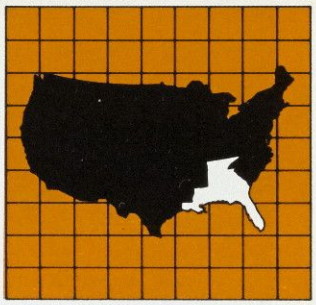
Economic Review



FEDERAL RESERVE BANK OF ATLANTA JUNE/JULY 1985

FOREIGN INVESTORS Seeking the South

BANKING Profitability Still Dropping

UPSTATE NY Small Banks Stand Tall

CURRENCY INDEXES A Guide to Strength

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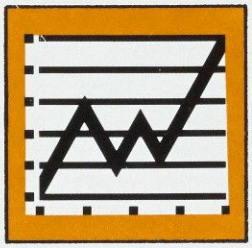

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Foreign Direct Investment—A Bonus for the Southeast

William J. Kahley

Welcoming foreign investors to the Southeast has provided a windfall for the region's economy. Foreign-owned firms, for example, have created new jobs in high-wage industries and accelerated industrial diversification into new sectors.

International economic transactions directly affect the employment and incomes of many southeasterners. These international activities have several major dimensions: foreign investment in regional business enterprises; extraction or production of mined, farmed, and manufactured products for sale abroad; movement of imports and exports through Sixth District ports; and the provision of a variety of other services, ranging from banking and insurance to international travel and tourism, engineering, and health and management services. The degree and nature of these transactions vary substantially from one type of activity to another both within the Southeast and interregionally.

Many Americans are unaware that such international activities wield a sizable and steadily growing impact upon the economic character of this region and the nation. To expand general awareness of foreign investment, this study attempts to answer a number of questions. How fast has foreign direct investment (FDI) grown and why? Why is the Southeast so attractive to foreign investors, and which states have been most successful at enticing foreign capital? Do FDI's benefits outweigh its economic and social costs? And what does foreign investment contribute to the national and regional economies?

Foreign investment represents one of the fastest-growing modes of international economic integration for both the nation and this region. Nationally, FDI in the United States (FDIUS) has surged for more than a decade now, far surpassing the overall expansion rate of the national economy or the growth of American investment in foreign countries. Between 1970 and year-end 1983, the stock of FDIUS increased tenfold, to $135 billion. Over that same period GNP increased two and one-half times and the stock of direct U.S. investment abroad tripled, rising to $226 billion. By contrast, both of the latter grew more rapidly than FDIUS in the 1960s.

Indicators show that FDI in the Southeast has spurted even faster than it has nationally. From a "bottom-line" business perspective, it appears that the region's above-average economic growth rate and abundant profit opportunities have attracted foreign investors, just as they have lured U.S. businesses. Moreover, the Southeast is likely to maintain its quicker pace of foreign ownership growth in the years ahead as it continues to enlarge its share of national production and becomes even more integrated with the world economy. These developments suggest the importance of assessing the magnitude and direction of foreign investment, including its impact on the Southeast's industrial structure,

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pattern of employment, and other economic concerns such as international flows of traded goods and of technological information and management techniques.

Another vital reason for analyzing the impact of FDI from a regional perspective is to determine whether state economic development policies should seek out such investment actively. For more than a decade, southern states have pursued foreign investors aggressively and, according to press accounts and data, have been largely successful in their efforts. This article will attempt to provide additional information about the benefits of these state development activities.

What Is Foreign Direct Investment?

Foreign direct investment in the United States refers to the ownership or control, directly or indirectly, of a U.S. establishment by a foreign individual, partnership, group, or organization. An American business establishment under such control is called a U.S. affiliate, and the foreigner's investment is said to be "direct." Other foreign investment in a U.S. enterprise, such as the purchase of its stocks or bonds by investors seeking to diversify their assets rather than exercise an effective management role, is called portfolio investment. (The terms FDI and foreign investment are used interchangeably in the rest of this article unless noted otherwise.)

Direct investment can occur in a variety of ways. One is creation of a wholly-owned new enterprise such as Nissan's $750 million auto-truck assembly plant in Tennessee. Another form is expansion of an existing foreign-owned plant, for example, YKK's current $100 million enlargement of its zipper facility in Georgia. A third avenue of foreign direct investment is the takeover of an enterprise, such as the 1984 purchase of Atlanta-based Scripto, Inc, by Japan's Tokai Seiki Company, or the acquisition of 10 percent or more of a company's stock.[1] Finally, foreign investors may collaborate either among themselves or with a U.S. company in a joint venture, sharing the costs and profits from, say, a petrochemical project in Louisiana. (Scripto was a U.S.-United Kingdom joint venture operation prior to the Japanese acquisition.)

The form that foreign investment takes can make a difference in terms of its impact. For example, if a merger or acquisition merely involves the purchase of existing assets, such as an operational manufacturing plant already equipped with machinery and workers, the transfer of ownership may generate very few or no new jobs initially. (Of course, a firm acquired by foreigners then may grow faster and add more workers over the longer haul than would have occurred otherwise.) By contrast, capital inflows to build and equip new plants generate new jobs immediately.

Historically, most actual foreign investment, including acquisitions, has increased the amount of resources in the U.S., among them capital, managerial expertise, and perhaps technology as well. The capital flow associated with foreign investment typically comes from an infusion of equity capital from abroad, increased equity from retained earnings on U.S. assets already owned, or from foreign-parent lending to the U.S. affiliate. The other resource flows result from the foreign parent's directing and controlling the affiliate's business policies.

Reasons for Foreign Investment

Over the years, numerous reasons have been cited to explain the accelerating pace of foreign investment in the U.S. The popular press and official U.S. sources suggest that a relative rise in the wealth of foreigners and their large companies has increased their ability to invest in this country. Moreover, the Department of Commerce maintains that the attractiveness of investing in the United States has been enhanced by a number of developments: (1) more widespread recognition among foreign companies of the size of the U.S. market and an advancing perception of the United States as an economic and political safe haven; (2) growing numbers of large foreign multinational corporations whose experience contending with U.S. companies abroad convinced them that they could compete successfully in the U.S. domestic market; (3) a narrowing spread between American and foreign production costs, making production here relatively more attractive than exporting to the United States; (4) concern about increasing U.S. protectionism, and a feeling that investment in this country offers an effective way to hurdle trade barriers; and (5) the wooing of foreign investors by state development agencies, particularly in the South.[2]

These and other factors may help to explain the rapid growth of foreign investment, but they fail to tell the whole story. Naturally, foreign investment is expected to improve a firm's profit.

A fairly strong body of theory supported by extensive empirical research suggests that one or more of a variety of "market imperfections" must exist in order for FDI to be profitable. Briefly, the theoretical logic is that a foreign company will produce here only if it possesses some advantage that more than offsets the difference between its necessarily higher transportation and communications costs and those of U.S.-based companies. Otherwise, the firm would earn higher profits by producing in its home country and exporting to the United States or by licensing its product to an American firm in exchange for royalties.[3]

Of course, in the real world many kinds of market imperfections exist for a great range of goods and resources. For example, numerous firms own patents on products or have established brand identifications that make their product special to its buyers. And companies possess a unique or unusual technical advantage in producing or marketing particular goods. An administrative ability to exploit potential cost advantages by producing on a large scale for a big market also might prompt a foreign company to produce in the United States. Onerous government-imposed restrictions on output, market entry, or product, safety, and production standards similarly can encourage a firm to shift production from one country to another. Several analysts have even argued that much foreign investment has come to our shores in search of new technology or proximity to the innovative and creatiave atmosphere here rather than to exploit their specialized knowledge, technology, or some other economic advantage.[4]

Profile of Foreign Investment Activity

Employment is one of the broadest measures of the activity and importance of foreign-controlled affiliates. In 1982, the most recent year for which data are available, foreign investment in U.S. manufacturing and nonmanufacturing affiliates (excluding banks) amounted to 2.4 million jobs directly—roughly two-thirds as many as all construction employment in the nation. Multi-establishment affiliates, with 98 percent of all foreign affiliate jobs, accounted for 5.6 percent of total multi-establishment employment in the country. According to the Department of Commerce, foreign affiliate employment in the Southeast accounted for 300,000 jobs in 1982. The region's 12 percent share of U.S. foreign affiliate employment was roughly the same as its share of total U.S. employment. Foreign affiliate employment in the Southeast was three-fourths the magnitude of regional employment in the textile and apparel industries, with multi-establishment affiliates accounting for 5.4 percent of all multi-establishment employment in the region.

Within the Southeast, defined in this article as the states in the Sixth Federal Reserve District, the employment shares accounted for by foreign-owned multi-establishment affiliates were largest in Georgia and Louisiana, with 6.9 percent of employment in both states. Tennessee followed close behind with 6.5 percent, while comparable 1982 employment shares were 3.5 percent in Alabama, 4.4 percent in Florida, and 3.3 percent in Mississippi.[5]

Industrial Composition of Employment

The industrial distribution of foreign affiliate employment in the nation and the Southeast in 1982 was remarkably similar, with manufacturing accounting for half of all affiliate employment for both areas (Table 1). Moreover, the industrial mix within manufacturing was surprisingly alike, although available data provide only limited industrial detail. Similarities in the regional and national mix of affiliate employment extended even to some nonmanufacturing industries.

In both the region and the nation, foreign affiliates' share of manufacturing employment was double manufacturing's share of total unemployment. Within manufacturing, employment in the chemicals and allied products industry showed an extremely large disparity. Foreign chemical affiliates accounted for 16 percent and 13 percent, respectively, of all foreign-generated employment in the nation and region; however, the chemical industry's share of total employment was only 1.2 percent and 1.6 percent, nationally and regionally.

On the basis of "concentration ratios"—industrial employment shares for the region divided by comparable shares for the nation—the Southeast's primary and fabricated metals, retail trade, insurance, and real estate industries appear relatively attractive to foreigners. Regional metal affiliates, which accounted for an employment share nearly 50 percent higher than metals' share of affiliate employment nationally in 1982, tend to concentrate in Georgia, Mississippi, and especially Tennessee. A variety of establishments in these states produce, roll, or cast basic steel and aluminum products or fabricate a variety of

Table 1. Affiliate Employment by Industry, 1982*

	Southeast		United States			
	Employees	Share of Total (in percent)	Employees	Share of Total (in percent)	Southeast Share of U.S.	Southeast Concentration Ratio
Mining	848	.2	38,927	1.6	2.2	.12
Petroleum	13,800	4.6	122,865	5.0	11.2	.92
Manufacturing	150,794	50.8	1,238,884	50.9	12.2	.99
Food	12,915	4.4	125,822	5.2	10.3	.85
Chemicals	39,108	13.2	390,088	16.0	10.0	.83
Metals	18,632	6.3	103,807	4.3	17.9	1.46
Machinery	32,905	11.1	286,266	11.8	11.5	.94
Other	41,047	13.8	332,901	13.7	12.3	1.01
Wholesale Trade	28,368	9.6	279,602	11.5	10.1	.83
Retail Trade	57,433	19.4	389,992	16.0	14.7	1.21
Finance, except Banks	515	.2	24,607	1.0	2.1	.20
Insurance	11,136	3.8	70,640	2.9	15.8	1.31
Real Estate	3,966	1.3	25,152	1.0	15.8	1.30
Other	29,896	10.1	244,474	10.0	12.2	1.01
Total	296,756	100.0	2,435,143	100.0	12.2	—

*Components do not add to totals because some detailed data are not published to prevent disclosure of information on individual firms. The effect of data suppression may be to lower the calculated shares for the Southeast in a few instances.

Source: U.S. Bureau of Economic Analysis, *Foreign Direct Investment in the United States: Annual Survey Results*, 1982.

metal and wire products for industrial or consumer use. Affiliates of Canada's Alcan Aluminum Ltd. operate in all three states and several other affiliates of foreign companies can be found in these and other regional states.

The Southeast's high concentration in retail trade has resulted principally from foreigners' investments in Florida, Georgia, and Louisiana. A few examples of foreign-owned retail establishments are the Hardee's restaurants and Saks Fifth Avenue department stores. In insurance, the high concentration is attributable largely to foreign ownership of Life of Georgia, while Florida accounts for the region's above-average share of real estate employment compared with the rest of the country.

Several concentrations of affiliate industrial employment in individual regional states are consistent with their well-known industrial specialties. For example, Louisiana has a high ratio in the petroleum extraction and refining industries while Alabama and Tennessee have high ratios in manufacturing. Within manufacturing, Mississippi has a concentration of foreign ownership in food and kindred products, Louisiana and Tennessee in chemicals, and Florida and Tennessee in machinery.

The Southeast has fared at least as well as the nation in attracting foreign investment in "other manufacturing." This category includes several regional specialities such as textiles and apparel, lumber and furniture products, and paper and allied products, all industries that have attracted sizable foreign investment. Similarly, "other nonmanufacturing" industries encompass agriculture, forestry, fishing, and other activities that also are substantial in the region.

Many of the world's largest non-U.S. multinational manufacturing companies are heavily represented by affiliates in the Southeast: Royal Dutch Shell and British Petroleum (petroleum), Hoechst, BASF, Ciba-Geigy, and Flick (chemicals), Brascan (forest products), Certain Teed (building materials), Alcan Aluminum (metals), Northern Telecom (telecommunications), Michelin and Dunlop (rubber), and Siemens (electrical equipment). Japanese industrial giants such as Mitsui, Mitsubishi, Hitachi, Nissan, and Sony also have a pronounced presence in the Southeast.

Foreign Land Ownership

Foreign land holdings in the region are extensive. In 1982, foreigners owned 2.8 million acres of land in the Southeast. This amounted to 20 percent of all foreign land ownership in the nation, or two and one-half times the region's share of the nation's total land area (Table 2). Despite the heavy concentration of foreign ownership in the region, less than 2 percent of its privately owned agricultural land was held by foreigners; for the nation, the figure was merely one percent. Foreigners also owned or leased 5.8 million acres of mineral rights in 1982, or 7.8 percent of the national total.

Georgia leads the region in foreign land ownership (772,000 acres), trailed by Alabama (619,000 acres). Foreign land holdings in these states accounted for half of foreigners' total holdings in the region in 1982. They also ranked high nationally, Georgia being fourth and Alabama fifth behind Maine (2.6 million acres), Texas (1.1 million acres), and California (900,000 acres) in land owned by foreigners. Louisiana and Mississippi, with valuable energy resources, are the only regional states that ranked among the top half in mineral rights owned or leased by foreigners.

To prevent disclosure of information on individual firms, detailed data are not published. Thus we cannot catalogue the exact industrial uses of these land and mineral rights holdings.

Table 2. Land Owned and Mineral Rights Leased or Owned by Foreigners, 1982
(thousands of acres)

	Acres of Land Owned	Acres of Mineral Rights Leased or Owned
Alabama	619	948
Florida	535	714
Georgia	772	86
Louisiana	193	1,646
Mississippi	303	1,420
Tennessee	405	992
Sixth District	2,827	5,806
United States	14,164	73,951

Source: U.S. Bureau of Economic Analysis, *Foreign Direct Investment in the United States: Annual Survey Results*, 1982.

Table 3. Foreign Affiliate Gross Book Value of Property and Plant, by Industry, 1982*
($ millions)

	Southeast Gross Book Value	Southeast Share of Total	United States Gross Book Value	United States Share of Total	Southeast Share of U.S.	Southeast Concentration Ratio
Mining	167	.5	11,748	5.3	1.4	.09
Petroleum	5,214	17.2	57,680	25.8	9.0	.67
Manufacturing	14,179	46.7	84,376	37.8	16.8	1.24
Food	443	1.5	4,421	2.0	10.0	.75
Chemicals	6,655	21.9	42,638	19.1	15.6	1.15
Metals	1,406	4.6	8,035	3.6	17.5	1.28
Machinery	1,022	3.4	10,242	4.6	10.0	.74
Other	2,292	7.5	19,040	8.5	12.0	.88
Wholesale Trade	2,286	7.5	13,460	6.0	17.0	1.25
Retail Trade	1,391	4.6	7,698	3.4	18.1	1.35
Finance, except Banks	73	.2	1,130	.5	6.5	.40
Insurance	231	.8	1,884	.8	12.3	1.00
Real Estate	5,302	17.4	32,841	14.7	16.1	1.18
Other	1,545	5.1	12,448	5.6	12.4	.91
Total	30,388	100.0	223,265	100.0	13.6	—

*Components do not add to totals because some detailed data are not published to prevent disclosure of information on individual firms. The effect of data suppression may be to lower the calculated shares for the Southeast in a few instances.

Source: U.S. Bureau of Economic Analysis, *Foreign Direct Investment in the United States: Annual Survey Results*, 1982.

However, they include extensive foreign ownership of timberland and farmland tracts throughout the region; oil, gas, and coal rights in energy-producing states; and ownership of mineral rights to locally important mineral deposits, such as phosphates in Florida.

Value of Foreign Investments

The broadest yardstick of the relative importance of foreign investment in different industries is their dollar value, arrived at by using the measuring rod of money prices. Because industries differ in

Table 4. Foreign Affiliate Employment and Investment, by Country, 1982*

	Employment					
	Southeast		United States		Southeast Share of U.S.	Southeast Concentration Ratio
	Number	Share of Total	Number	Share of Total		
Canada	51,802	17.5	457,989	18.8	11.3	.93
Total Europe	208,469	70.4	1,626,478	66.8	12.8	1.05
France	26,344	8.9	191,428	7.9	13.8	1.13
Germany	34,008	11.5	350,987	14.4	9.7	.80
Netherlands	42,622	14.4	222,974	9.2	19.1	1.57
United Kingdom	62,917	21.2	535,855	22.0	11.7	.96
Switzerland	21,402	7.2	173,232	7.1	12.4	1.01
Japan	12,446	4.2	138,935	5.7	9.0	.74
Australia, New Zealand	5,667	1.9	52,269	2.1	10.8	.90
Latin America	9,312	3.1	79,656	3.3	11.7	.94
Middle East	3,990	1.3	28,923	1.2	13.8	1.08
Africa	877	.3	16,425	.7	5.4	.43
All Countries	296,296	100.0	2,435,143	100.0	12.2	—

	Property, Plant, and Equipment ($ millions)					
	Southeast		United States		Southeast Share of U.S.	Southeast Concentration Ratio
	Amount	Share of Total	Amount	Share of Total		
Canada	6,910	22.8	57,040	25.5	12.1	.89
Total Europe	19,290	63.7	136,293	61.0	14.2	1.04
France	1,906	6.3	15,005	6.7	12.7	.94
Germany	3,524	11.6	19,913	8.9	17.7	1.30
Netherlands	3,509	11.6	38,951	17.4	9.0	.67
United Kingdom	3,615	11.9	42,127	18.9	8.6	.63
Switzerland	1,778	5.9	9,262	4.1	19.2	1.44
Japan	944	3.1	8,664	3.9	10.9	.79
Australia, New Zealand	588	1.9	3,786	1.7	15.5	1.12
Latin America	1,490	4.9	7,186	3.2	20.7	1.53
Middle East	621	2.0	7,069	3.2	8.8	.63
Africa	263	.9	2,061	.9	12.8	1.00
All Countries	30,297	100.0	223,265	100.0	20.0	—

*Components do not add to totals because some detailed data are not published to prevent disclosure of information on individual firms. The effect of data suppression may be to lower the calculated shares for the Southeast in a few instances.

