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COVER:

The main office building of the Federal Reserve Bank of Cleveland is one of the finest examples of Italian Rennaissance architecture in the nation. The design recalls the fortresses of Florence and expresses the security and integrity which characterize the Bank. Shown on the cover is the lobby off the main entrance, also in the Italian Rennaissance design to harmonize with the building exterior. The marble is from Sienna, Italy, and the vaulted ceiling is made of ornamental plaster, decorated by hand in oil. The emblems in the upper window grilles are those of the cities in which the 12 Federal Reserve Banks in the United States are located. Member bankers, their employees, and the public are encouraged to visit the Bank and examine its architecture.

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To Member Banks in the Fourth Federal Reserve District:

We are pleased to present the 1976 Annual Report *of the Federal Reserve Bank of Cleveland. This year's report features a brief history of the origins of commercial banking in the District.*

The Bicentennial was a year when Americans remembered their history and reviewed the basic principles on which the nation was founded. So it seems appropriate that this year's Annual Report *should recall the history of commercial banking in the District and trace its development back to its frontier roots. That development from frontier territory to industrial society is the story of the interplay between a rising District economy and the growth of banking resources to meet its financial needs. The strength gained from that experience helped the District through the turbulent economic events of recent years. Today, Fourth District banks are among the soundest in the nation, well prepared to respond to the evolving financial needs of the District's economic activity.*

The Annual Report *offers us a special opportunity to thank the member banks, the directors, officers, and staff of this Bank, and all others who have helped us fulfill our responsibilities during 1976. We ask for your continued support and assistance in the year ahead.*

Horace A. Shepard
Chairman of the Board

Willis J. Winn
President

THE ORIGINS OF COMMERCIAL BANKING IN

Western Reserve Historical Society

Commerce in Cleveland – 1851

THE FOURTH FEDERAL RESERVE DISTRICT

Roger H. Hinderliter

Development of commercial banking in the Fourth District closely parallels the rise of the District economy from frontier territory to industrial society. When the first settlers arrived in the territory now comprising the District, there were no banks to help them finance the infant agricultural economy they established. As artisan manufacturing began and trade grew, a merchant group arose that provided banking services. The first chartered banks soon followed, and the fortunes of these banks, tied closely as they were to the agricultural character of the District economy, rose and fell with the prices of agricultural commodities and land. In the mid-nineteenth century, improvements to the transportation system and later industrialization drew the Fourth District into the mainstream of the national economy. The broadened economic base and the growth of national credit markets provided greater opportunities for bank finance and stimulated rapid expansion in the banking industry. The Great Depression viciously interrupted this development, but the banking system emerged from it stronger and ready to finance post-war economic expansion. Today's Fourth District banks are among the largest and soundest in the nation, well positioned to respond to the evolving financial needs of the District economy.

Two hundred years ago, people were just arriving on the frontiers of western Pennsylvania and Virginia, Kentucky and Ohio, and beginning economic activity in agriculture, trade and artisan manufacturing. The early settlements established at Pittsburgh, Wheeling, Marietta, Lexington and Cincinnati soon after the signing of the Declaration of Independence were near the natural trade routes of the Ohio River and its tributaries. Before long, these settlements needed banking services to support a rising commercial economy; and here the District's first banks were located.

Completion of an extensive system of canals opened the Great Lakes to commerce and stimulated growth of the port cities of Erie, Cleveland and Toledo, and the inland commercial centers of Columbus and Dayton. Railroads extended the expansionary impacts of canals on agricultural markets and, with the introduction of the factory system, ushered in the industrial age. As the complexion of the Fourth District economy changed, a larger scope and variety of banking services were needed, and banking resources grew and shifted in response.

Today, Fourth District banks are among the largest and soundest in the nation, offering a wide variety of services to industry, agriculture and consumers (Figure 1). But it was not always so. To reach the current state, banking in the Fourth District passed through several stages of development—when banking growth was sometimes strongly expansionary, sometimes volatile and full of failure and sometimes confused and meandering. This is a history of that passage; a history of the growth and development of banking resources as they interacted with the rise of the Fourth District economy from frontier territory to industrial society.

Early Years

Attempts to push out from the colonies into the territory now comprising the Fourth Federal Reserve District began before the Revolution. In those years, Virginia claimed the lands along the Ohio River, including the western portion of Pennsylvania. The Virginia Executive Council made grants to "take-up" and survey sizable tracts of land before 1750. Settlement aims were specifically recognized in 1749, when a grant of 200,000 acres in the "vicinity of the forks of the Ohio" was made to the Ohio Company of Virginia. The company was to trade with the Indians, develop the country and form settlements. An additional grant of 300,000 acres was contingent on successfully settling 200 families.[1] Although land development and settlement became the primary concerns of the Ohio Company, these land company activities met with the least success. The company's exploration did, however, set the stage for the migration that began immediately after the Revolution.

Settlement of Kentucky was well underway when Virginia ceded her western claims to the United States, and Federal land policies were initiated by the Land Ordinances of 1784, 1785, and 1787. By 1790, Lexington had grown to a town of 834 people and was the largest settlement in the District. Lexington retained its status as first city until after the turn of the nineteenth century, when the more advantageous location along the Ohio River trade route transferred that role first to Pittsburgh and later to Cincinnati.

Migration to Ohio began toward the end of the eighteenth century. Until passage of the Harrison Land Act of 1800, Federal land policy favored large land purchases, and by 1790, three land companies had contracted for 7,000,000 acres along the Ohio River. One of these companies, the Ohio Company of Associates, established the first Ohio settlement at Marietta in 1788. After 1800, smaller tracts could be purchased and payment made in four annual installments. Large land companies gave way to individual settlers—the farmers and artisans who formed the early society of the District.

The economy established by the early settlers in the District was based on agriculture—a hard and profit-poor agriculture at best. Clearing the heavily forested lands along the rivers was a difficult and costly process. Once the farmer cleared the land, he needed additional resources for livestock, seed and capital improvements if the farm were

[1]Kenneth P. Bailey, *The Ohio Company of Virginia and the Westward Movement* (Glendale, California, 1939), pp. 30–31. The Chronicles of the early settlement activities of this company, including the orders of the Executive Council, have been preserved in Louis Mulkearn (ed.), *George Mercer Papers Relating to the Ohio Company of Virginia* (Pittsburgh, 1954).

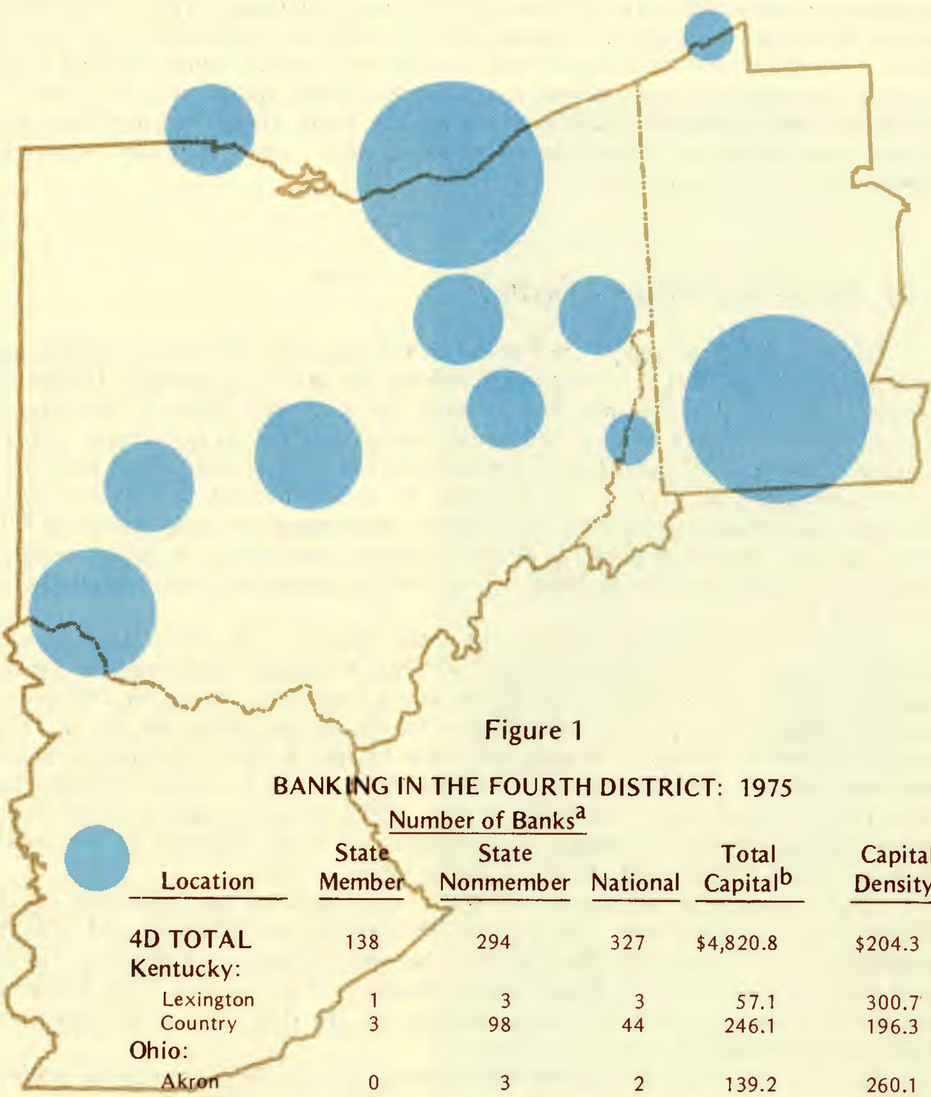

Figure 1

BANKING IN THE FOURTH DISTRICT: 1975

Location	State Member	State Nonmember	National	Total Capital[b]	Capital Density[c]
	Number of Banks[a]				
4D TOTAL	138	294	327	$4,820.8	$204.3
Kentucky:					
Lexington	1	3	3	57.1	300.7
Country	3	98	44	246.1	196.3
Ohio:					
Akron	0	3	2	139.2	260.1
Canton	2	1	2	65.7	171.4
Cleveland	2	4	4	846.9	528.0
Cincinnati	3	1	2	323.3	357.2
Columbus	0	3	4	220.9	255.0
Dayton	0	1	4	118.5	201.4
Toledo	2	1	1	125.3	261.1
Youngstown	1	1	2	69.1	225.1
Country	115	136	191	1,128.2	104.9
Pennsylvania:					
Erie	0	2	0	30.0	389.8
Pittsburgh	1	3	4	777.8	512.7
Country	5	24	52	600.5	163.6
West Virginia:					
Wheeling	2	2	4	40.2	658.6
Country	1	11	8	32.0	158.6

[a]Branches are consolidated.

[b]Millions of dollars.

[c]Capital/county population.

Source: Federal Reserve Bank of Cleveland.

to produce a marketable surplus.[2] Once the land was producing a surplus, the produce had to be brought to market, a process itself round-about and costly. The financial resources needed by the infant agricultural economy were in short supply. Without banks or other financial institutions money was scarce and credit scarcer still. Early settlers carried out their transactions mainly by barter. The barter system was a difficult and cumbersome method of organizing economic activity and presented a serious impediment to economic progress.

