to establish remote service units (RSUs) on experimental basis. RSUs are electronic terminals located in retail establishments. They enable S&L customers to make deposits, withdrawals, and transfers of funds between accounts without going to the S&L office in person. †
August 1974	Three Federally chartered CUs permitted to offer share drafts which are functionally equivalent to interest-bearing checking accounts. These three Federal CUs and two state CUs began six-month pilot program in October 1974. By year-end 1978, 740 Federal CUs had share draft service in operation. †
April 1975	Federally chartered S&Ls permitted to make preauthorized transfers from savings accounts to third parties for any purpose.
July 1975	Banks, MSBs, and, with the approval of the Commissioner of Banking, state chartered S&Ls in New Jersey authorized to establish manned RSUs and off-premise automated teller machines (ATMs). Such units permit customers to make deposits, withdrawals, and transfers between accounts without making a trip to the bank, MSB, or S&L office.
February 1976	Congress extends NOW account authority to all New England states.

new payments powers to attract funds that normally would be held in a bank checking account. Moreover, because one-stop banking is convenient for many depositors, checking-like powers also can help thrifts attract savings funds—particularly in light of the quarter-percentage-point higher maximum rate that thrifts are permitted to pay. All in all, the trend in payments powers clearly has been one that could make thrifts

¹As part of a regulatory realignment designed to aid small savers, ceiling rates on passbook accounts at Federally insured institutions were increased as of July 1, 1979 to 5 1/4 percent at commercial banks and to 5 1/2 percent at savings and loan associations and mutual savings banks. Credit unions are subject to different regulations which permit even higher rates to be paid.

better able to compete with banks. In view of this trend and with the possibility of additional innovations in the future, an assessment of the competitive strengths of banks and thrifts can be of use to policymakers, bankers, and consumers alike.

Assessing Competition Is Fundamental. The competitive structure faced by banks and thrifts has important implications for the earnings and safety of these institutions as well as for the price and quality of financial services they provide to the public.

As a rule, greater competition lowers the cost to the public of various financial services. But it also lowers the earnings of banks and thrifts. It's been estimated that the introduction of NOW accounts in New England, for example, reduced after-tax earnings

March 1977 MSBs in Pennsylvania granted authority to offer non-interest-bearing negotiable order of withdrawal accounts (NINOWs). NINOWs are functionally equivalent to

checking accounts.

October 1978 Federal legislation extends NOW account authority to New York State.

November 1978 Federally insured banks and MSBs authorized to offer automatic transfers from a savings account to a checking account or other type of transaction account. †

*The developments listed in this table do not necessarily give the complete picture of new powers for thrifts. In some cases, state chartered institutions have begun to offer the same services as their Federal counterparts without any express enabling legislation.

†On April 20, 1979 the U.S. Court of Appeals in Washington, D.C. ruled that share drafts, RSUs, and ATS are illegal and must be discontinued by January 1, 1980 unless Congress acts to legalize them.

SOURCES;

American Banker, various issues.

American Bankers Association, State Banking; Gredit Union and Savings and Loan Association Legislation 1975, Washington, D.C.

Alfred Broaddus, "Automatic Transfers from Savings to Checking; Perspective and Prospects," Economic Review, Federal Reserve Bank of Richmond, November/December 1978, p. 4.

Ann Marie Laporte, "Proposed Redefinition of Money Stock Measures," Economic Perspectives, Federal Reserve Bank of Chicago, March/April 1979, pp. 7-13.

Jean M. Lovati, "The Growing Similarity Among Financial Institutions," Review, Federal Reserve Bank of St. Louis, October 1977, pp. 6-7.

New Jersey Department of Banking, 1975 Annual Report of the Commissioner of Banking, Division of Savings and Loan Associations, February 27, 1976.

for all banks in Massachusetts and New Hampshire by about two and a half percent in 1974 and by a little over eight percent in 1975. In more extreme cases, the pressure on earnings from stiffer competition could result in the failure of some banks or thrifts. An institution might fail, for example, if to cover its increased costs, it began to take on significant amounts of high-interest—but very risky—loans. Thus additional competition could spell rough going for less efficient banks and thrifts. In light of this possibility, knowledge of the competitive structure of these institutions can be crucial to policymakers and to the institutions themselves.

Policymakers, for example, who must consider proposals that could affect the competitive balance among banks and thrifts, have to know whether an imbalance has developed before they can decide on what should be done to correct it. A competitive profile of financial markets is part of the information needed to make this determination.

A profile of competition can be useful for bankers and consumers as well. New regulations that make thrifts more competitive will not have the same impact on all banks. Bankers in markets where thrifts are weak are not likely to feel the same impact as those in markets with strong, aggressive thrifts. Similarly, for consumers to project how a new regulation would affect the banking services available to them, they too need an assessment of competition in their area.

In short, a clear picture of the competitive landscape is a crucial ingredient in decisions made by policymakers and the public.

