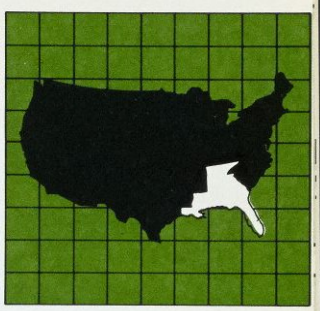
Economic Review



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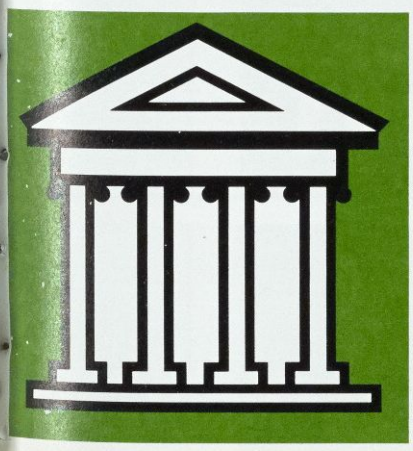

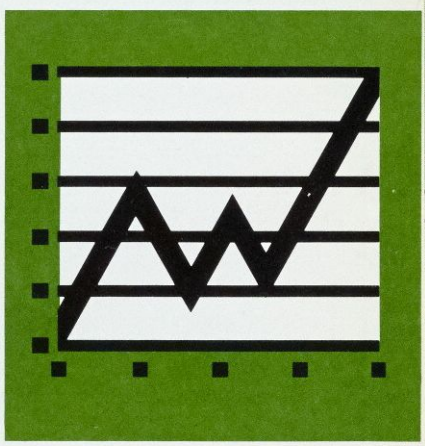

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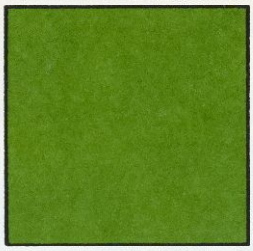
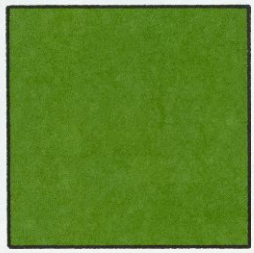
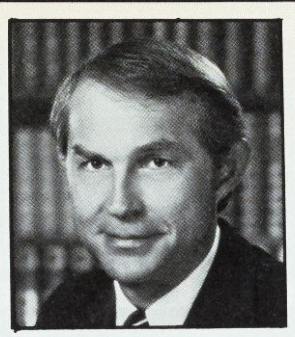






A Farewell ...

The three years I served as president of the Federal Reserve Bank of Atlanta have been pivotal years for the national and regional economy, for the Federal Reserve System and for the financial industry it serves.

Without question, the national economy is in better shape than it was when I joined the Atlanta Fed in August 1980. While I of course claim no personal credit for that, I'm very pleased about it. Consumer price inflation, which surged 13.5 percent in 1980, has cooled to a 3.2 percent annual rate so far this year.

Other signs also indicate that we, as a nation, are doing some things right. Our Gross National Product has been expanding at a rather strong clip, accelerating at an annual rate around 6 percent in the first half of 1983. The Atlanta Fed economists expect that GNP will continue its growth, though it is likely to moderate. Unemployment, which reached 10.8 percent in December, retreated to 9.5 percent as of August. The retreat has been frustratingly slow, however, as about 10 million of our people remain jobless. Yet the decline has been steady and I see no reason to believe unemployment will surge in the near term.

Interest rates are holding fairly stable and we hope they can be contained in 1984. While they remain high by historic standards, they certainly are moderate compared with the levels we have seen in recent years.

What about the Southeast? Much of the Sixth Federal Reserve District, which we serve as the regional headquarters of our nation's central bank, appears to be recovering nicely from the recession. It is a dynamic area well positioned for the future. Florida and Georgia in particular are bright spots, bolstered by a continuing inmigration of both new residents and new industries. The four other states in our District were hit hard by the recession. However, we are seeing encouraging evidence of strengthening economies in Alabama, Tennessee and Mississippi. Louisiana, which continues to experience weakness in its energy-based economy, is finding recovery to be more elusive.