"FOR CASH OR COUNTRY PRODUCE"

Initially, the chief crop of the frontier farmer was grain, but grain was bulky and difficult to ship to market. A method of solving this problem, especially favored by farmers in western Pennsylvania, was to distill the grain into whiskey. One account reckons that the amount of grain brought to market overland, at no increase in costs sextupled if shipped in liquid form.[3] Kentucky farmers milled their wheat into flour, which commanded good prices around 1800. As trade advanced, farmers introduced alternative agricultural commodities. In Kentucky, hemp was grown early in rotation with wheat and with greater demand for hempen products, particularly for bailing southern cotton, production increased. In Ohio, raising livestock became an important alternative to growing grain.

Artisans followed the farmers into the District. At first, these artisans worked in support of the pioneer farmer. In 1792, Pittsburgh numbered four cabinet makers, five shoemakers, three wheelwrights and a ropemaker among her craftsmen.[4] Later, manufacturers expanded and produced for the market. Before the War of 1812, weaving thrived in Pittsburgh; bagging and other hempen products manufacturing was underway in Lexington; shipbuilding sustained Marietta; and Cincinnati probably had taken the first steps toward becoming, by the 1830's, the pork packing center of the nation. Heavier industry also began. Blast furnaces and forges had been built in several places in western Pennsylvania and the Mahoning Valley by 1805.

The commerce in agriculture and artisan manufacturing that developed on the frontier involved an overland trade between Philadelphia and Pittsburgh and with the completion of the Cumberland Road in 1817, between Baltimore and Wheeling. For the most part, the overland traffic in merchandise flowed from east to west. From Pittsburgh and Wheeling the key to the frontier commerce was the river route to Cincinnati and finally to New Orleans.

Merchants were the driving force behind the early trade. Before mercantile interests brought the first local banks into existence, individual merchants performed many banking functions, including provision of safety deposit facilities, paying cash on a customer's written order and loaning money.[5] In the absence of banks and an abundant

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[2]The capital costs of frontier farming may have been seriously underestimated by settlers. On the frontier of a later date these costs, reported by contemporary observers, ranged up to ten times larger than initial land costs and for one State, Illinois, averaged 1.65 times larger on a per acre basis. See Clarence H. Danhoff, "Farm-Making Costs and the Safety Valve: 1850–1860," *J. Pol. Econ.* (June 1941), p. 327.

[3]"The Whiskey Insurrection," in *Pennsylvania Cavalcade* (Philadelphia, 1942), p. 170.

[4]Neville B. Craig, *History of Pittsburgh* (Pittsburgh, 1917), p. 200.

[5]For a brief discussion of the banking activities of early Kentucky merchants see, R. T. Durrett, "Early Banking in Kentucky," reprinted in *Kentucky Banker* (September 1976), p. 9. As late as 1832, a Cleveland merchant lent money to his customers. (See, Mss. No. 565, account books of George B. Ogden & Co., Western Reserve Historical Society, Cleveland, Ohio.)

circulating currency, merchants performed the primary function of providing the workable system of barter exchange. To announce arrivals of new stocks of goods from the east, merchants from Lexington to Cleveland would post them for sale "for cash or country produce."[6]

Within the barter system some products achieved prominence. In western Pennsylvania, where "whiskey-stills [were] more plentiful than grain mills in New England . . . , what a bank-bill was at Philadelphia or a shilling-piece at Lancaster, that was whiskey in the towns and villages that lay along the banks of the Monongahela River. It was the money, the circulating medium of the country."[7] In Kentucky, land warrants and warehouse receipts for tobacco commonly circulated as money.

Many variations of the basic trading pattern arose involving relatively large merchants in Pittsburgh and Cincinnati, river boatmen who plied the Ohio and Mississippi rivers and local merchants, farmers and artisans in the settlements along the Ohio. Sometimes roles were combined as, for example, when merchant and boatman were one or a farmer would build a boat to transport his produce to market. As the volume of trade grew and prospects for continuing businesses developed, separate functions evolved. The Pittsburgh merchant arranged for merchandise to be transported overland from Philadelphia, financing his inventories mainly through Philadelphia banks. He, in turn, financed the river traders who stopped at the settlements along the river, bartering with settlers for produce or manufactured articles. The boatman or another agent sold the produce in New Orleans and sent the money by sea to Philadelphia where the merchant paid his debts and arranged deliveries of new stocks.

By 1810–1812, when receipts from the interior were first recorded at New Orleans, the trade was sizable. It involved, for example, a large portion of nearly 1 million pounds of pork and bacon, 82.5 thousand barrels of flour and 7 thousand barrels of whiskey.[8]

Barter Exchange in the Early Years

I rode an excellent horse to the head of the waters; and finding him of no further use from my having to take boat there, I proposed selling him to the best bidder. I was offered in exchange for him salt, flour, hogs, land, cast-iron salt pans, Indian corn, whiskey,—in short, everything but what I wanted, which was money. The highest offer made, was cast-iron salt pans to the amount of a hundred and thirty dollars. I asked the proprietor of this heavy commodity, how much cash he would allow me instead of such an incumbrance; his answer was, without any shame or hesitation, forty dollars at most. I preferred the pans; though they are to be exchanged again for glass bottles at Pittsburg, tobacco or hemp in Kentucky, and dollars in New Orleans.

Thomas Ashe,* *Travels in America, Performed in 1806* (London, 1808)

*Ashe was a severe critic of all facets of western life and may have embellished his account with overdrawn examples to give a stronger negative impression. His basic observations on the difficulty of barter exchange, however, capture the realities of early economic activity along the Ohio.

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6 William Elsey Connelley and E. M. Coulter, *History of Kentucky* (Chicago, 1922), p. 511; Samuel P. Orth, *A History of Cleveland, Ohio*, Vol. I (Cleveland, 1910), p. 614.

7 John Bach McMaster, *A History of the People of the United States, From the Revolution to the Civil War*, Vol. II (New York, 1896), pp. 41, 189.

8 Thomas Senior Berry, *Western Prices Before 1861* (Cambridge, Mass., 1943), p. 4.

Commerce quickly outgrew the barter system. With the steamboat on the horizon and the canal system not far behind, merchants sought new sources of finance and all participants needed a circulating currency.

THE FIRST BANKS

As the needs of trade demanded more money and banking services, unchartered banking businesses sprang up, usually as an outgrowth of trading activities. A number of banks which later obtained State charters began operations as unchartered institutions. Some banks continued to operate for many years as private banking houses in the tradition of "merchant banking."[9]

The first chartered banks were also directly related to the river trade. The Bank of Pennsylvania in Philadelphia appealed to local merchants and easily obtained their support for establishing a branch in Pittsburgh in 1803. The first chartered banks in Kentucky and Ohio came into being accidentally as the result of attempts to foster trade. The Kentucky Insurance Company, established in Lexington in 1802 to insure river cargoes, and the Miami Exporting Company of Cincinnati, founded in 1803 to engage in commerce, were not intended by the legislatures to be banks. But scarcely noticed provisions of their charters empowered these two institutions to issue notes.

When the Kentucky Insurance Company began issuing notes, it provoked an anti-banking sentiment that resulted in a public and political response in Kentucky little short of outrage. Henry Clay wanted the charter (and an amendment to it which specified restrictions on note issue) repealed. Newspaper stories accused the company of various underhanded dealings, such as financing Arron Burr's activities in the west.[10] No comparable outcry arose in Ohio, but there must have been considerable surprise in 1807 when the Miami Exporting Company abandoned its commercial activities in favor of banking.

State legislatures paid more careful attention to the details of charter applications afterwards. By 1815, settlers in the District enjoyed the services of 21 banks or branches with a total authorized capital of about $4.5 million (Figure 2). The first banks did well. By all accounts the early years were stable and profitable. Even the much maligned Kentucky Insurance Company could boast that its notes exchanged at a premium in New Orleans.[11]

Commercial Banking on the Frontier

The business of banking was at once closely linked to the economic activities of the frontier society. For the most part, banking involved issuing notes redeemable in specie (gold and silver) by discounting bills of exchange (payable at New Orleans or an eastern

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[9]Charles Clifford Huntington, *A History of Banking and Currency in Ohio Before the Civil War* (Columbus, Ohio, 1915), pp. 37–38; John Thom Holdsworth, *Financing an Empire*, Vol. I (Chicago, 1928), pp. 290–294. Although one objective of early bank legislation, for example, the Kentucky Act of 1812 and the Ohio Law of 1816, was to outlaw unchartered banking, unchartered banking continued to be fairly commonplace throughout the 1800's. There were probably more than 300 unchartered banks doing business in the District in 1900.

[10]Details of the controversy over the Kentucky Insurance Company are discussed in several sources. See, especially, Elmer C. Griffith, "Early Banking in Kentucky," *Proceedings of the Mississippi Valley Historical Association*, 1908–1909, Vol. II, pp. 170–175.

[11]The premium was 1.5 to 2.0 percent. *Ibid.*, p. 173.

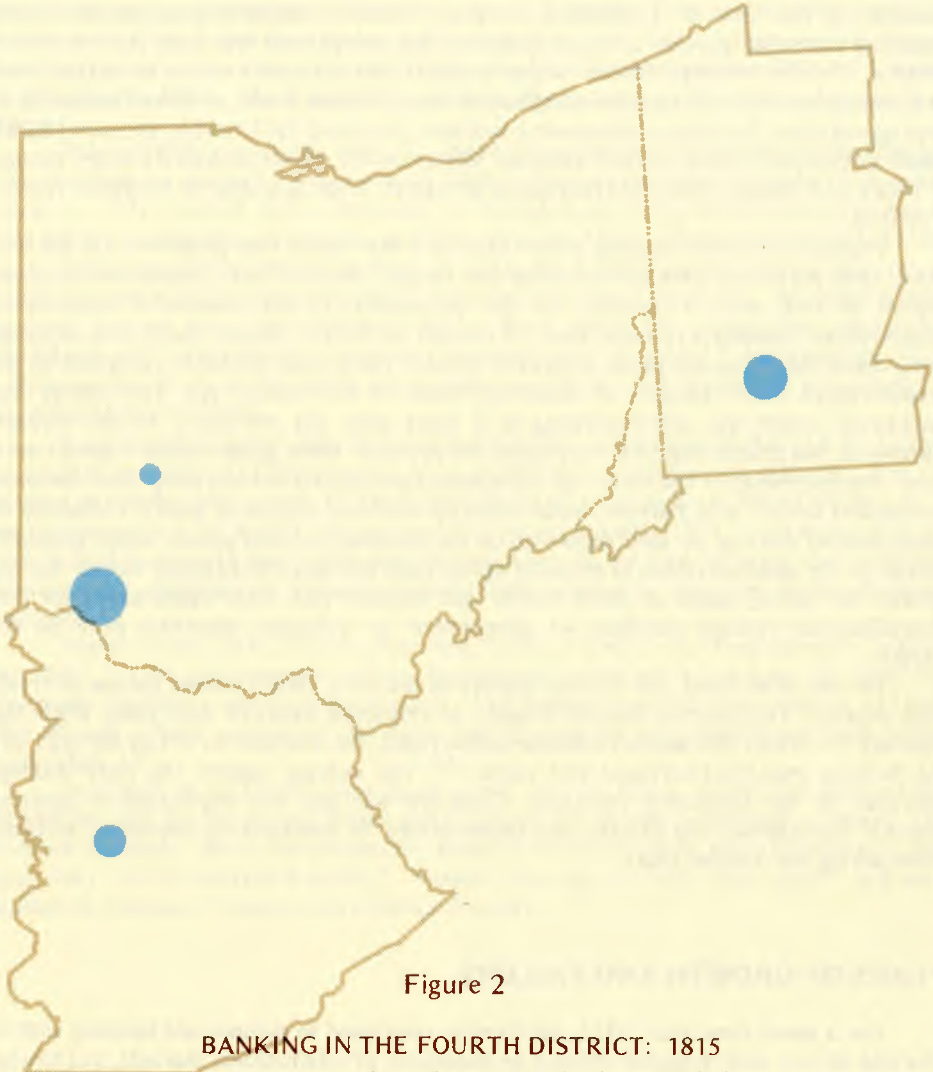

Figure 2

BANKING IN THE FOURTH DISTRICT: 1815

Location	No. of Banks[a]	Authorized Capital[b]	Capital Density[c]
4D TOTAL	21	4,546.0	15.8
Kentucky:			
Lexington	2	261.5	11.7
Country	3	484.5	10.9
Ohio:			
Cincinnati	2	700.0	29.8
Dayton	1	100.0	8.4
Country	5	900.0	12.8
Pennsylvania:			
Pittsburgh	2	450.0	14.9
Country	6	1,650.0	19.4

[a] Branches of (first) Bank of Kentucky are treated as separate banks.