COMPETITION: TWO VIEWS FROM THE THIRD DISTRICT

Two views of the market for savings deposits in the Third District offer examples

of different ways to draw competitive profiles.³ One of these views is derived from measures that recap the District as a whole, while the other focuses on local banking markets. The definitions of local markets have been developed by the Federal Reserve Bank of Philadelphia expressly for use in assessing competition.⁴

Even when the market in question is a small geographic area, District-wide or statewide figures might be used, for example, when data for the local market areas are not available or when there isn't enough time to gather and analyze more detailed measures. While the picture that results may not always be a very fine-grained reflection of the underlying conditions in local markets, the broad-brush approach can be expedient. Also, in assessing competition, both kinds of measures can be used to describe the competitive strength of banks and thrifts at certain times as well as changes that might take place over time. Such changes can alert policymakers to the possibility of shifts in

³Savings deposits used in this article consist of the following: for credit unions, total savings including public unit accounts, retirement plans, and special share accounts such as Christmas and vacation accounts; for savings and loan associations, total savings capital including time deposits; and for commercial banks and mutual savings banks, total time and savings deposits of individuals, partnerships, and corporations (IPC). Deposit data are as of December 31 for credit unions, September 30 for savings and loan associations, and June 30 for commercial banks and mutual savings banks.

⁴For a description of the original work in this area, see Cynthia A. Glassman, "Banking Markets in Pennsylvania," Changing Pennsylvania's Branching Laws: An Economic Analysis, Federal Reserve Bank of Philadelphia, March 1973, pp. 19-41. For examples of broader measures of competitive structure, see American Bankers Association, Financial Institution Facts, 1978, and U.S., Congress, House, Committee on Banking, Finance, and Urban Affairs, Consumer Financial Services Act of 1977 (NOW Account Legislation), Hearing before a subcommittee of the Committee on Banking, Finance, and Urban Affairs; House of Representatives, on H.R. 8981, 95th Cong., 1st sess., September 7, 1977, pp. 214-218 and p. 254.

²See Howard Keen, "Why Bankers Are Concerned about NOW Accounts," *Business Review, Federal Reserve Bank of Philadelphia, November/December* 1977,

the relative competitive strengths of banks and thrifts.

In the Aggregate, Thrifts Are Close Rivals to Banks. Using the aggregate measure, it appears that thrifts are formidable competitors for savings deposits in the Third District. Thrifts had a sizeable share of deposits earlier in the decade and have managed to add a bit since then.

One way to assess the competitive strength of banks and thrifts is to look at their number of offices and share of deposits. Number of offices is a rough measure of how hard they're trying to attract deposits, and share of deposits is a measure of how successful they've been in this effort.⁵

In both 1972 and 1976, banks had more offices and more savings deposits than all thrifts combined, but the thrift share of total savings deposits was far from negligible.

Thrifts as a group held more than two-fifths of total savings deposits in both years. Further, the number of thrift offices increased at a noticeably faster clip than the number of bank offices, and thrifts were successful in upping their share of total savings deposits in the District from 44 percent in 1972 to 45 percent in 1976. For the most part, the faster rate of adding offices and the gain in deposit share were accounted for by S&Ls (Figure 2).

All in all, these aggregate measures show that thrifts were strong competitors for savings deposits in 1972 and that they gained on banks, especially in number of offices, from 1972 to 1976.6

But Banks Are Far Stronger in Most Local Markets. An alternative approach to

FIGURE 2 THRIFTS SHOW GAINS IN THE THIRD DISTRICT 1972-1976*

	Number	of Offices		Share of Total Savings Deposits (percent)			
	1972	1976		1972	1976		
Commercial Banks	2,395	2,913	T V MAN	56	55		
Mutual Savings Banks	143	228		20	20		
Savings & Loan Associations	537	720		. 22	23		
Credit Unions	947	1,104		2	2	-	
All Thrifts Combined	1,627	2,052		44	45		
Total	4,022	4,965		100	100		

[&]quot;The numbers above represent the sum for all local markets completely or partially within the Third District. Therefore, they include offices and deposits of institutions that are located outside the District but in a market that straddles District boundaries.

⁵Number of offices is only a rough measure because it fails to take into account the fact that institutions must obtain regulatory approval to open new offices. Hence, differences in new offices opened also reflect differences among the regulators in their propensities to approve additional offices.

⁶The data used to calculate the measures in the tables are for all insured commercial banks and MSBs, for Federally insured CUs, and, with a minor exception, Federally insured S&Ls. This includes all Federally chartered S&Ls and CUs and some of those with state charters. In the Delaware-New Jersey-Pennsylvania region, 93 percent of all CUs were Federally insured at year-end 1976 and they held 95 percent of CU assets in the area. For S&Ls, 65 percent were Federally insured with 99 percent of all S&L assets.

SOURCES: Federal Deposit Insurance Corporation, Federal Home Loan Bank Board, and National Credit Union Administration.

gauging competition is to look behind the aggregate numbers at measures for local markets. But getting behind the big numbers requires a study of economic and financial data in order to define the geographic boundaries of a market. From information on pricing patterns, geographic factors, industry structure, population density, and commuting behavior, markets for savings deposits in the Third District were defined by researchers at the Federal Reserve Bank of Philadelphia in the early 1970s.7 These markets-identified by a number and a name-are outlined on the map overleaf and are profiled in the Appendix. Bank analysts use them when assessing the likely impact on competition of one bank's acquiring another bank.

