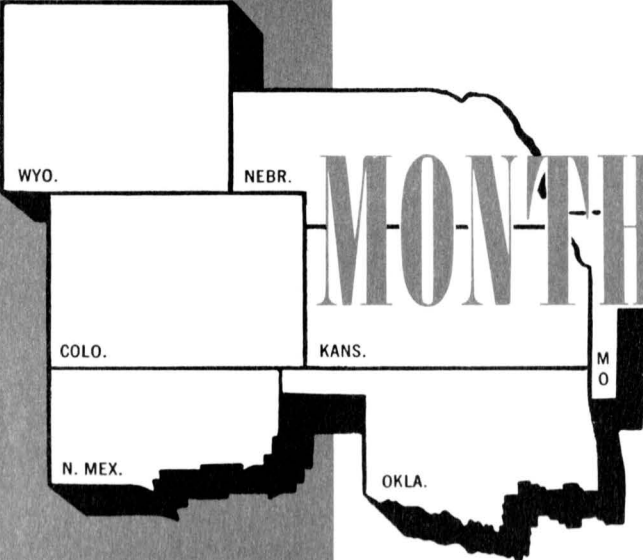


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MONTHLY REVIEW

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**FEDERAL RESERVE BANK
OF KANSAS CITY**

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Growth and Transition of District Small Cities

THROUGHOUT the history of the United States, the process of urban growth has proceeded without interruption. It has been, and remains, a concomitant of economic growth. The diminishing rural character of the United States was dramatically pointed up in the 1920 Census when, for the first time in our history, the proportion of people living in urban areas exceeded those in rural areas. By 1960, more than 60 per cent of the U. S. population resided in 212 standard metropolitan statistical areas (SMSA's). To a large extent, a counterpart of this development can be found in the Tenth Federal Reserve District. The trend toward concentration in the District's large metropolitan areas during the 20th century was analyzed at length in earlier issues of the *Monthly Review* and requires no additional comment.¹

This article will focus on a dimension of urban growth that was excluded in the earlier articles, namely, the growth of small cities in the Tenth District, and will deal with developments between the 1950 and 1960 Census dates.² The analysis is directed at small incorporated cities within the District having a population of between 10,000 and 50,000 which were located outside SMSA's. The difficulty in obtaining meaningful data on cities

of fewer than 10,000, as well as considerations of space, preclude their being analyzed, although their importance in an area such as the Tenth District should not be minimized.

A BROAD LOOK AT POPULATION GROWTH

Table 1 describes the growth in population between 1950 and 1960 in District states. In addition, it specifies the distribution of population among the District SMSA's and small cities during this period. On the basis of the 1950 Census, it may be seen that metropolitan areas and small cities accounted for approximately 54 per cent of the 8.3 million total District population. The metropolitan areas were responsible for a little more than 41 per cent and the small cities' share of the total was 12.4 per cent. The results of the 1960 Census showed that District SMSA's and incorporated cities with a population of between 10,000 and 50,000 located outside SMSA's contained more than 62 per cent of the District's 9.6 million

Table 1
TENTH DISTRICT POPULATION

	1950		1960		Percentage Change in Population 1950-1960
	Actual Number	Per Cent of Total Population	Actual Number	Per Cent of Total Population	
Colorado	1,325,089	15.9	1,753,947	18.4	32.4
Kansas	1,905,299	22.9	2,178,611	22.8	14.3
Missouri*	984,416	11.8	1,104,069	11.6	12.2
Nebraska	1,325,510	16.0	1,411,330	14.8	6.5
New Mexico*	379,485	4.6	555,378	5.8	46.4
Oklahoma*	2,099,248	25.3	2,221,778	23.3	5.8
Wyoming	290,529	3.5	330,066	3.5	13.6
District Total	8,309,576		9,555,179		15.0
District SMSA's	3,423,044	41.2	4,703,377	49.2	37.4
District Small Cities	1,027,869	12.4	1,242,838	13.0	20.9
District SMSA's and Small Cities	4,450,913	53.6	5,946,215	62.2	33.6

*Tenth District portion only.
SOURCE: U. S. Bureau of the Census, *Census of Population 1960*.

¹ See, "The Growth of Metropolitan Areas in the Tenth District," *Monthly Review*, September 30, 1951. See also, "Standard Metropolitan Statistical Areas in the Tenth District," *Monthly Review*, May-June 1964, and, "District Metropolitan Areas—Their Individual Experiences," *Monthly Review*, July-August 1964.

² The *Monthly Review* of March 31, 1952, carried an article entitled, "The Growth of Small Cities in the Tenth District," which traced the growth of small cities through the 1950 Census date. A purpose of the current article is to provide for continuity with the earlier study.

people. It is interesting to note that the rise in total population during this period—1.25 million—was actually exceeded by the population gain recorded by the District SMSA's—1.28 million. Also, while the percentage rise in Tenth District population—15 per cent—fell short of the 18.5 per cent gain for the Nation as a whole, the SMSA population advanced at a rate of more than twice that of the District or the United States.

It should not be concluded, however, that the District's entire population gain was wholly attributable to the SMSA's. During the 1950's, the small cities did record a population increase of about 215,000—albeit less than one fifth as much as the larger metropolitan areas. In that same span of time, though, the rural areas suffered a population loss of approximately a quarter of a million. The sharp increase in population of the SMSA's raised their share of total District population from 41 per cent in 1950 to 49 per cent in 1960. In contrast, the small cities' share rose by little more than one half of one percentage point—from 12.4 per cent to 13 per cent. Thus, in the face of increasing concentration in the large metropolitan areas, small cities in the aggregate barely have managed to hold their ground in terms of relative population gains. The extent to which this was a generalized phenomenon, or more or less regional, is discussed in the remainder of this article.