Source: U.S. Bureau of Economic Analysis, *Foreign Direct Investment in the United States: Annual Survey Results*, 1982.

the mix of resources used in production, the industrial distribution of foreign investment by value of property, plant, and equipment can vary significantly from that of employment. For example, petroleum extraction and refining demands an enormous amount of capital per worker employed compared with the amount of property, plant, and equipment per retail trade worker.

Assuming that the distribution of foreign direct investment is similar to the industrial distribution of gross book values of property, plant, and equipment, we can suspect that heavy investment has occurred in the Southeast's petroleum-related industries and real estate structures (Table 3). As expected, these industries' shares of investment far exceeded their shares of employment in 1982, as was the case for the chemical industry. By contrast, retail trade and insurance accounted for much smaller shares of investment than of employment. Compared with the nation, the Southeast has captured an above-average concentration of investment in wholesale and retail trade, chemicals, metals, overall manufacturing, and real estate.

Nationality of Foreign Investment

Affiliates of European parents made up the bulk of both employment and foreign investment in the Southeast in 1982, with 70 percent and 64 percent, respectively (Table 4). These countries' firms also accounted for the lion's share of affiliate employment and investment nationally, with 67 percent and 61 percent. The higher European shares at the regional level indicate that European investors slightly favored southeastern states. Investments by Dutch and French companies accounted for the most jobs in the region compared with jobs associated with their investment nationally. However, in terms of the dollar value of investment for property, plant, and equipment, German and Swiss investment shares were the largest in the Southeast when weighed against equivalent investment shares for the nation as a whole.

These differences in southeastern employment and investment concentrations from country to country relate to the industrial composition of the various European investments. For example, the capital-intensive chemicals industry has attracted substantial investment by German (BASF, Flick, and Hoechst) and Swiss (Ciba-Geigy) firms. By contrast, Dutch investors in the region have concentrated in nonmanufacturing industries, such as the Life of Georgia insurance company, or in oil and gas leases and real estate outside the region.

Canadian parents generated considerable activity in the Southeast and the nation in 1982. The respective shares of Canadian affiliate employment in the nation and region were 18.8 percent and 17.5 percent while comparable shares of investment were 25.5 percent and 22.8 percent. Canada's 23 percent share of investment in the region was nearly twice that of any other country. Its employment, however, fell short of the United Kingdom's 21 percent share, a level attributable in part to the latter's relatively high share of regional affiliate employment in retail trade. Although Canandian firms' investment in the Southeast is highly visible, it is not exceptional compared to Canadian investment in other U.S. regions.

Of course, some major differences existed among regional states in the country of origin concentrations of foreign investment. In Alabama, affiliates of Dutch and United Kingdom investors claimed high shares of investment and employment compared with their shares nationally, while French and Latin American investment and affiliate employment were relatively high in Florida. Canada accounted for a notable concentration of investment in Tennessee.

Patterns of Foreign Investment Growth and Change

The preceding discussion provides a fairly detailed view of the magnitude and composition of foreign investment in 1982. However, comprehensive information is available only for the 1980-82 period. Thus, we cannot quantify over time detailed changes in the industrial structure of foreign investment in the region and nation. Fortunately, other data are available that permit us to calculate changes in broad measures of activity and assess some important impacts of foreign investment.

Multi-establishment data from the Bureau of the Census show that the growth of foreign-affiliate jobs far outpaced comparable gains for domestically-owned firms in both the nation and the region in the 1975-82 period (Table 5). Moreover, all these magnitudes have increased faster regionally than nationally, causing the Southeast to command a larger share of national

Table 5. Employment and Payroll of Domestic and Foreign-Owned U.S. Firms, 1975 and 1982

	1975		1982		Percent Change 1975-1982		Southeast Share of U.S. (percent)	
	Southeast	U.S.	Southeast	U.S.	S.E.	U.S.	1975	1982
Employment								
All	3,688,430	33,566,366	5,157,571	42,115,164	39.8	25.5	11.0	12.2
Foreign	70,359	783,619	279,084	2,377,350	297	203	9.0	11.7
(percent)	(1.9)	(2.3)	(5.4)	(5.6)	—	—	—	—
Manufacturing	N.A.	14,020,174	N.A.	14,606,777	—	4	—	—
Foreign	42,828	410,255	127,110	1,109,339	197	170	10.4	11.5
(percent)	—	(2.9)	—	(7.6)	—	—	—	—
Nonmanufacturing	N.A.	19,546,192	N.A.	27,508,387	—	41	—	—
Foreign	27,531	373,364	151,974	1,268,011	452	240	7.4	12.0
(percent)	—	(1.9)	—	(4.6)	—	—	—	—
Average Payroll								
All	9.9	11.2	16.0	18.2	62	62	88	88
Foreign	11.4	11.8	17.9	20.1	56	70	97	89
(percent)	(115)	(105)	(112)	(110)	—	—	—	—
Manufacturing	N.A.	12.5	N.A.	21.2	—	70	—	—
Foreign	11.4	12.4	19.8	22.1	74	78	90	90
(percent)	—	(101)	—	(96)	—	—	—	—
Nonmanufacturing	N.A.	10.2	N.A.	10.9	—	7	—	—
Foreign	11.4	11.1	16.3	18.4	43	66	103	88
(percent)	—	(92)	—	(59)	—	—	—	—

N.A. - Data not available.

Source: U.S. Bureau of the Census, *Selected Characteristics of Foreign-Owned U.S. Firms*, 1975 and 1982.

totals in 1982 than in 1975. The extremely rapid expansion of foreign-affiliate employment in the region has even allowed the Southeast's share of employment attributable to foreign-owned firms to catch up with the comparable national share that was rising sharply in the 1975-1982 period.

Apparently, the region's rapidly expanding economic base is becoming more diversified because foreign investment and foreign investors strongly favor the Southeast over other parts of the country. We noted earlier that manufacturing affiliates accounted for half of the region's employment in foreign affiliates in 1982 but the affiliate manufacturing employment was not concentrated in the Southeast relative to the rest of the nation. The multi-establishment Census data support those earlier conclusions as well. In addition, they show that affiliate nonmanufacturing employment (and the number of establishments) in the region has enlarged its share of affiliate employment relative to the share of nonmanufacturing employment nationally. As a consequence, the concentration of affiliate manufacturing employment has lessened regionally even though its growth in the region (197 percent) exceeded such growth nationally (170 percent) in the 1975-82 period. (Nonmanufacturing affiliate employment growth in the Southeast was 452 percent versus 240 percent for the nation over that period.)

The Census Bureau data also can be used to study changes in average foreign affiliate- and domestically-owned establishment payrolls for regional states and the nation since 1975. According to this source, average payrolls (total compensation per employee) for both U.S. and

Table 6. Foreign Investment Growth Percentages, 1974-1980

	Agriculture and Forestry	Natural Resources	Commercial and Residential	Manufacturing	Total
Alabama	D	192	D	320	187
Florida	797	D	462	426	390
Georgia	D	D	532	334	426
Louisiana	356	D	D	150	136
Mississippi	D	252	D	420	195
Tennessee	D	D	459	139	200
Southeast	D	D	D	217	224
United States	532	149	132	136	181

D - Indicates that the data have been suppressed to avoid disclosure of individual company data.

Source: U.S. Bureau of Economic Analysis, *Foreign Direct Investment in the United States*, 1974 and 1980.

southeastern foreign affiliates surpassed those for domestically-owned firms in 1975 and 1982. In 1982, southeastern and U.S. affiliates' average payrolls were $17,900 and $20,100, respectively, while respective average overall payrolls were $16,000 and $18,200 (Table 5). Thus, it appears that foreign-owned firms employ workers at higher paying jobs or in higher-wage industries than the all-industry average.

Possibly, the high average payroll for affiliates is linked to the concentration of foreign investment in manufacturing industries, whose capital per worker and worker compensation outstrip nonmanufacturing industries'. During the 1975-82 period, when the region's employment concentration in manufacturing was eroding, the average payroll for a southeastern affiliate dropped from 115 percent to 112 percent of the overall average regional payroll while the nation's average payroll for affiliates increased from 105 percent to 110 percent of the national average. In addition, the region's shift toward concentration in nonmanufacturing industries was accompanied by an apparent move toward lower paying nonmanufacturing jobs relative to the nation. The average nonmanufacturing payroll in the Southeast was above the comparable average for the nation in 1975 but markedly below it in 1982.

Benchmark survey data on foreign direct investment collected by the Commerce Department for 1974 and 1980 provide some information concerning the value of investment in the region. As measured by the gross book value of property, plant, and equipment, investment in both southeastern manufacturing and nonmanufacturing affiliates increased faster than in comparable affiliates nationally. As a result, the region's share of the national total gross book value of manufacturing affiliates rose from 13.2 percent in 1974 to 17.8 percent in 1980 and its share of all foreign-affiliated businesses increased from 12.9 percent in 1974 to 14.9 percent in 1980.

As of 1980, nearly one-third of the total invested in the region by foreigners was in Louisiana, primarily in the petrochemical industry. Florida (23 percent) and Georgia (18 percent) also accounted for large shares. The bulk of the investment in Florida was in commercial and residential structures; in Georgia, investment was scattered across a broad spectrum of activities. Among the six regional states, foreign investment grew fastest in these two states over the 1974-80 period (Table 6).

Foreign Investors' Site Selection

How do foreign investors decide where to locate in the U.S.? Researchers tend to agree that such locational decisions are highly complex, with several factors often influencing the investor's choice. Apparently, the decisionmaking process is frequently subjective, involving the weighting of influences whose importance varies with the investors' nationality, corporate culture, experience, and concerns.[6] Despite the dearth of hard and fast indicators concerning site selection,

Table 7. State Perspective on Benefits and Costs of Foreign Investment

Benefits

- Expanded employment
- More high-wage industries
- Capital inflow, increased economic activity and household incomes
- Increased tax revenues
- Integration of state with national and international economy, providing countercyclical economic benefits
- Industrial diversification into new sectors
- Geographic dispersal of industry
- Increased exports and hence a larger multiplier effect
- Strengthening of weak/small businesses
- Product and process innovation and links to international R&D
- Promotion of new services and support industries
- National and international market orientation
- New labor skills
- New employment and management practices—higher productivity and morale
- Improved orientation of local firms with enhanced competitiveness and ability to export
- Greater social and cultural diversity

Costs

- Training
- Promotion
- Capital and dividend remittances
- Inflationary effect on price of land, labor, and capital
- Demands on utilities, infrastructure, and environment
- More complex regulatory systems required
- Destabilizing dependence on international economic conditions.
- Greater reliance on outside suppliers
- Concentration of economic power in larger units
- Competitive effect on local U.S. firms in same industry that may result in reduced activity or closure
- Reliance on foreign R&D
- Management decisions taken outside of local company
- Anti-union attitudes of some foreign investors
- Loss of community feeling and identification and hence less support for local institutions and social goals
- Loss of community political influence and hence outside federal or other support
- Acquisition of existing businesses

Source: C.L. Suzman, ed., *The Costs and Benefits of Foreign Investment from a State Perspective* (Washington, D.C.: U.S. Department of Commerce, Office of Trade and Investment Analysis, 1982), p. 28.

researchers generally cite several plausible factors as components of the "location equation." These include many of the same factors used in attempting to explain the site decisions of new or expanding domestic U.S. businesses. Among them are such basic considerations as differential costs of producing goods (costs of energy, materials, and labor) and of moving them to markets (availability and costs of air, land, and water networks), as well as business environment factors (tax and subsidy policy differences among areas) and lifestyle factors (cultural and educational amenities, climate, and recreational facilities).[7]

Indirect evidence that these factors play some role in locational decisions comes from both sides of the market for foreign investment. For example, newspaper articles dealing with reasons foreign investors cited for choosing a particular locale often quote sources as describing an area as a "good distribution point," a "very livable place," a "fast-growing market" or remarking that "its residents are willing to work." Moreover, visiting foreign trade delegations typically query development officials or others about such factors as local resource costs and financial incentives (tax breaks). They also want to know about transportation connections and the attitudes of

politicians and the business community toward long-term investments. On the other side of the market, development officials who sell their state or locality as the best site for the investment usually point to advantages they possess in these same areas.

Impact of Foreign Direct Investment

One obvious question relating to foreign investment is whether public policy, national or local, should actively encourage (or discourage) it, or whether a laissez-faire approach is more appropriate. Naturally, in addressing this issue relevant benefits and costs must be weighed. National U.S. policy generally has maintained that direct investment should be free to respond to market forces while most states' policies have encouraged such investment by subsidies and other means.[8] On balance, certain foreign direct investments in the United States are prohibited (for example, in some defense-related industries), others are encouraged (recently states battled to secure foreign auto producers' plants by using tax breaks), while others are left to the working of the marketplace.

Gauging the impact of FDI involves assessing many factors, some of which offset others. Moreover, it often is difficult to assess what might have happened without FDI. Despite these measurement problems, many national officials believe that foreign investment brings in new capital, technology, and management that contribute to higher productivity, production, and economic growth, enhancing American living standards.[9] In other words, they hold that foreign investment's benefits to the United States outweigh its costs.

Assessing the net impact of FDI on state economies may be even more daunting. Some of the benefits and costs that would have to be compared are shown in Table 7. Unfortunately, even less information is available to measure many of these factors at the state level than is available nationally. All the same, researchers who compiled this list for the Office of Trade and Investment Analysis concurred that the "benefits of increased economic activity outweigh the economic and social costs that may arise."

Information is available on the amounts state governments in the Southeast spend to lure foreign investment through overseas offices, investment missions, seminars, assistance in site selection, and the extension of financial, tax, and other incentives. Yet because several public agencies often are involved, none can provide an overall total. In addition, a particular agency may not separate amounts spent to encourage foreign investment from outlays to spur exports from the state or even from money used to further industrial development by attracting domestic investment.[10]

Nonetheless, state officials clearly seem to believe they gain from foreign investment since more of them are promoting it.[11] Officials apparently are confident that the costs of attracting outside capital are outweighed by the new jobs, income, and taxes the investment creates—and they probably are right.

Among the benefits of FDI, we have remarked that the Southeast's growing share of foreign investment has opened up new job opportunities for some workers at higher wages. In addition, the composition of employment by foreign affiliates in the region is becoming more diversified, with manufacturing's share declining and nonmanufacturing's increasing.

The regional job gains accompanying foreign investment also have helped temper—albeit slightly, because of its small share of total employment—the adverse impact of the 1981-82 economic recession on the southeastern economy. Nonfarm employment declined by 110,300 regionally in 1982 (.1 percent) while the comparable decline nationally was 1.5 million (1.7 percent). By contrast, foreign-affiliate employment rose by over 4,500 (1.5 percent) in the region in 1982; nationally, the increase in affiliate employment was about 18,600 (.8 percent) above the previous year.

Of course, not all jobs gained from foreign investment have been net new positions. For example, a few years ago Bridgestone, Japan's largest tiremaker, bought a Tennessee Firestone plant whose employment had fallen from 1,400 to 800. However, Bridgestone seems to have put the plant back on a profitable footing: it now employs 1,100 workers and hopes to expand to 3,000 in the future, according to a recent newspaper report.[12] Certainly, we cannot determine how many jobs have been added, or saved from eventual elimination, by all foreign investments in the region, but clearly there have been many success stories.

The recent report on Tennessee provides anecdotal information about two other benefits from foreign investment—infusions of new technology and management. Nissan claims that its Smyrna,

Tennessee assembly plant will "compete on technology and management." Toshiba's appliance assembly plant in Lebanon, Tennessee, does things "the Japanese way, including the inventory system, which puts pressure on parts vendors to meet specific delivery dates." Presumably, other instances can be found where foreign investors in the region have brought managerial expertise and new technology to their freshly built or acquired plants.

Foreign investment's employment impact may depend upon the specific type of foreign investment and the size distribution of affiliates. For instance, the number of net new jobs created generally will be larger for a new plant than for an acquisition; consequently, state development officials most ardently encourage opening of a new manufacturing facility.[13] In addition, some evidence indicates that more job growth per investment dollar is generated by small new businesses than by large existing firms.[14] These considerations suggest that foreign investment in the Southeast has been especially beneficial compared with counterpart investment elsewhere in the country. International Trade Administration data for the 1981-83 period show that the share of foreign investment in the region due to acquisitions and mergers (as measured by the number of transactions rather than the dollar amounts) was 11.6 percent as opposed to 24.7 percent for the nation.[15]

Foreign affiliates in the Southeast also tend to be smaller than those across the nation. In 1982, at the national level 7.4 percent of affiliates employed over 1,000 employees, while southeastern states ranged from zero (Mississippi) to 2.5 percent (Georgia), according to Commerce Department data. Furthermore, the shares of affiliates that employed five or fewer employees in regional states ranged from 44 percent to 50.2 percent compared with 17.6 percent for the nation. If small firms generate more jobs than do larger ones, then it appears that southeastern states stand to experience above-average affiliate employment growth.

By definition, foreign investment increases international linkages between the nation (or region) and the rest of the world. It is beyond the scope of this study to quantify the balance of payments ramifications of the growing foreign ownership of U.S. businesses. However, available data confirm that U.S. manufacturing affiliates export a greater share of their production than do manufacturing industries in general. Based on data for 1981, U.S. affiliates exported 9.7 percent of total shipments as opposed to 8.1 percent for all U.S. manufacturers.[16] Of course, such affiliate firms also may import more relative to other U.S. businesses, and so their net impact on the nation's trade balance is unknown. (Commerce Department data show that manufacturing affiliates exported more than they imported in 1981 and 1982 while all affiliates imported more than they exported.)

Even though we cannot determine the full impact of affiliate firms on the U.S. balance of payments, if free trade arguments are valid, it is likely that world income is growing faster from the trade linkage being forged by affiliate activity. Those arguments tell us the world economy gains from allowing capital resources to move to where they can be employed most productively. The majority of industries are not "perfectly competitive." But when foreign firms invest here to exploit or acquire an economic advantage, capital productivity is enhanced, technical know-how spreads, and management ability may improve. As a consequence, world income growth accelerates.

Current Trends and Future Prospects

During the past several years, the media have focused increasingly on the growth of foreign investment in the Southeast. Available data suggest that the region deserves that attention, for FDI has benefited it significantly in the form of new jobs, capital investment, and foreigners' growing awareness that the Southeast is a favorable place to do business. Moreover, foreigners' presence in the region, which ranges from numerous single-person sales offices to more than 40 firms that employ over 1,000 workers each, probably will become even more visible in the years ahead, adding to the region's growth prospects.

The incomplete data available on foreign investment activities in regional states and the nation tentatively suggest several future trends. One is that foreigners' interest in locating businesses here remains keen. We know this because FDI has increased even though the strong dollar has driven up the cost of such investment. Another trend is an apparently heightened interest by Japanese companies in locating facilities in this country, particularly in the Southeast.[17]

In 1984, foreign direct investment rose nationally by $21.2 billion, or 87 percent, from the $11.3 billion increase of the previous year, according to preliminary U.S. Bureau of Economic Analysis data. Such investment increased by 9 percent in 1983, compared with 15 percent in 1982 and an average annual 30 percent increase from 1978 to 1981.[18]

The slowdown in FDI growth in 1982-83 probably reflected the U.S. recession's impact. In 1984, the strength of the national recovery in a low inflationary environment helped investment grow again.[19] This new growth surge occurred despite the continued presence of factors that may have contributed to the earlier slowdown, such as an appreciating dollar and sluggish economic growth abroad that reduced foreign firms' ability to invest in the United States.