When competition is viewed within the framework of local markets, the battle for savings deposits among banks and thrifts takes on a different perspective. Measures from local markets tell the same story as the aggregate measures when it comes to changes in competition over time, but they tell a very different story about absolute competitive strength at a given time.

Looking first at the four-year period 1972-76, figures from local banking markets tell the same basic story as the District-wide measures. The figures for bank offices as a percentage of all offices fell in the period in 25 out of the 47 local banking markets, and the bank share of savings deposits declined in 28 out of the 47 markets (Figure 3). In most of the 28 markets, the market share lost by banks was on the order of a few percentage points, although in ten markets their share fell by five percentage points or more. Losses of five to eight percentage points occurred in certain scattered markets in Pennsylvania such as Reading (4), Allentown-Bethlehem-Easton (5), Honesdale (11), Matamoras-Middletown (12), Bedford (33), and Indiana

(41), as well as in the seaside Atlantic City (64) and urban Trenton (67) markets; the bank share fell by 11 points in the Clearfield (35) market and by 15 points in the Long Beach Island-Toms River (66) market. In the Reading, Allentown-Bethlehem-Easton, and Long Beach Island-Toms River markets, both MSBs and S&Ls fattened their share of the savings deposit market, but in the other markets, the loss of bank share came almost exclusively at the hands of S&Ls.

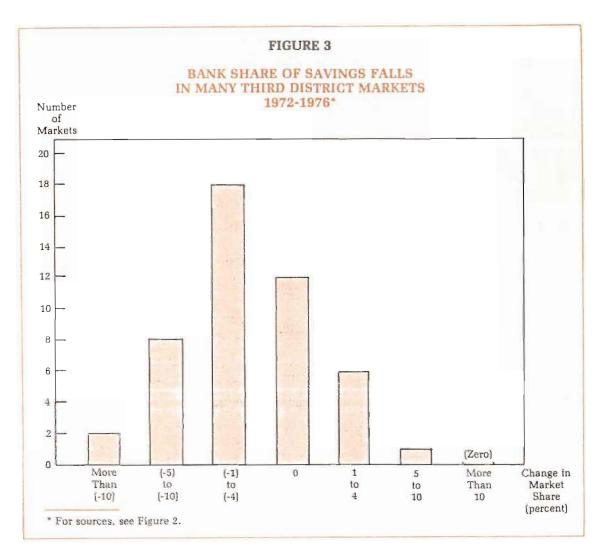
Although District-wide measures tend to mask the variation among local markets, the story they tell about the change in the competitive landscape is a reasonably accurate description of developments in the Third District during the four-year period ending in 1976. Gains by thrifts in the market for savings were widespread in the District during that time, and changes in the broad measures are consistent with these gains.

The conformity of aggregate measures with those for local markets breaks down, however, when the focus shifts to the absolute competitive strength of banks and thrifts at a given time. For both 1972 and 1976, District-wide figures show banks with only a slight edge over thrifts in the battle for savings deposits. But numbers from the local markets tell a different story.

In number of offices and market share, local market data make banks appear to be much stronger in the Third District than the aggregate measures would suggest. In 1972, banks had over three-fifths of total offices in 34 of 47 local markets and more than fourfifths in 11 markets. Concurrently, banks held more than 60 percent of total savings in 36 markets and over 80 percent in 20 of these markets. This widespread strength of banks was evident in 1976 as well. Banks had more than three-fifths of all offices in 32 markets and more than four-fifths in 10 markets. At the same time, there were 34 markets in which banks held more than 60 percent of total savings and 16 markets where the bank share exceeded 80 percent.

This is not to say that thrifts were not in

⁷Modifications to the original definitions have been made as economic and demographic characteristics have changed over time. The market definitions used in this article are those currently in effect.

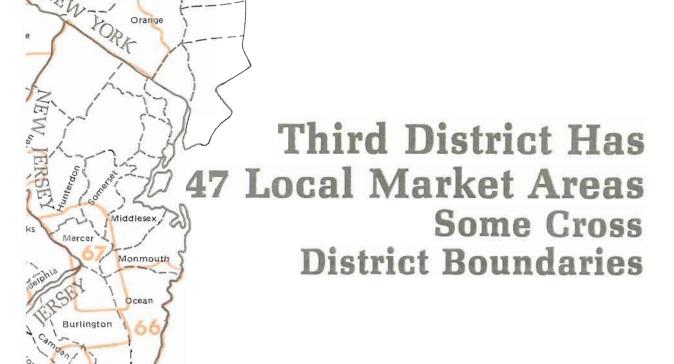


evidence in the marketplace. As the statistics show, there were 11 local banking markets in 1972 and 13 in 1976 where thrifts held 40 percent or more of total savings. S&Ls held the largest thrift share in 9 of these markets and MSBs held the largest thrift share in the remaining four.

Why is one picture so different from the other? The reason is that while thrifts hold 40 percent or more of total savings in fewer than a third of the markets in the District,

some of the markets in this third have a relatively large volume of deposits. The use of aggregate measures for the District gives more weight to these markets and therefore can overstate the strength of thrifts.