Inside the Atlanta Fed, our research function has become much more visible and respected during the past three years. Many readers of this **Economic Review** have written to compliment us on the dramatic increase in its coverage and quality. We've also added a semimonthly newsletter called **Southeastern Economic Insight** to keep you briefed on timely economic developments. In addition, the department has attracted nationwide attention for its leadership role in the use of microcomputers, telecommuting, and innovative management techniques. Less public, but no less valuable, has been the first-rate research support I have received in fulfilling our Bank's monetary policy responsibilities. All these accomplishments testify to the extraordinary quality of our research staff's work, and I want to thank them for that.

On the operations side of the house, there was less room for improvement when I arrived. Bank operations were in excellent shape thanks to my predecessor, Monroe Kimbrel, and his senior management team. In fact, when he left, Atlanta had just attained the number one ranking among the 12 Reserve Banks in operational efficiency, as measured by the System's tough productivity standards. We have been able to solidify that number one position through the leadership of our officers working with the dedicated professionals on our staff. They, too, have made the President's job an enjoyable and rewarding one during my stint of public service.

What's more, we have been able to do all these things with substantially reduced staffs at our Atlanta office and our branches in Birmingham, Jacksonville, Miami, Nashville and New Orleans. Our total staff, which peaked at 2,850 in 1975, has now been whittled down to just over 2,000 employees—a remarkable reduction during a period in which every phase of our work has expanded substantially. For example, since 1975, our processed check volume has risen from 1.6 to 1.9 billion items per year, and the amount of cash we handle has risen by some 128 percent. The value of electronic transfers of funds on our Fed wire system rose from $3.9 trillion per year in 1980 to $5.5 trillion in 1982.

Since 1980, along with the rest of the Federal Reserve System, the Atlanta Fed has also undergone a major transformation in the way we market our services. Complying with a congressional mandate, we are now explicitly pricing to recover the cost of services that we traditionally provided to banks without charge. We have responded to the Monetary Control Act of 1980 (MCA-80) by phasing in charges on check processing, securities and noncash collection, wire transfers and net settlement, as well as transportation costs in our cash services area. We believe that our entry into the marketplace is already proving beneficial to both the public and to financial institutions—as the Congress intended. Without question MCA-80 has introduced a new element of competition and inspired all the players—in both the public and private sectors—to do a better job.

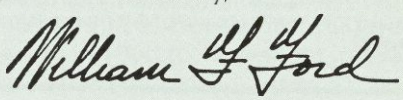
The commercial banks in our District have weathered the economic storms of our recent recession rather well. Most have managed to post steady earnings increases, notwithstanding the inroads of a host of nonbanking competitors. They appear to be adapting to their new environment and positioning themselves to meet the competition head on, rather than trying to avoid it. In short, the climate appears to be fairly healthy for banks in the Southeast, despite some well-publicized recent difficulties in Tennessee.

The savings and loan associations in our District also seem to be rebounding, now, after experiencing a very painful portfolio mismatch when interest rates escalated earlier in the 1980s. Finally, the credit unions we now serve are also doing quite well, with a few exceptions, as they too rebound from the depressing effects of the recession.

Personally, I enjoyed my work as a Fed President during these interesting economic times, and my decision to leave the Atlanta bank was obviously a difficult one. Frankly, I was strongly attracted by the challenge of assuming the presidency of First Nationwide Financial Corporation, an innovative $8 billion institution with about 150 offices in California, New York and Florida. Yet, after three years in the System and in the Southeast I am sad about moving away from the many people in Atlanta and the District who have accepted me and my family so warmly.