GROWTH BY REGIONS

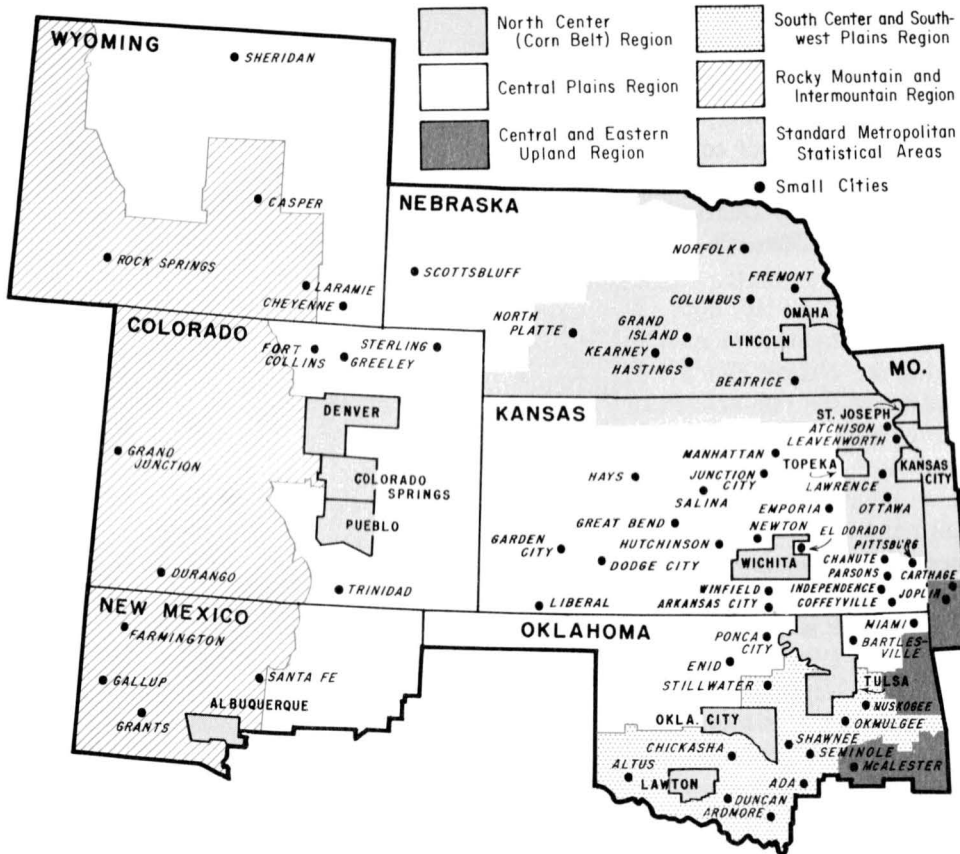
States in the Tenth District contain several regional transitions. At the time of the 1960 Census, there were 64 incorporated cities in the District having a population of between 10,000 and 50,000, and located outside District SMSA's. This compares with a total of 63 small cities which were noted in the 1950 Census. The similarity in the number of small cities at the two Census dates should not be interpreted as meaning that little change oc-

curred in the District's smaller urban areas. On the contrary, the composition of the small cities changed appreciably over the decade. The 64 small cities in the 1960 Census included nine new entries, while eight cities which had been listed in the 1950 Census no longer appeared in the later Census data. The significance of this changed composition³ will be discussed later in the article.

The 64 small cities have been assigned to five major geographic regions, parts of which fall within the Tenth District. These regions have varying socio-economic characteristics; although, within any given region, similar types of farming activities usually predominate.³ These areas and the cities they encompass are shown on the accompanying map. In the North Center (Corn Belt) region, 12 cities of eastern Nebraska and northeastern Kansas are found. The principal agricultural activity is livestock farming for the production of meat animals. As might be expected, corn is the leading agricultural crop and much of it is fed to cattle and hogs. Manufacturing activities are related primarily to the processing of farm products. Four principal SMSA's are found in this region, which serve as centers for marketing, processing, and transshipping of farm products, and are sources of farming equipment and supplies. The District portion of the Central Plains region is bounded by the Corn Belt on the east and the Rocky Mountains on the west. The primary economic activities are agricultural, with wheat production and cattle

³ See, Bogue, Donald J., and Beale, Calvin L., *Economic Areas of the United States*, New York: The Free Press of Glencoe, Inc., 1961, pp. xxxix-xlvi. This classification system—using counties as the basic unit—has, in large part, been accepted by the U. S. Bureau of the Census. While questions regarding delimitation of the regions are inevitable, the placement of Sheridan, Wyo., and Trinidad, Colo., in the Central Plains region seems especially tenuous. On the basis of physical considerations, both cities might more logically be placed in the Rocky Mountain and Intermountain region; however, the economic characteristics of the counties in which these cities are located appear to resemble more closely those of the Central Plains region.

LOCATION OF SMALL CITIES BY GEOGRAPHIC REGION IN THE TENTH DISTRICT



grazing taking precedence over the growing of corn and fattening of cattle and hogs, which are characteristic of the Corn Belt to the east. Petroleum also plays an important economic role in this region, which encompasses 30 of the District's 64 small cities and includes cities from Kansas, Oklahoma, Nebraska, Colorado, and Wyoming. Three principal SMSA's also are found in the District portion of this region. South of the Central Plains lies the South Center and Southwest Plains region. Within the District portion of this region, cotton growing has been supplanted by livestock farming as a principal agricultural activity. Oil and natural gas play a large economic role in the livelihood of this portion of the District. This area in-

cludes 10 small cities—all within the state of Oklahoma—as well as one of the larger SMSA's in the District. The District portion of the Central and Eastern Upland region is the smallest of the five regions which describe the District. It contains no SMSA's and only three small cities, two in southwestern Missouri and one in southeastern Oklahoma. The remaining economic region, containing nine District small cities in Colorado, New Mexico, and Wyoming, is the Rocky Mountain and Intermountain region. One of the District's fastest growing metropolitan areas—Albuquerque—is found in this area.

Table 2 provides information on the changes in population and total employment which oc-

Table 2
POPULATION AND EMPLOYMENT GROWTH OF DISTRICT
SMALL CITIES
1950-1960

curred in each of the 64 small cities of the District's five economic regions between 1950 and 1960. It presents similar data for the District's 13 SMSA's and for the United States, for purposes of comparison with the rates of change for the small cities of the District. During the 1950's, the District's 64 small cities, taken as a whole, recorded rates of advance in both population and employment in excess of that for the Nation, but at little more than half the rate of advance shown for the SMSA's. Since the rapid increases in SMSA employment and population—nationally and District-wide—have been well documented in previous issues of the *Review*, the failure of the small cities to advance as rapidly as the SMSA's in the District is not surprising. What does appear somewhat surprising is that the 64 small cities taken as a whole showed better relative gains in population and employment between 1950 and 1960 than did the Nation.