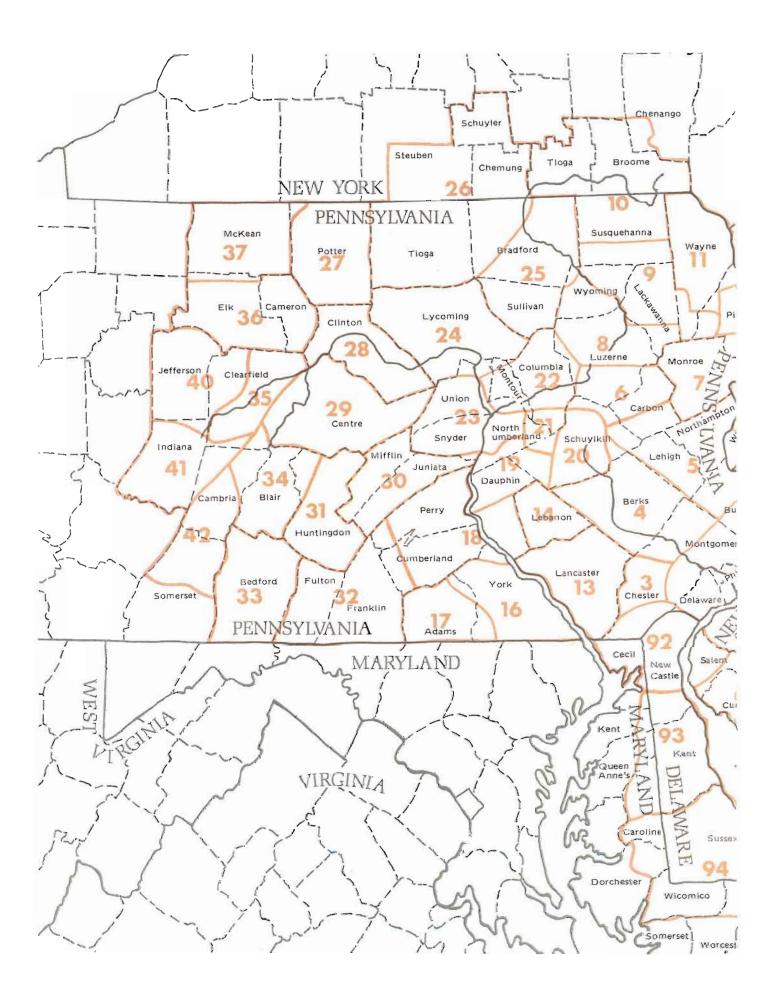
The Philadelphia-Camden market is a good example. In 1976, thrifts held 60 percent of all savings here while in the rest of the District they held only 34 percent. Because the Philadelphia-Camden market, with 44 percent of the total savings in the



Sullivan

Market Areas

☐ Third Federal Reserve District



District, is such a big market, it has a heavy influence on the aggregate figure.

In short, thrifts were a noteworthy force in the competition for savings in both 1972 and 1976, and they made gains against banks over the intervening years. But they were not nearly as strong in either year as District-wide measures appear to show, nor was the competitive structure as homogeneous as might be suggested by such aggregate numbers.

LOOKING AHEAD

This examination of thrifts and banks in the Third District shows that thrifts are viable competitors in the market for savings deposits and ought to be considered by regulators in assessing market conditions. In 1976, thrifts held one-fifth or more of total savings deposits in 31 of the District's 47 local markets. Thus to exclude these institutions from measures of competition is to risk distortion in the picture of the underlying market structure.

The analysis of Third District markets shows also, however, that the way thrifts are included can make a big difference. This was illustrated in the competitive profiles of the District for 1972 and 1976, and it can be illustrated further from what the two approaches imply for banks if thrifts gain additional powers in the future. The aggregate approach, for example, suggests that banks throughout the District might feel immediate pressure from thrifts since the latter are almost as strong as banks in the market for savings already. The local market approach, however, suggests that banks in some markets could feel more intense pressure from thrifts while those in other markets (where thrifts are weak) may feel little or no immediate effect. Banks in the urbanized Philadelphia-Camden (1) and Binghamton (10) markets, as well as in the more rural Matamoras-Middletown (12) and Hammonton (62) markets, for example, could feel a lot of additional competitive heat if thrifts gain new powers, while banks in the less populous Millersburg-Lykens (19), Towanda-Wyalusing (25), Coudersport (27), and Huntingdon (31) markets, among others, might feel only minimal effects in the near term.

These points are especially relevant today, when sweeping changes in the competitive ground rules seem to be closer than ever before. The possibility of significant change is evident in current proposals to establish NOW accounts nationwide, to eliminate the differential maximum rates on savings for banks and thrifts, to broaden the lending powers of thrifts, and to expand the branching authority of Federal S&Ls. Altering the current balance of powers possessed by financial institutions could result in shifts in the competitive positions of banks and thrifts.