Georgia's foreign investment experience has tracked the nation's, with investment slowing in 1982 and 1983, and then lunging forward again. Among southeastern states, Georgia has been among the most popular with foreign investors. This state, one of those that seek foreign investment most aggressively, also maintains some of the most complete and up-to-date information on FDI. In 1984, foreign investment in Georgia increased by $321 million, or nearly 125 percent more than the $143 million of new investment in 1983.[20] In addition, the number of jobs associated with total foreign investments rose by 9 percent in 1984 compared with a 7.9 percent increase in overall employment in the state. Significantly, manufacturing employment growth at foreign-owned companies grew by more than twice the rate of overall manufacturing. In effect, foreign investment is helping restructure the state's economy away from textile and apparel employment and toward electronic equipment and machinery.

Georgia's recent experience with foreign investment epitomizes not only the apparent resurgence of foreign involvement in this country but also the fast growth of Japanese investment here. According to the Georgia Department of Industry and Trade, Japanese firms accounted for over $140 million in foreign investment in 1984, or 44 percent of all foreign investment in the state. Another source, the New York-based Conference Board, credits the Southeast and Georgia with 21.1 percent and 7.3 percent shares, respectively, of the foreign manufacturing investments made in the nation in 1984. Nearly two-fifths of the regional and national investments were by Japanese firms.

The increase in Japanese investment in the region has been heralded by newspapers in Georgia and Tennessee, states where Japanese investor interest seems particularly strong, as well as by nationally distributed publications. However, despite fast growth at the start of 1984's fourth quarter—Japanese direct investment was already two-thirds higher than its total for all of 1983—Japan's stake here is modest in comparison to its share of trade with the United States. It accounts for only about 8.5 percent of FDI in this country, less than Latin America or Canada, but 15 percent of the nation's merchandise trade (and about 18 percent of U.S. imports).

Given the escalation of U.S. trade deficits with Japan, Japanese companies are likely to continue stepping up their construction and purchase of American factories.[21] Some investors obviously believe that increased FDI can help reduce the frictions that have accompanied the growing U.S. merchandise trade deficit with Japan. By establishing more facilities here, possibly in anticipation of increased U.S. barriers against foreign imports, Japanese investors will be contributing jobs and other benefits to the nation. With its propitious business climate, weather, and other regional comparative advantages, the Southeast almost certainly will capture an above-average portion of these benefits.

Summary

For over a decade, foreign direct investment in the United States has grown at a heady rate. Observers attribute this surge to a number of factors, ranging from the increased market sophistication of foreign competitors to their concern over rising protectionist sentiment in this country. Because of its favorable business climate, above-average economic growth, and plentiful profit opportunities, the Southeast has attracted an especially hefty share of such investment.

Despite the difficulty of measuring the costs and benefits, national and state officials tend to believe that foreign direct investment's net contributions to employment, productivity, income, and economic growth considerably outweigh its costs. In terms of jobs alone, between 1975 and 1982 manufacturing employment attributable to foreign-affiliate firms grew by 170 percent nationally and 197 percent regionally. Even more impressive, however, was the 452 percent spurt

in southeastern nonmanufacturing affiliate employment. Clearly, foreign investment is helping to restructure and diversify the region's fast-paced economy.

Prospects for the continued escalation of such investment are positive at the national level and brighter still for the Southeast. Traditionally, Europeans have dominated FDI in this country, but Japanese investment is gaining steadily and promises to yield particular benefits to the regional states of Georgia and Tennessee. Overall, the foreign presence in the Southeast is likely to become more visible in the years ahead, strengthening the region's potential for sustained economic growth.

NOTES

[1]The U.S. Department of Commerce considers ownership or control of 10 percent or more of an enterprise's voting securities to imply a lasting interest or degree of influence over management of an enterprise. In 1982, two-thirds of the multi-establishment foreign-owned U.S. firms were 100 percent foreign-owned and another 18 percent were 50 to 99 percent foreign-owned.

[2]U.S. Department of Commerce, International Trade Administration, *International Direct Investment: Global Trends and the U.S. Role* (1984).

[3]A decline in transportation and/or communication costs over time also could open up profitable opportunities if a foreign company's business advantage previously was insufficient to offset the higher logistics costs.

[4]See, for example, R. I. Ajami and D.A. Ricks, "Motives of Non-American Firms Investing in the U.S.," *Journal of International Business Studies*, vol. 12 (Winter 1981), pp. 25-34. For a thorough review of the literature and discussion of this topic, see David McClain, "Foreign Direct Investment in the United States: Old Currents, New Waves, and the Theory of Direct Investment," in C.P. Kindleberger and D.B. Audretsch, eds. *The Multi-National Corporation in the 1980s* (Cambridge, Mass., 1983).

[5]The Sixth District comprises Alabama, Florida, Georgia, and parts of Louisiana, Mississippi, and Tennessee. If a broader definition of the Southeast is used, such as including the Carolinas, the general conclusions of this article would be similar. North Carolina and South Carolina both have enjoyed favorable shares of foreign investment. Their respective foreign-affiliate shares of statewide employment in multi-establishment firms in 1982 were 7.3 percent and 10.4 percent. The significantly larger share in South Carolina is attributable to heavy foreign ownership in wholesale trade and in the textile, paper, and related manufacturing industries. Employment per investment dollar is high in these industries.

[6]For analyses with a southeastern flavor, see the following: Jeffrey S. Arpan, "The Impact of State Incentives on Foreign Investors' Site Selection," *Economic Review*, Federal Reserve Bank of Atlanta, vol. 66 (December 1981); R.P. Sheehan, ed., *French Investment in the American Southeast*, Conference Series No. 10 (Atlanta, Georgia: Georgia World Congress Institute, 1979); C.L. Suzman, ed., *Foreign Direct Investment in the Southeast: West Germany, the United Kingdom and Japan*, Papers on International Issues, No. 1., (Atlanta, Georgia: Southern Center for International Studies, 1979); idem, *The Costs and Benefits of Foreign Investment from a State Perspective* (Washington, D.C.: U.S. Department of Commerce, Office of Trade and Investment Analysis, 1982); and J.D. Goodnow and others, eds., *Enhancing Georgia's Competitive Position in International Business*, International Policy Series, No. 1 (Atlanta, Georgia: Georgia World Congress Institute, 1982). See also J. S. Little, "Locational Decisions of Foreign Direct Investors in the Unites States," *New England Economic Review* (July/August 1978), pp. 43-63, for a general discussion and analysis; and idem, "Foreign Direct Investment in New England," *New England Economic Review* (March/April 1985), pp. 48-57, for a recent summary of New England's experience.

[7]To complicate matters further, there is some evidence that foreigners' investment strategies change over time. According to a recent study by the Japan External Trade Organization (JETRO), "Investors' concerns today tend to focus on marketing and production in place of raw materials (acquistion) and lower labor costs." The study, available in Japanese only, is summarized in JETRO's CITEC Newsletter, March 1985.

[8]See U.S. Department of Commerce, International Trade Administration, *International Direct Investment: Global Trends and the U.S. Role* (1984). Also, see D.B. Christelow, "National Policies Toward Foreign Direct Investment," *Federal Reserve Bank of New York Quarterly Review*, vol. 4 (Winter 1979-80), pp. 21-32, for a detailed review of national policies and issues concerning FDI. Generally, those who argue that market forces should determine the amount and composition of FDI make arguments analogous to those favoring free international trade that unfettered flows of capital will maximize world income as it seeks its maximum rate of return. Proponents of subsidizing FDI believe that an individual country can sometimes gain more than the cost of the subsidy or that the investment flow will increase world output because of economies of scale. Those who favor prohibitions on FDI often decry the foreign control that accompanies foreign ownership of businesses.

[9]According to testimonies at various U.S. congressional committee hearings on foreign investment held in 1974-75 and in 1980. Generally, the U.S. economy gains from foreign investment in the United States when profits received by foreigners (net of U.S. taxes) are less than the increase in U.S. income generated by the foreign investment. FDIUS probably can be assumed to meet this test. The principal drawback of FDI compared with domestic investment concerns noneconomic objectives, such as national defense; these investments can be analyzed on a case-by-case basis.

[10]According to a recent survey of 25 states, 21 of them maintained at least one foreign office (see J.D. Goodnow, *Enhancing Georgia's Competitive Position in International Business*). These foreign offices devoted 60-100 percent of their time to attracting foreign direct investment and spent an average of about $600,000 on these efforts in 1982 (four states budgeted over $1 million for their office and three states budgeted less than $250,000). Georgia maintains offices in Canada, Belgium, and Japan, costing about $500,000. Approximately 50 percent of the time of these offices is directed toward attracting FDI, with the remainder allocated to trade promotion (20 percent), tourism (15 percent), and general state promotional activities (15 percent). Georgia is opening a new office in South Korea this fall.

[11]According to a survey by the General Accounting Office, only 29 states maintained offices to encourage foreign investment in 1979. See App. III in U.S. GAO, *Foreign Direct Investment in the United States: The Federal Role* (June 1980).

[12]D.F. Cuff, "Tennessee's Pitch to Japan," *New York Times*, February 21, 1985.

[13]According to the U.S. GAO, *Foreign Direct Investment in the U.S.: The Federal Role* (June 1980).

[14]David Birch, *The Job Generation Process* (Cambridge, Mass.: MIT Press, 1979).

[15]U.S. Department of Commerce, ITA, *Foreign Direct Investment in the United States* (Washington, D.C.), various issues.

[16]Calculated from U.S. Commerce Department data on FDI and from its 1981 *Annual Survey of Manufactures*.

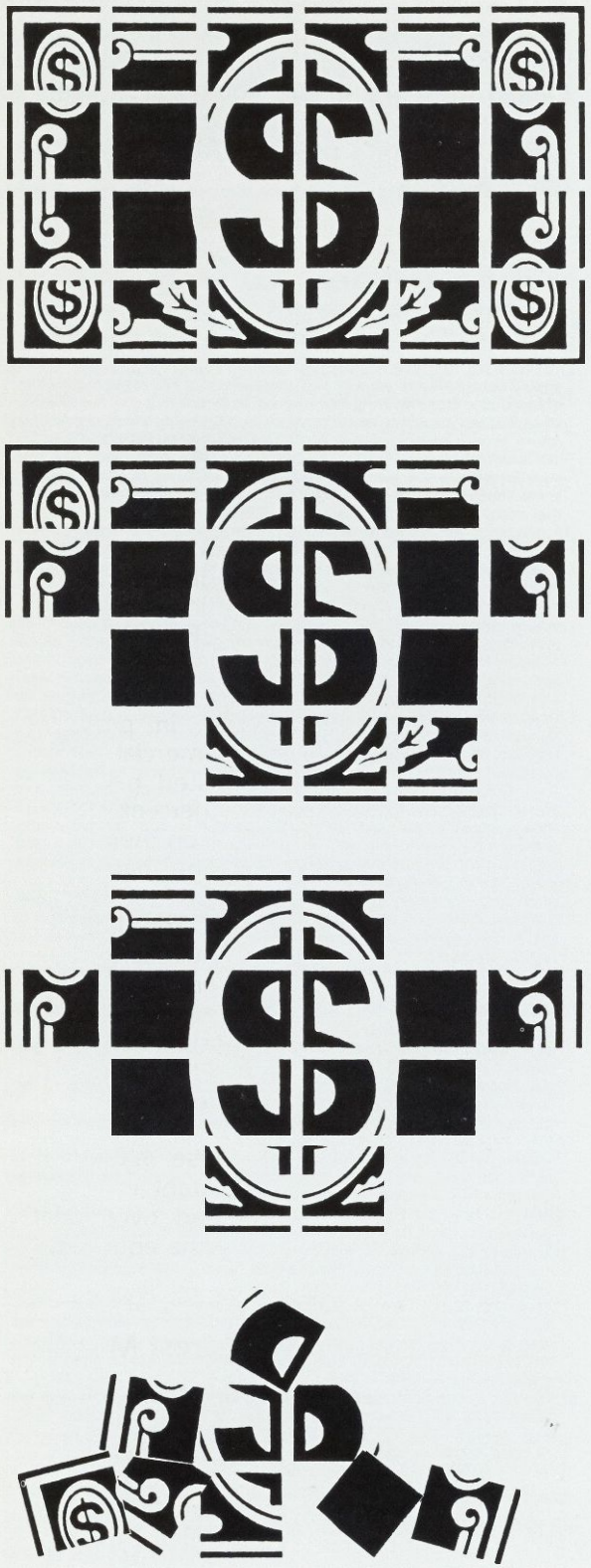
[17]These possibilities are speculative because the underlying determinants of FDI are poorly defined. An improved understanding of the forces that influence FDI is an important goal for future research.

[18]See R. D. Belli, "Foreign Direct Investment in the United States in 1983," *Survey of Current Business*, vol. 64 (October 1984), pp. 26-48.

[19]A substantial portion of investment volume also was attributable to merger/acquisition activity. For example, Royal Dutch Shell bought Shell Oil, U.S.A. for $4.5 billion.

[20]According to the Georgia Department of Industry and Trade, *Annual Report of the International Division*, 1983 and 1984. Foreign investment does not include income-producing property, raw land, or farmland and is not comparable to the foreign direct investment figures cited in the preceding paragraph.

[21]The U.S. merchandise trade deficit with Japan has risen steadily in recent years: 1979, $7.6 billion; 1980, $9.8 billion; 1981, $16.3 billion; 1982, $15.1 billion; 1983, $21.2 billion; and 1984, $33.5 billion. (IMF, *Direction of Trade Statistics*, March, 1985).



Profitability: SE Banks Fare Better Than Most

Larry D. Wall

Again last year, U.S. commercial banks' profitability declined, especially that of banks with under $100 million in assets. Southeastern banks, however, have fared better than institutions in other regions.

The nation's commercial bank profitability ratios declined again in 1984, continuing a trend evident since 1979, despite improved adjusted net interest margins.[1] The drop can be seen in two of the three measures we used in this profitability study: return on assets (ROA) and return on equity (ROE). ROA fell slightly, from 0.67 percent in 1983 to 0.63 percent in 1984, while ROE dropped from 11.32 to 11.23. Adjusted net interest margins, our third measure, increased from 3.65 to 3.77.[2]

Earnings declined in particular for banks with less than $100 million in assets, especially for the smallest of these institutions. The average ROA and ROE for banks with less than $25 million dropped 50 percent from 1980 to 1984. The bottom fourth of the smallest asset size group of banks—those with $25 million or less in assets—showed the largest drop in ROA, plunging from .92 percent in 1980 to .38 percent in 1984.[3] Banks with assets between $100 million and $1 billion improved their profits in 1984 and those with assets above $1 billion reported only a slight decline.

Profitability at banks in the six southeastern states changed little from 1983 to 1984.[4] Their ROA declined slightly, but ROE edged upward. Southeastern banks remained more profitable than other banks across the nation, earning a 0.95 percent ROA and 13.6 percent ROE.

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Table 1. Adjusted Net Interest Margin as a Percentage of Interest-Earning Assets Insured Commercial Banks by Consolidated Assets

Year	All Banks	0-$25 million	$25-$50 million	$50-$100 million	$100-$500 million	$500 million-$1 billion	$1 billion +
1980	3.96	5.00	4.72	4.60	4.41	4.44	3.48
1981	3.90	5.16	4.74	4.58	4.43	4.51	3.37
1982	3.79	4.89	4.64	4.56	4.37	4.48	3.29
1983	3.65	4.64	4.37	4.33	4.25	4.34	3.19
1984	3.77	4.11	3.96	4.04	4.76	4.56	3.38

Source: FDIC, "Consolidated Reports of Condition for Insured Commercial Banks" and "Consolidated Reports of Income for Insured Commercial Banks," 1979-1984.

Banks in Alabama, Florida, and Georgia turned in a performance comparable to their 1983 results. Those in Mississippi and Tennessee showed marked improvement over their 1984 results, reflecting in part continuing growth in the nation's economy. However, performance of banks in Louisiana fell sharply, apparently because of the energy industry's slump.

Profitability Measures

The three profitability measures used in this study tell the same story about bank profitability rates even though there are significant differences in what they measure. Adjusted net interest margin is calculated by subtracting a bank's interest expense from its interest revenue net of loan losses and dividing that result by its net interest-earning assets. The interest revenue from tax-exempt securities is adjusted upward by the bank's marginal tax rate to keep from penalizing institutions that hold substantial portfolios of state and local securities to reduce their tax burden. Loan losses are subtracted from interest revenue to place banks that make low-risk loans at low interest rates on more equal footing with those that make high-risk loans producing greater interest income. Adjusted net interest margin, roughly analogous to a business' profit margin, measures the spread between the bank's interest income and its interest expense.

The ROA ratio, obtained by dividing a bank's net income by its assets, gauges how well a bank's management is employing its assets. The ROE ratio, calculated by dividing a bank's net income by its total equity, is the most important figure for a bank's shareholders because it tells them what the institution is earning on their investment.

Differences in these ratios can be seen by examining the 1984 change in profitability measures for all insured commercial banks in the United States. The adjusted net interest margin rose from 3.65 to 3.77 percent, indicating that banks were earning more on their interest-earning assets (Table 1). The banks' ROA dropped only slightly, however, from 0.67 percent to 0.66 percent (Table 5). The discrepancy between the two ratios is attributable to changes in the banks' non-interest revenues, non-interest expenses, and changes in their securities gains or losses. The decline in the banks' ROA was small, however, compared to the drop in their ROE from 11.32 to 10.89 (Table 6). The relatively greater fall in ROE reflects a rise in the equity capital-to-asset ratio at these banks. ROE decreases if a bank has constant earnings (as measured by its ROA) spread over a larger capital base—as measured by the equity capital-to-assets ratio.

Banks' Adjusted Net Interest Margins

Banks' adjusted net interest margins rose last year because their tax-equivalent interest income rose faster than the combined increase in their loan loss provisions and interest expense. However, the results do not hold for banks with assets below $100 million, which experienced

Table 2. Tax-Equivalent Interest Revenue as a Percentage of Interest-Earning Assets Insured Commercial Banks by Consolidated Assets

Year	All Banks	0-$25 million	$25-$50 million	$50-$100 million	$100-$500- million	$500 million- $1 billion	$1 billion +
1980	13.21	11.23	11.19	11.18	11.35	11.66	14.67
1981	15.68	13.37	13.18	13.22	13.50	13.98	17.32
1982	14.70	13.80	13.52	13.43	13.49	13.71	15.48
1983	12.40	12.51	12.22	12.06	11.98	12.17	12.59
1984	12.90	12.55	12.29	12.15	12.83	12.72	13.10

Source: "Consolidated Reports of Condition for Insured Commercial Banks" and "Consolidated Reports of Income for Insured Commercial Banks,"1979-1984.

Table 3. Loan Loss Expense as a Percentage of Interest-Earning Assets Insured Commercial Banks by Consolidated Assets

Year	All Banks	0-$25 million	$25-$50 million	$50-$100 million	$100-$500 million	$500 million- $1 billion	$1 billion +
1980	0.33	0.33	0.30	0.29	0.29	0.35	0.35
1981	0.34	0.38	0.32	0.31	0.32	0.32	0.36
1982	0.52	0.54	0.48	0.45	0.51	0.50	0.54
1983	0.60	0.65	0.57	0.56	0.51	0.54	0.64
1984	0.68	0.86	0.71	0.57	0.51	0.56	0.73

Source: FDIC, "Consolidated Reports of Condition for Insured Commercial Banks" and "Consolidated Reports of Income for Insured Commercial Banks," 1979-1984.