The extent to which this phenomenon was indigenous to one or more regions, or District-wide in nature, may be seen in Table 3. This table compares, in a simplified form, regional percentage changes in population and employment with similar average changes for the United States, District SMSA's, and the aggregate of District small cities for the period 1950-1960. If the population data in Table 3 are examined, the generally favorable performance of the 64 small cities relative to the national rate of advance is not readily discerned. In only two regions—the Central Plains, and

	POPULATION			EMPLOYMENT		
	1960	Change 1950-1960		1960	Change 1950-1960	
		Number	Per Cent		Number	Per Cent
North Center (Corn Belt) Region						
Atchison, Kans.	12,529	-263	-2.1	4,668	-313	-6.3
Lawrence, Kans.	32,858	9,507	40.7	12,494	4,717	60.7
Leavenworth, Kans.	22,052	1,473	7.2	7,772	590	8.2
Ottawa, Kans.	10,673	592	5.9	3,897	-12	-0.3
Beatrice, Nebr.	12,132	319	2.7	4,883	56	1.2
Columbus, Nebr.	12,476	3,592	40.4	5,055	1,400	38.3
Fremont, Nebr.	19,698	4,936	33.4	7,904	1,871	31.0
Grand Island, Nebr.	25,742	3,060	13.5	9,882	978	11.0
Hastings, Nebr.	21,412	1,201	5.9	8,601	972	12.7
Kearney, Nebr.	14,210	2,095	17.3	5,658	1,143	25.3
Norfolk, Nebr.	13,640	2,305	20.3	5,458	1,034	23.4
North Platte, Nebr.	17,184	1,751	11.3	6,255	130	2.1
Total 12 District Cities	214,606	30,568	16.6	82,527	12,566	18.0
Central Plains Region						
Fort Collins, Colo.	25,027	10,090	67.6	8,945	3,600	67.4
Greeley, Colo.	26,314	5,960	29.3	9,818	2,564	35.3
Sterling, Colo.	10,751	3,217	42.7	3,980	965	32.0
Trinidad, Colo.	10,691	-1,513	-12.4	2,996	-557	-15.7
Arkansas City, Kans.	14,262	1,359	10.5	5,175	511	11.0
Chanute, Kans.	10,849	740	7.3	4,053	340	9.2
Coffeyville, Kans.	17,382	269	1.6	6,076	61	1.0
Dodge City, Kans.	13,520	2,258	20.0	5,222	919	21.4
El Dorado, Kans.	12,523	1,486	13.5	4,727	497	11.7
Emporia, Kans.	18,190	2,521	16.1	7,216	1,019	16.4
Garden City, Kans.	11,811	906	8.3	4,649	451	10.7
Great Bend, Kans.	16,670	4,005	31.6	6,577	1,348	25.8
Hays, Kans.	11,947	3,322	38.5	4,788	1,564	48.5
Hutchinson, Kans.	37,574	3,999	11.9	14,613	1,264	9.5
Independence, Kans.	11,222	-113	-1.0	4,239	83	2.0
Junction City, Kans.	18,700	5,238	38.9	4,599	817	21.6
Liberal, Kans.	13,813	6,679	93.6	5,331	2,417	82.9
Manhattan, Kans.	22,993	3,937	20.7	8,222	1,762	27.3
Newton, Kans.	14,877	3,287	28.4	5,495	901	19.6
Parsons, Kans.	13,929	-821	-5.6	4,708	-505	-9.7
Pittsburg, Kans.	18,678	-663	-3.4	6,786	-156	-2.2
Salina, Kans.	43,202	17,026	65.0	14,394	4,177	40.9
Winfield, Kans.	11,117	853	8.3	4,685	621	15.3
Scottsbluff, Nebr.	13,377	519	4.0	5,538	400	7.8
Barlesville, Okla.	27,893	8,665	45.1	10,670	2,454	29.9
Enid, Okla.	38,859	2,842	7.9	14,145	622	4.6
Miami, Okla.	12,869	1,068	9.1	4,509	145	3.3
Ponca City, Okla.	24,411	4,231	21.0	9,013	981	12.2
Cheyenne, Wyo.	43,505	11,570	36.2	17,570	5,217	42.2
Sheridan, Wyo.	11,651	151	1.3	4,369	-100	-2.2
Total 30 District Cities	578,607	103,088	21.7	213,108	34,382	19.7
Central and Eastern Upland Region						
Carthage, Mo.	11,264	76	0.7	3,962	-294	-6.9
Joplin, Mo.	38,958	247	0.6	14,078	-281	-2.0
McAlester, Okla.	17,419	-459	-2.6	5,461	-290	-5.0
Total 3 District Cities	67,641	-136	-0.2	23,501	-865	-3.6
South Center and Southwest Plains Region						
Ada, Okla.	14,347	-1,648	-10.3	5,154	-561	-9.8
Altus, Okla.	21,225	11,490	118.0	4,875	1,408	40.6
Ardmore, Okla.	20,184	2,294	12.8	7,309	820	12.6
Chickasha, Okla.	14,866	-976	-6.2	5,320	1	*
Duncan, Okla.	20,009	4,684	30.6	7,513	1,617	27.4
Muskogee, Okla.	38,059	770	2.1	13,322	-603	-4.3
Okmulgee, Okla.	15,951	-2,366	-12.9	5,104	-718	-12.3
Seminole, Okla.	11,464	-399	-3.4	3,811	-219	-5.4
Shawnee, Okla.	24,326	1,378	6.0	8,651	320	3.8
Stillwater, Okla.	23,965	3,727	18.4	8,416	1,202	16.7
Total 10 District Cities	204,396	18,954	10.2	69,475	3,267	4.9
Rocky Mountain and Intermountain Region						
Durango, Colo.	10,530	3,071	41.2	3,841	993	34.9
Grand Junction, Colo.	18,694	4,190	28.9	7,186	1,739	31.9
Farmington, N. Mex.	23,786	20,149	554.0	8,199	6,947	554.9
Gallup, N. Mex.	14,089	4,956	54.3	4,870	1,765	56.8
Grants, N. Mex.	10,274	8,023	356.4	3,451	n.a.	n.a.
Santa Fe, N. Mex.	33,394	5,396	19.3	11,395	2,699	31.0
Casper, Wyo.	38,930	15,257	64.4	15,052	4,841	47.4
Laramie, Wyo.	17,520	1,939	12.4	6,413	525	8.9
Rock Springs, Wyo.	10,371	-486	-4.5	3,765	-496	-11.6
Total 9 District Cities	177,588	62,495	54.3	60,721**	19,013**	45.6**
District's 64 Small Cities	1,242,838	214,969	20.9	449,332**	68,363**	17.9**
District's 13 SMSA's	4,703,377	1,280,333	37.4	1,746,650	411,396	30.8
United States	179,323,175	27,997,377	18.5	64,639,247	8,203,974	14.5

* Less than .05 per cent.