Moreover, the relative strengths of banks and thrifts are likely to be at the heart of discussions about share drafts, automatic transfer services (ATS), and remote service units (RSUs). All of these competitive tools have been authorized by Federal regulators within the past few years, but a recent court ruling makes them illegal as of January 1, 1980 unless Congress expressly authorizes them before that time. 8

STAYING ON TOP

Current proposals for change in the U.S. financial system, along with pressure to address the recent court ruling, should provide ample stimulus for considering the competitive balance of the financial sector. As a look at the Third District shows, though,

⁸American Bankers Association and Tioga State Bank v. Lawrence B. Connell, Jr., Administrator of the National Credit Union Administration, United States Court of Appeals for the District of Columbia, September Term, 1978 (No. 78-1337); Independent Bankers Association of America v. Federal Home Loan Bank Board, United States Court of Appeals for the District of Columbia, September Term, 1978 (No. 78-1849); United States League of Savings Associations v. Board of Governors of the Federal Reserve System, United States Court of Appeals for the District of Columbia, September Term, 1978 (No. 78-2206).

FEDERAL RESERVE BANK OF PHILADELPHIA

measuring the competitive structure of a market at any given time can be a tricky business. And as the rules of the game change over time, the appropriate measure of competition may change as well, affecting decisions about which institutions should be included in the calculation as well as which geographic area should be covered. If thrifts are allowed to compete for funds the way banks do, then measures of competition, say for deposits, should include both kinds of institutions. Such inclusion might be appropriate, for example, when regulators try to assess the impact of one bank's acquiring

another. Likewise, if thrifts get lending powers similar to those of banks, then any analysis of competition in the market for loans should include thrift institutions. In a similar vein, if electronic banking makes office location much less important than it is now, then a measure for local markets could be less relevant than large-area measures such as District-wide ones or even national ones.

In short, as long as these changes are in the works, the issue of competition for deposits by banks and thrifts is likely to remain a hot one.

For Appendix, see overleaf . . .

APPENDIX: A DETAILED PRO

Forty-seven distinct banking markets have been defined by researchers at the Philadelphia Fed for the Third District. A competitive profile of these markets is presented in the figures below. For each market area and each kind of institution, statistics on number of institutions, number of offices, and share of total savings deposits are presented. A few of the markets extend outside the boundaries of the Third District, and they are identified in the figures with the following symbols: * for part of the Second District portion of New Jersey; † for part of New York State; ‡ for part of the Fourth

NUMBER OF INSTITUTIONS/NUMBER OF OFFICES/SHARE OF SAVINGS BY MARKET AREA

1972

Market	Commercial Banks	Mutual Savings Banks	Savings and Loan Associations	Credit Unions	Total
1 Philadelphia Camden	55/694/39%	6/99/35%	157/288/24%	307/307/2%	525/1,388/100%
3 Coatesville	7/15/49	0/0/0	6/6/44	7/7/8	20/28/100
4 Reading	18/76/71	2/2/2	8/12/24	57/57/3	85/147/100
5 Allentown- Bethlehem- Easton*	40/130/83	1/1/0	17/23/14	50/50/2	108/204/100
6 Hazleton	7/20/80	0/0/0	3/3/19	10/10/0	20/33/100
7 Stroudsburg	4/17/77	0/0/0	2/2/19	9/9/4	15/28/100
8 Wilkes-Barre	17/43/77	0/0/0	5/9/21	39/39/2	61/91/100
9 Scranton	29/49/90	0/0/0	5/6/9	23/23/1	57/78/100

FILE OF BANKING MARKETS IN THE THIRD DISTRICT

District portion of Pennsylvania; and § for part of Maryland. In these figures, market share is rounded to the nearest whole percentage point. Because of rounding, the individual shares may not add to 100 percent and institutions with a share of less than one-half percent will appear in the figures with a share of zero. Because credit unions typically have no branch offices, the number of institutions listed equals the number of offices in their case.

NUMBER OF INSTITUTIONS/NUMBER OF OFFICES/SHARE OF SAVINGS BY MARKET AREA

1976

Market	Commercial Banks	Mutual Savings Banks	Savings and Loan Associations	Credit Unions	Total
1 Philadelphia- Camden	58/794/40%	9/143/35%	115/326/24%	360/360/2%	542/1,623/100%
3 Coatesville	12/25/49	1/2/3	6/10/41	7/7/7	26/44/100
4 Reading	22/98/64	3/6/6	11/25/27	65/65/4	101/194/100
5 Allentown- Bethlehem- Easton*	40/165/76	3/9/3	16/30/19	55/55/2	114/259/100
6 Hazleton	7/23/80	0/0/0	3/4/19	13/13/1	23/40/100
7 Stroudsburg	5/19/75	0/0/0	3/3/22	10/10/4	18/32/100
8 Wilkes-Barre	15/47/76	0/0/0	5/15/22	47/47/2	67/109/100
9 Scranton	25/60/89	0/0/0	4/9/10	37/37/1	66/106/100