Table 4. Interest Expense as a Percentage of Interest-Earning Assets Insured Commercial Banks by Consolidated Assets

Year	All Banks	0-$25 million	$25-$50 million	$50-$100 million	$100-$500 million	$500 million- $1 billion	$1 billion +
1980	8.92	5.90	6.16	6.29	6.64	6.86	10.84
1981	11.45	7.83	8.18	8.32	8.75	9.15	13.59
1982	10.39	8.37	8.40	8.42	8.61	8.73	11.65
1983	8.15	7.22	7.26	7.17	7.23	7.29	8.76
1984	8.45	7.58	7.63	7.54	7.56	7.60	8.98

Source: FDIC, "Consolidated Reports of Condition for Insured Commercial Banks" and "Consolidated Reports of Income for Insured Commercial Banks," 1979-1984.

declining margins (Table 1). Banks below $100 million in assets showed much larger increases in their interest expense than they did in their tax equivalent interest revenue (Tables 2 and 4). Furthermore, banks below $50 million posted sharply higher loan loss provisions as a percentage of interest-earning assets (Table 3). Banks with assets above $100 million, on the other hand, experienced greater growth in their interest revenue than in their interest expenses.

Table 5. Percentage Return on Assets
Insured Commercial Banks by Consolidated Assets

Year	All Banks	0-$25 million	$25-$50 million	$50-$100 million	$100-$500 million	$500 million-$1 billion	$1 billion +
1980	0.79	1.22	1.21	1.14	1.01	0.89	0.61
1981	0.76	1.20	1.16	1.08	0.94	0.88	0.60
1982	0.71	1.02	1.10	1.06	0.86	0.81	0.57
1983	0.67	0.88	0.98	0.98	0.88	0.78	0.54
1984	0.66	0.65	0.83	0.93	0.92	0.86	0.54

Source: FDIC, "Consolidated Reports of Condition for Insured Commercial Banks" and "Consolidated Reports of Income for Insured Commercial Banks," 1979-1984.

They reported much smaller increases in their loan loss provisions, with those banks having assets between $100 and $500 million showing no increase in provisions as a percentage of interest-earning assets. The erosion in adjusted net interest margins for banks with assets below $100 million and the increase for those with assets between $100 million and $500 million left the larger banks with noticeably larger margins than their smaller counterparts.

Bank loan losses as a percentage of interest-earning assets have risen dramatically, more than doubling between 1980 and 1984 for banks with assets below $50 million and those with assets in excess of $1 billion. The 1984 rise is especially surprising since loan losses historically peak during the first year of a recovery and then drop as the economy continues to expand.

Interest rate deregulation's impact on banks' interest expense appears to be mostly complete. Banks with assets in excess of $1 billion pay money market rates for a substantial portion of their liabilities, and their interest expense can be taken as a proxy for changes in market interest rates. In 1980, these large banks paid approximately 4 to 5 percentage points more for their liabilities than did smaller banks. By 1983 the gap closed between 1.4 and 1.6 percentage points.

The gap narrowed again last year, but only minutely. At the end of 1984, banks with assets below $1 billion generally showed interest expenses of approximately 7.6 percent while banks with assets above $1 billion reported expenses of 9.0 percent. The trend suggests that the rate difference might stabilize, with those having assets below $1 billion maintaining a better than one point advantage in interest expenses. One explanation is that a larger proportion of smaller banks' deposits are in retail and small business accounts that receive part of their "interest" in free services. Another explanation is that the depositors at large banks are in a better position to demand the highest possible interest rates. The finding that in 1984 interest expenses were approximately constant across size categories for banks with assets of $1 billion or less is also interesting given that interest expense increased uniformly with asset size in 1980.

Banks' Returns on Assets and Equity

Banks' ROA in 1984 generally moved in the same direction as the changes in their adjusted net interest margins (Table 5). Banks with assets below $100 million showed a decline in adjusted net interest margins and ROA and those with assets between $100 million and $1 billion showed increases in both ratios. Banks with assets over $1 billion reported no change in their ROA; the best returns were achieved by banks with assets between $50 million and $500 million.

Changes in banks' ROE followed changes in their ROA for every size category except those with assets in excess of $1 billion (Table 6). The largest banks suffered lower ROEs even though their ROAs were flat. The best ROEs were achieved by banks with assets between $100 million and $1 billion. Banks with assets in excess of $1 billion attained a higher ROE than

Table 6. Percentage Return on Equity
Insured Commercial Banks by Consolidated Assets

Year	All Banks	0-$25 million	$25-$50 million	$50-$100 million	$100-$500 million	$500 million-$1 billion	$1 billion +
1980	13.71	13.32	14.60	14.41	13.94	13.29	13.43
1981	13.15	12.81	13.70	13.43	12.83	12.99	13.17
1982	12.17	10.76	12.80	13.18	11.80	12.07	12.16
1983	11.32	9.05	11.34	12.06	12.13	11.58	11.11
1984	10.89	6.70	9.57	11.56	12.76	12.61	10.52

Source: FDIC, "Consolidated Reports of Condition for Insured Commercial Banks" and "Consolidated Reports of Income for Insured Commercial Banks," 1979-1984.

Table 7. Adjusted Net Interest Margin as a Percentage of Interest-Earning Assets
Insured Commercial Banks by Consolidated Assets

Year	All Banks	0-$25 million	$25-$50 million	$50-$100 million	$100-$500 million	$500 million-$1 billion	$1 billion +
1980	4.89	5.23	4.98	5.07	4.93	4.50	4.63
1981	5.03	5.27	5.01	4.96	4.75	5.03	5.36
1982	4.84	4.80	4.75	4.94	4.78	4.93	4.88
1983	4.67	4.61	4.56	4.54	4.56	4.89	4.79
1984	4.82	4.52	4.25	4.18	5.18	5.00	4.93

Source: FDIC, "Consolidated Reports of Condition for Insured Commercial Banks" and "Consolidated Reports of Income for Insured Commercial Banks," 1979-1984.

institutions below $50 million, in spite of the large banks' lower ROA, because large banks have lower equity capital-to-assets ratios.

Bank stockholders care about bank earnings, the riskiness of future earnings, and the return on competitive investments. The increase of banks' loan loss provisions in 1984 leaves some reason for concern about risk exposure.[5] As noted above, loan loss expenses usually decrease at this stage of an economic cycle. The worsening losses raise serious questions about bank performance if the economy slips into a recession. Market interest rates rose in 1984, but dropped at the end to slightly above the levels at which they started. Thus the lower profitability was not offset by lower risk on the banks' investments or lower returns on competitive investments. The plunging ROE for banks with assets below $25 million is a particular cause for concern. Their 6.7 percent average ROE was less than investors could have earned over the same period on Treasury bills, which have no default risk. The smallest banks cannot endure such weak performance indefinitely.

Profitability of Southeastern Banks

Banks in the Southeast generally enjoyed higher adjusted net interest margins, returns on assets, and returns on equity than their peers across the nation in every size category except for those with assets between $500 million and $1 billion. Banks with assets below $50 million escaped the sharply reduced profitability experienced by their peers across the nation. The only size category in the Southeast that increased its ROA in 1984, however, was the $500 million to $1 billion category.

Like other banks across the nation, southeastern banks with assets below $100 million reported lower adjusted net interest margins in 1984 than they did in 1983 while those with

Table 8. Tax-Equivalent Interest Revenue as a Percentage of Interest-Earning Assets
Insured Commercial Banks in the Southeast by Consolidated Assets

Year	All Banks	0-$25 million	$25-$50 million	$50-$100 million	$100-$500 million	$500 million-$1 billion	$1 billion +
1980	11.92	11.71	11.89	11.51	11.71	12.03	12.92
1981	14.54	13.72	13.68	13.58	13.75	13.58	17.01
1982	13.97	14.00	13.79	13.80	13.66	14.12	14.43
1983	12.47	12.62	12.28	12.28	12.08	12.52	12.91
1984	12.99	12.69	12.41	12.30	13.14	13.09	13.26

Source: FDIC, "Consolidated Reports of Condition for Insured Commercial Banks" and "Consolidated Reports of Income for Insured Commercial Banks," 1979-1984.

Table 9. Loan Loss Expense as a Percentage of Interest-Earning Assets
Insured Commercial Banks in the Southeast by Consolidated Assets

Year	All Banks	0-$25 million	$25-$50 million	$50-$100 million	$100-$500 million	$500 million-$1 billion	$1 billion +
1980	0.42	0.46	0.40	0.34	0.36	0.46	0.55
1981	0.41	0.49	0.42	0.36	0.36	0.32	0.51
1982	0.52	0.72	0.57	0.49	0.51	0.55	0.47
1983	0.54	0.84	0.59	0.66	0.52	0.54	0.45
1984	0.52	0.70	0.61	0.57	0.47	0.67	0.46

Source: FDIC, "Consolidated Reports of Condition for Insured Commercial Banks," and "Consolidated Reports of Income for Insured Commercial Banks," 1979-1984.

Table 10. Interest Expense as a Percentage of Interest-Earning Assets
Insured Commercial Banks in the Southeast by Consolidated Assets

Year	All Banks	0-$25 million	$25-$50 million	$50-$100 million	$100-$500 million	$500 million-$1 billion	$1 billion +
1980	6.61	6.02	6.18	6.11	6.42	7.07	7.74
1981	9.11	7.95	8.24	8.26	8.64	9.23	11.14
1982	8.61	8.48	8.47	8.37	8.38	8.64	9.09
1983	7.26	7.17	7.13	7.09	7.01	7.09	7.67
1984	7.64	7.47	7.55	7.55	7.48	7.43	7.87

Source: FDIC "Consolidated Reports of Condition for Insured Commercial Banks" and "Consolidated Reports of Income for Insured Commercial Banks," 1979-1984.

assets above $100 million posted higher adjusted margins (Table 7). The changes in adjusted margins generally reflected changes in interest expenses and interest revenues (Tables 8 and 10). Banks below $100 million had greater increases in expense than in revenues, while those with assets above $100 million showed greater increases in revenues. Three size categories of southeastern banks posted lower loan loss expense and three suffered greater losses

Table 11. Percentage Return on Assets
Insured Commercial Banks in the Southeast by Consolidated Assets

Year	All Banks	0-$25 million	$25-$50 million	$50-$100 million	$100-$500 million	$500 million-$1 billion	$1 billion +
1980	1.10	1.19	1.23	1.26	1.11	0.94	0.90
1981	1.05	1.16	1.18	1.17	1.00	0.99	0.95
1982	0.98	0.90	1.08	1.16	0.97	0.92	0.92
1983	0.97	0.70	1.01	1.01	0.97	0.94	0.98
1984	0.95	0.82	0.94	0.95	1.00	0.86	0.96

Source: FDIC "Consolidated Reports of Condition for Insured Commercial Banks" and "Consolidated Reports of Income for Insured Commercial Banks," 1979-1984.

Table 12. Percentage Return on Equity
Insured Commercial Banks in the Southeast by Consolidated Assets

Year	All Banks	0-$25 million	$25-$50 million	$50-$100 million	$100-$500 million	$500 million-$1 billion	$1 billion +
1980	14.63	12.78	14.46	15.69	15.25	13.86	14.41
1981	14.10	12.28	13.68	14.30	13.58	14.13	15.81
1982	13.45	9.57	12.36	14.16	13.17	13.26	15.27
1983	13.51	7.15	11.39	12.53	13.19	13.81	16.57
1984	13.60	8.14	10.53	11.83	13.65	12.15	16.59

Source: FDIC, "Consolidated Reports of Condition for Insured Commercial Banks" and "Consolidated Reports of Income for Insured Commercial Banks," 1979-1984.

Table 13. Adjusted Net Interest Margin as a Percentage of Interest-Earning Assets
Insured Commercial Banks in the Southeast by State

Year	All Banks	Alabama	Florida	Georgia	Louisiana	Mississippi	Tennessee
1980	4.89	4.36	5.30	5.78	4.89	4.14	4.12
1981	5.03	4.65	5.59	5.73	5.10	3.99	4.05
1982	4.84	4.33	5.42	5.22	5.08	3.77	3.98
1983	4.67	4.45	5.14	5.07	4.49	3.85	4.02
1984	4.82	4.51	5.15	5.08	4.52	4.46	4.53

Source: FDIC, "Consolidated Reports of Condition for Insured Commercial Banks" and "Consolidated Reports of Income for Insured Commercial Banks," 1979-1984.

(Table 9). The only large increase in loan losses occurred in banks with assets between $500 million and $1 billion, where losses as a percentage of interest-earning assets jumped from 0.54 percent in 1983 to 0.67 last year.

Profitability of Southeastern Banks by State

Adjusted net interest margins improved for Sixth District banks in 1984, but returns on

Table 14. Tax-Equivalent Interest Revenue as a Percentage of Interest-Earning Assets Insured Commercial Banks in the Southeast by State

Year	All Banks	Alabama	Florida	Georgia	Louisiana	Mississippi	Tennessee
1980	11.92	11.74	11.72	12.58	12.077	11.33	11.93
1981	14.54	14.88	14.99	14.47	14.42	13.52	14.20
1982	13.97	13.76	14.20	13.78	14.03	13.40	14.14
1983	12.47	12.23	12.83	12.71	12.05	11.94	12.41
1984	12.99	12.42	13.19	13.12	12.80	12.83	13.14

Source: FDIC, "Consolidated Reports of Condition for Insured Commercial Banks" and "Consolidated Reports of Income for Insured Commercial Banks," 1979-1984.

Table 15. Loan Losses as a Percentage of Interest-Earning Assets Insured Commercial Banks in the Southeast by State

Year	All Banks	Alabama	Florida	Georgia	Louisiana	Mississippi	Tennessee
1980	0.42	0.63	0.31	0.48	0.40	0.37	0.45
1981	0.41	0.50	0.34	0.42	0.40	0.46	0.45
1982	0.52	0.56	0.37	0.43	0.55	0.73	0.75
1983	0.54	0.46	0.41	0.43	0.70	0.68	0.74
1984	0.52	0.41	0.46	0.45	0.79	0.53	0.56

Source: FDIC, "Consolidated Reports of Condition for Insured Commercial Banks" and "Consolidated Reports of Income for Insured Commercial Banks," 1979-1984.

Table 16. Interest Expense as a Percentage of Interest-Earning Assets Insured Commercial Banks in the Southeast by State

Year	All Banks	Alabama	Florida	Georgia	Louisiana	Mississippi	Tennessee
1980	6.61	6.77	6.11	6.31	6.79	6.82	7.36
1981	9.10	9.72	9.07	8.32	8.92	9.07	9.70
1982	8.61	8.87	8.41	8.13	8.40	8.91	9.40
1983	7.26	7.32	7.28	7.21	6.86	7.42	7.64
1984	7.64	7.50	7.58	7.59	7.49	7.85	8.05

Source: FDIC, "Consolidated Reports of Condition for Insured Commercial Banks" and "Consolidated Reports of Income for Insured Commercial Banks," 1979-1984

assets and on equity were up in only three of the six states: Georgia, Mississippi, and Tennessee. Georgia banks continued outperforming those in the other five states, posting the highest returns on assets and equity and the second highest adjusted net interest margin after Florida (Tables 17 and 18). Both Mississippi and Tennessee showed significant improvements in profitability in 1984. Tennessee's recovery from a 0.64 percent ROA in 1982 to a

Table 17. Percentage Return on Assets
Insured Commercial Banks in the Southeast by State

Year	All Banks	Alabama	Florida	Georgia	Louisiana	Mississippi	Tennessee
1980	1.10	1.10	1.11	1.21	1.17	1.09	0.88
1981	1.05	1.12	0.96	1.25	1.24	1.02	0.78
1982	0.98	1.05	0.98	1.12	1.20	0.84	0.64
1983	0.97	1.11	0.97	1.12	1.03	0.83	0.69
1984	0.95	1.09	0.92	1.15	0.81	0.92	0.86

Source: FDIC, "Consolidated Reports of Condition for Insured Commercial Banks" and "Consolidated Reports of Income for Insured Commercial Banks."

Table 18. Percentage Return on Equity
Insured Commercial Banks in the Southeast by State

Year	All Banks	Alabama	Florida	Georgia	Louisiana	Mississippi	Tennessee
1980	14.63	13.52	15.08	15.78	15.65	14.81	12.36
1981	14.10	13.32	13.39	16.90	16.34	13.64	10.86
1982	13.45	12.77	14.06	15.38	15.60	11.41	9.25
1983	13.51	13.74	14.66	16.24	12.81	11.21	10.03
1984	13.60	13.62	14.53	17.30	9.93	12.49	12.68

Source: FDIC, "Consolidated Reports of Condition for Insured Commercial Banks" and "Consolidated Reports of Income for Insured Commercial Banks," 1979-1984.

0.86 ROA in 1984 is impressive. Banks in Louisiana, on the other hand, slid from their top ranking in the region in 1982 to the lowest earnings level in 1984.

Adjusted net interest margins rose for all six states primarily because increases in the banks' tax-equivalent interest revenue outstripped increases in their interest expense (Tables 13, 14, and 16). Banks in Mississippi and Tennessee also benefited from sharply declining loan loss expenses, while banks in Louisiana saw their losses rise from 0.70 percent of interest-earning assets to 0.79 percent (Table 15).

Distribution of Bank Profitability

Clearly, banks have become less profitable in the past few years, and smaller banks have experienced the greatest decline. However, the statistics provide no information on profitability within the size categories. For example, perhaps only the most profitable banks were unable to sustain their earnings, while the majority of banks were unaffected by the changing environment. Although slumping earnings would displease the owners and managers of highly profitable banks, somewhat reduced profitability at these banks poses no public policy problems. On the other hand, the least profitable banks may have suffered most of the decline in profitability, potentially increasing the number of problem and failed banks. A greater number of troubled banks would be important because the government must be concerned about a safe and sound banking system, and because the Federal Deposit Insurance Corporation insures at least the first $100,000 of most bank deposits.

One way of analyzing the distribution of bank profitability is to study the ROA figures at various profitability percentiles. We chose to look at the profitability of banks across the

Table 19. Percentage Return on Assets
Insured Commercial Banks
With Assets Below $25 million
By Percentile

Year	75%	50%	25%
1980	1.66	1.27	0.92
1981	1.70	1.27	0.86
1982	1.59	1.17	0.72
1983	1.51	1.07	0.58
1984	1.37	0.94	0.38

Source: FDIC, "Consolidated Reports of Condition for Insured Commercial Banks" and "Consolidated Reports of Income for Insured Commercial Banks," 1979-1984.

Table 20. Percentage Return on Assets
Insured Commercial Banks
With Assets of $50 million
To $100 million
By Percentile

Year	75%	50%	25%
1980	1.53	1.22	0.92
1981	1.56	1.18	0.82
1982	1.54	1.17	0.80
1983	1.46	1.11	0.73
1984	1.34	1.01	0.63

Source: FDIC, "Consolidated Reports of Condition for Insured Commercial Banks" and "Consolidated Reports of Income for Insured Commercial Banks, 1979-1984.