[b] Thousands of dollars.

[c] Capital/county population.

Sources: R.T. Durrett, "Early Banking in Kentucky," *Kentucky Banker* (September, 1976); J. Van Fenstermaker, *Development of American Commercial Banking (1965).*

city) or commercial bills (payable at point of issue) in connection with the river trade. Because of the lack of a plentiful currency, deposits found less acceptability and remained a smaller portion of bank liabilities than notes until well into the nineteenth century. Besides making commercial loans, banks lent to farmers on the security of land and, though probably not as commonplace as once believed, banks involved themselves in land speculation. So long as economic conditions remained fairly stable, the notes banks issued circulated as hand-to-hand currency. Consequently, banks provided a larger volume of notes, and finance, than they had specie in reserve. They operated on fractional reserve principles.

Fractional reserve banking before the Civil War faced two problems. On the one hand, asset portfolios were undiversified and illiquid. Around 1820, loans and discounts related in one way or another to the production or distribution of agricultural commodities amounted to more than 75 percent of District banks' assets, and although dependence on loans decreased somewhat in later years, they probably remained in the neighborhood of 70 percent of assets for most of the frontier era. The notion that mercantile credit was self-liquidating in a short time did not apply to the western commerce. Merchants could not be pressed for payment while goods traveled down rivers. Until improvements in the means of transportation reduced the traveling time between production centers and markets, trade required relatively long-term credit. Collection of loans secured directly by land depended on the buoyancy of land values, which generally moved in the same direction as prices of agricultural produce. No national money market existed for selling assets at short notice and bankers had little opportunity for risk diversification through purchase of government or industrial securities prior to the 1850's.

On the other hand, the frontier society of the early 1800's viewed the use of credit with distrust. This distrust focused directly on chartered banks of note issue. While the "craving for credit [to support commerce] increased, the aversion to it [on the part of the farming majority] increased still more."[12] The outrage against the note issuing activities of the Kentucky Insurance Company was but one expression of agrarian distrust. Throughout the District the undercurrent of anti-banking sentiment surfaced often during the frontier years.

YEARS OF GROWTH AND FAILURE

For a short time after 1815, the frontier continued to prosper and banking with it. The end of war with England allowed an expansion of international markets, and United States merchandise exports multiplied more than 11 times between 1814 and 1817. Expanding markets brought rising prices for commodities produced in the west. By 1817, the wholesale price of wheat flour stood 44 percent higher than its wartime low in 1814. In 1816 alone, the wholesale price index of commodities received at New Orleans (other than Louisiana products) jumped 30 percent.

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[12] Bray Hammond, "Banking in the Early West: Monopoly, Prohibition and Laissez Faire," *J. Econ. Hist.* (May 1948), p. 1.

Good times brought rapid population growth, record land sales and rising land values. Banks, too, multiplied. The Ohio Law of 1816 more than doubled the number of banks in the State and quintupled authorized capital by 1818. The Virginia branch banking system reached the west with the founding of the Northwestern Bank of Virginia at Wheeling in 1817. The Kentucky legislature chartered some 40 independent banks in 1818.[13]

Before 1820, two events abruptly ended the expansion of banking in the District. The first was an attempt by the Second Bank of the United States to reinforce its specie reserves. The Second Bank, chartered by Congress in 1816, extablished branches at Pittsburgh, Chillicothe, Cincinnati and Lexington in 1817. These branches discounted trade bills extensively. In the summer of 1818, the Second Bank began to contract its credit by calling for specie settlement of balances due from State banks. Among the most severely pressed were the Cincinnati banks, from which the Second Bank demanded remittance of 20 percent of outstanding balances every 30 days.[14] In November 1818, Cincinnati banks suspended specie redemption; and by the end of the year, most banks in the District had followed.

If no problems other than the collection policy of the Second Bank of the United States had confronted District banks, most might have worked out of difficulty. But the market expansion also ended. In 1819, the wholesale price index at New Orleans fell 15 percent below the 1817 peak and declined 30 percent more by 1821. Land values also fell and illiquid loan portfolios, which were troublesome in the face of larger than expected demands for redemption, became uncollectable when the activities banks financed collapsed.

Twelve banks, half of those chartered, failed, closed or lost their charters in Ohio by 1825. Six of nine banks in western Pennsylvania went out of business. In 1820, the Kentucky legislature repealed the charters of all independent banks established in 1818. The Wheeling bank weathered the storm but it reported substantial losses from falling land values.[15]

Anti-banking sentiment once again arose, and the blame for the hardships of the depression fell on the banks. Banks were accused of reckless over-issue of notes. The ill-fated Kentucky banks bore especially severe criticism. In their short existence, it was said, they "rashly extended credit," "flooded the country with their paper" and were guided by managers "destitute of common honesty."[16]

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[13]Various authorities place the number of Kentucky banks at forty, forty-six or forty-seven. Apparently, chartering the banks was connected with the passage of debtor protection legislation ("stay laws") in Kentucky. (John Jay Knox, *A History of Banking in the United States* (New York, 1900), pp. 631–632). An ancillary motive may have been to obtain for the State a greater share of the profits of banking. (Durrett, *op. cit.*, p. 15). Seen as an attempt to protect the citizenry from the supposed evils of banking, the action was quite different from an alternative coming out of Kentucky one year later which would have prohibited chartered banking, not only in Kentucky but throughout the United States. (Hammond, *op. cit.*, p. 3). It has been regarded, in fact, as an experiment of the opposite extreme; an attempt "[to make] money valuable by making it abundant." (Knox, *op. cit.*)

[14]Ralph C. H. Catterall, *The Second Bank of the United States* (Chicago, 1903), pp. 34, 51–52.

[15]George T. Starnes, "Sixty Years of Branch Banking in Virginia," *J. Pol. Econ.* (August 1928), pp. 490–491.

[16]Basil W. Duke, *History of the Bank of Kentucky* (Louisville, 1895), pp. 17–18; Knox, *op. cit.*, p. 632.

Coping with the Variety of Bank Notes on the Frontier *

Started from Virginia with Virginia money—reached the Ohio River—exchanged $20 Virginia note for shin-plasters and a $3 note of the Bank of West Union—paid away the $3 note for a breakfast—reached Tennessee—received a $100 Tennessee note—went back to Kentucky—forced there to exchange the Tennessee note for $88 of Kentucky money—started home with the Kentucky money. At Maysville, wanted Virginia money—couldn't get it. At Wheeling, exchanged $50 note, Kentucky money, for notes of the North Western Bank of Virginia—reached Fredericktown—there neither Virginia nor Kentucky money current—paid a $5 Wheeling note for breakfast and dinner—received in change two one-dollar notes of some Pennsylvania bank, one dollar Baltimore and Ohio Rail Road, and balance in Good Intent shin-plasters—one hundred yards from the tavern door, all the notes refused except the Baltimore and Ohio Rail Road—reached Harper's Ferry—notes of North Western Bank in worse repute there than in Maryland—deposited $10 in hands of agent—in this way reached Winchester—detained there two days in getting shaved—Kentucky money at 12 per cent, and North Western Bank at 10.

The Letters of Lowndes Addressed to the Honorable John C. Calhoun (New York, 1843)

*Because of the wide variety of notes issued by banks and other institutions, financing travel or goods in transit frequently required several conversions of notes. Uncertainties surrounding the soundness of unfamiliar notes resulted in discounts on these conversions that could be troublesome and costly. "Shin-plasters" were fractional currency.

A factor taken as a signal that banks imprudently issued notes was the wide variety of notes circulating in the District by 1818. This condition posed problems of exchange similar in some respects to the earlier problems of barter, but the banking system dealt with these through discounts and bank charges for exchange. Upward movement in discounts meant mounting concern over a bank's ability to redeem but not, necessarily, that it over-expanded notes to the point of insolvency. Many perfectly sound bank notes were discounted heavily, especially in sections where anti-banking sentiment was strong. Discounts on Kentucky bank notes at Philadelphia grew steadily from 1817 on, but did not reach panic levels until 1821–1823, after the charters were revoked.

Available evidence suggests that District banks did not abuse accepted practices of fractional reserve banking (Table 1). Multiples of notes in circulation to specie were not widely out of line with the national average or the banks in the New England States (perhaps the most conservative in the country at this time). In particular, the surviving reports of the Kentucky banks cast doubt on the consensus that they expanded circulation without regard for redemption. That banks were properly engaged in the support of local economic activity is enough to account for widespread bank failures. The nature of this activity and the basically hostile banking environment rendered banks vulnerable to failure on any fractional reserve basis.

Banking in the Fourth District did not recover from the failures suffered in the depression brought on by the Panic of 1818 for nearly a decade. Toward the end of the 1820's, banking growth resumed and the pace increased in the early 1830's. In part, banking recovered because of an easing of social and political constraints which was the corollary of western involvement in President Jackson's war with the Second Bank of the

TABLE 1

NOTE CIRCULATION/SPECIE MULTIPLES OF BANKS IN DISTRICT STATES, NEW ENGLAND STATES AND THE NATION: 1819

	Kentucky		Ohio		Pennsylvania		Virginia		New England		Nation	
Data Source	Number of Banks	C/S	Number of Banks	C/S	Number of Banks	C/S	Number of Banks	C/S	Number of Banks	C/S	Number of Banks	C/S
Crawford[a]	—	2.02	—	2.78	—	3.69	—	2.75	—	1.71	—	3.64
Gallatin[b]	17	1.18	19	2.78	35	1.64	4	2.75	86	2.12	212	2.50
Van Fenstermaker[c]	17	2.05	—	—	31	2.44	4	1.80	84	2.67	185	2.82

[a]William H. Crawford, From the Report of the Secretary of the Treasury, 1836 in Executive Documents of the House of Representatives (1877).

[b]Albert Gallatin, *Considerations on the Currency and Banking System* (1831).

[c]J. Van Fenstermaker, *The Development of American Commercial Banking:* 1782—1837 (1965).

United States.[17] More significantly, in the 1830's, the western economy at last broke free from the depression, and the first wave of transportation improvements made possible an expansion of commerce into areas essentially by-passed in earlier good times.

United States' exports, which grew slowly and irregularly in the 1820's, expanded rapidly between 1830 and 1836. Receipts of merchandise from the interior at New Orleans also surged, and products important in the District led the way. Pork product receipts increased over four times and receipts of wheat flour nearly doubled. Wholesale prices also advanced. The price index at New Orleans rose more than 55 percent between 1830 and 1836.