** Excludes Grants, New Mexico, since employment data are unavailable for 1950.

SOURCE: U. S. Bureau of the Census, *Census of Population 1960*.

the Rocky Mountain and Intermountain region—did the percentage change in population exceed the U. S. average for the period. Both regions also recorded relative population gains greater than the average for the District small cities. In the case of the Rocky Mountain and Intermountain region, the rate of advance in population exceeded the average for the 13 District SMSA's as well. It is worth noting that the rise in population in District SMSA's was at a rate more than twice as high as the United States during the 1950's. Thus, the performance of the Rocky Mountain and Intermountain region, in terms of population gains, appears all the more impressive. Nevertheless, even though the regions showing strong population advances accounted for nearly two thirds of all small cities in the District, the relative population strength of the small cities—when viewed on a regional basis—was more or less a confined phenomenon rather than a general occurrence. This will be seen even more clearly when the performance of the individual cities is considered.

Turning to a consideration of comparative regional employment changes, results shown in Table 3 are quite similar to those for regional population changes. Only the North Center (Corn Belt) region diverges from the pattern of population changes. Once again, the Central Plains and Rocky Mountain and Intermountain regions show greater relative growth than the United States or the District small cities, with the latter region gaining employment at a rate even in excess of that for the District SMSA's. The percentage change in employment for both the Central and Eastern Upland region and the South Center and Southwest Plains were less than for the United States, the small cities' average, or the District SMSA average and corresponded with the record of population changes for these regions. Thus, the table shows a remarkable symmetry between population and employment developments in the various District regions during 1950-1960.

Table 3
COMPARISON OF PER CENT CHANGES IN
POPULATION AND TOTAL EMPLOYMENT
1950-1960

	North Center (Corn Belt) (12 Cities)	Central Plains (30 Cities)	Central and Eastern Upland (3 Cities)	South Center and Southwest Plains (10 Cities)	Rocky Mountain and Intermountain (9 Cities)*
Total Population:					
U. S. Average	—	+	—	—	+
District SMSA Average	—	—	—	—	+
District					
Small City Average*	—	+	—	—	+
Total Employment:					
U. S. Average	+	+	—	—	+
District SMSA Average	—	—	—	—	+
District					
Small City Average*	+	+	—	—	+

NOTE: + equals greater than; — equals less than.

* Excludes Grants, New Mexico, since employment data for 1950 are unavailable.

SOURCE: U. S. Bureau of the Census, *Census of Population, 1960*.

A LOOK INSIDE THE REGIONS

Population and employment data for individual cities shown in Table 2 strongly corroborate the regional observations summarized in Table 3. First, population and employment changes for the individual cities moved in a nearly parallel fashion. Secondly, when rates of change in population and total employment for the various regions are measured against the average rates of change for the United States, the District SMSA's, or the 64 small cities, it was usually the case that a majority of the individual cities within each region experienced rates of change corresponding to that for the region as a whole. For example, the Rocky Mountain and Intermountain region experienced population and employment gains between 1950 and 1960 at rates which exceeded the average rates of advance for either the Nation, the District SMSA's, or the 64 small cities. Thus, approximately two thirds of the cities in that region showed a similar pattern of advance. At the other end of the spectrum,

the South Center and Southwest Plains region and the Central and Eastern uplands region trailed behind the Nation, District SMSA's, and 64 small cities' average gain in population and employment. Within those regions, nearly all the small cities duplicated the regional performance. The performance of the individual cities in the North Center and Central Plains regions vis-a-vis the over-all regional percentage changes in population and employment also lends support to the observation that the regional performances were highly representative of the performance of a majority of the cities within a given region, rather than the consequence of a few extremely favorable or unfavorable showings by individual cities.

The changed composition of the District small cities in the 1960 Census relative to the 1950 Census enumeration was mentioned earlier in the study. An examination of the changes sheds added light on the viability of the District's small cities during a period when metropolitanization was proceeding at a rapid pace. The very fact that nine new small District cities were listed in the 1960 Census is itself a significant fact alongside the favorable growth record of numerous small cities which had been on the list 10 years earlier. It may be argued that the loss of eight former small cities, while gaining nine new ones, simply increased the total number of District small cities by a net of one. However, an examination of those cities which were deleted from the 1960 Census list is very instructive in providing a proper perspective for any judgment on the growth capacities of small cities.

The eight small cities no longer present at the time of the 1960 Census include El Reno, Norman, Sapulpa, Lawton, and Guthrie, Oklahoma, as well as Fort Scott, Kansas, and Boulder and Colorado Springs, Colorado. It should be recalled that "small cities" have been defined as an incorporated entity having a population of between 10,000 and 50,000, and lo-

cated outside the limits of a standard metropolitan statistical area. Thus, of these eight small cities, only two—Fort Scott and Guthrie—were absent in the 1960 Census list as a result of a decline in population to below 10,000. Lawton, on the other hand, was designated an SMSA as a consequence of its rapid growth, as was Colorado Springs. Of the remaining four cities, El Reno and Norman were absorbed into the Oklahoma City SMSA; Sapulpa became an integral part of the Tulsa SMSA; and Boulder was joined to the Denver SMSA. In light of these developments, it seems inappropriate to regard the net gain of one small District city as the significant occurrence in the growth pattern of the District's small cities between 1950 and 1960. The real significance appears to lie in the dynamic growth of small cities such as Lawton and Colorado Springs, with their resulting transformation into larger self-contained metropolitan areas. Similarly, the merging or absorption of El Reno, Norman, Sapulpa, and Boulder into metropolitan areas signifies the increased interdependency which has evolved between the larger cities and adjacent small urban centers.