Table 21. Percentage Return on Assets
Insured Commercial Banks
With Assets of $25 million
To $50 million
By Percentile

Year	75%	50%	25%
1980	1.43	1.14	0.89
1981	1.45	1.09	0.76
1982	1.47	1.11	0.79
1983	1.41	1.09	0.75
1984	1.32	1.02	0.71

Source: FDIC, "Consolidated Reports of Condition for Insured Commercial Banks" and "Consolidated Reports of Income for Insured Commercial Banks," 1979-1984.

Table 22. Percentage Return on Assets
Insured Commercial Banks
With Assets of $100 million
To $500 million
By Percentile

Year	75%	50%	25%
1980	1.25	1.00	0.78
1981	1.30	0.98	0.67
1982	1.29	0.97	0.66
1983	1.27	0.97	0.67
1984	1.28	1.01	0.73

Source: FDIC, "Consolidated Reports of Condition for Insured Commercial Banks" and "Consolidated Reports of Income for Insured Commercial Banks," 1979-1984.

nation at the 25th, 50th, and 75th percentiles in ROA. Twenty-five percent of the banks were less profitable than the banks at the 25th percentile, half had an ROA lower than the banks at the 50th percentile, and three-quarters had lower profitability than the banks at the 75th percentile. The ranking was done separately for each year so some banks will shift to different profitability ranges over the five years we analyzed.

The direction of changes in profitability depended more on size class than a bank's quartile in 1984 (Tables 19-24). Banks with assets below $100 million reported lower ROA at the 25th, 50th, and 75th percentile, while those with assets exceeding $100 million recorded higher ROA at all three percentiles. Furthermore, banks with less than $25 million in assets experienced a larger drop in earnings than those with $50 million to $100 million in assets; those with assets between $100 million and $500 million reported smaller increases in ROA than those above $1 billion.

One notable problem is the fall in profitability of banks with assets under $25 million at the 25th percentile. The drop in ROA ranged from a .13 percentage point fall in profitability at the 50th percentile level to a .20 percentage point decline at the 25th percentile. Twenty-five percent of all banks with assets below $25

Table 23. Percentage Return on Assets
Insured Commercial Banks
With Assets of $500 million
To $1 billion
By Percentile

Year	75%	50%	25%
1980	1.09	0.90	0.73
1981	1.13	0.88	0.62
1982	1.15	0.90	0.58
1983	1.10	0.88	0.60
1984	1.18	0.90	0.62

Source: FDIC, "Consolidated Reports of Condition for Insured Commercial Banks" and "Consolidated Reports of Income for Insured Commercial Banks," 1979-1984.

Table 24. Percentage Return on Assets
Insured Commercial Banks
With Assets Over $1 billion
By Percentile

Year	75%	50%	25%
1980	0.93	0.74	0.56
1981	0.95	0.76	0.53
1982	0.95	0.76	0.51
1983	0.98	0.75	0.46
1984	1.06	0.86	0.55

Source: FDIC, "Consolidated Reports of Condition for Insured Commercial Banks" and "Consolidated Reports of Income for Insured Commercial Banks," 1974-1984.

million reported a return on assets of 0.38 percent or less in 1984—extremely weak earnings for a size category that historically has enjoyed some of the industry's best ROA, suggesting some small banks have major financial problems. ROA has dropped at the more profitable banks with less than $25 million, but not severely. Banks at the 75th and 50th percentiles experienced approximately a 0.30 percentage fall in ROA from 1980 to 1984, but those at the 25th percentile saw a .54 percentage point fall.

The problems at some of the smallest banks are troubling since 5,147 of the 14,013 banks in our sample have assets below $25 million. However, these small banks account for only $72 billion of the $2.388 trillion of total assets in our sample. Furthermore, the FDIC can handle small bank problems more easily than it can cope with the problems of huge institutions such as Continental Illinois.[6]

Conclusion

Commercial banks' ROA and ROE declined across the nation in 1984, in spite of improvement in their adjusted net interest margins. Southeastern banks reported slightly lower ROA, but a somewhat higher ROE.

Southeastern banks outperformed the nation last year, but not all fared equally well. Georgia banks, leading the District, posted the first or second highest ROA for the six states in the size categories used by this study.

Nationally, ROA at the 75th, 50th, and 25th percentile dropped for banks with assets below $100 million and increased for those above $100 million. Our analysis of the nation's least profitable banks disclosed a surprisingly low ROA for banks with assets below $25 million in 1984. Profits at the 25th percentile have fallen by one-third since 1980 for banks with assets between $25 million and $50 million.

The author thanks Sherley Wilson for research assistance.

NOTES

[1]See Wall (1983) and Wall (1984) for profitability information from 1972 to 1982. The results presented in this article are not strictly comparable to that presented in those two articles. See the appendix for a discussion of the differences.

[2]See the appendix for a discussion of the calculation of adjusted net interest margin, which contains two important adjustments to an ordinary net interest margin: an adjustment for taxes saved on tax-exempt securities and another for loan loss provisions.

[3]Undoubtedly, part of the drop in profitability of banks with assets of less than $100 million is due to the problems of small banks that specialize in lending to agriculture. See Keplinger, et al. (1985) for a review of the condition of agricultural banks in the Southeast and nation. Another possible explanation for the declining profitability of the smallest banks is that they are having problems coping with deregulation. Economies of scale studies on the production of financial services, including one by George J. Benston, Gerald A. Hanweck, and Davis B. Humphrey (1982), have found that banks with below $25 million in assets are too small for maximum efficiency. Before interest rate deregulation, these banks could have covered their inefficiency with greater interest margins. Deregulation causes even the smallest banks to pay higher rates on deposits, rates they have not fully offset with greater loan charges.

[4]In this article the Southeast refers to the six states all or partially within the Sixth Federal Reserve District: Alabama, Florida, Georgia, Louisiana, Mississippi, and Tennessee. The outlook for the economies of these states is reviewed in the February issue of this *Economic Review*.

[5]The increase in loan losses means that individuals who invest only in bank stocks face greater risks, but it is not obvious how the losses affect investors who own a diversified portfolio of stocks.

[6]See Stanley C. Silverberg (1985) for a discussion of the FDIC's problems in resolving large bank problems.

APPENDIX

The data in this article were taken from the Reports of Condition and Income that insured commercial banks file with their federal bank regulators. We chose a 1984 sample consisting of all banks that had the same identification number at the beginning and end of each year. The number of banks in the sample was 14,013.

The three profitability measures used in this study are defined as follows:

$$\text{Adjusted Net Interest Margin} = \frac{\text{Expected Interest Revenues-Interest Expenditures}}{\text{Average Interest Earning Assets}}$$

$$\text{Return on Assets} = \frac{\text{Net Income}}{\text{Average Consolidated Assets}}$$

$$\text{Return on Equity} = \frac{\text{Net Income}}{\text{Average Capital Equity}}$$

Average interest earning assets and average stockholders' equity are the average of the beginning, middle and end-of-the-year balance sheet figures. The expected interest income component to net interest margin incorporates two significant adjustments from ordinary interest income. Revenue from state and local securities exempt from federal income taxes is adjusted by the bank's marginal tax rate and loan losses are subtracted from interest income.

The figures presented in this study differ from those presented by the author in previous articles for three reasons. First, errors occasionally are found in the reports filed by the banks and data for prior years are revised to reflect this difference. Second, the two prior studies used data that had been modified by the Federal Reserve Board of Governors to reflect bank mergers. This study does not contain the merger adjustment because the file is no longer being created. Third, this study used loans net of the loan loss allowance and allocated transfer risk in calculating average interest earning assets whereas the prior studies used gross loans. One advantage of using net loans is that the denominator for both the ROA and ROE are net of loan losses and allocated transfer risk. Thus, using net loans provides some consistency across the three denominators.

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Upstate New York: Tough Markets for City Banks

B. Frank King

Many still say large banks' size advantages will prevail in competition with smaller banks. The latest data from upstate New York markets, though, provide further evidence disputing this hypothesis.

Do larger banks necessarily enjoy insurmountable competitive advantages over smaller ones? The question of large banks' impact on smaller competitors lies at the heart of nearly all disagreements about easing geographic restrictions on banking.[1]

Many who oppose the liberalization of restrictions on banks' geographic expansion have argued that inherent advantages of larger banks allow them to jeopardize the market share and profitability of smaller banks and, eventually, to absorb them. Easing cross-state restrictions, these skeptics warn, will doom small institutions and eliminate the special service they provide to individuals and small-business customers.

Despite its popular appeal, this hypothesis has failed empirical tests consistently. One of its basic premises—that large banks are able to capture significant economies of scale or scope—has been tested in many studies; it has yet to find support. Further, several studies conclude that larger banks entering new areas fail to win significant increases in market share or to reduce bank earnings seriously in the communities entered.

Yet the argument that large banks have an inherent advantage continues to win proponents, and not without reason. Studies of economies of scale in banking typically have used data from the 1960s and 1970s. Most studies of market entry by large banks also focus on a period before ceilings on interest payable on time and savings deposits began to be phased out under the Depository Institutions Deregulation and Monetary Control Act of 1980. Phasing out these ceilings may have diminished the advantages of local-office convenience and enhanced the competitive powers of both banks and thrift institutions by allowing them to offer market rates on a gradually increasing proportion of their deposits. The ceilings may have improved large banks' ability to compete with smaller banks or, conversely, may have provided the smaller institutions an edge.

Banks' experience since 1980 should provide timely insight into large banks' current advantages. One of the most fruitful grounds for an analysis of large banks' experience is upstate New York, where some of our country's largest banks in the 1970s entered markets (such as Albany, Binghamton, and Elmira) dominated by smaller banks. Two previous studies have documented that the New York City banks, through 1980, had failed to enlarge their footholds significantly in upstate markets.[2]

An analysis of the most recently available data indicates that the upstate New York competitive situation has changed little, despite banks' new powers to compete for deposits.

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Relaxation of interest ceilings and the institutions' new authority to offer money market deposit accounts (MMDAs) and Super NOW (negotiable order of withdrawal) accounts apparently failed to enhance large New York City banks' ability to gain market share at the expense of other banks in these areas they entered through de novo and foothold acquisitions. The big banks' penetration remains low and their changes in market share since 1980—though generally positive—have been modest.

Evidence from this tough proving ground gives no indication that the regulatory changes of the early 1980s have made it any easier for some of the nation's largest banks to enter markets in competition against smaller banks. Deposit interest deregulation has continued since June 1983, possibly shifting the competitive balance between large and small banks still more. However, the record of 1980-1983 gives no indication that a transition is occurring.

The Issue of Large Banks' Advantage

Except for the very largest banks, each broad banking size group tends to argue that larger banks have advantages that allow them to threaten small banks' market share and profitability and eventually to acquire the smaller banks. This can be a persuasive argument, particularly to legislatures, which typically are sympathetic to smaller businesses.

In the 1980s, even larger regional banks have argued, in supporting regional reciprocal interstate banking laws, that they should be given time to grow within their region to avoid being acquired by large money center institutions when national interstate banking arrives.[3] More often, though, the argument that large banks have inherent advantages has assumed that the smaller banks in question are community banks faced with the prospect of competing with regional and money center banks.

The Depository Institutions Deregulation and Monetary Control Act of 1980 and the Garn-St Germain Act of 1982 added to concern about the large bank-small bank issue. These pieces of legislation increased the number of institutions empowered to offer a full line of consumer financial services from about 14,000 commercial banks to more than 40,000 banks, thrifts, and credit unions. They also added some 3,500 thrifts to the number of institutions able to offer a full line of business financial services. The question of larger institutions' advantage was underlined by the fact that some of these new competitors were larger than the commercial banks they were authorized to compete against.

Over the past two decades many studies have cast doubt on the assertion that larger banks have advantages that will allow them to overwhelm smaller banks. These studies have approached the issue from two directions: studies of economies of scale and scope in various samples of banks, and studies of changes in markets where the large banks began competing with smaller banks.

Little evidence has been found that large banks possess inherent advantages. A recent summary of evidence on large banks' advantages concludes that, "with remarkable consistency, the studies reported here suggest that large size does not seem to give a financial institution a significant competitive advantage."[4]

Studies have found that banks can achieve significant economies of scale in producing basic banking services only up to asset sizes of $50 million to $100 million, and the research has produced little evidence to demonstrate economies of scale for individual basic products. These studies use different approaches, but their evidence is consistent.[5] More recently, researchers have studied economies of scope—the effects on costs of combining a group of related production processes in one operation—in banking with similar results: no cost advantages for large banks are evident.[6]

The second type of study of large banks' advantages looks at the effects of size in banking markets. Such an approach avoids several criticisms often leveled at economies of scale studies because it views the large bank as a whole and assesses its ability to attract customers in a market situation. Results of these studies generally are consistent with studies of economies of scale and scope; they conclude that larger institutions usually gain neither significant market share nor erode local banks' profitability when they enter smaller banks' markets. This has been shown in many types of entry and markets.[7]

Recent changes in financial system regulation and technology have made evidence in these studies potentially less relevant in today's environment, however. Better communications technology and the substitution of rate for convenience competition are making local offices less important.[8] The phased removal of regulatory restrictions on interest payable on time deposits

and the introduction of new deposit accounts open up new dimensions of competition among depository institutions. These dimensions, not directly relevant to studies of economies of scale, were unavailable when most studies of large banks' market performance were undertaken.

The decline in importance of the local office and the introduction of deposit interest competition may have become crucial as interest rate ceilings have been removed and as new deposit products—such as money market certificates (1978), MMDAs (late 1982) and Super NOW accounts (early 1983)—were introduced.[9] Larger banks' alleged advantages in raising funds, it might be reasoned, could allow them to pay higher interest on deposits. In addition, the large banks' purported advertising advantages could help them attract deposit accounts when interest rate competition is allowed. Although interest rate ceilings will not be removed completely from time and savings deposits until early next year, data already available should provide evidence of any sharp shift in large banks' competitive abilities since phased removal of the ceilings began in 1980.

A Case Study

New York provides a useful case study of the impact of this changing environment. Money center banks from New York City moved upstate with de novo and foothold entries in the early 1970s.[10] The 1970 amendments to the Bank Holding Company Act that eliminated advantages of operating as a one-bank holding company allowed large New York City banks to consider upstate bank acquisitions without fear of losing other advantages. Further, a 1971 state act liberalized the conditions under which New York City banks could branch in upstate markets. In compliance with State Banking Department policy, they entered by establishing new banks or branches or by acquiring banks with small market shares.[11]

The performance of these banks in the new markets has been reported in two earlier studies.[12] Kunreuther found that, through 1975, New York City banks had little success penetrating upstate markets. Golembe Associates extended the record of de novo and foothold acquisitions through 1980 and reported similar findings. Through June 1980, Golembe reported 29 of the 33 de novo and foothold banks and branches acquired in upstate metropolitan areas had gained a somewhat larger share of the market; one lost share. Two entrants had ceased operations and one changed character in a way that made its experiences irrelevant. The average market share was only 1.8 percent; and fully 13 operations had gained less than one point. All the de novo operations that remained (18) had gained market share, but their average share at mid-1980 was a mere 1.5 percent. The largest de novo share was 5.2 percent at that time; six de novos had market shares of less than 1 percent. Market share gains by foothold acquisitions (12) averaged only 0.9 percentage points. The largest gain was 2.7 points.[13]

Between 1980 and 1983, New York City banks changed their upstate market shares by buying or selling offices in a few instances. Bankers Trust, for instance, decided to sell its upstate offices entirely and completed some of the program by mid-1983. In measuring share changes for this study, sales of offices (but not purchases) were counted as share changes. This seemingly asymmetrical treatment is used because office sales indicate that a firm is giving up in one market to pursue more attractive opportunities in another. Office purchases, on the other hand, increase market share by external means rather than through local market competition.

When these external changes are accounted for, however, changes in New York City banks' upstate market shares between mid-1980 and mid-1983 show even smaller gains than in the entry-mid-1980 period. The large banks gained market share more often than they lost share, but gains averaged only one percentage point. The largest single share gain in any market was 9.5 points. The largest loss was 2.8 points in another market. At least one New York City bank lost market share in five of the eight upstate metropolitan areas analyzed in this study. Two lost share in three of the markets. (Share changes are detailed in Table 1.)

Overall, market share changes averaged a positive 0.7 percentage points, only about one-third of the change during the period between entry and 1980. (The larger share change during the earlier period is accounted for partially by the fact that the de novo operations begun before 1980 started from a zero base.) New York City banks lost share in eight instances during the 1980-1983 period, compared with the entry-1980 period when only one New York City bank lost share in an upstate market.

Table 1. Market Shares of Large New York City-Based Banks Entering Upstate Metropolitan Areas By De Novo or Foothold Acquisitions, 1970s - 1983[1]

	Deposits 6-30-83 ($ millions)	Market Share 6-30-83 (percent)	Change in Market Share 1980-1983 (percentage points)	Change in Market Share Entry-1983 (percentage points)	Change in Market Share Entry-1980 (percentage points)
Albany-Schenectady-Troy					
Chase Manhattan Corp.	32.1	1.10	0.07	1.10	1.03
Chemical New York Corp.	67.9	2.32	0.27	2.32	2.05
Citicorp	74.7	2.55	0.08	1.97	1.89
Irving Bank Corp.	121.6	4.15	0.10	.92	.82
Manufacturers Hanover Corp.	69.5	2.37	−1.43	.26	1.69
Market Total		12.22			
Binghamton					
Bankers Trust New York Corp.	33.5	2.83	−1.56	−1.38	0.19
Chase Manhattan Corp.	33.0	2.79	−0.19	2.79	2.98
Chemical New York Corp.	32.4	2.73	.68	2.73	2.05
Market Total		8.33			
Buffalo					
Bankers Trust	0.0	0.00	−0.40	0.00	0.40
Chase Manhattan Corp.	158.7	3.56	1.04	3.13	2.09
Chemical New York Corp.	42.4	.95	0.48	0.95	0.47
Citicorp	116.5	2.62	−2.60	2.62	5.22
Manufacturers Hanover Corp.	65.4	1.47	0.05	1.47	1.42
Market Total		8.60			
Elmira					
Chemical New York Corp.	32.4	10.25	9.49	10.25	0.76
Poughkeepsie					
Chase Manhattan Corp.	46.3	6.15	3.49	6.15	2.66
Chemical New York Corp.	38.4	5.11	3.63	5.11	1.48
Market Total		11.26			
Rochester[2]					
Bankers Trust New York Corp.	0.0	0.00	−1.04	−3.36	−2.32
Chase Manhattan Corp.	111.3	2.37	0.34	1.96	1.62
Chemical New York Corp.	81.6	1.74	1.09	1.37	.28
Manufacturers Hanover Corp.	154.3	3.29	−0.24	2.45	2.69
Market Total		7.40			
Syracuse					
Bankers Trust New York Corp.	2.7	.13	0.02	0.13	0.11
Chase Manhattan Corp.	50.8	2.46	0.60	2.46	1.86
Chemical New York Corp.	79.5	3.85	2.78	3.85	1.07
Citicorp	52.0	2.52	1.66	2.52	0.86
Manufacturers Hanover Corp.	22.4	1.09	−0.68	1.09	1.77
Market Total		10.05			
Utica-Rome					
Bankers Trust New York Corp.	20.9	1.63	0.12	0.57	0.45
Chase Manhattan Corp.	24.7	1.93	0.86	1.93	1.07
Chemical New York Corp.	15.6	1.21	0.97	1.21	0.24
Citicorp	33.9	2.64	1.22	1.53	0.31
Irving Bank Corp.	46.0	3.58	0.27	1.27	1.00
Market Total		10.99			

[1]Data are as of June 30 of relevant year.
[2]Citicorp operates in Rochester, but its offices have a substantial volume of nonlocal deposits.