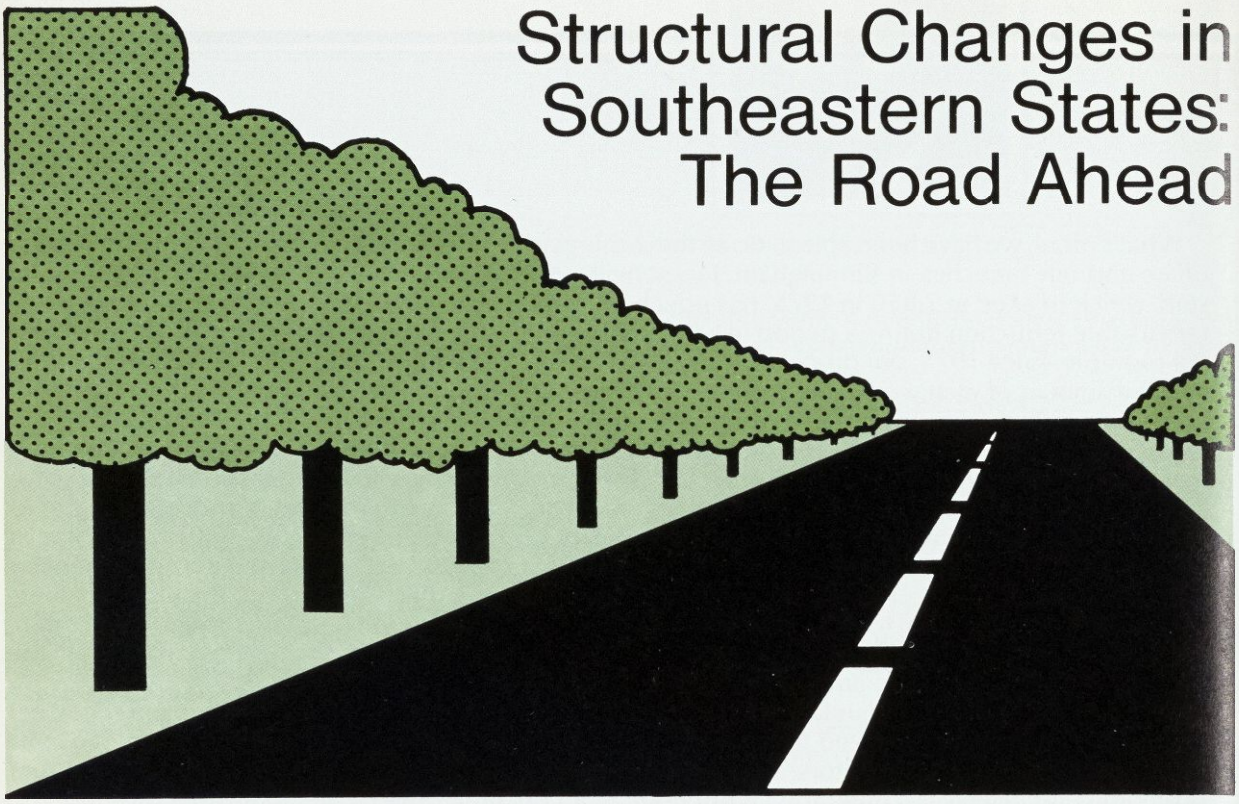
These three years add up to a very fulfilling personal and professional experience. I have enjoyed being a part of this District and hope to be remembered as a business leader who did his best to promote the community's well being while committing part of his life to public service.

Sincerely,



William F. Ford

Structural Changes in Southeastern States: The Road Ahead



It is becoming more and more evident that "the Sunbelt" is far from the monolithic, economic boom region so often depicted. In fact, as we have shown in previous issues of this **Review**, the economies of the southeastern states differ quite dramatically. Not surprisingly, the growth experiences of those states have varied substantially over the several business cycles since the 1960s.[1]

Interestingly, however, some states are now experiencing a change in the way their economies perform over the course of the business cycle compared to the nation. These changes in cyclical performance are the surface signs of deeper, noncyclical, "structural" changes, changes that will affect these states' economic performance for years to come. Yet, because structural changes often are long and gradual, they are not always immediately apparent. Economists sometimes disagree about whether a given change (the slowdown in U.S. export sales, for example) is a temporary phenomenon or a more permanent, structural change. Because state economies can differ so substantially even within the same region, it is even more difficult to identify structural changes within an individual state. This article summarizes a recent workshop that attempted to identify those elusive but critical shifts.