In no sense, therefore, should one view the experience of the small cities in the Tenth District between 1950 and 1960 and conclude that a simple process of attrition and equivalent replacement was at work. Rather, a dynamic process of growth was in evidence with a transformation of smaller urban centers into more complex and integrated larger metropolitan areas. This "loss" of small cities, through growth, was fully compensated for by the introduction of new small cities in the Tenth District. Although this growth process was more in evidence in some District regions than in others, its existence is undeniable and it suggests that small cities, such as those discussed in this article, may represent a way station in the process of urban growth, rather than simply an anachronism in the face of increasing metropolitan area growth.

Correspondent Banking

COMMERCIAL BANKS sell their services to individuals, businesses, and governmental units. Among the business customers of many banks are other commercial banks. As customers, commercial banks purchase the same general types of services—clearing, depository, credit advice and supply, etc.—as nonbank businesses and individuals. Like other customers, banks pay for these services by maintaining balances with the seller as well as by making explicit money payments. However, the relationship between banks as producers of services and other commercial banks as purchasers of bank output is thought to have special importance because of its possible implications for questions of banking structure as well as monetary policy.

Apart from its special importance, correspondent banking is highly complex. Small country banks commonly maintain correspondent relations with 5 or 6 banks, whereas larger banks may maintain balances with 30 or more banks. Flows of services are frequently reciprocal and at times quite circuitous. Nevertheless, the flow of correspondent services through the banking system traces a perceptible hierarchical structure of banks. Small country banks generally maintain balances with a series of larger banks in regional financial centers. Banks in regional financial centers maintain balances with other banks in regional financial centers, as well as with banks in New York and/or Chicago. New York and Chicago banks will, in turn, maintain balances with banks in the national financial centers and also with banks in various regional centers. The intricacy of this network indicates the degree of indirection and complexity that interbank service flows can assume.

PRODUCTION VERSUS PURCHASE OF BANK SERVICES

The basic reason for the flow of services among banks is that in some instances commercial banks find it either impossible or relatively costly to produce certain services required by their customers. When a profit-conscious bank finds it cheaper to purchase a service from another bank than to produce that service itself, it will resort to a correspondent. In determining which banks are to produce a given type of service and which are to purchase the service, bank size and location appear to be of paramount importance. These two factors, it may be noted, are not entirely independent of each other, since banks rarely grow to great size in sparsely populated or commercially remote areas.

The importance of bank location is, perhaps, best exemplified by clearing services. A bank receiving a check drawn on another bank must arrange for transportation of the check to either the paying bank's premises or to some location where the paying bank maintains an account. If a country bank regularly receives a substantial number of items drawn on a city bank, it may become convenient to maintain an account with the paying bank and use its clearing facilities. Since the volume of clearing flows between banks generally is influenced by the pattern of commerce in an area, the decision to maintain a correspondent relationship derives partly from the geographic location of participants.

Bank size, the second major element rationalizing the production of bank services, appears to have especially pervasive implications for the structure of correspondent relationships. The importance of bank size derives

largely from the connection between size and division of labor. Because banks produce such diverse financial services, substantial size is necessary to permit the specialization required to gain expertise in all phases of the business. If the required volume of business is unattainable, it becomes cheaper for a bank to purchase services from other banks with more highly developed facilities. Correspondent banking thus may be viewed as a means for circumventing some of the disadvantages inherent in small size. In effect, the larger bank stands ready to sell or rent factors of production or services flowing from these factors to smaller banks in smaller amounts than are otherwise available.

The following cursory description of selected types of correspondent services is meant to convey an impression of the scope and variety of such services, but is not an exhaustive listing of types of correspondent services. Following the descriptive material are sections devoted to interpretation of the meaning and importance of correspondent banking. Most of the discussion is focused upon the relationship between the small country member bank and larger banks in regional financial centers; however, parts of the discussion are equally relevant to correspondent relationships among other types of banks. Correspondent services will be conveniently, albeit somewhat arbitrarily, grouped under three headings: clearing services, asset management services, and other miscellaneous services.

CLEARING SERVICES

It is significant that a sizable proportion of Federal Reserve member banks prefer to sustain the expense of clearing through correspondents, even though Federal Reserve Banks provide clearing services at no additional cost, once membership has been established. Banks in regional financial centers actively solicit this type of business with notable success. For example, less than one fourth

of the member banks in the Tenth Federal Reserve District cleared directly through the Reserve Bank during 1964. It may be assumed that the remainder rely primarily on the facilities of correspondents. On the other hand, city correspondents will submit many of the items originating with their respondents to the Federal Reserve Bank. Thus, the practice of clearing through correspondents will not necessarily result in a material reduction in the volume of clearings handled by the Federal Reserve System, but an element of indirection is introduced into the clearing process.

The ability of city correspondents to sell clearing services to member banks is partly explained by the inclusion of these services as an integral part of a package of highly diverse services that comprise the typical correspondent relationship. However, it is also true that clearing services provided by correspondents are differentiated from those offered by Federal Reserve Banks. For example, the Federal Reserve Bank may require some sorting of items submitted for collection, whereas correspondents commonly accept clearing items unsorted. Federal Reserve Banks will not generally accept nonpar or foreign items, while correspondents do not usually impose such restrictions. In addition, correspondents frequently provide immediate credit for all cash items, whereas the Federal Reserve Bank gives immediate, 1-day, or 2-day credit depending upon the location of the paying bank. The point to be emphasized is that city correspondents augment the clearing services offered member banks by the Federal Reserve System.

ASSET MANAGEMENT SERVICES

With regard to portfolio management, the small bank faces two major problems. First, it does not generate sufficient expert information internally, and second, it is forced to trade in relatively small units. In helping the small bank circumvent these inherent disadvantages, the city correspondent promotes two socially

useful ends. Inter-area capital mobility is enhanced and the dissemination of economically valuable information is facilitated.

Expert information, purchased from a correspondent, may relate to problems as broad as the over-all structure of a bank's portfolio, or it may be confined to the merits of a specific municipal security. The intricacies of Treasury advance refundings and the creditworthiness of out-of-area loan applicants also serve as bases for exchanges of information. The city correspondent's highly specialized organization, as well as its numerous contacts with banks large and small, provide it with unique credentials as a purveyor of wide-ranging expertise.