	100	1972 (Continu				
Market	Commercial Banks	Mutual Savings Banks	Savings and Loan Associations	Credit Unions	Total	
10 Binghamton†	15/58/48	1/3/40	3/3/5	23/23/7	42/87/100	
11 Honesdale	8/10/100	0/0/0	0/0/0	0/0/0	8/10/100	
12 Matamoras- Middletown†	21/70/49	5/9/41	4/4/10	10/10/0	40/93/100	
13 Lancaster	20/67/84	0/0/0	4/4/14	20/20/2	44/91/100	
14 Lebanon	10/26/89	0/0/0	2/2/10	6/6/1	18/34/100	
16 York	14/54/75	0/0/0	3/6/23	30/30/2	47/90/100	
17 Gettysburg- Hanover	13/28/96	0/0/0	1/1/4	2/2/0	16/31/100	
18 Harrisburg- Carlisle	22/75/48	0/0/0	8/14/48	33/33/4	63/122/100	
19 Millersburg- Lykens	10/17/99	0/0/0	0/0/0	1/1/1	11/18/100	
20 Pottsville	14/39/91	0/0/0	4/6/9	9/9/1	27/54/100	
21 Shamokin	10/15/73	0/0/0	2/2/28	0/0/0	12/17/100	
22 Bloomsburg	16/31/92	0/0/0	4/4/8	4/4/1	24/39/100	
23 Lewisburg- Middleburg- Sunbury	11/21/86	0/0/0	2/3/14	2/2/1	15/26/100	
24 Williamsport	11/20/82	0/0/0	2/2/15	19/19/3	32/41/100	
25 Towanda- Wyalusing	9/15/100	0/0/0	0/0/0	1/1/0	10/16/100	
26 Wellsboro- Mansfield- Elmira†	18/53/51	2/6/16	7/8/26	28/28/8	55/95/100	
27 Coudersport	4/6/100	0/0/0	0/0/0	0/0/0	4/6/100	
28 Lock Haven	6/9/82	0/0/0	1/1/18	3/3/0	10/13/100	
29 State College	13/30/57	0/0/0	2/5/41	5/5/1	20/40/100	
30 Lewistown	9/20/77	0/0/0	3/3/22	2/2/1	14/25/100	
31 Huntingdon	5/14/96	0/0/0	1/1/3	1/1/1	7/16/100	
32 Chambersburg	15/41/91	0/0/0	3/3/8	9/9/2	27/53/100	

1976 (Continued)							
Market	Commercial Banks	Mutual Savings Banks	Savings and Loan Associations	Credit Unions	Total		
10 Binghamton†	17/79/44	3/7/39	3/7/7	29/29/9	52/122/100		
11 Honesdale	8/12/92	0/0/0	1/2/8	0/0/0	9/14/100		
12 Matamoras- Middletown†	22/89/43	8/15/42	9/14/15	11/11/0	50/129/100		
13 Lancaster	16/89/84	0/0/0	7/12/14	23/23/2	46/124/100		
14 Lebanon	11/32/87	0/0/0	2/2/12	6/6/1	19/40/100		
16 York	14/69/72	0/0/0	4/10/26	33/33/2	51/112/100		
17 Gettysburg- Hanover	13/35/93	0/0/0	2/3/7	2/2/0	17/40/100		
18 Harrisburg- Carlisle	21/99/48	0/0/0	10/23/48	38/38/4	69/160/100		
19 Millersburg- Lykens	10/19/99	0/0/0	0/0/0	1/1/1	11/20/100		
20 Pottsville	14/42/88	0/0/0	4/6/11	9/9/1	27/57/100		
21 Shamokin	10/16/72	0/0/0	1/1/28	0/0/0	11/17/100		
22 Bloomsburg	14/32/88	0/0/0	5/5/10	7/7/1	26/44/100		
23 Lewisburg- Middleburg- Sunbury	11/29/83	0/0/0	2/3/17	5/5/1	18/37/100		
24 Williamsport	10/29/81	0/0/0	4/4/15	20/20/4	34/53/100		
25 Towanda- Wyalusing	10/17/97	0/0/0	1/1/3	1/1/0	12/19/100		
26 Wellsboro- Mansfield- Elmira†	17/59/50	3/8/16	7/10/25	37/37/9	64/114/100		
27 Coudersport	3/6/100	0/0/0	0/0/0	0/0/0	3/6/100		
28 Lock Haven	5/11/79	0/0/0	1/2/20	3/3/1	9/16/100		
29 State College	12/37/58	0/0/0	2/5/40	6/6/2	20/48/100		
30 Lewistown	9/21/77	0/0/0	3/3/22	2/2/1	14/26/100		
31 Huntingdon	6/18/96	0/0/0	1/1/4	1/1/1	8/20/100		
32 Chambersburg	15/47/89	0/0/0	3/3/8	9/9/3	27/59/100		