Commerce was on a firmer footing by the 1830's. The steamboat had proved itself a superior means of transporting merchandise on the Ohio and Mississippi rivers. Average monthly steamboat arrivals at Pittsburgh were nearly three times as numerous as keelboat arrivals by 1836, a 15-fold increase in 10 years. Shipping costs declined substantially, and steamboats delivered the goods in about 8 days, three times faster than older means of transport.[18]

The Erie Canal, opened in 1825, provided a direct line of commerce between the lake settlements and the east. The Ohio Canal (Cleveland to Portsmouth, completed in 1833) linked these settlements to the river traffic and provided an improved route to the east for Ohio valley produce. In 1833, Cleveland handled nearly 100,000 barrels of flour and 23,000 barrels of pork products, small in comparison to the river centers, but a considerable advance over the days when only overland routes connected the northern settlements with eastern markets.

New banks chartered or revived in the District by 1836 reflected the growth and development of trade (Figure 3). Continued expansion of the river commerce gave rise to new banks in Lexington, Cincinnati and Pittsburgh. In Wheeling, seeking to rival Pittsburgh as the lead city at the head of the Ohio River, a second bank was chartered in 1834. The opening of the north brought banking to Erie, and of 18 new banks in Ohio, 7 were located in lake communities or along the route of the Ohio Canal.

The prosperity of the early 1830's was short-lived. First rumblings of new distress were heard in 1834, and a major panic in 1837 was followed by depression. The disturbances began with a rash of business failures, principally in New York. Amplified by crop failures in 1837, panic and depression quickly spread to the west. Prices of western commodities plunged once again. As before, banks shared the troubles of merchants and farmers. Although internal improvements enhanced the distribution of produce, the basic dependence of banks on the agricultural economy remained intact. Many District banks suspended specie redemption in 1837, tried to resume in 1838, and suspended again in 1839. Ohio banks experienced the greatest difficulty. Nine banks failed by 1842 and 15 more did not have their charters renewed in 1843–1844. By 1844, only eight survivors remained in a State which, in 1836, possessed the sixth most populous banking system in the nation.

Banking problems arising after 1837 paralleled in many respects those which followed the Panic of 1818. In both instances, government policies relating to a United States bank were involved. In the latter episode these were a series of actions surrounding

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[17]If agrarian sentiment in the District was opposed to State banks of note issue, so much greater was the opposition to the Federal Bank, especially after the unpopular contraction in 1818. Early opposition in the District took several forms, from outright refusal by State banks to redeem obligations presented by the Second Bank to attempts by State legislatures to tax the Bank out of existence. Although opposition cooled somewhat later, the Bank never obtained popularity in the west. (Bray Hammond, *Banks and Politics in America* (Princeton, N. J., 1957), pp. 264–285). When the Federal government withdrew its deposits from the Bank beginning in 1833, State banks benefited directly by becoming Federal depositories. "Pet banks" were located in several District cities. (Harry N. Scheiber, "The Pet Banks in Jacksonian Politics and Finance," *J. Econ. Hist.* (June 1963), pp. 199, 204). Mainly, however, State banking interests were forwarded by transferring the force of anti-banking sentiment in the 1820's away from local banking activities and thereby establishing an environment receptive to renewed growth.

[18]Louis C. Hunter, *Steamboats on the Western Rivers* (Cambridge, Mass., 1949), pp. 53–56; Berry, *op. cit.*, pp. 45–46.

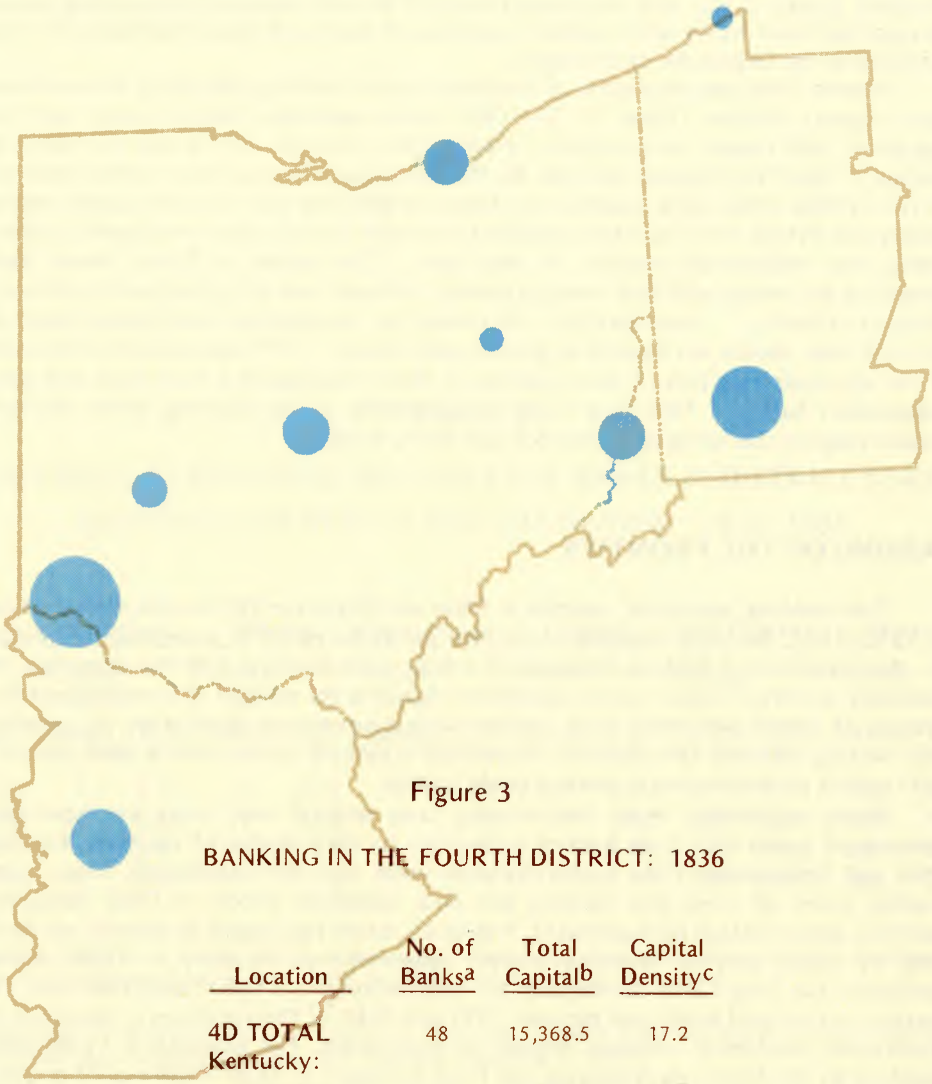

Figure 3

BANKING IN THE FOURTH DISTRICT: 1836

Location	No. of Banks[a]	Total Capital[b]	Capital Density[c]
4D TOTAL	48	15,368.5	17.2
Kentucky:			
Lexington	2	1,582.0	67.7
Country	4	1,170.9	20.9
Ohio:			
Canton	1	104.8	3.3
Cleveland	2	659.2	32.9
Cincinnati	5	4,108.2	59.5
Columbus	2	820.1	39.2
Dayton	1	178.4	6.2
Country	20	3,778.5	8.9
Pennsylvania:			
Erie	1	105.8	4.1
Pittsburgh	3	2,357.5	34.2
Country	4	506.0	5.1
West Virginia:			
Wheeling	2	738.0	51.8
Country	1	79.0	10.4

[a]Branches of Kentucky and West Virginia banks are treated as separate banks.

[b]Thousands of dollars.

[c]Capital/county population.

Source: Executive Documents of Congress, The Serial Set, Serial No. 324, Doc. No. 79 (1837).

President Jackson's war with the Second Bank.[19] In both instances anti-banking forces charged the State banks with reckless over-issue of notes and placed the blame for the hardships of the Depression on the banks.

Viewed from the perspective of fractional reserve banking, the charge of over-issue again appears shallow (Table 2). The Ohio banks seemingly behaved quite well, in aggregate, with respect to circulation, reducing their multiple well below the national average or the New England multiple by the panic year. That so many banks failed to survive in Ohio while more expansionary banks in Wheeling did not even suspend specie redemption before 1841 must be attributed to stronger dissatisfaction with banks in Ohio rather than widespread inflation of note issue. "The people of [Ohio] *knew* that something was wrong with their banking system, and note issue being the most prominent function of banks, . . . concluded that the remedy lay in adopting a new system wherein the note issue should not depend on general assets alone . . ."[20] This attitude culminated in the wholesale rejection of bank charters in 1843, founding of a State bank and new independent banks in 1845 and finally establishment of free banking, which did not require separate chartering legislation for each bank, in 1851.

PASSING OF THE FRONTIER

Free banking legislation, adopted in Ohio and Virginia in 1851 and in Pennslyvania in 1860–1861, has been regarded as the final successful effort by enterprise to provide for the expansion of banking resources on a basis commensurate with the expansion of economic activity.[21] Once certain conditions regarding the number of principals and the amount of capital were met, bank charters were granted upon application. As a result, free banking removed the necessity of periodic legislative action on new bank charters and requests for increments to existing banks' capital.

Banks established under free banking laws secured note issues by depositing government bonds with State banking authorities (as did branches of the State Bank of Ohio and independent Ohio banks chartered under the 1845 legislation). Thus, from another point of view, free banking and prior legislative reform in Ohio mandated portfolio diversification by State banks. Previously, banks had sought to diversify on their own by taking part in financing internal improvements. As early as 1828, banks petitioned the Ohio Canal Commission for loan business, and Ohio banks took over 50 percent of the canal bonds sold between 1836 and 1840.[22] The purchases of canal bonds represented substantial amounts relative to bank assets. For example, a $1,000,000 purchase by the Ohio Life Insurance and Trust Company in 1836–1839 was 45 percent of the bank's assets reported in 1836. These bond purchases must have been primarily for

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19In addition to the establishment of "pet banks" the actions included passage of the Deposit Act of 1836, which specified restrictions on State banks holding Federal funds, distribution of the Federal government's surplus, and the Specie Circular of 1836, which prohibited acceptance of State bank notes in payment for public lands. Recent investigations minimize the effects of these policies either as a cause of specie management problems for State banks or as the proximate cause of the panic and the inflation which preceeded it. See, especially, Peter Temin, *The Jacksonian Economy* (New York, 1969).

20Huntington, *op. cit.*, p. 181. (Emphasis not in the original.)

21Bray Hammond, "Banking in the Early West: Monopoly, Prohibition and Laissez Faire," *J. Econ. Hist.* (May 1948), pp. 23–24; Hugh T. Rockoff, "Varieties of Banking and Regional Economic Development in the United States, 1840–1860," *J. Econ. Hist.* (March 1975), pp. 163–164.

22Letter on behalf of Farmers' and Mechanics' Bank of Steubenville, Mss. No. 3205, Trimble Papers, Western Reserve Historical Association, Cleveland, Ohio; Harry N. Scheiber, *Ohio Canal Era: A Case Study of Government and the Economy, 1820–1861* (Athens, Ohio, 1969), pp. 143, 148.

TABLE 2

NOTE CIRCULATION/SPECIE MULTIPLES OF BANKS IN DISTRICT STATES, NEW ENGLAND STATES AND THE NATION: 1835–1838

	Kentucky[a]		Ohio		Pennsylvania		Virginia[b]		New England		Nation	
Year	Number of Banks	C/S	Number of Banks	C/S	Number of Banks	C/S	Number of Banks	C/S	Number of Banks	C/S	Number of Banks	C/S
1835	4	2.73	31	3.31	5	4.46	3	5.60	277	5.31	529	3.53
1836	6	2.66	31	2.63	8	5.85	3	4.72	309	4.14	619	3.64
1837	6	2.34	32	2.34	7	2.58	3	2.06	323	5.02	667	3.32
1838	5	3.16	34	3.10	7	3.48	3	1.37	300	4.37	662	2.77

[a]District branches of Northern Bank of Kentucky includes separately. Lexington branch of the Bank of Kentucky included in 1836, 1837, 1838. Maysville branch included 1836, 1837.