The importance of trading units expresses itself in two ways. First, smaller banks occasionally are confronted by valued customers who wish to negotiate larger loans than these banks can legally or prudently make to any single borrower. These same banks, when in need of funds or outlets for the employment of idle funds, often find that the size of trading units in organized markets preclude their participation. The first type of contingency is often solved with a loan participation, whereby the city correspondent shares in the oversize loans originated by correspondents. The second type of problem may be dealt with by providing loans in which smaller banks may participate. In addition, correspondents may lend or borrow, using federal funds or other instruments, or they may buy or sell various types of earning assets. In effect, the city correspondent "makes a market" in various types of debt instruments designed to serve the needs of smaller banks. Depending on the needs and tastes of participants, the city correspondent may act as dealer, broker, or both. The importance of such a relationship is more fully appreciated by recognizing that assets flowing among banks are at times those for which there are no organized secondary markets.

MISCELLANEOUS SERVICES

In addition to the services already discussed, correspondents provide a group of miscellaneous services, some of which are used infrequently but remain crucial to the efficient operation of smaller banks. Examples of such services include trust and international banking, and consultation on management problems. Personnel problems of smaller, remotely situated banks are often particularly difficult. Correspondents commonly serve as a clearing house for higher level job applicants and openings at such banks. In addition, some smaller banks participate in the group insurance and retirement programs of city correspondents.

City correspondents also facilitate the exchange of equity in smaller banks by bringing together prospective buyers and sellers and by financing the purchase of stock. An indication of the importance of correspondents in financing equity transfers is suggested by a recent study done under the auspices of the House Committee on Banking and Currency. A questionnaire addressed to 6,200 member banks in 1962 revealed that 2,166 loans made by these banks were secured with 10 per cent or more of the equity in other banks. The preponderant majority of these loans was made in areas with large concentrations of relatively small banks. For example, banks within the Tenth District had 470 loans outstanding that were secured by 10 per cent or more of the stock of banks within the Kansas City District. Assuming no duplication, the banks whose stock served as collateral constituted more than one fourth of all commercial banks in the area. The purposes for which these loans were made were not disclosed, but it seems reasonable to expect that the borrowers had a wide variety of purposes. On the other hand, there is no reason to doubt that the acquisition of bank equity was one reason for borrowing.

The general acceptability of bank stock as collateral for bank loans has meaning beyond

facilitating the transfer of equity. Since the market for the stock of small banks is not highly developed, owners may find it difficult to dispose of such assets on short notice without accepting sizable losses. So long as loans are readily available to those able to hypothecate bank stock, disposal of the stock on short notice becomes unnecessary. The ready availability of such loans may thus be viewed as enhancing the real rate of return on investments in bank stock.

Still other services commonly provided through correspondent relationships might be discussed in some detail. The provision of coin, electronic data processing services, and advice on building design and equipment are just a few. However, there is little point in trying to make this discussion exhaustive. The field is far too broad and simple enumeration of services conveys little insight.

AN INTERPRETATION OF CORRESPONDENT BANKING

The foregoing discussion suggested that the importance of correspondent banking results largely from economies of scale in the production of banking services. Since large banks can produce some types of bank output at lower cost than their smaller counterparts, the smaller bank can frequently purchase bank services at lower cost than it can produce them. Viewed in this way, interbank service flows become a type of "intermediate product," analogous to the semi-processed goods purchased by a manufacturer.

A measure of the importance of interbank service flows and a possible measure of economies of scale may be obtained by relating bank purchases of correspondent services to sales. Deriving such a measure is, however, complicated by a number of considerations. First, there are difficulties in measuring the volume of interbank service flows because payments for these services are made by explicit money transfers as well as by maintaining balances with the bank supplying services. The

balances represent a type of payment "in kind" in which the medium of exchange is a factor of production, an ingredient used by the receiving bank in the further production of output. Surprisingly, "in kind" payments are easily estimated, but explicit interbank money payments are not. This stems from the fact that interbank balances are shown in Reports of Condition, but interbank payments are not generally shown, as such, in Income and Dividend Reports. However, the inability to measure explicit interbank payments may not be a major problem since they are generally far less important than "in kind" payments.

A distinction must be made between Federal Reserve member and nonmember banks in the interpretation of their interbank balances. The correspondent bank receiving balances invests the funds, allowing for reserve requirements, and the earnings on such investments constitute the payment received from its respondent for services rendered. The *member* bank maintaining correspondent balances could alternatively withdraw these funds and purchase earning assets itself, thereby augmenting its income. Thus, interbank balances represent forgone income to the *member* bank maintaining them, as well as a source of income to the depository bank. These balances are maintained in consideration of services received and, provided respondents are profit conscious, the amount of income forgone by the member bank maintaining such balances should not tend to be greater than its estimate of the value of services provided by the depository bank.

In the case of nonmember banks, however, it is important to recognize that their correspondent balances may serve as legal reserves. A nonmember bank that is fully "loaned up"—without excess reserves—will not effectively have the option of withdrawing its correspondent balances for the purchase of earning assets. It is reasonable to assume that these deposits would be maintained even in the absence of services provided by the depository

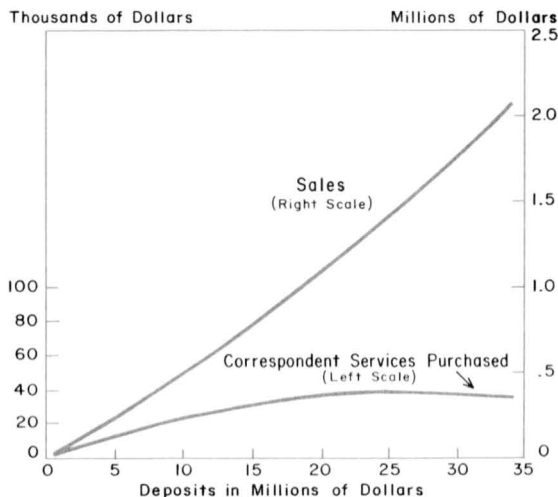
bank. Thus, the nonmember bank holding interbank balances for reserve purposes does not thereby sustain an opportunity cost in the same way as the member bank.¹ Of course, in choosing among possible depositories, the nonmember bank will attempt to select the bank making the most generous offer of correspondent services. However, there is no compelling reason to expect the value of these services to equal the forgone income, as measured by the member bank holding such balances, unless the sellers of bank services are in highly competitive markets.