Thus, there is no evidence that the phased removal of deposit interest ceilings and the introduction of MMDA and Super NOW accounts has improved large New York banks' ability to gain market share from smaller upstate banks. If anything, more losses in market share during the 1980-1983 period might indicate the opposite.

The big banks' individual shares remained small at mid-1983, averaging just 3.64 percent. The average deposit size of their operations was $55 million. Acquired banks gained an average of 2.0 percentage points over the whole entry-1983 period. About two-thirds of that gain had occurred by 1980.

Large New York City banks' combined market shares have climbed since their entry into upstate markets, but they remain fairly small. The gains occurred primarily during the entry-1980 period when de novo operations accounted for most increases in market share. At entry, the large banks combined acquired an average market share of 3 percentage points in upstate markets. Their average combined share had risen sharply to 7.4 percentage points by mid-1980. It increased moderately by mid-1983, going to 9.9 percent.

Summary

The continuing evidence from upstate New York seems to contradict the premise that allowing greater latitude for deposit competition increases large banks' ability to compete for deposits more than it improves small banks' competitiveness. This evidence also indicates that the large banks have not demonstrated substantial advantages over smaller upstate banks since they entered upstate metropolitan markets in the early 1970s. Deposit interest deregulation has continued since mid-1983; however, by that time some 55 percent of the nation's total bank deposits were free from interest rate regulation. Any change in large banks' competitive advantage should be noticeable in their relative performance.

The new evidence from northern New York remains quite consistent with the bulk of past evidence on both economies of scale and market performance and casts further doubt on the fabled advantages of large banks in producing and marketing basic financial services. Large banks have some advantages or they would not exist. But these advantages presently appear to be irrelevant in attracting the loan and deposit business of individuals and smaller business customers—the bread and butter of smaller banks.

NOTES

[1]This argument is elaborated in B. Frank King, "Interstate Banking: Issues and Evidence," *Economic Review* Federal Reserve Bank of Atlanta, vol. 69, (April 1984) pp. 36-45.

[2]See Judith Berry Kunreuther, "Banking Structure in New York State: Progress and Prospects," *Monthly Review*, Federal Reserve Bank of New York, vol. 58 (April 1976) pp. 107-115 and Golembe Associates, Inc. "The Public Benefits and Costs of Maine Banks Affiliating with Out-of-State Institutions," Golembe Associates, Inc., Washington, D.C., January 1982, pp. 21-22.

[3]Thomas I. Storrs, "The Case for a Rational Banking System," *Proceedings of a Conference on Bank Structure and Competition*, April 23-25, 1984, (Chicago: Federal Reserve Bank of Chicago, 1984) pp. 37, 40-41.

[4]"Economics of Scale in Banking: An Overview," *Economic Review*, Federal Reserve Bank of Atlanta, vol. 67 (November 1982) pp. 4-5.

[5]A thorough summary of most of these studies is found in George J. Benston, Gerald A. Hanweck and David B. Humphrey, "Operating Costs in Commercial Banking," *Economic Review*, Federal Reserve Bank of Atlanta, vol. 67 (November 1982) pp. 6-21. George J. Benston, Allen N. Berger, Gerald A. Hanweck and David B. Humphrey, "Economies of Scale and Scope in Banking," *Proceedings of a Conference on Bank Structure and Competition*, May 2-4, 1983 (Chicago: Federal Reserve Bank of Chicago, 1983), pp. 432-455, provides additional evidence and discussion.

[6]See Benston and others (May 1983), pp. 450-452 and Thomas Gilligan, Michael Smirlock and William Marshall, "Multiproduct Cost Structures in Commercial Banking," *Proceedings of a Conference on Bank Structure and Competition*, April 12-14, 1982. (Chicago: Federal Reserve Bank of Chicago, 1982) pp. 262-282.

[7]Most of the studies of this sort are summarized and evaluated in B. Frank King, "Changes in Large Banks Market Shares," and "The Impact of Local Market Entry by Large Bank Holding Companies," *Economic Review*, Federal Reserve Bank of Atlanta, vol. 67 (November 1982) pp. 32-40 and 41-47. More recently Stephen A. Rhoades has analyzed evidence on bank scale and scope economies, bank entry and the impact of conglomerate mergers in other industries and found no clear indication of advantage for large, diversified firms, "The Implications for Bank Merger Policy of Financial Deregulation, Interstate Banking and Financial Supermarkets," Staff Study 132, Board of Governors of the Federal Reserve System, 1984.

[8]See Richard W. Nelson, "Branching, Scale Economies and Banking Costs," *Journal of Banking and Finance*, vol. 9 (June 1985) pp. 177-191, for a discussion of the role of convenience in the demand for bank services and in banking costs.

[9]See Storrs, p. 37 for an assertion by the chairman of a large regional bank that greater ability to compete on deposit interest gives large banks an extra advantage.

[10]Irving Bank Corp., then Charter New York Corp., acquired larger banks in Binghamton, Poughkeepsie, and Rochester. These are not analyzed.

[11]Kunreuther (1976) gives a thorough discussion of the New York law and the early entry patterns.

[12]See Kunreuther (1976) and Golembe (1982).

[13]See Golembe (1982). The latest entry studied occurred on June 20, 1977; 27 entries occurred before 1975.

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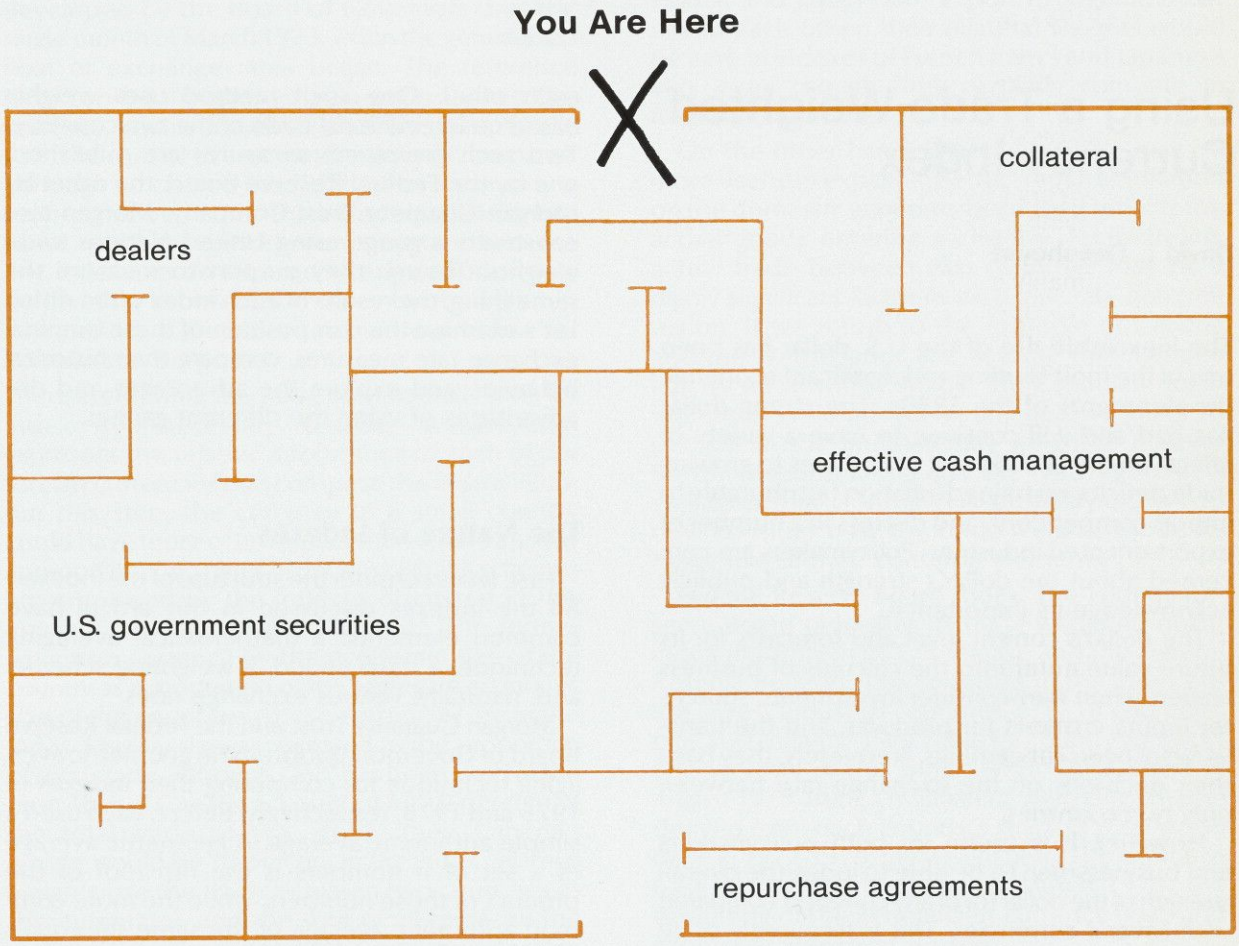


The Federal Reserve Bank of Atlanta announces a September Special Issue of the **Economic Review** devoted to repurchase agreements and the securities market.

Economic Briefs

Using a Trade-Weighted Currency Index

David L. Deephouse

The inexorable rise of the U.S. dollar has been one of the most startling and significant economic developments of the 1980s. The strong dollar has had and will continue to have a variety of effects on the economy. It contributes to growing trade deficits, restrained inflation (attributable to import competition), and distress in a number of export-oriented industries. Policymakers are concerned about the dollar's strength and publicly acknowledge its importance.

The dollar's current level and forecasts for its future value enter into the calculus of business leaders when they consider investments, sources for inputs, markets for products, and the translation of overseas earnings. Frequently, they base their decisions on the exchange rate between only two countries.

However, it is useful for both policymakers and businessmen to be able to judge the overall strength of the dollar (or of any currency) compared with several currencies. This is frequently done with either a simple or a composite index. A simple index is a time series that expresses the percent change of a variable with respect to a base period, or set period against which comparisons are made. A composite index, such as the Consumer Price Index, is also a time series but it incorporates a variety of additional factors. Hence, an index can be constructed for the dollar that summarizes its generalized strength against currencies of the rest of the world. This is accomplished by choosing a group of exchange rates and quantifying their relative importance to each other. One such method uses weights based on international trade of the two countries. Two such prominent measures are published, one by the Federal Reserve Board, the other by Morgan Guaranty Trust Company. Morgan also constructs a gauge using United Nations trade weights. Though they purport to measure the same thing, the results of each index often differ. Let's examine the composition of these nominal exchange rate measures, compare their historical behavior, and explore the advantages and disadvantages of using the different gauges.

The Nature of Indexes

First, let us consider the structure of the indexes. All the indexes discussed in this article have common elements: a mathematical averaging technique, a base period, a weighting scheme, and, naturally, various exchange rates.

Morgan Guaranty Trust and the Federal Reserve Board of Governors adopted the geometric averaging technique for computing their indexes in 1976 and 1978, respectively. Before, each used a simple arithmetic average. A geometric average of a set of n numbers is the nth root of the product of those numbers, while the more common arithmetic average of the same set equals the sum of the numbers divided by n. (For example, the geometric average of the three numbers 2, 4, and 8 equals 4, the cube root of their product; their arithmetic average equals 4 2/3, which is their sum divided by 3.) One of the key advantages of geometric averaging is that it satisfies the time reversal test: given two different points in time, with different data, indexes constructed from both periods will show the same percent change. Another benefit is that the reciprocal of a geometrically averaged index derived from reciprocal currency values (for

example, dollar/deutschmark rather than DM/$) equals the original index.

The reference base, or base period, is the time period for which an index equals 100, and this is the interval against which comparison will be made. The base period can be either one time period or the average of a series of periods. Morgan's indexes established the three years 1980-1982 as their reference base; the index developed by the Board of Governors uses the single month of March 1973, when the generalized float of exchange rates began. The reference base can be interpreted as a period when the currency held its "proper" value. This is especially so in the case of over- or undervalued currencies, although no claim is made here that a currency is properly valued when the index equals 100. In a sense, the base period is unimportant because any index can be rebased to any period simply by dividing its reference series by the value in that period, a procedure carried out below for comparison purposes.

In determining the value of an overall currency index, it is necessary to assign weights that represent the relative importance of each of the foreign currencies that compose the index. Without this step, the currency of a small country could have more of an impact than would appear appropriate. Two types of trade-weighting schemes are employed by the indexes discussed in this article: multilateral and bilateral.[1] The former weights a currency by the economic size of the country as a proportion of the aggregate economic size of the countries whose currencies are in the index. Usually size is expressed as the proportion of total trade, although GNP has been used in the past. Thus, if Canada accounted for 10 percent of the total trade of this group, then Canada's weight would be 10 percent in the index. Bilateral weights use the trade between two countries as the numerator, and the sum of all trade for the currencies in the index as the denominator. For example, if Canada accounted for half of the total trade of the Netherlands, its currency weight for the Netherlands index would be 50 percent. For all weighting schemes, weights generally are scaled in fractions so their sum equals one. Furthermore, weights typically are based on flows during a base period, called the weight base, which may be a different time period than the reference base.

The choice of weighting scheme depends on what the index tries to explain. Multilateral weights may serve well in reflecting transactions performed in a vehicle currency—that is, transactions not involving the country whose currency is being indexed. For example, if Japan purchases oil from Indonesia and payment is made with U.S. dollars (instead of with Japanese or Indonesian money), the dollar is a vehicle currency. Multilateral weights also may be useful for analyzing third market competitiveness. For example, if France and Japan both export to Argentina but not to each other, their bilateral weights would be zero in indexes of French francs and Japanese yen, even though they certainly compete in international trade.

On the other hand, bilateral weights may be more useful in explaining effects such as inflation on the domestic economy because it reflects the actual goods entering a country. Furthermore, actual trade between two countries may be a highly significant factor in exchange rate determination. If we return to the example of Canada and the Netherlands and assume that Sweden has no trade with Canada, the Canadian dollar nonetheless would receive an equal weight of 10 percent in the multilaterally weighted indexes for the Swedish krona and the Dutch guilder, a valuation that is intuitively unsatisfying. Let us now consider how the trade-weighted indexes make use of their common elements.

Federal Reserve Board Index. The Federal Reserve Board publishes its trade-weighted dollar index monthly in its G.5 release and the *Federal Reserve Bulletin*. The countries in the index are the largest industrial countries, or G-10 countries, plus Switzerland.[2] (See Table for country weights.) The weights in this index were last revised in August 1978, using a multilateral weighting scheme derived from each country's share of total world trade in 1972-1976, the weight base. The reference base of the Board's index is March 1973, the beginning of the generalized currency float, and geometric averaging is used.

Morgan Indexes. Morgan Guaranty publishes the Morgan/OECD (Organization for Economic Cooperation and Development) index in *World Financial Markets*, one of its monthly publications. Various business publications reprint this index and *The Wall Street Journal* graphs it daily. The Morgan index, most recently revised in 1983, employs a bilateral weighting scheme based on 1980 manufactures trade data from the OECD and the geometric averaging technique; the years 1980-1982 compose its reference base.

Table Weights of Currencies in the Various Indexes*
(in percent)

Country	Federal Reserve Board	Morgan/ OECD	Morgan/ U.N.
	(1973-76)	(1980)	(1980)
Canada	9.1	30.3	20.7
Australia		2.4	1.7
Japan	13.6	23.2	18.5
Austria		0.4	0.5
Belgium	6.4	3.5	2.2
Denmark		0.6	0.4
France	13.1	5.9	5.1
Germany, (Federal Republic of)	20.8	10.9	9.9
Italy	9.0	4.1	3.7
Netherlands	8.3	3.0	2.0
Norway		0.6	0.4
Spain		1.4	1.3
Sweden	4.2	1.7	1.5
Switzerland	3.6	2.8	1.8
United Kingdom	11.9	9.2	8.2
South Africa			0.0
Brazil			2.2
Mexico			4.6
India			0.4
Malaysia			0.4
Finland			0.4
Greece			0.2
Ireland			0.3
Portugal			0.2
New Zealand			0.2
Argentina			1.0
Chile			0.5
Columbia			0.5
Ecuador			0.2
Peru			0.4
Venezuela			1.1
Nigeria			0.1
Egypt			0.2
Kuwait			0.2
Saudi Arabia			0.6
Indonesia			0.2
Taiwan			3.1
Hong Kong			2.0
Korea			2.1
Pakistan			0.1
Philippines			0.2
Singapore			0.9
Thailand			0.2

*Weights may not add up to one hundred because of rounding.

Sources: Federal Reserve Board. *Federal Reserve Bulletin*, various issues; *Morgan Guaranty Trust Company, World Financial Markets, various issues; U.S. Department of Commerce, Survey of Current Business*, various issues.

The 15 countries in the Morgan index include all those in the Fed's index plus Austria, Australia, Spain, Denmark, and Norway (see Table).

Morgan also computes a dollar index using the same techniques as above but with weights derived from the total manufactures trade of 42 countries as compiled by the United Nations (Morgan/UN) (see Table).

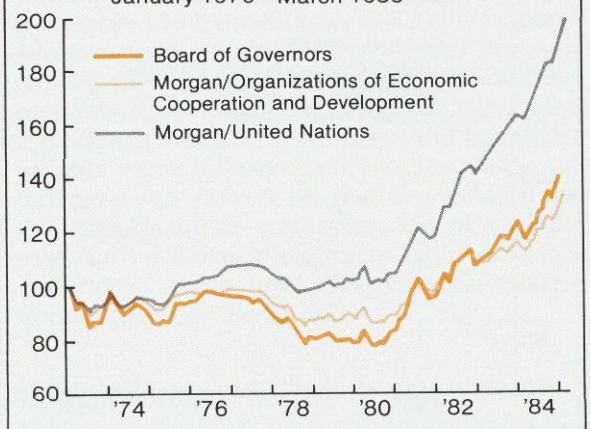
Should We Use Trade Weights?

Since a "weighted average" reflects the relative importance of a group of values in a statistical series, it is reasonable to weight those factors that have the greatest impact on the variable in question. In the case of exchange rates and the associated currency flows, consider the history of international transactions.

Until recently, trade accounted for the majority of international transactions, so naturally a weighted index based on trade was created. But the rapid increase of international capital flows in the past few years has challenged the preeminence of trade as a determinant of exchange rates. This growth has been spurred by technological advances in travel and information transmission that increasingly have enabled investors to investigate and seize opportunities outside their normal sphere of interest. A number of inducements, such as potentially higher returns from both fixed income and equity investments, a larger pool of opportunities for portfolio diversification, and desires for a safe haven for capital, motivate investors to hold both financial (most commonly currency, stocks, and bonds) and real assets in other nations. The pronounced trend toward deregulation and liberalization of financial markets has accompanied this process.