Market	Commercial Banks	Mutual Savings Banks	Savings and Loan Associations	Credit Unions	Total	
33 Bedford	8/14/91	0/0/0	1/1/9	2/2/1	11/17/100	
34 Altoona	11/33/62	0/0/0	8/11/36	17/17/2	36/61/100	
35 Clearfield	3/6/88	0/0/0	1/1/12	1/1/0	5/8/100	
36 St. Mary's	6/10/74	0/0/0	4/4/26	3/3/1	13/17/100	
37 Smethport	7/15/54	0/0/0	3/4/44	13/13/3	23/32/100	
40 Du Bois‡	9/17/95	0/0/0	1/2/5	2/2/0	12/21/100	
41 Indiana‡	9/21/80	0/0/0	2/2/19	5/5/1	16/28/100	
42 Johnstown‡	15/50/61	1/2/15	3/4/23	18/18/1	37/74/100	
61 Vineland- Bridgeton- Millville	15/45/51	0/0/0	5/9/46	12/12/3	32/66/100	
62 Hammonton	5/6/13	0/0/0	2/2/87	2/2/0	9/10/100	
63 Cape May	6/14/62	0/0/0	3/7/38	1/1/0	10/22/100	
64 Atlantic City	10/43/67	0/0/0	5/11/32	14/14/1	29/68/100	
66 Long Beach Island- Toms River *	14/59/68	0/0/0	4/13/31	9/9/2	27/81/100	
67 Trenton*	27/100/65	3/4/8	20/25/24	54/54/2	104/183/100	
92 Wilmington§	24/110/48	2/12/36	10/17/12	64/64/4	100/203/100	
93 Dover§	17/34/78	2/4/15	2/2/1	11/11/7	32/51/100	
94 Sussex County§	21/55/81	1/1/2	1/1/14	9/9/4	32/66/100	

FEDERAL RESERVE BANK OF PHILADELPHIA

Market	Commercial Banks	Mutual Savings Banks	Savings and Loan Associations	Credit Unions	Total
33 Bedford	9/17/85	0/0/0	2/2/14	2/2/1	13/21/100
34 Altoona	11/44/65	0/0/0	7/11/32	20/20/3	38/75/100
35 Clearfield	4/8/77	0/0/0	1/1/22	1/1/0	6/10/100
36 St. Mary's	6/10/76	0/0/0	4/5/23	5/5/1	15/20/100
37 Smethport	7/17/51	0/0/0	3/4/46	14/14/3	24/35/100
40 Du Bois‡	9/23/94	0/0/0	1/3/5	6/6/1	16/32/100
41 Indiana‡	8/25/74	0/0/0	3/3/25	6/6/1	17/34/100
42 Johnstown‡	14/59/61	1/4/14	3/6/22	21/21/2	39/90/100
61 Vineland- Bridgeton- Millville	17/58/54	1/1/1	6/12/43	15/15/3	39/86/100
62 Hammonton	7/10/20	0/0/0	2/2/80	2/2/1	11/14/100
33 Cape May	7/16/62	0/0/0	5/10/38	1/1/0	13/27/100
64 Atlantic City	9/58/61	0/0/0	6/19/37	15/15/2	30/92/100
66 Long Beach Island- Toms River*	20/83/53	3/4/4	13/37/42	9/9/1	45/133/100
67 Trenton*	32/125/59	3/5/8	24/38/30	62/62/3	121/230/100
92 Wilmington§	24/131/50	2/17/33	9/24/13	67/67/4	102/239/100
93 Dover§	17/41/76	2/5/17	1/1/1	11/11/6	31/58/100
94 Sussex County§	23/70/78	1/2/4	2/3/15	10/10/4	36/85/100

Research PAPERS

The Philadelphia Fed's Department of Research occasionally publishes research papers written by staff economists. These papers deal with local, national, and international economics and finance. Most of them are intended for professional researchers and therefore are relatively technical.

The entire list of Philadelphia Fed research papers is given on this page and the one following. All items, except those that are out of print or have been reissued elsewhere, are available from this bank without charge. To order copies, send the number of the item desired, along with your address, to RESEARCH PAPERS, Department of Research, Federal Reserve Bank of Philadelphia, 100 North Sixth Street, Philadelphia, Pennsylvania 19106.

- No. 1. Anita A. Summers and Barbara L. Wolfe, "Intradistrict Distribution of School Resources to the Disadvantaged: Evidence for the Courts." Reissued in the Journal of Human Resources 2 (1976), pp. 328-342.
- No. 2. Donald J. Mullineaux, "Branching Restrictions and Commercial Bank Costs." Reissued in the Journal of Business 49 (1976), pp. 402-407.
- No. 3. Donald J. Mullineaux, "Economies of Scale of Financial Institutions: A Comment." Reissued in the Journal of Monetary Economics 1 (1975), pp. 233-240.
- No. 4. Ira P. Kaminow, "Required Reserves Ratios, Policy Instruments, and Money Stock Control." Reissued in the Journal of Monetary Economics 3 (1977), pp. 389-408.
- No. 5. James M. O'Brien, "The Information Value of Demand Equation Residuals: A Further Analysis"
- No. 6. Anita A. Summers and Barbara L. Wolfe, "Equality of Educational Opportunity Quantified: A Production Function Approach" (Philadelphia School Project).
- No. 7. Cynthia A. Glassman, "Pennsylvania Bank Merger Survey: Summary of Results." Out of print.