If strong competition is absent, depository banks need not pay as much—in services—for the correspondent balances of nonmember banks as they would for the balances of member banks. Whether depository banks in fact pay more or less for these deposits is not known. However, it seems reasonable to assume that the earnings a member bank might have obtained by investing its interbank balances, again allowing for reserve requirements, may be used as a measure of the lower limit of the value of services the bank receives from correspondents. On the other hand, such an assumption does not appear warranted when applied to nonmember banks.

A second problem in deriving a measure of the relationship between sales and correspondent services purchased relates to the measurement of bank sales. The major difficulty encountered here relates to problems of asset valuation—the treatment of capital gains and losses. However, detailed discussion of this problem is beyond the scope of this article. Current operating revenue—mainly interest and service charge income—will be used as a measure of sales, while recognizing that the measure is not uniquely correct.

¹This argument is predicated on the assumption that the marginal return on vault cash is zero and that banks do not have the option of holding their reserves in the form of earning assets. In cases where these two assumptions are not satisfied, the distinction between member and nonmember banks can be weakened or nullified.

Chart 1
SALES AND CORRESPONDENT
SERVICES PURCHASED RELATED TO
TOTAL DEPOSITS



NOTE: The relationship between correspondent services purchased and total deposits was obtained in three steps. First, a statistical technique—least squares regression—was used to estimate the relationship between demand balances with correspondents and total deposits. The fitted equation—shown in Technical Note 2—was then multiplied by a constant—1 minus the legal reserve requirement against demand deposits for country member banks ($1.0 - 0.12 = 0.88$)—in order to transform the equation into a relationship between the investible portions of correspondent balances and deposit size. (Correspondent balances are treated as deductions from total demand deposits in the computation of required reserves.) The final step involved multiplying the resulting equation by a second constant—3.5 per cent—which was an assumed value for the rate of return on highly liquid bank investments. This multiplication further transformed the equation into a relationship between forgone income, or correspondent services purchased, and deposit size.

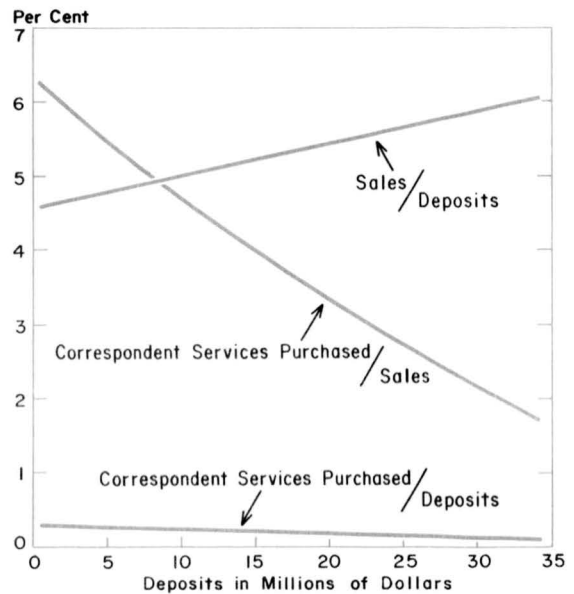
Chart 1 shows an estimated relationship between correspondent services purchased, or forgone income on interbank balances, and deposit size, for a sample of 602 country member banks in the Tenth Federal Reserve District. Banks in the sample ranged from approximately \$0.5 million to \$34.2 million in deposit size. The chart indicates that the smallest banks in the sample purchase about \$1,400 per year in correspondent services. This value increases at a diminishing rate as de-

posits grow, and reaches a maximum of \$38,500 for banks with deposits of \$26.8 million. Thereafter, forgone income falls as deposits rise and at \$34.2 million, the maximum deposit size in the sample, banks purchase approximately \$35,600 worth of correspondent services per year. The remaining line in Chart 1 depicts the estimated relationship between sales—current operating revenue—and deposit size. (See Technical Note 2.) Sales rise at an increasing rate as bank deposits grow. A bank with \$0.5 million in total deposits has estimated sales of \$22,900 per year and banks of maximum deposit size—\$34.2 million—show sales of \$2.07 million.

Chart 2, which is derived from the equations depicted in Chart 1, shows forgone income and sales as a per cent of deposits, and forgone income is also shown as a per cent of sales. The chart indicates that forgone income declines as a per cent of deposits as bank size increases. For the smallest banks in the sample, forgone income on correspondent balances, or correspondent services purchased, amounts to 0.29 per cent of total deposits and for the largest banks the value is 0.10 per cent. In contrast, sales, as a per cent of deposits, rise consistently with bank growth, from a low of 4.6 per cent to a high of 6.1 per cent.

The line marked “correspondent services purchased/sales” is a lower limit estimate of the per cent of sales which are intermediate product—the resold output of other producers—for banks of varying deposit size. The equation underlying the charted relationship was obtained by dividing the correspondent services purchased relationship of Chart 1 by the sales relationship also shown in Chart 1. The resulting equation indicates that correspondent services become less important relative to sales as deposit size of banks increases. However, the ratio of forgone income to sales falls at a declining rate—there is a tendency for the line to flatten out—as deposits grow. For the smallest banks in the sample, 6.2 per cent of

Chart 2
RELATIONSHIPS DERIVED FROM
EQUATIONS UNDERLYING CHART 1



sales are intermediate product in the form of correspondent services, but only 1.7 per cent of sales of the largest banks are accounted for by purchased correspondent services. This relationship provides tentative corroboration for the economies of scale explanation for the importance of correspondent banking. As banks become larger, they produce an ever greater percentage of their sales. The derived relationship is also significant in that it provides a measure of the quantitative importance of correspondent banking for small banks in a unit banking environment. On the other hand, it may be worth repeating that the measure of correspondent service flows covers only that portion of correspondent services which are paid for by the maintenance of interbank balances among the sample banks. In addition, the rate of return used in deriving the forgone income measure was selected somewhat arbitrarily, and the measure of sales is not entirely unambiguous. These shortcomings are, however, judged to be of relatively minor im-

portance, and the contour of the derived relationship appears quite plausible.