[b]Branch of Northwestern Bank of Virginia at Wellsburg included separately. Data for Merchants' and Mechanics' Bank branch at Morgantown deducted (estimated in 1835).

Sources: Executive Documents of Congress, The Serial Set, Serial No. 302, Doc. No. 65 (1837); Serial No. 324, Doc. No. 79 (1838); Serial No. 348, Doc. No. 227 (1839); Serial No. 319, Doc. No. 471 (1839); Serial No. 367, Doc. No. 367 (1840).

J. Van Fenstermaker, *The Development of American Commercial Banking: 1782–1837* (1965).

the accounts of others for they did not end up in the banks' investment portfolios. By 1856, however, the year before the third major panic of the century, asset diversification clearly distinguished Ohio and Virginia banks from those of Kentucky and Pennsylvania (Table 3).

As important as free banking may have been for promoting entry and asset diversification, more telling still for long-term bank growth were the changes in the structure of the District economy taking place in the 1850's. Manufacturing expanded in the District before 1850, but its organization had changed little from the early part of the century. In 1844, the Governor of Ohio estimated that nearly one-fourth of the total product of the State was manufactured goods. But artisan manufacturing or cottage industry still accounted for most of the activity. Even the pork packing industry at Cincinnati consisted of small shops rather than factories. In 1841, 48 establishments employing 1,220 people produced the pack of 3.1 million pounds.[23]

All this was changing. The industrial revolution in America did not take place until after the Civil War, but its foundations were laid in the 1850's. Railroads were the prime builders. Total railroad mileage in Ohio, where the most rapid expansion occurred, reached about 3,000 miles by 1860, probably more than any other State and one-tenth of the nation's total. In response to local demand for railroad connections, 28 separate roads served the State at the outbreak of the Civil War. Towns such as Alliance, Bellefontaine and Delaware, which were located off the canal network, possessed multiple rail connections to larger exporting centers. Indeed, railroad construction in Ohio may have proceeded too rapidly; many of the lines proved unprofitable.[24]

The impact of the railroads on the economy was monumental. They brought eastern markets within a few days journey of agricultural producers, thus completing the by-pass of New Orleans as the middleman in the western trade which the canals had started. They were the source of early growth in key industries, primarily iron and steel, which were to be so important to later industrialization in the District. They also provided an outlet for loanable funds and thus directly served as the means of further bank portfolio diversification. However, railroads' use of bank finance, like the canals beforehand, was secondary to other sources of capital.

The contribution of railroads was not an unmixed blessing. Railroads became a source of economic instability as well as economic growth. Declining profitability and failure of railroads contributed to the Panic of 1857. This disturbance provided the first evidence that, so far as District banks were concerned, the frontier had passed. The Panic of 1857 was accompanied, as before, by crop failures and declining wholesale prices for produce. Banks in the District failed, some as early as 1853, but the banking system, freed from illiquid portfolios and a distrustful clientele, was not reduced to shambles as it had been in earlier depressions. The most noteworthy feature from the standpoint of District banking was that the failure of the Ohio Life Insurance Company apparently

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[23] J. B. D. DeBow, *DeBow's Review: Agricultural, Commercial and Industrial Progress and Resources,* Vol. III, (1851), p. 131; Berry, *op. cit.,* p. 220.

[24] George Rogers Taylor, "Comment on Railroad Investment Before the Civil War," National Bureau of Economic Research, Studies in Income and Wealth, Vol. 24, *Trends in the American Economy in the Nineteenth Century* (Princeton, N. J., 1960), pp. 526–527; George Rogers Taylor and Irene P. Neu, *The American Railroad Network: 1861–1890* (Cambridge, Mass., 1956), Map II; Albert Fishlow, *Railroads and the Transformation of the Ante-Bellum Economy* (Cambridge, Mass., 1965), pp. 177–189.

TABLE 3

THE COMPOSITION OF PORTFOLIOS OF DISTRICT BANKS: 1856[a]

Portfolio Item	Kentucky (2 banks + branches)	Ohio Independent Banks(10)[b]	Ohio Free Banks (10)	Ohio State Banks (36 branches)	Pennsylvania (13 Banks)	Virginia (4 banks + branches)
Assets[c]						
Loans and Discounts	5,242 (70.4)	3,328 (60.0)	1,396 (47.8)	10,409 (67.8)	8,697 (77.0)	3,658 (66.1)
Securities	17 (0.2)				119 (1.0)	548 (9.9)
State and U. S. Govt. Bonds		961 (17.3)	980 (33.5)	808 (5.3)		
Other Investments[d]		369 (6.7)	17 (0.6)	385 (2.5)		
Real Estate Owned	90 (1.2)	70 (1.3)	32 (1.1)	288 (1.9)	151 (1.3)	282 (5.1)
Cash Assets	2,092 (28.1)	815 (14.7)	497 (17.0)	3,456 (22.5)	2,326 (20.6)	1,042 (18.8)
Liabilities & Capital[e]						
Note Circulation	2,597 (38.2)	915 (15.5)	921 (30.3)	7,317 (48.7)	3,085 (28.9)	2,855 (53.0)
Deposits[f]	1,832 (27.0)	3,384 (57.5)	975 (32.1)	2,791 (18.6)	2,847 (26.6)	618 (11.5)
Capital Accounts[g]	2,363 (34.8)	1,587 (27.0)	1,145 (37.7)	4,923 (32.8)	4,753 (44.5)	1,912 (35.5)

[a]Thousands of dollars and (percent of total) in November or December 1856, or January 1857. Excludes 5 saving societies.

[b]Includes nine "independent" banks and one "old" bank.

[c]Excludes miscellaneous asset accounts.

[d]Includes "other resources" and mortgages.

[e]Excludes "other liabilities" and miscellaneous liability accounts.

[f]Net of notes and checks of other banks.

[g]Net of "suspended debt" where reported separately.

Source: Executive Documents of the Congress, The Serial Set, Serial No. 958, Doc. No. 107 (1857).

triggered the actual panic. This failure was the result of irregularities in the New York office and was unrelated to local business.[25]

On the eve of the Civil War, more banks were more widely distributed throughout the District than ever before (Figure 4). Bank resources, however, measured by capital density, had not yet recoverd to 1836 levels. Rapid improvement here was left to the industrial age.

Banking in the Industrial Society

The spirit of economic nationalism that arose after the Civil War promoted the rise of an industrial economy guided by entrepreneurs who organized production within the factory system. The forces providing momentum for the industrial take-off included extensions of improvements already in place, such as the standardization of railroad gauges, which transformed the transportation system into a truly national linkage; advances in technology, such as the Bessemer process in steel making; and more favorable attitudes of society and government toward capital accumulation and banking. They also included, in the dual (National and State) banking system which was the prodigy of Civil War financing efforts, the foundation of a financial network capable of mobilizing capital on a larger and geographically broader scale than ever before.

The State banking systems existing in 1861 proved incapable of marshalling the resources needed to finance the war effort while at the same time maintaining specie redemption of notes. Large eastern banks raised $150 million for the government during 1861. This action resulted in a substantial specie drain and, by the end of the year, these banks had suspended note redemption. In part, this was due to the insistence of Secretary Chase on enforcing the specie clause of the Independent Treasury Law forbidding Treasury acceptance of State bank notes. Also, the various State systems were unaccustomed to joint action, and the burdens of war finance could not be distributed among separate banks, at least on short notice.

Secretary Chase, in his annual report for 1861, called for a system of national banks with a uniform note issue secured by government bonds. He repeated the call in his report for 1862 and, in 1863, the National Banking System was born. The new system, as revised by the Act of 1864, was in many respects an extension of earlier State experiments with free banking. In addition to bond secured note issue, freedom of entry was maintained.[26] Cash reserves against notes and deposits, tried earlier by a few States, were also required of national banks.

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[25]When it became clear that railroads possessed a speculative element rivaling earlier land dealings, charges of bank involvement to the exclusion of traditional interests again arose (A. Barton Hepburn, *A History of Currency in the United States* (New York, 1924), p. 168). Some individual banks did become too closely associated with railroad finance. The failure of the Ohio Life Insurance Company in 1857 and the earlier failure of the Bank of Massillon were District examples. (Huntington, *op. cit.*, pp. 226, 242.)

[26]There were economic barriers to entry, however, in the form of capital requirements and prohibition of mortgage lending which probably accounted for the slow growth of national banks in areas of the west and south. See Richard Sylla, "The United States, 1863–1913," in Rondo Cameron (ed.), *Banking and Economic Development* (New York, 1972), pp. 241–242.

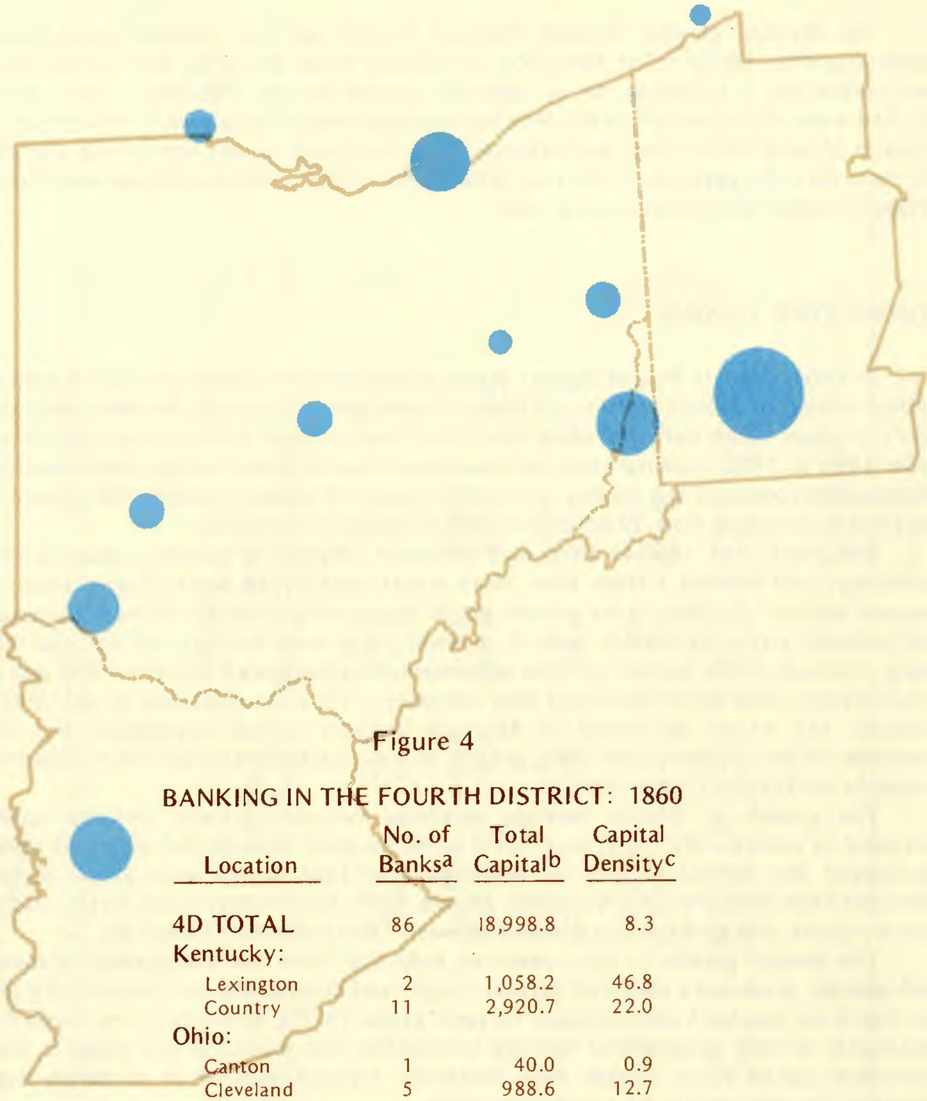

Figure 4

BANKING IN THE FOURTH DISTRICT: 1860

Location	No. of Banks[a]	Total Capital[b]	Capital Density[c]
4D TOTAL	86	18,998.8	8.3
Kentucky:			
Lexington	2	1,058.2	46.8
Country	11	2,920.7	22.0
Ohio:			
Canton	1	40.0	0.9
Cleveland	5	988.6	12.7
Cincinnati	2	622.5	2.9
Columbus	2	368.5	7.3
Dayton	2	182.0	3.5
Toledo	1	160.2	6.2
Youngstown	1	204.4	7.9
Country	38	4,968.5	5.6
Pennsylvania:			
Erie	1	38.7	0.8
Pittsburgh	7	5,283.5	29.5
Country	10	956.6	3.5
West Virginia:			
Wheeling	2	1,084.7	48.4
Country	1	121.7	22.1

[a]Branches of Kentucky and West Virginia banks and branches of the State Bank of Ohio are treated as separate banks.