Some economists argue that the best time to discern structural changes in an economy is at the beginning of a recovery from recession. High-cost or uncompetitive industries may prosper during economic expansions, but they are hit

[1]See the special issues of this **Review** "The Southeast in 1983: Tracking the Recovery," February 1983 and "The Changing South: Tracing Its New Landscape," June 1982.

Declining employment in manufacturing industries and changing patterns in world trade may be combining to produce basic, long-lasting changes in the Southeast's economy. Some states, however, are better positioned to take advantage of the changes than others.

especially hard by recessions. Weakness in these industries, in other words, may be masked in periods of prosperity. In recessions, those high-cost industries and factories are the most likely to close down. When recovery comes, they are less likely to revive. The impact of structural changes becomes more visible during recoveries, when growing, healthy businesses are more likely to reopen and expand their facilities.

To take advantage of the current economic recovery, the Federal Reserve Bank of Atlanta recently hosted a workshop on structural changes in the six states of the Sixth Federal Reserve District, plus North Carolina and South Carolina. The workshop, summarized in this article, brought together economic forecasters from each of those states, along with representatives from the Atlanta Fed's regional research team (see box for list of participants).[2]

We asked forecasters whether the last recession had permanently changed the course of their state's economy or speeded up the structural changes already at work. We selected a key industry in each state and asked the forecasters to comment on the outlook for that industry over the next five years. Finally, we asked them to describe the pitfalls and opportunities presented by the structural changes occurring in their states.

To set the stage for the state analyses, the forecasters discussed national developments. They began by noting that over half the decline in national economic activity during the last recession was the result of lost exports.[3] The United States is not reducing its consumption of domestic goods, but foreign consumption of American goods is falling. We are compensating for this production-consumption gap by increasing our exports of services. (This shift from manufactured exports to service exports is also shifting the nature of our labor force from blue collar toward white collar workers.)[4]

Is the loss of merchandise exports a short-term phenomenon or a more fundamental shift? One estimate is that about 1.2 million jobs have been lost as a result of export competition and that "we might recapture 200,000 of them, leaving us with a structural loss of one million jobs."[5]

A second structural shift is the steady increase in efficiency and automation in U.S. manufacturing. One effect of these changes is that many products can now be produced efficiently with U.S. technology anywhere in the world. Some forecasters believe this development will hasten the decline of employment in manufacturing industries in the U.S. Others, however, see rising risks in third world countries beginning to outweigh cost advantages, and expect some manufacturers to return to the United States.

A final "fundamental force" at work in the world economy is the slowing in the transfer of purchasing power (via U.S. loans) to third world countries. Since U.S. banks are becoming more cautious about lending to these countries, we can expect slower growth for third world countries and slower growth for the markets in which we sell. For the United States, as one forecaster observed, the implication is that "many of these markets that we've lost abroad cannot be regained in the foreseeable future."

Both global and local shifts are subtly but persistently changing the way southeasterners earn their living. An examination of eight southeastern states underlines the diversity of the region's economies and the wide-ranging effects of structural change.

FLORIDA: HIGH TECHNOLOGY

The structure of Florida's economy has shifted since 1960.[6] Fueled by skyrocketing population growth, the trade and service sectors of the economy expanded their share of total employment from 44 percent in 1960 to 51 percent in 1983. Growth in the service sector was particularly rapid, increasing from 16.6 percent of total jobs in 1960 to 24.3 percent by 1983 (Table 1). This expansion in services largely preceded a similar trend in the national economy.

While services were enjoying a boom period in both Florida and the nation, the relative share of employment in manufacturing industries was suffering a decline. Manufacturing's share of employment in Florida dropped from almost 16 percent in 1960 to 12 percent in 1983, paralleling the nationwide drop from 31 percent to 21 percent over that period.