EXPLICIT SERVICE CHARGES VERSUS THE MAINTENANCE OF BALANCES

To this point, the question of why banks apparently prefer to receive and/or make payments for correspondent services in the form of interbank balances has not been considered. If explicit and implicit payments were equal, banks might be expected to be indifferent to the form of payment. However, payment in the form of balances is rather general in banking. Services provided the U. S. Treasury are paid for by maintaining tax and loan account balances, and state and local governments commonly use the same means to compensate commercial banks. The role of compensating balance requirements in connection with loans is also analogous to the part played by interbank balances in connection with correspondent relationships. Thus any explanation of implicit payments in correspondent banking may be expected to have wider relevance.

Any one or a combination of three explanations may account for the use of implicit payments in correspondent relationships. First, the legal prohibition of interest payment on demand deposits exerts an important influence. Since deposits represent a productive input to the individual bank, banks seek to purchase them. Prohibition of interest payments precludes effecting such transactions in the conventional manner—through money payments—and thus banks remunerate their suppliers with services.

A second explanation, suggested by bankers, relates to the importance of deposits, apart from the considerations of short-run profit maximization. Some bankers argue that given the choice between implicit and explicit payments in equal amount, they would prefer implicit payment because it fosters deposit growth. The importance of deposit growth stems from its conventional use as a measure

of management acumen. Its use as such may be rationalized by arguing that deposit growth provides a foundation for the future growth of earnings. Banks may even trade off current earnings to achieve a desirable rate of deposit growth, in which case the suppliers of deposits could benefit from the use of an implicit payment system. Correspondent services may be obtained at lower cost to the respondent than would be the case under a system of explicit payments. On the other hand, in the absence of the legal prohibition of interest payment on deposits, interest rates presumably would reflect the special value of deposits to banks.

A third reason for implicit payments may be found in bankers' preference for nonprice forms of competition. It has been argued that unbridled price competition imparts a destabilizing influence to the banking system, and thus has generally deleterious implications for the economy. Setting aside the question of the validity of such arguments, implicit payments can be explained by a general aversion to price competition. Although all three suggested explanations for implicit payments are potentially important, the first—the legal prohibition of interest payment on demand deposits—appears most compelling because of its obvious impact. The actual relevance of the other explanations is more open to question.

Consider the case of nonmember banks where the opportunity cost of maintaining interbank balances is zero, assuming such deposits are used to satisfy legal reserve requirements. If correspondents earn 4 per cent on such deposits, they will be able to provide services worth any amount between zero and 4 per cent of balances and both banks will find the relationship profitable. Assume, for the purpose of discussion, that the correspondent pays the respondent 2.5 per cent—in the form of services—on interbank balances. The respondent is thus earning 2.5 per cent on its legal reserves which, in effect, have no earning power in alternative uses. The cor-

respondent also finds this arrangement advantageous in that it profits to the extent of the spread between the earning power of the deposits—4 per cent—and the cost of providing correspondent services—2.5 per cent—to its respondent. In highly competitive markets the value of correspondent services would be expected to approximate 4 per cent on balances, while in other circumstances some intermediate value might be arrived at through negotiation. In any case, the value of correspondent services might be expected to remain meaningfully above the zero floor because smaller state banks have the alternative of membership in the Federal Reserve.

The situation of member banks is altered in detail, but remains essentially the same. The difference stems from the fact that interbank balances of member banks serve as secondary reserves and the opportunity cost of maintaining interbank balances thus approaches the yield on highly liquid earning assets, say 3.5 per cent. This means the member respondent must receive services worth in excess of 3.5 per cent on balances to make the correspondent relationship attractive, whereas any non-zero return may satisfy the nonmember respondent. On the other hand, in highly competitive markets all respondents will be offered approximately 4 per cent—the assumed value of such balances to city correspondents—and the member-nonmember distinction will be inconsequential. But if such circumstances do not prevail and correspondents are able to treat different customers differently, the member bank may be able to command a somewhat higher return on its interbank balances.

CONCLUSION

The discussion presented thus far has touched many bases, several of them somewhat technical. In concluding, a few broad generalizations may be useful.

Many students of banking structure have argued the advantages of branch banking by

alluding to economies of scale in the production of commercial bank services. Much of the foregoing discussion suggests that correspondent banking is a potentially effective means for circumventing these inherent disadvantages of small-size banking firms. To the extent that correspondent banking is an efficient system for the production and distribution of bank output, the advantages of branch banking attributable to economies of scale may be seriously weakened.

In serving commercial banks, correspondent banking mobilizes inter-area flows of capital, other factors of production, and information. It effectively integrates the banking system and in doing this it represents a cogent alternative to branch, group, or chain banking. On the other hand, there is reason to question the viability of unit banking in the absence of well-developed correspondent banking institutions.

TECHNICAL NOTES

1. The sample of banks employed in the regression equations consists of all (602) country member banks in the Kansas City Federal Reserve District with correspondent deposit liabilities of less than \$100,000. Earnings data were taken from individual bank Income and Dividend Reports for the year, 1963. Deposits data came from Reports of Condition for year end 1963.

2. The regression equations used in Chart 1 were as follows:

$$C = .2766 (10^{-3}) + .9342 (10^{-1}) D - .1744 (10^{-6}) D^2 \\ (.2483 (10^{-5})) (.6770 (10^{-2})) (.2875 (10^{-7})) \\ R^2 = .4423$$

$$E = .7678 (10^{-5}) + .4567 (10^{-1}) D + .4345 (10^{-7}) D^2 \\ (.4816 (10^{-2})) (.1313 (10^{-2})) (.5575 (10^{-6})) \\ R^2 = .9506$$

where C is demand balances with banks in the United States (excluding reciprocal balances), E is current operating revenue, and D is total deposits. R^2 is the coefficient of determination adjusted for degrees of freedom. Values in parentheses below the regression coefficients are standard errors of the coefficients. Neither intercept is significantly different from zero at the 10 per cent level. They were consequently assumed to be zero in plotting the equations in Charts 1 and 2.

3. The cubic form of deposits was tested as an explanatory variable but its coefficient was not significantly different from zero.

4. The relationship between C/E and D as shown in Chart 2 was derived from the two equations shown in note 2. C/E was also independently regressed upon deposits. The resultant equation was cubic in deposits. C/E fell at a falling rate and then at an increasing rate as deposits grew. This equation indicated C/E was slightly higher at low levels of D and slightly lower at high levels of D than is the case in Chart 2.