[b]Thousands of dollars.

[c]Capital/county population.

Source: Executive Documents of Congress, The Serial Set, Serial No. 1101, Doc. No. 77 (1861); Serial No. 1176, Doc. No. 50 (1864).

The framers of the National Banking System did not envision State banks continuing after 1864.[27] But formation of national banks was slow; and to spur State bank conversion, a 10 percent tax on State bank notes became effective in 1866. While this had some of the desired effect, note issue was fast becoming secondary to deposits as a source of bank funds. State and national banks continued to exist side-by-side and, for the most part, the partners of the dual system that entered the industrial age were banks of deposit rather than banks of note issue.

FORMATIVE YEARS

In 1860, firms in Fourth District States produced manufactured products valued at $500.4 million or $896.8 million at 1926 wholesale prices (Table 4). Between 1860 and 1890, product value increased more than four times in both nominal and real terms. From 1890 to 1920, nominal value increased more than six times and real value doubled. Urban centers assumed the leading role in the process of industrialization. Their share of the product increased from 20 percent in 1860 to 40 percent in 1920.

The years from 1860 to 1890 were formative. Organizing factories, adapting new technology and training a labor force more accustomed to the ways of agriculture or, because much of the labor force growth was through immigration, to different languages and cultures, was a formidable task. As a result, large scale industry did not leap into being. Increases in the number of firms accompanied output growth prior to 1890, and in urban centers, were more significant than increases in firm size. Sometime in the 1890's, however, the merger movement in American industry gained ascendency. For the remainder of the predepression years, growth in firm size dominated growth in industrial output in the District (Table 5-A).

The growth of District banking paralleled industrial growth. Initially, banks increased in number. By 1901, over 1,000 banks received deposits and extended credit throughout the District (Figure 5). Although total bank capital and capital density advanced from their pre-Civil War bases, average bank size remained small. In the case of country banks, average bank size declined between 1860 and 1901 (Table 5-B).

The parallel growth in the number of industrial firms and the number of banks undoubtedly produced a match-up between supply and demand for short-term credit, but the match-up was far from complete. As early as the 1870's, industrial firms found the constraints of their geographical banking connections too restrictive and began to seek short-term capital funds outside their immediate regional market. In so doing, they turned to the open-market for commercial paper.

The main vehicles for raising short-term funds on the open market were one-name promissory notes. As industrial firms increased their interest in supplying these instruments, commercial paper dealers sought placement outside the traditional eastern markets. They found demanders mainly in the widespread banking institutions of the time.[28] Thus, in part directiy and in part indirectly, banks supplied the short-term credit base for early industrial growth.

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[27]Senator John Sherman, who sponsored the National Banking Bill in the Senate, expressed the belief that "[the National Banking System], if it has a fair trial, a fair experiment, will gradually absorb all the State banks, without deranging the currency of the country or destroying the value of the property of stockholders in banks. ("Speech by Senator John Sherman [Ohio] on the National Banking Bill, February 10, 1863," reprinted in Herman E. Krooss (ed.), *Documentary History of Banking and Currency in the United States*, Vol. II (New York, 1969), p. 1386.) Secretary Chase held the same view.

[28]Albert O. Greef, *The Commercial Paper House in the United States* (Cambridge, Mass., 1938), pp. 42–51.

TABLE 4

INDUSTRIAL DEVELOPMENT OF FOURTH DISTRICT STATES, SELECTED CENSUS YEARS

Value of Mfg. Product (millions $)	Kentucky		Ohio		Pennsylvania		West Virginia	
	State	4D Urban Counties[a]	State	4D Urban Counties[b]	State	4D Urban Counties[c]	State	4D Urban Counties[d]
1860								
Current $	37.9	1.7	121.7	69.3	290.1	28.5	50.7	3.0
1926 $	67.9	3.0	218.1	124.2	519.9	51.1	90.9	5.4
1890								
Current $	126.7	2.8	641.7	446.9[e]	1,331.8	260.6	38.7	13.1
1926 $	225.4	5.0	1,141.8	795.2[e]	2,369.8	463.7	58.9	23.3
1920								
Current $	395.7	9.4	5,100.3	3,708.3	7,315.7	1,476.6	472.0	85.1
1926 $	256.1	6.1	3,301.2	2,400.2	4,735.1	955.7	305.5	55.1
1940								
Current $	481.0	9.7	4,584.7	3,119.1	5,475.9	1,150.4	441.8	43.7
1926 $	612.0	12.3	5,833.0	3,968.3	6,966.8	1,463.6	562.1	55.6
1972								
Current $	12,372.5	882.5	55,056.5	30,328.3	48,289.2	7,128.8	5,014.1	104.3
1926 $	15,467.3	390.0	24,329.0	13,401.8	21,338.6	3,150.2	2,215.7	46.1

[a]Fayette County.

[b]Cuyahoga, Franklin, Hamilton, Lucas, Mahoning, Montgomery, Stark and Summit Counties.

[c]Allegheny and Erie Counties.

[d]Ohio County.

[e]Data for Summit County are estimated.

Source: Census data.

TABLE 5—A

PERCENTAGE CHANGES IN TOTAL MANUFACTURING PRODUCT, SIZE OF AVERAGE MANUFACTURING ESTABLISHMENT AND NUMBER OF ESTABLISHMENTS IN FOURTH DISTRICT STATES SINCE 1860

Location	1860–1890			1890–1940			1940–1972		
	% Change in Product Value	% Change in Size of Average Estab.	% Change in No. of Estab.	% Change in Product Value	% Change in Size of Average Estab.	% Change in No. of Estab.	% Change in Product Value	% Change in Size of Average Estab.	% Change in No. of Estab.
4D States	327	132	84	414	1,407	-66	999	637	49
4D Urban Counties	606	97	257	498	1,293	-57	789	575	32

Source: Census Data.

TABLE 5—B

PERCENTAGE CHANGES IN TOTAL BANK CAPITAL, SIZE OF AVERAGE BANK AND NUMBER OF BANKS IN THE FOURTH DISTRICT SINCE 1860

Location	1860–1901			1901–1940			1940–1975		
	% Change in Capital	% Change in Size of Average Bank	% Change in No. of Banks	% Change in Capital	% Change in Size of Average Bank	% Change in No. of Banks	% Change in Capital	% Change in Size of Average Bank	% Change in No. of Banks
4D States	1,081	-5	1,308	202	205	-2	604	995	-36
4D Banking Centers	1,323	50	777	206	533	-48	534	942	-40

Source: Figures 1, 4–6.

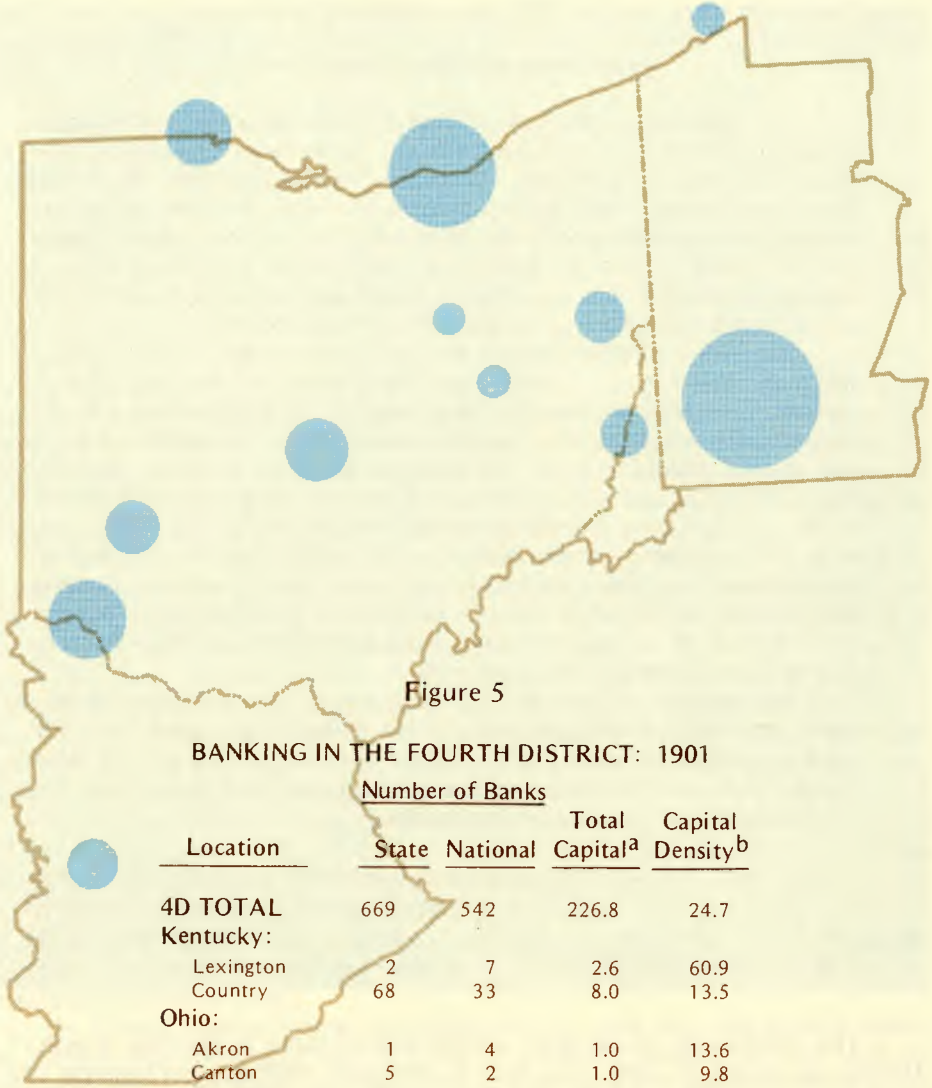

Figure 5

BANKING IN THE FOURTH DISTRICT: 1901

Location	Number of Banks: State	Number of Banks: National	Total Capital[a]	Capital Density[b]
4D TOTAL	669	542	226.8	24.7
Kentucky:				
Lexington	2	7	2.6	60.9
Country	68	33	8.0	13.5
Ohio:				
Akron	1	4	1.0	13.6
Canton	5	2	1.0	9.8
Cleveland	28	18	33.8	73.7
Cincinnati	6	13	16.5	39.7
Columbus	9	6	4.7	27.7
Dayton	0	7	3.4	25.2
Toledo	10	6	7.6	48.3
Youngstown	1	5	3.0	40.4
Country	415	235	41.6	11.0
Pennsylvania:				
Erie	1	3	1.5	15.1
Pittsburgh	43	37	66.9	83.7
Country	56	158	31.0	15.9
West Virginia:				
Wheeling	12	2	3.1	63.1
Country	12	6	1.1	13.7

[a]Millions of dollars. Partially estimated for State banks.