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[2]The workshop summarized in this article was held July 29, 1983 at the Federal Reserve Bank of Atlanta.

[3]The discussion on the national outlook was led by Donald Ratajczak Director of the Economic Forecasting Project at Georgia State University.

[4]See Bobbie H. McCrackin, "Services: Key to Current Stability and Future Growth," **Economic Review**, Federal Reserve Bank of Atlanta, July, 1983, pp. 36-52.

[5]Ratajczak, workshop discussion.

[6]Henry Fishkind, of the University of Florida's Bureau of Economic and Business Research, led the discussion of Florida.

Table 1. Composition of Nonagricultural Employment in Florida (in percentages)

	1960	1970	1975	1983*
Mining	0.6	0.4	0.4	0.2
Construction	9.2	8.0	6.3	6.2
Manufacturing	15.7	14.9	12.0	12.0
Transportation, communication, and utilities	7.7	7.2	6.6	6.2
Trade	27.3	26.2	26.4	26.7
Finance, insurance, and real estate	6.2	6.1	7.0	7.6
Services	16.6	18.6	21.3	24.3
Government	16.7	18.5	20.1	16.7

*As of March, 1983.
Source: Bureau of Economic and Business Research, University of Florida, BEBR Data Base.

But that dwindling share of manufacturing employment masks some important changes. The most important of these changes is the rise of high-technology industries.[7] Those industries provided 38.3 percent of all U.S. manufacturing jobs in 1975 and 41.4 percent in 1982 (Table 2). Even those figures understate the importance of high-tech industries to the U.S. economy. Between 1975 and 1982, U.S. manufacturing employment increased by 530,000, but employment in the high-tech industries soared by 769,000.

The growth of Florida's high-tech industries was even more impressive.[8] Since 1975, their share of manufacturing jobs increased from 34 percent to over 42 percent in 1982. That growth was accompanied by a decline in the share of the state's traditionally strong (and still growing) agricultural and construction-related industries (Table 2).

A particularly surprising example of that shift was the fall of the food products sector from the top spot in manufacturing employment. Jobs in food products, although increasing in total numbers, fell in share from 14.5 percent of all manufacturing jobs in 1975 to 10.9 percent in 1982. Spectacular growth in the electrical and electronic machinery industry boosted its employment share from 10 percent in 1975 to 14.4 percent in 1982. Transportation equipment climbed to second place with 11 percent.

Table 2. Composition of Manufacturing Employment in the U.S. and Florida (in percentages)

	U.S.		Florida	
	1975	1982	1975	1982
Food products (SIC 20)	9.0	8.7	14.5	10.9
Tobacco (SIC 21)	0.4	0.3	1.1	0.4
Textile mills products (SIC 22)	4.7	4.0	1.1	0.5
Apparel (SIC 23)	6.8	6.1	8.5	7.0
Lumber and wood (SIC 24)	3.3	3.3	5.0	4.5
Furniture and fixtures (SIC 25)	2.3	2.3	2.2	2.3
Paper (SIC 26)	3.5	3.5	4.6	2.3
Printing and publishing (SIC 27)	5.9	6.7	9.0	10.0
Chemicals (SIC 28)	5.5	5.7	7.1	5.7
Petroleum refining (SIC 29)	1.1	1.1	0.3	0.4
Rubber and plastics (SIC 30)	3.3	3.7	2.8	3.5
Leather (SIC 31)	1.4	1.1	1.1	0.7
Stone, clay, glass, and concrete (SIC 32)	3.4	3.1	5.1	4.3
Primary metals (SIC 33)	6.2	4.9	1.0	1.0
Fabricated metals (SIC 34)	8.0	7.7	7.5	7.1
Nonelectrical machinery (SIC 35)	11.2	12.1	5.9	8.4
Electrical, electronics (SIC 36)	9.3	10.7	10.0	14.4
Transportation equipment (SIC 37)	9.3	9.2	9.4	11.0
Measuring instruments (SIC 38)	3.0	3.7	2.0	2.7
Miscellaneous manufacturing (SIC 39)	2.2	2.1	1.7	1.7

Source: Bureau of Economic and Business Research, University of Florida, BEBR Data Base.