- No. 8. Anita A. Summers and Barbara L. Wolfe, "Manual on Procedure for Using Census Data To Estimate Block Income" (Philadelphia School Project).
- No. 9. Anita A. Summers and Barbara L. Wolfe, "Block Income Estimates, City of Philadelphia: 1960 and 1970" (Philadelphia School Project).
- No. 10. Anthony M. Santomero and Ronald D. Watson, "Determining an Optimal Capital Standard for the Banking Industry." Reissued in the Journal of Finance 32 (1977), pp. 1267-1282.
- No. 11. John J. Seater, "A Unified Model of Consumption, Labor, and Job Search." Reissued in the Journal of Economic Theory 14 (1977), pp. 349-372.
- No. 12. John J. Seater, "Utility Maximization, Aggregate Labor Force Behavior, and the Phillips Curve." Reissued in the Journal of Monetary Economics 4 (1978), pp. 687-713.
- No. 13. Donald J. Mullineaux, "Economies of Scale and Organizational Efficiency in Banking: A Profit-Function Approach." Reissued in the Journal of Finance 33 (1978), pp. 259-280.
- No. 14. Anthony M. Santomero, "On the Role of Transaction Costs and the Rate of Return on the Demand Deposit Decision." Out of print.

- No. 15. Nariman Behravesh, "Spectral Estimation of Dynamic Econometric Models with Serially Correlated Errors."
- No. 16. Janice M. Westerfield, "Empirical Properties of Foreign Exchange Rates under Fixed and Floating Rate Regimes." Reissued in the Journal of International Economics 7 (1977), pp. 181-200.
- No. 17. John J. Seater, "Job Search and Vacancy Contact." Reissued in the American Economic Review 69 (1979), pp. 411-419.
- No. 18. Nonna A. Noto, "The Effect of the Local Public Sector on Residential Property Values in San Mateo County, California."
- No. 19. Ronald D. Watson, "The Marginal Cost of Funds Concept in Banking." Reissued in the Journal of Bank Research 8 (1977), pp. 136-147.
- No. 20. Ira P. Kaminow, "Economic Stabilization Under Fixed and Flexible Exchange Rates." Reissued in the Journal of International Economics 9 (1979), pp. 277-285.
- No. 21. Anthony M. Santomero and John J. Seater, "The Inflation-Unemployment Trade-Off: A Critique of the Literature." Reissued in the Journal of Economic Literature 16 (1978), pp. 499-544.
- No. 22. Janice M. Westerfield, "The Forward Exchange Market: Risk and Return in a Portfolio Context."
- No. 23. James M. O'Brien, "On the Incidence of Selective Credit and Related Policies in a Multi-Asset Framework."
- No. 24. Timothy Hannan, "The Optimal Control of Heroin Addiction."
- No. 25. Donald J. Mullineaux, "The Stability of the Demand for Money: Some Adaptive Regression Tests on Monthly Data."
- No. 26. Donald J. Mullineaux, "On Testing for Rationality: Another Look at the Livingston Price Expectations Data." Reissued in the Journal of Political Economy 86 (1978), pp. 329-336.
- No. 27. Anthony M. Rufolo, "Efficient Local Taxation and Local Public Goods."

- No. 28. Donald J. Mullineaux, "Inflation Expectations and Money Growth in the United States."
- No. 29. Anthony M. Santomero and Joseph D. Vinso, "Estimating the Probability of Failure for the Banking System."
- No. 30. Ronald D. Watson, Donald A. Leonard, and Nariman Behravesh, "The Decision to Withdraw: A Study of Why Banks Leave the Federal Reserve System."
- No. 31. Nariman Behravesh, "Frequency and Time Domain Estimation of Dynamic Simultaneous Equations with Serially Correlated Errors: A Small Sample Comparison."
- No. 32. Timothy Hannan, "Limit Pricing and the Banking Industry."
- No. 33. Timothy Hannan, "The Theory of Limit Pricing: Some Applications to the Banking Industry."
- No. 34. Donald J. Mullineaux, "Unemployment, Industrial Production, and Inflation Uncertainty in the U.S.: Some Empirical Results."
- No. 35. Anthony M. Santomero and John J. Seater, "The Role of Partial Adjustment in the Demand for Money: Theory and Empirics."
- No. 36. Robert J. Shiller, "The Volatility of Long-Term Interest Rates and Expectations Models of the Term Structure."
- No. 37. John J. Seater, "The Effects of Monetary Operations in the Presence of Accurate Perceptions, Rationality, and Costly Adjustment."
- No. 38. Ira P. Kaminow, "Fed Policy in the Era of Resolution 133 (1975-1978): Is What They Said What They Did?"
- No. 39. Robert J. Shiller, "Can The Fed Control Real Interest Rates?"
- No. 40. Anita A. Summers, "What Helps Fourth Grade Students Read? A Pupil-, Classroom-, Program-Specific Investigation."
- No. 41. Anita A. Summers and Barbara L. Wolfe, "Improving the Use of Empirical Research as a Policy Tool: An Application to Education."



on Independence Mall 100 North Sixth Street Philadelphia, Pa. 19106

BULK RATE
U. S. POSTAGE
PAID
Philadelphia, Pa.
Permit No. 583

Address Correction Requested