[b]Capital/county population.

Sources: Annual Report of the Comptroller of the Currency (1901); Proceedings of the Twenty-seventh Annual Convention of the American Bankers Association (1901); Board of Governors of the Federal Reserve System, *All Bank Statistics: 1896–1955* (1959); The Rand-McNally *Bankers' Directory* (July 1902).

Organization of Federal Reserve Banks

The operations of the Federal Reserve System are conducted through a nationwide network of 12 Federal Reserve Banks located in Boston, New York, Philadelphia, Cleveland, Richmond, Atlanta, Chicago, St. Louis, Minneapolis, Kansas City, Dallas, and San Francisco. Branches of Reserve Banks have been established in 24 additional cities, and the Federal Reserve also has other facilities around the country, mainly for the purpose of clearing checks. The Board's offices in Washington are a headquarters-type facility, and no operations are conducted from those offices.

Each Reserve Bank is an incorporated institution with its own board of directors, consisting of nine members. As provided by law, the Class A directors, who represent member banks, and the Class B directors, who are engaged in pursuits other than banking, are elected by the member banks in each Federal Reserve District. The Board of Governors appoints the three Class C directors, and it designates one of the three as Chairman and another as Deputy Chairman of the Bank's board. No Class B or Class C director may be an officer, director, or employee of a bank; in addition, Class C directors are prohibited from being stockholders of a bank. Each branch of a Reserve Bank has its own board of directors of five or seven members. A majority (three or four, as the case may be) is appointed by the head-office directors, and the others by the Board of Governors.

The directors of each Reserve Bank oversee the operations of their Bank under the over-all supervision of the Board of Governors, and they establish, subject to approval by the Board, the interest rates that the Bank charges on short-term collateral loans to member banks and on any loans that may be extended to nonmember institutions.

Board of Governors of the Federal Reserve System,
The Federal Reserve System: Purposes and Functions
(Washington, 1974)

The effectiveness of the direct contribution of banks to industrial growth of the District was mixed. In some cases, such as petroleum refining, great foresight into the future evolution of the industry and confidence in the entrepreneurs who guided this evolution led banks to play a significant role in the industry's formation. John D. Rockefeller cultivated ties with Cleveland banks early in his business career as a commission merchant. Once formed, these ties were not broken and became crucial to the first venture into refining. ". . . Cleveland bankers were willing to encourage so important a local industry—particularly when they could lend to a man as able and reliable as Rockefeller."[29] In other cases, such as automobile manufacturing, short-term risks clouded the long-term potential of the industry, and bank finance was not forthcoming. Although prospects for "a steady process of quantity manufacture [of automobiles]" were demonstrated by the Winton Motor Works of Cleveland before 1900, eventual growth of the industry took place outside the District.[30]

Indirect bank financing of industrialization held other implications. Participation of District banks, along with other banks throughout the United States, in the commercial paper market contributed to the formation of a National short-term credit market. Had the banking system been less dispersed in the late 1800's and early 1900's, open market financing across geographical borders probably would not have developed as extensively as it did. Structural elements of regional credit markets then may have been more resistent to change, particularly the interest rate differentials that at one time distinguished one region from another. As it was, these differentials were gradually reduced during the waning years of the nineteenth century. By 1900, interest rates were much more geographically uniform; and certainly before World War I, creation of a national credit market was complete.[31]

COPING WITH INDUSTRIAL CRISIS

Even before the Great Depression, the process of industrialization experienced disruptions of substantial proportion. Serious panics occurred in 1873, 1884, 1893 and 1907 and a number of other disturbances erupted as well. The financial features of these crises differed considerably from earlier episodes.

Safety of the national bank currency was never a serious question during post-Civil War panics. Indeed, attempts at conversion were attempts to exchange deposits for currency, especially at State banks. The supply of government bonds to secure national bank notes was limited and note issues were linked to the par value of bank holdings. The limited supply of bonds and, with rising market values of bonds, the lack of a profit incentive to encourage note expansion, meant that rising demand for currency was not accompanied by rising supply. In short, the currency was inelastic.

Moreover, the required reserve mechanism that was supposed to improve the liquidity of the banking system turned out to be an inefficient means of distributing reserves among banks when they were needed. The National Banking System created a hierarchy of Central Reserve City banks, Reserve City banks and "country" banks and a reserve mechanism which drew reserves into city banks. Legal reserve provisions of State banking laws also channeled reserves into city banks. The reserves deposited in this manner generally found their way to the call loan market and could be obtained in time of trouble only insofar as these loans were actually callable. It was a system where often one bank could strengthen itself only at the expense of others.

These deficiencies meant that suspensions of cash payments, thought to be a thing of the past, were very much a feature of industrial panics, and probably amplified the disturbances.[32] As a result, the Federal Reserve Act was passed in 1913 and the Fourth District joined previously by common economic interests became a legal reality. The Federal Reserve Bank of Cleveland began operations on November 16, 1914 and the Cincinnati and Pittsburgh branches opened early in 1918.[33] By the end of 1917, 1,854 banks had joined the System.

The Federal Reserve System was established at a time when the banking system, like industry, was changing. Until 1920, the compatibility between industrial needs for short-term capital and supply through a proliferating number of banks remained intact. The number of banks in the District, as in the United States in general, continued to grow and bank funds which could not be lent directly to customers were placed in open market paper. However, the industrial merger movement began to cause changes in the short-term credit market.

About 1920, the volume of commercial paper in the open market began to decline as the large firms capable of using the market experienced reduced needs for short-term

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[29] Allan Nevins, *John D. Rockefeller: The Heroic Age of American Enterprise*, Vol. I (New York, 1940), p. 248.

[30] Allan Nevins, *Ford: The Times, the Man, the Company* (New York, 1954), p. 164.

[31] Lance E. Davis, "The Investment Market, 1870–1914: The Evolution of a National Market," *J. Econ. Hist.* (September 1965), pp. 355–393.

[32] Sylla, *op. cit.*, p. 250.

[33] On the formation of the Fourth District, see Arthur Frederic Blaser, Jr., *The Federal Reserve Bank of Cleveland* (New York, 1942), Ch. 5.

credit and cultivated alternative sources of funds. Among the alternatives, direct borrowing from commercial banks was the most important.[34] To accommodate these firms held forth the promise of a bank-customer relationship more permanent than past associations; but to satisfy short-term credit needs of large firms on an on-going basis required larger banks as well. Consequently, expansion in the number of banks came to a halt and banks began to grow in size. This movement was fairly slow paced and involved, initially, a relatively few banks in urban centers.

It is difficult to determine the extent of the concentration movement which began in the 1920's or the means which permitted banks to grow in size. The intervention of the Great Depression aborted whatever gradual evolution was underway. Pittsburgh banks were probably leaders in the District. Between 1920 and 1929, the average size of the national banks in Pittsburgh on the Comptroller's call list doubled while similar banks in Ohio Reserve Cities grew by about twenty-two percent. In contrast, all Ohio national banks, on average, were only five percent larger in 1929 than in 1920.

In addition to structural effects on banks, changing financial market relationships had portfolio effects as well. The forces which led to the declining volume of open market paper also limited the direct commercial business of banks, and they were forced to look for other outlets for funds. In large measure, this meant loans on collateral, primarily securities, and investments in securities other than U. S. governments. This was a particularly dangerous portfolio adjustment for banks because their capital positions, for the most part adequate for ordinary commercial banking purposes, could not necessarily support activities in securities markets where potential asset depreciation was large.[35] By 1930, more than 30 percent of Fourth District member banks' earning assets were loans on securities.

Given time, consolidation, shored-up capital and a modest amount (relative to subsequent experience) of failure of truly marginal banks would probably have carried out an orderly transformation of banking markets without undue hardship. The forces of change certainly were at work in the 1920's. But time was not at hand. The transformation was viciously interrupted by the Great Depression.

The recurring panics of the late nineteenth and early twentieth centuries seem to have caused no more than temporary interruptions in either economic progress or bank expansion. The Great Depression, caused by events still the subject of heated debate, was another matter. Regardless of the causes of the depression, the consequences for a banking system caught in the process of transition were severe. Between 1930 and 1940, 840 banks failed in Fourth District States and nearly 200 more went into voluntary liquidation (Table 6). While these failures were not generally out-of-line with national experience, whether viewed in terms of the proportion of banks existing in 1930 or in terms of the proportion of total failures since the Civil War, the ravages of the depression were clearly extensive.

The Great Depression brought about vast changes in the structure and behavior of the banking system. These included modification in the Federal Reserve System to make it more responsive in times of severe stress, founding of the Federal Deposit Insurance Corporation to absorb losses to depositors from bank failures, and greater awareness on the part of everyone involved in banking that financial stability was a key ingredient in

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[34]Greef, *op. cit.*, pp. 145–166.

[35]There were many State banks in rural areas with capital below $25,000 which may have been seriously under-capitalized even for ordinary banking purposes. When the rate of bank failure picked-up in the 1920's, it was largely these banks which suffered.

TABLE 6

BANK FAILURES IN DISTRICT STATES DURING THE GREAT DEPRESSION (1930–1940)

<table>
<tr><th>State</th><th>State Bank Suspensions</th><th>National Banks in Voluntary Liquidation</th><th>National Banks Insolvent</th></tr>
<tr><td><u>Kentucky</u></td><td></td><td></td><td></td></tr>
<tr><td>Number of Banks</td><td>110</td><td>18</td><td>30</td></tr>
<tr><td>Percent of United States Failures (1930–1940)</td><td>1.5</td><td>1.0</td><td>2.1</td></tr>
<tr><td>Percent of Kentucky Failures (1863–1940)</td><td>57.0</td><td>17.3</td><td>28.8</td></tr>
<tr><td>Percent of Existing Kentucky Banks (1930)</td><td>26.5</td><td colspan="2">36.1</td></tr>
<tr><td><u>Ohio</u></td><td></td><td></td><td></td></tr>
<tr><td>Number of Banks</td><td>182</td><td>47</td><td>70</td></tr>
<tr><td>Percent of United States Failures (1930–1940)</td><td>2.5</td><td>2.6</td><td>4.8</td></tr>
<tr><td>Percent of Ohio Failures (1863–1940)</td><td>46.1</td><td>15.1</td><td>62.5</td></tr>
<tr><td>Percent of Existing Ohio Banks (1930)</td><td>26.8</td><td colspan="2">38.0</td></tr>
<tr><td><u>Pennsylvania</u></td><td></td><td></td><td></td></tr>
<tr><td>Number of Banks</td><td>188</td><td>103</td><td>149</td></tr>
<tr><td>Percent of United States Failures (1930–1940)</td><td>2.5</td><td>5.7</td><td>0.2</td></tr>
<tr><td>Percent of Pennsylvania Failures (1863–1940)</td><td>45.0</td><td>30.7</td><td>71.3</td></tr>
<tr><td>Percent of Existing Pennsylvania Banks (1930)</td><td>26.9</td><td colspan="2">29.8</td></tr>
<tr><td><u>West Virginia</u></td><td></td><td></td><td></td></tr>
<tr><td>Number of Banks</td><td>85</td><td>28</td><td>26</td></tr>
<tr><td>Percent of United States Failures (1930–1940)</td><td>1.2</td><td>1.5</td><td>1.8</td></tr>
<tr><td>Percent of West Virginia Failures (1863–1940)</td><td>75.2</td><td>43.8</td><td>68.4</td></tr>
<tr><td>Percent of Existing West Virginia Banks (1930)</td><td>48.0</td><td colspan="2">48.6</td></tr>
</table>

Sources: Comptroller of the Currency, Annual Reports, 1896–1940. Board of Governors of the Federal Reserve System, *All Bank Statistics: 1896–1955* (1959).

the well-being of the industrial society. The banking system which emerged in the Fourth District reflected this commitment to financial stability. Far fewer banks existed in 1940 than in 1930, fewer even than in 1901, but they were far stronger as well (Figure 6).