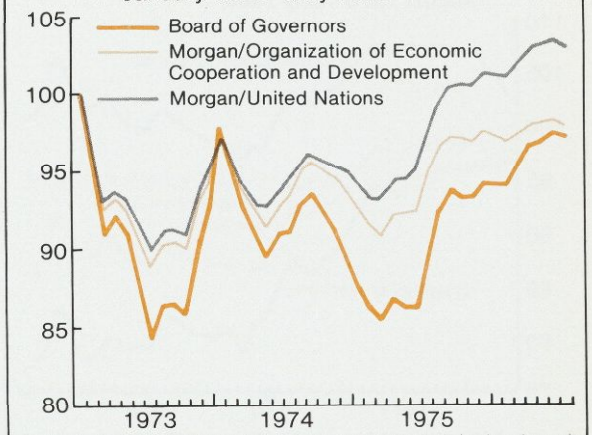
Another problem with trade-weighting is defining and measuring trade. In general, trade is the movement of goods between countries in exchange for payment, and it is measured through records kept by companies and government agencies. The level of activity these figures reflect can be used for trade weights, but there is difficulty with this procedure. Some trade is

Chart 1. Comparison of Trade-Weighted Dollar Indexes, January 1976 - March 1985



Source: Federal Reserve Board, *Federal Reserve Bulletin* (various issues); Morgan Guaranty Trust Company, *World Financial Markets* (various issues); and U.S. Department of Commerce, *Survey of Current Business* (various issues).

Chart 2. Comparison of Trade-Weighted Dollar Indexes, January 1973 - July 1976



Source: Federal Reserve Board, *Federal Reserve Bulletin* (various issues); Morgan Guaranty Trust Company, *World Financial Markets* (various issues); and U.S. Department of Commerce, *Survey of Current Business* (various issues).

likely to occur undetected by Customs officials, because the products are illegal or because their shippers seek to escape trade duties. Thus, certain currency movement may not be detected as trade-related. Trade can occur without currency exchange (called countertrade), such as when a firm accepts goods in lieu of currency from foreign customers because of currency shortages or exchange rate risk.

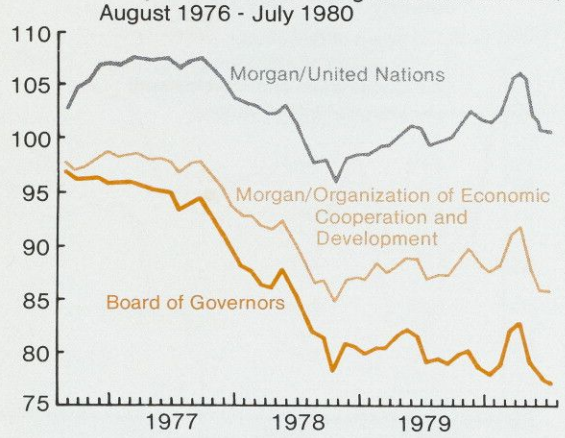
Currency movement also may follow from transactions enacted in the currency of a country that is not a participant. This vehicle currency transactions may not be included in a trade-weighted index. Also omitted from a trade-weighted index of the dollar is the demand for the dollar as an international reserve asset. These are financial assets, such as currencies and government securities, that governments hold for some of the same reasons that individuals do: for a store of value, transactions, foreign exchange intervention, and precautionary balances.

Given these problems, why do we persist in weighting trade? The first reason is that trade weighting is a concept we are accustomed to and can understand with relative ease. Next, although trade data are subject to errors, they are easier to obtain and more timely than capital flows and vehicle currency transactions. Consequently, as long as no theoretically, empirically, and practically superior alternative measure is developed, trade-weighted currency indexes will continue to be used.

Historical Comparison

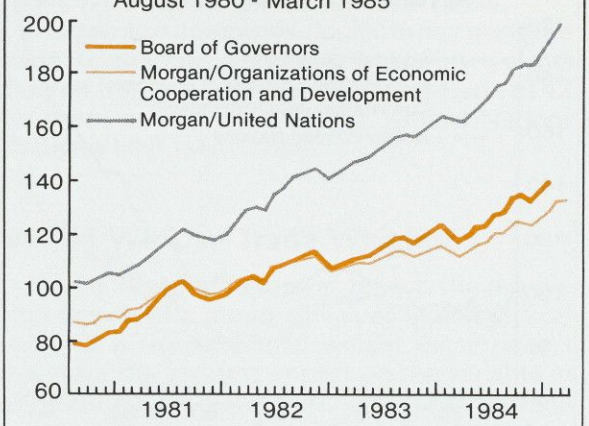
Over the past 12 years, the Federal Reserve and Morgan/OECD indexes have moved together; however, the broader Morgan/UN index shows larger gains in the dollar's value. The differences among the indexes result both from different weighting schemes and the choice of currencies. Few country weights are the same among the indexes in the Table; nevertheless, discernible patterns are evident. The Federal Reserve Board's weights, derived multilaterally, differ considerably from those of the other two indexes. This disparity results from the great volume of world trade that is actually intra-European trade. The Morgan/UN weights are proportionately lower because of the large number of countries involved.

Chart 3. Comparison of Trade-Weighted Dollar Indexes, August 1976 - July 1980



Source: Federal Reserve Board, *Federal Reserve Bulletin* (various issues); Morgan Guaranty Trust Company, *World Financial Markets* (various issues); and U.S. Department of Commerce, *Survey of Current Business* (various issues).

Chart 4. Comparison of Trade-Weighted Dollar Indexes, August 1980 - March 1985



Source: Federal Reserve Board, *Federal Reserve Bulletin* (various issues); Morgan Guaranty Trust Company, *World Financial Markets* (various issues); and U.S. Department of Commerce, *Survey of Current Business* (various issues).

Charts 1 through 4 rebase all three indexes to January 1973. Chart 1 depicts all three indexes over the period from January 1973 to March 1985. Subsequent charts break this span into three subsections: the period of adjustment to floating rates from January 1973 to June 1976; the period of dollar depreciation from July 1976 to July 1980; and the following period of dollar appreciation. Overall, it is interesting to note that after 1974 the Morgan/UN index shows a higher level for the dollar than the other indexes.

In the time span covered by Chart 2, the dollar was devalued and the floating rate period began. The indexes oscillate together until mid-1975, with the Board's measure falling below the others. As the recovery started, the Morgan/UN measure displayed more strength for the dollar.

The second period (Chart 3) covers the expansion and inflation of the late seventies. Trends in the indexes are divergent through much of this span. The dollar strengthened until late 1977 according to the Morgan/UN index, while it held steady according to the Morgan/OECD index and declined slightly in the Board's measure. All measures fell in late 1977 and most of 1978, but the magnitudes are quite different. While the index that included non-industrial countries slipped about 10 percent, the Morgan/OECD index retreated 13.3 percent and the Federal Reserve Board's measure, heavily weighted with European currencies, slumped 17.1 percent. A slight uptrend emerged in the two indexes with bilateral weights from late 1977-1978 through 1980, a time when the Board's measure slipped slightly.

The third period saw the dollar appreciate steadily (Chart 4). From December 1980 to December 1984, the Morgan/OECD index gained 40.7 percent, the Federal Reserve Board's measure grew 64 percent, and the Morgan/UN index 78.1 percent. The Morgan/OECD index falls below the Board's measure after early 1983 because it weights more heavily the Canadian dollar and Japanese yen, currencies that depreciated less than the European currencies. The other index rose further since it embraces Latin American currencies, which have been devalued, often frequently, over the period.

Conclusions

Despite its many faults, a trade-weighted currency index is a useful measure for summarizing currency movements. The various index designs, however, will inevitably give different pictures of a currency's strength. (Charts 1 through 4 demonstrate this). Since theoretical and practical difficulties make a universally perfect index impossible, users should choose among the various indexes with care. Index designers could continue working to develop an improved index that reflects as much of the real, financial, domestic, and international economic activity denominated in a currency as possible.

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NOTES

[1]A model-based approach, which relies on detailed assumptions about economic behavior to derive weights, is used by the International Monetary Fund. However, detailed analysis of such an approach is beyond the scope of this article.

[2]The G-10 countries are: United States, Japan, Federal Republic of Germany, France, United Kingdom, Italy, Canada, the Netherlands, Belgium, and Sweden. Switzerland is a major financial center.

FINANCE

$ millions	APR 1985	MAR 1985	APR 1984	ANN. % CHG.		APR 1985	MAR 1985	APR 1984	ANN. % CHG.
UNITED STATES									
Commercial Bank Deposits	1,482,408	1,472,098	1,345,076	+ 10	Savings & Loans**				
Demand	313,393	317,643	303,166	+ 3	Total Deposits	728,222	724,639	657,337	+ 11
NOW	100,221	99,949	88,949	+ 13	NOW	23,191	23,090	20,097	+ 15
Savings	403,932	400,859	361,665	+ 12	Savings	171,167	169,637	174,476	- 2
Time	704,606	699,083	627,703	+ 12	Time	535,973	535,295	466,136	+ 15
Credit Union Deposits	61,185	60,223	51,941	+ 18		MAR	FEB	MAR	
Share Drafts	6,736	6,736	5,226	+ 29	Mortgages Outstanding	608,327	603,308	535,887	+ 14
Savings & Time	54,526	53,619	45,579	+ 20	Mortgage Commitments	39,109	37,433	42,518	- 8
SOUTHEAST									
Commercial Bank Deposits	172,809	171,154	154,436	+ 11	Savings & Loans				
Demand	37,164	37,315	36,152	+ 2	Total Deposits	95,336	94,706	N.A.	
NOW	13,261	13,199	11,680	+ 13	NOW	3,628	3,667	N.A.	
Savings	45,802	45,248	40,913	+ 11	Savings	21,484	21,603	N.A.	
Time	80,867	80,184	69,896	+ 15	Time	70,092	69,818	N.A.	
Credit Union Deposits	6,916	6,780	5,922	+ 16		MAR	FEB	MAR	
Share Drafts	616	622	512	+ 20	Mortgages Outstanding	77,466	76,853	69,165	+ 12
Savings & Time	6,168	6,056	5,283	+ 16	Mortgage Commitments	4,767	4,521	5,117	- 7
ALABAMA									
Commercial Bank Deposits	17,852	17,746	15,989	+ 12	Savings & Loans**				
Demand	3,760	3,868	3,657	+ 3	Total Deposits	6,306	6,192	5,360	+ 18
NOW	1,260	1,252	1,054	+ 20	NOW	204	199	165	+ 24
Savings	3,599	3,544	3,301	+ 9	Savings	1,047	1,035	897	+ 17
Time	9,761	9,705	8,456	+ 15	Time	5,106	5,052	4,341	+ 18
Credit Union Deposits	1,035	1,019	941	+ 10		MAR	FEB	MAR	
Share Drafts	109	108	92	+ 18	Mortgages Outstanding	4,325	4,384	4,011	+ 8
Savings & Time	896	884	818	+ 10	Mortgage Commitments	291	248	289	+ 1
FLORIDA									
Commercial Bank Deposits	62,272	61,413	55,020	+ 13	Savings & Loans**				
Demand	13,712	13,615	13,153	+ 4	Total Deposits	60,825	60,401	56,274	+ 8
NOW	5,512	5,440	4,868	+ 13	NOW	2,498	2,557	2,314	+ 8
Savings	21,602	21,280	19,318	+ 12	Savings	14,667	14,534	15,108	- 3
Time	22,936	22,739	18,990	+ 21	Time	43,651	43,432	39,060	+ 12
Credit Union Deposits	3,111	3,063	2,581	+ 21		MAR	FEB	MAR	
Share Drafts	310	315	258	+ 20	Mortgages Outstanding	46,321	45,821	40,590	+ 14
Savings & Time	2,669	2,624	2,185	+ 22	Mortgage Commitments	3,102	3,005	3,397	- 9
GEORGIA									
Commercial Bank Deposits	26,849	26,577	22,891	+ 17	Savings & Loans				
Demand	7,436	7,388	7,032	+ 6	Total Deposits	8,160	8,065	N.A.	
NOW	1,774	1,761	1,528	+ 16	NOW	339	320	N.A.	
Savings	6,876	6,857	5,230	+ 31	Savings	1,860	2,141	N.A.	
Time	12,035	11,958	10,309	+ 17	Time	6,113	5,518	N.A.	
Credit Union Deposits	1,431	1,399	1,242	+ 15		MAR	FEB	MAR	
Share Drafts	101	102	77	+ 31	Mortgages Outstanding	9,166	9,045	8,492	+ 8
Savings & Time	1,335	1,318	1,178	+ 13	Mortgage Commitments	420	349	551	- 24
LOUISIANA									
Commercial Bank Deposits	27,845	27,733	25,647	+ 9	Savings & Loans**				
Demand	5,491	5,654	5,663	- 3	Total Deposits	10,938	10,957	9,378	+ 17
NOW	1,680	1,664	1,532	+ 10	NOW	299	300	233	+ 28
Savings	6,023	5,957	5,581	+ 8	Savings	2,313	2,289	2,352	- 2
Time	15,182	15,072	13,446	+ 13	Time	7,924	8,528	6,944	+ 14
Credit Union Deposits	186	184	206	- 10		MAR	FEB	MAR	
Share Drafts	17	17	23	- 26	Mortgages Outstanding	9,367	9,329	8,538	+ 9
Savings & Time	181	181	200	- 10	Mortgage Commitments	388	398	529	- 27
MISSISSIPPI									
Commercial Bank Deposits	12,900	12,846	12,072	+ 7	Savings & Loans				
Demand	2,432	2,430	2,367	+ 3	Total Deposits	1,848	1,781	N.A.	
NOW	928	954	859	+ 8	NOW	54	52	N.A.	
Savings	2,507	2,509	2,503	+ 0	Savings	308	307	N.A.	
Time	7,333	7,276	6,704	+ 9	Time	1,529	1,477	N.A.	
Credit Union Deposits	*	*	*			MAR	FEB	MAR	
Share Drafts	*	*	*		Mortgages Outstanding	2,111	2,117	2,087	+ 1
Savings & Time	*	*	*		Mortgage Commitments	244	212	67	+264
TENNESSEE									
Commercial Bank Deposits	25,091	24,839	22,817	+ 10	Savings & Loans**				
Demand	4,333	4,360	4,280	+ 1	Total Deposits	7,259	7,310	7,013	+ 4
NOW	2,107	2,128	1,839	+ 15	NOW	234	239	193	+ 21
Savings	5,095	5,101	4,980	+ 2	Savings	1,289	1,297	1,333	- 3
Time	13,620	13,434	11,991	+ 14	Time	5,769	5,811	5,529	+ 4
Credit Union Deposits	1,153	1,115	952	+ 21		MAR	FEB	MAR	
Share Drafts	79	80	62	+ 27	Mortgages Outstanding	6,176	6,157	5,447	+ 13
Savings & Time	1,087	1,049	902	+ 21	Mortgage Commitments	322	309	284	+ 13

Notes: All deposit data are extracted from the Federal Reserve Report of Transaction Accounts, other Deposits and Vault Cash (FR2900), and are reported for the average of the week ending the 1st Wednesday of the month. This data, reported by institutions with over $15 million in deposits as of December 31, 1979, represents 95% of deposits in the six state area. The major differences between this report and the "call report" are size, the treatment of interbank deposits, and the treatment of float. The data generated from the Report of Transaction Accounts is for banks over $15 million in deposits as of December 31, 1979. The total deposit data generated from the Report of Transaction Accounts eliminates interbank deposits by reporting the net of deposits "due to" and "due from" other depository institutions. The Report of Transaction Accounts subtracts cash items in process of collection from demand deposits, while the call report does not. Savings and loan mortgage data are from the Federal Home Loan Bank Board Selected Balance Sheet Data. The Southeast data represent the total of the six states. Subcategories were chosen on a selective basis and do not add to total.

* = fewer than four institutions reporting.

** = S&L deposits subject to revisions due to reporting changes.

N.A. = not comparable with previous data at this time.

CONSTRUCTION

12-month Cumulative Rate	MAR 1985	FEB 1985	MAR 1984	ANN % CHG		MAR 1985	FEB 1985	MAR 1984	ANN % CHG
UNITED STATES									
Nonresidential Building Permits - $ Mil.					Residential Building Permits				
Total Nonresidential	63,766	62,802	54,170	+ 18	Value - $ Mil.	74,140	74,036	72,084	+ 3
Industrial Bldgs.	9,096	9,196	6,017	+ 51	Residential Permits - Thous.				
Offices	15,774	15,059	13,600	+ 16	Single-family units	875.3	876.3	924.8	- 5
Stores	9,726	9,770	7,874	+ 24	Multi-family units	730.4	732.5	735.8	- 1
Hospitals	2,010	1,866	1,957	+ 3	Total Building Permits				
Schools	1,132	1,094	818	+ 38	Value - $ Mil.	137,906	136,838	126,254	+ 9
SOUTHEAST									
Nonresidential Building Permits - $ Mil.					Residential Building Permits				
Total Nonresidential	9,687	9,743	8,586	+ 13	Value - $ Mil.	13,601	13,619	13,530	+ 1
Industrial Bldgs.	1,048	1,063	711	+ 47	Residential Permits - Thous.				
Offices	2,230	2,262	2,107	+ 6	Single-family units	183.4	183.4	189.9	- 3
Stores	1,949	1,974	1,541	+ 26	Multi-family units	163.3	165.0	173.9	- 6
Hospitals	365	409	489	- 25	Total Building Permits				
Schools	112	113	131	- 15	Value - $ Mil.	23,287	23,362	22,115	+ 5
ALABAMA									
Nonresidential Building Permits - $ Mil.					Residential Building Permits				
Total Nonresidential	743	731	578	+ 29	Value - $ Mil.	461	447	453	+ 2
Industrial Bldgs.	193	194	42	+360	Residential Permits - Thous.				
Offices	98	94	70	+ 40	Single-family units	8.7	8.6	8.0	+ 9
Stores	138	123	110	+ 25	Multi-family units	6.4	6.2	8.7	- 26
Hospitals	58	57	6	+867	Total Building Permits				
Schools	7	6	9	- 22	Value - $ Mil.	1,204	1,178	1,030	+ 17
FLORIDA									
Nonresidential Building Permits - $ Mil.					Residential Building Permits				
Total Nonresidential	4,844	4,910	4,243	+ 14	Value - $ Mil.	7,794	7,866	7,858	- 1
Industrial Bldgs.	526	539	384	+ 37	Residential Permits - Thous.				
Offices	1,048	1,048	975	+ 7	Single-family units	98.3	99.2	102.8	- 4
Stores	1,091	1,134	865	+ 26	Multi-family units	94.1	94.9	96.1	- 2
Hospitals	160	165	270	- 41	Total Building Permits				
Schools	49	49	31	+ 58	Value - $ Mil.	12,637	12,775	12,101	+ 4
GEORGIA									
Nonresidential Building Permits - $ Mil.					Residential Building Permits				
Total Nonresidential	1,780	1,824	1,499	+ 19	Value - $ Mil.	2,805	2,793	2,602	+ 8
Industrial Bldgs.	201	204	175	+ 15	Residential Permits - Thous.				
Offices	509	545	514	- 1	Single-family units	43.3	43.0	43.6	- 1
Stores	297	288	191	+ 55	Multi-family units	25.9	26.1	26.4	- 2
Hospitals	30	49	55	- 45	Total Building Permits				
Schools	17	18	32	- 47	Value - $ Mil.	4,585	4,617	4,101	+ 12
LOUISIANA									
Nonresidential Building Permits - $ Mil.					Residential Building Permits				
Total Nonresidential	1,243	1,202	1,164	+ 7	Value - $ Mil.	948	975	1,150	- 18
Industrial Bldgs.	37	34	31	+ 19	Residential Permits - Thous.				
Offices	318	314	364	- 13	Single-family units	12.9	13.1	16.6	- 22
Stores	236	249	156	+ 51	Multi-family units	11.1	11.9	18.1	- 39
Hospitals	77	98	119	- 35	Total Building Permits				
Schools	31	32	49	- 37	Value - $ Mil.	2,190	2,177	2,314	- 5
MISSISSIPPI									
Nonresidential Building Permits - $ Mil.					Residential Building Permits				
Total Nonresidential	241	248	217	+ 11	Value - $ Mil.	374	380	333	+ 12
Industrial Bldgs.	12	12	11	+ 9	Residential Permits - Thous.				
Offices	39	39	21	+ 86	Single-family units	6.1	6.0	4.9	+ 24
Stores	46	48	50	- 8	Multi-family units	3.9	4.5	5.4	- 28
Hospitals	8	8	15	- 47	Total Building Permits				
Schools	3	3	4	- 25	Value - $ Mil.	616	628	550	+ 12
TENNESSEE									
Nonresidential Building Permits - $ Mil.					Residential Building Permits				
Total Nonresidential	836	828	885	- 6	Value - $ Mil.	1,219	1,158	1,134	+ 7
Industrial Bldgs.	79	80	68	+ 16	Residential Permits - Thous.				
Offices	218	222	163	+ 34	Single-family units	14.1	13.5	14.0	+ 1
Stores	141	132	169	- 17	Multi-family units	21.9	21.4	19.2	+ 14
Hospitals	32	32	24	+ 33	Total Building Permits				
Schools	5	5	6	- 17	Value - $ Mil.	2,055	1,987	2,019	+ 2

NOTES:
Data supplied by the U. S. Bureau of the Census, Housing Units Authorized By Building Permits and Public Contracts, C-40. Nonresidential data excludes the cost of construction for publicly owned buildings. The southeast data represent the total of the six states. The annual percent change calculation is based on the most recent month over prior year. Publication of F. W. Dodge construction contracts has been discontinued.