The reconstructed banking system that emerged from the depression immediately faced the problem of supplying short-term credit for rebuilding industrial capacity and renewing economic growth. In 1940, industrial output of Fourth District States, in nominal terms, was more than 20 percent lower than in 1920, though real output (1926 prices) was higher because of deflation during the 1930's (Table 4). This problem soon was compounded by the necessity of sharing the financial burden of World War II. The best evidence of the success of Fourth District banks in meeting these challenges is provided by the rapid growth of industrial output in the District and the further strengthening of the banks themselves that has taken place in the post-World War II economy (Table 4, Figure 1).

The modern economy that has developed since the war is faster moving than in the past, but banks in the Fourth District are keeping pace. New methods of portfolio management (the techniques of "liability management"), new forms of organization (bank holding companies), new markets (international in scope) and new technology (automated banking) all contribute to "the changing world of banking" in the District.[36] This world is the future of banking, not the past, but it is a world in which banks are well positioned to respond to the evolving financial needs of the Fourth District economy.

[36]Herbert V. Prochnow and Herbert V. Prochnow, Jr., *The Changing World of Banking* (New York, 1974). The modern age of banking is fully explored in the essays of this volume.

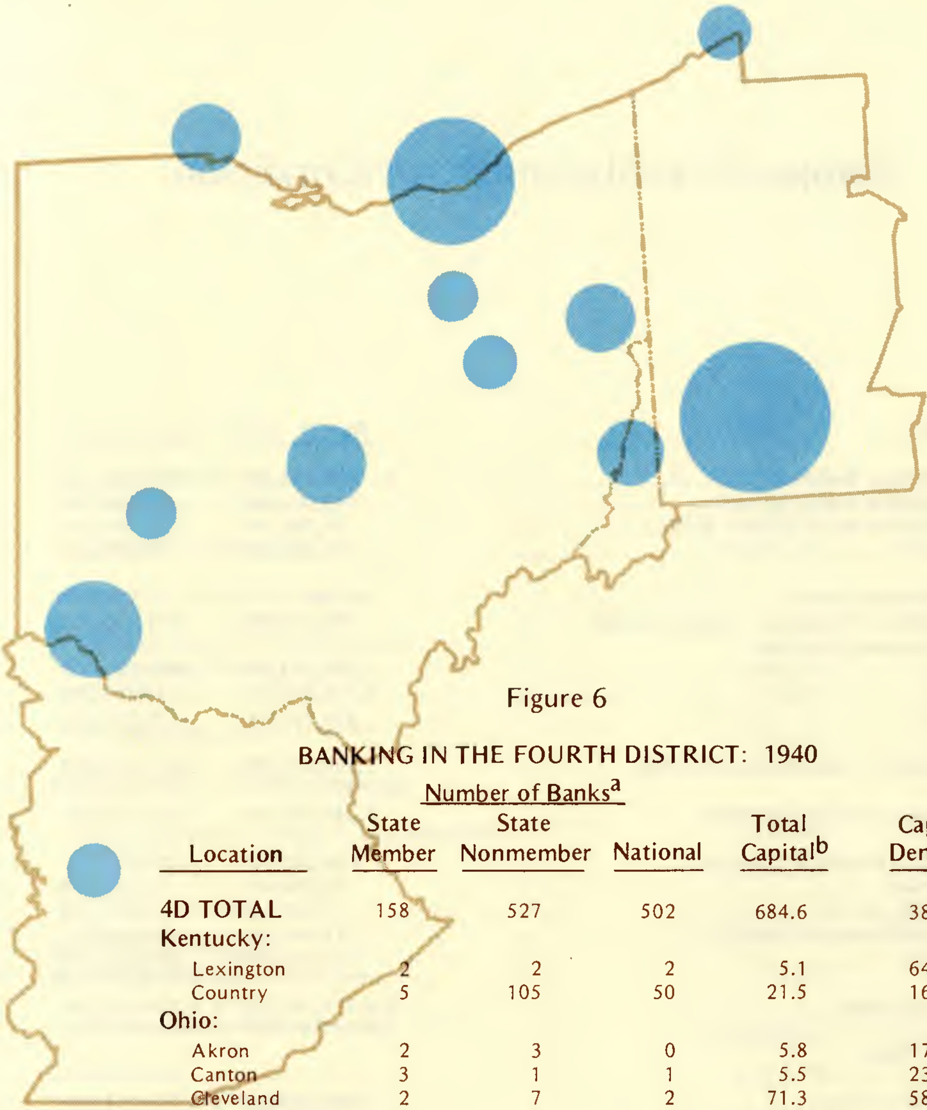


Figure 6

BANKING IN THE FOURTH DISTRICT: 1940

Location	Number of Banks[a]: State Member	Number of Banks[a]: State Nonmember	Number of Banks[a]: National	Total Capital[b]	Capital Density[c]
4D TOTAL	158	527	502	684.6	38.9
Kentucky:					
Lexington	2	2	2	5.1	64.1
Country	5	105	50	21.5	16.6
Ohio:					
Akron	2	3	0	5.8	17.0
Canton	3	1	1	5.5	23.6
Cleveland	2	7	2	71.3	58.5
Cincinnati	6	4	4	39.9	64.2
Columbus	1	5	3	18.9	48.6
Dayton	0	1	3	5.9	19.9
Toledo	4	1	0	13.7	39.9
Youngstown	2	1	2	11.0	45.7
Country	101	288	227	130.0	18.8
Pennsylvania:					
Erie	1	2	3	6.3	35.0
Pittsburgh	11	19	8	250.7	177.6
Country	15	74	189	85.7	25.8
West Virginia:					
Wheeling	2	5	3	9.9	135.3
Country	1	9	5	3.4	25.5

[a] Branches are consolidated
[b] Millions of dollars.
[c] Capital/county population.

Sources: Comptroller of the Currency, *Individual Statements of Condition of National Banks* (1941); Thirty-third Annual Report of the Division of Banks, State of Ohio (1941); Federal Deposit Insurance Corporation, *Assets and Liabilities of Operating Insured Banks* (1941); Polk's *Bankers Encyclopedia* (March 1941).

Comparative Statement of Condition

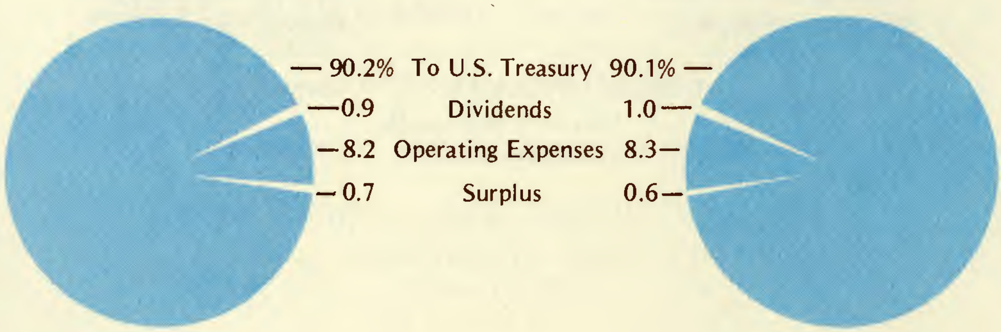
ASSETS	Dec. 31, 1976	Dec. 31, 1975
Gold Certificate Reserves	$ 939,388,200	$ 888,341,331
Special Drawing Rights Certificates	103,000,000	43,000,000
Federal Reserve Notes of Other Banks	63,793,713	121,257,590
Other Cash	46,208,019	44,629,033
Loans to Member Banks	-0-	100,000
Federal Agency Obligations - Bought Outright	560,153,000	479,750,000
U. S. Government Securities:		
Bills	3,180,233,000	2,939,681,000
Notes	3,955,325,000	3,475,489,000
Bonds	554,496,000	436,259,000
Total U. S. Government Securities	7,690,054,000	6,851,429,000
Total Loans and Securities	8,250,207,000	7,331,279,000
Cash Items in Process of Collection	604,290,443	558,094,757
Bank Premises	24,054,463	25,335,174
Operating Equipment	2,467,341	697,574
Interdistrict Settlement Account	215,460,395	654,068,671
Other Assets	127,683,665	103,121,178
Total Assets	$10,376,553,239	$ 9,769,824,308
LIABILITIES		
Federal Reserve Notes	$ 7,382,250,855	$ 6,770,159,378
Deposits:		
Member Bank - Reserve Accounts	1,327,438,555	1,689,907,719
Due To Other FR Banks - Collected Funds	26,468,675	-0-
U. S. Treasurer - General Account	788,564,949	597,027,539
Foreign	20,505,900	22,846,200
Other Deposits	40,758,742	18,263,605
Total Deposits	2,203,736,821	2,328,045,063
Deferred Availability Cash Items	549,153,562	413,832,654
Other Liabilities	72,983,501	96,517,013
Total Liabilities	$10,208,124,739	$ 9,608,554,108
CAPITAL ACCOUNTS		
Capital Paid in	84,214,250	80,635,100
Surplus	84,214,250	80,635,100
Total Liabilities and Capital Accounts	$10,376,553,239	$ 9,769,824,308
Contingent Liability on Acceptances Purchased for Foreign Correspondents	$ -0-	$ -0-

Comparison of Earnings and Expenses

	1976	1975
Total Current Earnings	$ 523,648,517	$ 483,991,239
Net Expenses	42,812,911	38,663,613
Current Net Earnings	480,835,606	445,327,626
Additions to Current Net Earnings:		
Profit on Sales of U. S. Government Securities (Net)	2,662,918	3,012,563
All Other	335,816	138,099
Total Additions	2,998,734	3,150,662
Deductions from Current Net Earnings:		
Loss on Foreign Exchange Transactions (Net)	2,181,447	21,035,480
All Other	44,675	61,300
Total Deductions	2,226,122	21,096,780
NET DEDUCTIONS	-0-	17,946,118
NET ADDITIONS	772,612	-0-
Net Earnings before Payments to U. S. Treasury	$ 481,608,218	$ 427,381,508
Dividends Paid	$ 4,953,406	4,790,394
Payments to U. S. Treasury (Interest on F. R. Notes)	473,075,662	419,877,314
Transferred to Surplus	3,579,150	2,713,800
Total	$ 481,608,218	$ 427,381,508

Disposition of Gross Earnings

1976 1975



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