GENERAL

	LATEST DATA	CURR. PERIOD	PREV. PERIOD	YEAR AGO	ANN. % CHG.
UNITED STATES					
Personal Income ($bil. - SAAR)	Q	3,086.4	3,039.9	2,906.5	+ 6
Taxable Sales - $bil.		N.A.	N.A.	N.A.	
Plane Pass. Arr. 000's		N.A.	N.A.	N.A.	
Petroleum Prod. (thous.)	APR	8,907.3	8,968.0	8,509.7	+ 5
Consumer Price Index 1967=100	APR	320.1	318.8	308.8	+ 4
Kilowatt Hours - mils.	FEB	201.0	201.4	188.9	+ 5
SOUTHEAST					
Personal Income ($bil. - SAAR)	4Q	377.2	370.4	342.5	+10
Taxable Sales - $ bil.		N.A.	N.A.	N.A.	
Plane Pass. Arr. 000's	FEB	4,421.3	4,416.2	4,167.9	+ 6
Petroleum Prod. (thous.)	APR	1,508.0	1,507.0	1,429.0	+ 6
Consumer Price Index 1967=100		N.A.	N.A.	N.A.	
Kilowatt Hours - mils.	FEB	32.0	30.6	30.1	+ 6
ALABAMA					
Personal Income ($bil. - SAAR)	4Q	40.8	40.5	37.5	+ 9
Taxable Sales - $ bil.		N.A.	N.A.	N.A.	
Plane Pass. Arr. 000's	FEB	99.2	106.0	103.2	- 4
Petroleum Prod. (thous.)	APR	56.0	55.0	52.0	+ 8
Consumer Price Index 1967=100		N.A.	N.A.	N.A.	
Kilowatt Hours - mils.	FEB	4.5	4.2	3.7	+21
FLORIDA					
Personal Income ($bil. - SAAR)	4Q	143.3	140.0	128.1	+12
Taxable Sales - $ bil.	APR	86.0	86.1	77.0	+12
Plane Pass. Arr. 000's	FEB	2,318.2	2,226.3	2,218.9	+ 4
Petroleum Prod. (thous.)	APR	35.0	36.0	49.0	-29
Consumer Price Index - Miami		**MAR**	**JAN**	**MAR**	
Nov. 1977 = 100		170.1	168.6	165.6	+ 3
Kilowatt Hours - mils.	FEB	8.8	8.3	7.8	+12
GEORGIA					
Personal Income ($bil. - SAAR)	4Q	69.4	67.8	61.9	+12
Taxable Sales - $ bil.		N.A.	N.A.	N.A.	
Plane Pass. Arr. 000's	FEB	1,574.1	1,644.4	1,443.1	+ 9
Petroleum Prod. (thous.)		N.A.	N.A.	N.A.	
Consumer Price Index - Atlanta		**APR**	**MAR**	**APR**	
1967 = 100		324.6	322.4	311.1	+ 4
Kilowatt Hours - mils.	FEB	4.7	5.2	4.4	+ 6
LOUISIANA					
Personal Income ($bil. - SAAR)	4Q	49.7	49.2	46.9	+ 6
Taxable Sales - $ bil.		N.A.	N.A.	N.A.	
Plane Pass. Arr. 000's	FEB	267.6	249.7	241.3	+11
Petroleum Prod. (thous.)	APR	1,328.0	1,326.0	1,240.0	+ 7
Consumer Price Index 1967 = 100		N.A.	N.A.	N.A.	
Kilowatt Hours - mils.	FEB	4.7	4.6	4.7	0
MISSISSIPPI					
Personal Income ($bil. - SAAR)	4Q	23.5	23.2	22.0	+ 7
Taxable Sales - $ bil.		N.A.	N.A.	N.A.	
Plane Pass. Arr. 000's	FEB	26.3	30.6	29.3	-10
Petroleum Prod. (thous.)	APR	89.0	90.0	88.0	+ 1
Consumer Price Index 1967 = 100		N.A.	N.A.	N.A.	
Kilowatt Hours - mils.	FEB	2.1	2.1	2.1	0
TENNESSEE					
Personal Income ($bil. - SAAR)	4Q	50.5	49.7	46.1	+10
Taxable Sales - $ bil.		N.A.	N.A.	N.A.	
Plane Pass. Arr. 000's	FEB	135.9	159.2	132.1	+ 3
Petroleum Prod. (thous.)	APR	N.A.	N.A.	N.A.	
Consumer Price Index 1967 = 100		N.A.	N.A.	N.A.	
Kilowatt Hours - mils.	FEB	7.2	6.2	7.4	- 3

	APR 1985	MAR (R) 1985	APR (R) 1984	ANN. % CHG.
UNITED STATES				
Agriculture				
Prices Rec'd by Farmers Index (1977=100)	132	134	146	-10
Broiler Placements (thous.)	90,277	89,049	86,600	+ 4
Calf Prices ($ per cwt.)	65.80	65.90	62.30	+ 6
Broiler Prices (¢ per lb.)	28.80	30.10	34.80	-17
Soybean Prices ($ per bu.)	5.86	5.88	7.82	-25
Broiler Feed Cost ($ per ton)	207	214	246	-16
SOUTHEAST				
Agriculture				
Prices Rec'd by Farmers Index (1977=100)	122	125	136	-10
Broiler Placements (thous.)	34,902	34,304	33,222	+ 5
Calf Prices ($ per cwt.)	61.44	61.79	58.52	+ 5
Broiler Prices (¢ per lb.)	26.66	28.95	34.03	-22
Soybean Prices ($ per bu.)	6.01	5.99	7.94	-24
Broiler Feed Cost ($ per ton)	204	212	234	-13
ALABAMA				
Agriculture				
Farm Cash Receipts - $ mil. (Dates: APR, APR)	N.A.	-	599	
Broiler Placements (thous.)	11,747	11,632	11,313	+ 4
Calf Prices ($ per cwt.)	59.70	61.10	57.40	+ 4
Broiler Prices (¢ per lb.)	25.50	28.50	33.00	-23
Soybean Prices ($ per bu.)	5.99	6.01	7.92	-24
Broiler Feed Cost ($ per ton)	195	200	270	-28
FLORIDA				
Agriculture				
Farm Cash Receipts - $ mil. (Dates: APR, APR)	N.A.	-	1,994	
Broiler Placements (thous.)	2,162	2,058	1,995	+ 8
Calf Prices ($ per cwt.)	64.70	63.90	63.00	+ 3
Broiler Prices (¢ per lb.)	27.00	29.00	34.00	-21
Soybean Prices ($ per bu.)	5.99	6.01	7.93	-24
Broiler Feed Cost ($ per ton)	235	235	280	-16
GEORGIA				
Agriculture				
Farm Cash Receipts - $ mil. (Dates: APR, APR)	N.A.	-	912	
Broiler Placements (thous.)	14,192	13,980	13,268	+ 7
Calf Prices ($ per cwt.)	60.20	61.50	53.30	+13
Broiler Prices (¢ per lb.)	26.00	28.50	34.00	-24
Soybean Prices ($ per bu.)	5.97	5.90	7.93	-25
Broiler Feed Cost ($ per ton)	225	245	215	+ 5
LOUISIANA				
Agriculture				
Farm Cash Receipts - $ mil. (Dates: APR, APR)	N.A.	-	438	
Broiler Placements (thous.)	N.A.	N.A.	N.A.	
Calf Prices ($ per cwt.)	63.20	62.60	60.40	+ 5
Broiler Prices (¢ per lb.)	31.50	28.00	35.00	-10
Soybean Prices ($ per bu.)	5.95	5.96	7.98	-25
Broiler Feed Cost ($ per ton)	250	250	285	-12
MISSISSIPPI				
Agriculture				
Farm Cash Receipts - $ mil. (Dates: APR, APR)	N.A.	-	623	
Broiler Placements (thous.)	6,801	6,634	6,647	+ 2
Calf Prices ($ per cwt.)	61.90	63.10	58.50	+ 6
Broiler Prices (¢ per lb.)	28.50	31.00	35.50	-20
Soybean Prices ($ per bu.)	6.06	5.99	7.87	-23
Broiler Feed Cost ($ per ton)	160	158	190	-16
TENNESSEE				
Agriculture				
Farm Cash Receipts - $ mil. (Dates: APR, APR)	N.A.	-	514	
Broiler Placements (thous.)	N.A.	N.A.	N.A.	
Calf Prices ($ per cwt.)	59.20	58.90	57.80	+ 2
Broiler Prices (¢ per lb.)	26.00	28.00	34.00	-24
Soybean Prices ($ per bu.)	6.05	6.05	8.00	-24
Broiler Feed Cost ($ per ton)	183	188	225	-19

Notes:
Personal Income data supplied by U. S. Department of Commerce. Taxable Sales are reported as a 12-month cumulative total. Plane Passenger Arrivals are collected from 26 airports. Petroleum Production data supplied by U. S. Bureau of Mines. Consumer Price Index data supplied by Bureau of Labor Statistics. Agriculture data supplied by U. S. Department of Agriculture. Farm Cash Receipts data are reported as cumulative for the calendar year through the month shown. Broiler placements are an average weekly rate. The Southeast data represent the total of the six states. N.A. = not available. The annual percent change calculation is based on most recent data over prior year. R = revised.

EMPLOYMENT

	MAR 1985	FEB 1985	MAR 1984	ANN. % CHG.		MAR 1985	FEB 1985	MAR 1984	ANN. % CHG.
UNITED STATES									
Civilian Labor Force - thous.	114,394	113,592	111,828	+ 2	Nonfarm Employment- thous.	95,660	94,846	92,234	+ 4
Total Employed - thous.	105,768	104,690	102,770	+ 3	Manufacturing	19,568	19,540	19,323	+ 1
Total Unemployed - thous.	8,625	8,902	9,057	- 5	Construction	4,216	4,009	3,794	+11
Unemployment Rate - % SA	7.3	7.3	7.8		Trade	22,081	21,890	21,050	+ 5
Insured Unemployment - thous.	N.A.	N.A.	N.A.		Government	16,457	16,356	16,204	+ 1
Insured Unempl. Rate - %	N.A.	N.A.	N.A.		Services	21,367	21,118	20,276	+ 5
Mfg. Avg. Wkly. Hours	40.3	39.7	40.7	- 1	Fin., Ins., & Real Est.	5,777	5,746	5,565	+ 3
Mfg. Avg. Wkly. Earn. - $	380	374	370	+ 3	Trans. Com. & Pub. Util.	5,207	5,202	5,055	+ 3
SOUTHEAST									
Civilian Labor Force - thous.	15,107	15,065	14,625	+ 3	Nonfarm Employment- thous.	12,611	12,547	12,102	+ 4
Total Employed - thous.	13,918	13,831	13,463	+ 3	Manufacturing	2,300	2,308	2,273	+ 1
Total Unemployed - thous.	1,190	1,232	1,162	+ 2	Construction	758	738	708	+ 7
Unemployment Rate - % SA	7.8	7.8	7.6		Trade	3,105	3,084	2,906	+ 7
Insured Unemployment - thous.	N.A.	N.A.	N.A.		Government	2,253	2,246	2,207	+ 2
Insured Unempl. Rate - %	N.A.	N.A.	N.A.		Services	2,631	2,609	2,492	+ 6
Mfg. Avg. Wkly. Hours	40.7	40.2	40.9	- 0	Fin., Ins., & Real Est.	712	708	682	+ 4
Mfg. Avg. Wkly. Earn. - $	338	335	325	+ 4	Trans. Com. & Pub. Util.	724	725	705	+ 3
ALABAMA									
Civilian Labor Force - thous.	1,796	1,796	1,766	+ 2	Nonfarm Employment- thous.	1,383	1,384	1,362	+ 2
Total Employed - thous.	1,605	1,599	1,563	+ 3	Manufacturing	346	353	356	- 3
Total Unemployed - thous.	192	197	204	- 6	Construction	65	62	61	+ 7
Unemployment Rate - % SA	10.2	10.4	11.1		Trade	290	290	280	+ 4
Insured Unemployment - thous.	N.A.	N.A.	N.A.		Government	300	300	293	+ 2
Insured Unempl. Rate - %	N.A.	N.A.	N.A.		Services	230	230	225	+ 2
Mfg. Avg. Wkly. Hours	40.2	39.1	40.7	- 1	Fin., Ins., & Real Est.	64	64	61	+ 5
Mfg. Avg. Wkly. Earn. - $	340	329	317	+ 7	Trans. Com. & Pub. Util.	72	71	71	+ 1
FLORIDA									
Civilian Labor Force - thous.	5,239	5,246	5,003	+ 5	Nonfarm Employment- thous.	4,418	4,400	4,188	+ 5
Total Employed - thous.	4,933	4,940	4,735	+ 4	Manufacturing	519	520	496	+ 5
Total Unemployed - thous.	307	305	268	+15	Construction	334	334	305	+10
Unemployment Rate - % SA	6.4	6.1	5.8		Trade	1,173	1,166	1,110	+ 6
Insured Unemployment - thous.	N.A.	N.A.	N.A.		Government	690	685	662	+ 4
Insured Unempl. Rate - %	N.A.	N.A.	N.A.		Services	1,136	1,128	1,071	+ 6
Mfg. Avg. Wkly. Hours	40.8	41.2	41.1	- 1	Fin., Ins., & Real Est.	311	308	294	+ 6
Mfg. Avg. Wkly. Earn. - $	317	321	309	+ 3	Trans. Com. & Pub. Util.	245	248	241	+ 2
GEORGIA									
Civilian Labor Force - thous.	2,827	2,794	2,687	+ 5	Nonfarm Employment- thous.	2,561	2,537	2,385	+ 7
Total Employed - thous.	2,659	2,619	2,518	+ 5	Manufacturing	546	546	535	+ 2
Total Unemployed - thous.	167	175	169	- 2	Construction	141	131	121	+16
Unemployment Rate - % SA	5.7	5.6	6.1		Trade	652	644	577	+12
Insured Unemployment - thous.	N.A.	N.A.	N.A.		Government	450	449	445	+ 1
Insured Unempl. Rate - %	N.A.	N.A.	N.A.		Services	471	465	422	+12
Mfg. Avg. Wkly. Hours	40.8	39.7	40.9	- 0	Fin., Ins., & Real Est.	133	134	125	+ 6
Mfg. Avg. Wkly. Earn. - $	322	314	306	+ 5	Trans. Com. & Pub. Util.	160	160	151	+ 6
LOUISIANA									
Civilian Labor Force - thous.	1,926	1,920	1,919	+ 0	Nonfarm Employment- thous.	1,584	1,585	1,578	+ 0
Total Employed - thous.	1,701	1,691	1,718	- 1	Manufacturing	179	179	178	+ 1
Total Unemployed - thous.	225	229	200	+13	Construction	108	107	116	- 7
Unemployment Rate - % SA	11.7	11.7	10.4		Trade	379	378	373	+ 2
Insured Unemployment - thous.	N.A.	N.A.	N.A.		Government	327	327	322	+ 2
Insured Unempl. Rate - %	N.A.	N.A.	N.A.		Services	312	313	310	+ 1
Mfg. Avg. Wkly. Hours	41.3	41.5	41.6	- 1	Fin., Ins., & Real Est.	84	83	83	+ 1
Mfg. Avg. Wkly. Earn. - $	428	428	416	+ 3	Trans. Com. & Pub. Util.	117	117	116	+ 1
MISSISSIPPI									
Civilian Labor Force - thous.	1,084	1,076	1,064	+ 2	Nonfarm Employment- thous.	838	835	813	+ 3
Total Employed - thous.	968	952	944	+ 3	Manufacturing	219	220	216	+ 1
Total Unemployed - thous.	116	123	120	- 3	Construction	38	37	35	+ 9
Unemployment Rate - % SA	10.2	10.6	10.8		Trade	180	179	169	+ 7
Insured Unemployment - thous.	N.A.	N.A.	N.A.		Government	189	190	185	+ 2
Insured Unempl. Rate - %	N.A.	N.A.	N.A.		Services	129	127	126	+ 2
Mfg. Avg. Wkly. Hours	40.6	40.8	40.4	+ 0	Fin., Ins., & Real Est.	35	34	34	+ 3
Mfg. Avg. Wkly. Earn. - $	292	295	281	+ 4	Trans. Com. & Pub. Util.	39	39	39	0
TENNESSEE									
Civilian Labor Force - thous.	2,235	2,233	2,186	+ 2	Nonfarm Employment- thous.	1,827	1,806	1,776	+ 3
Total Employed - thous.	2,052	2,030	1,985	+ 3	Manufacturing	491	490	492	- 0
Total Unemployed - thous.	183	203	201	- 9	Construction	72	67	70	+ 3
Unemployment Rate - % SA	7.4	7.9	8.2		Trade	431	427	397	+ 9
Insured Unemployment - thous.	N.A.	N.A.	N.A.		Government	297	295	300	- 1
Insured Unempl. Rate - %	N.A.	N.A.	N.A.		Services	353	346	338	+ 4
Mfg. Avg. Wkly. Hours	40.3	38.9	40.8	- 1	Fin., Ins., & Real Est.	85	85	85	0
Mfg. Avg. Wkly. Earn. - $	327	322	319	+ 3	Trans. Com. & Pub. Util.	91	90	87	+ 5

Notes: All labor force data are from Bureau of Labor Statistics reports supplied by state agencies.
Only the unemployment rate data are seasonally adjusted.
The Southeast data represent the total of the six states.
The annual percent change calculation is based on the most recent data over prior year.