Since 1975, high-tech firms have accounted for two-thirds of the new manufacturing jobs, or 7.3 percent of all new jobs in the state.

The new wave of high-technology firms in Florida reveals several major trends in the state's economic structure:

1. High tech is fostering high growth in four main areas: Clearwater-Largo, Orlando, Melbourne, and Boca Raton-Fort Lauderdale.
2. These high-tech industries are growing in areas not served by the state's major educational institutions, but Florida can enhance its attractiveness to such firms by improving its educational delivery system.

[7] Although analysts have not reached a consensus on the definition of the high-technology industry, there is general agreement that the following Standard Industrial Classification (SIC) industries qualify: chemicals and allied products (SIC 28); machinery, except electrical (SIC 35); electric and electronic machinery, equipment and supplies (SIC 36); transportation equipment (SIC 37); and measuring, analyzing and controlling instruments as well as photographic, medical and optical goods and watches and clocks (SIC 38). Joint Economic Committee, U.S. Congress, **Location of High Technology Firms and Regional Economic Development**. Washington D.C.: U.S. Government Printing Office, June 1982, pp. 4.

[8] See Donald L. Koch, William N. Cox, Delores W. Steinhauser and Pamela V. Whigham, "High Technology: The Southeast Reaches Out for Growth Industry," **Economic Review**, Federal Reserve Bank of Atlanta, September 1983.

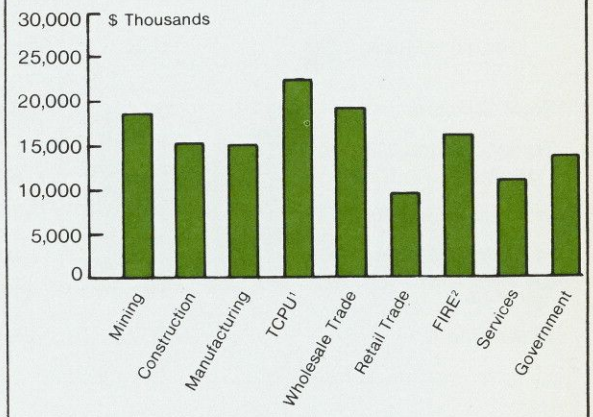
Table 3. Florida Prime Defense Contracts

Year	Millions of dollars	Rank in the U. S.
1970	849	12
1975	1,030	11
1978	1,393	10
1980	1,984	9
1982	NA	4*

NA Not available.
*Data courtesy of Data Resources, Inc.
Source: U.S., Department of Defense, **Prime Contract Awards by State**, annual editions.

3. Florida is attracting an increasing share of prime defense contracts.[9] These federal research and development grants represent a crucial infusion to the state's high-technology industries (Table 3).
4. Florida's reputation as a low-tax state with a favorable cost of living is an important advantage. Technology firms rank tax climate and cost of living high among factors governing their location decisions.

Chart 1. Wages and Salaries per Employee in Georgia Industries, 1981



¹Transportation, Communications and Public Utilities
²Finance, Insurance and Real Estate.

Source: Regional Economic Information System, Bureau of Economic Analysis, "Detailed Components of State Personal Income," Georgia (August 1982), Number of full and part time jobs," Georgia (August 1982)

(Procedure: WSPE=Wages and salaries for each industry/number of full- and part-time jobs for the industry.

GEORGIA: SERVICES

Georgia's service industries increased their share of nonagricultural employment in the state from 68.5 percent in 1967 to 72.6 percent in 1981 (Table 4).[10]

Compared with the United States, Georgia is relatively strong in the transportation, communication, and utility industries, and in government, but ranks lower in finance, insurance and real estate.

Within services, Georgia's percentage of employment in hotels and other lodging, personal services, private households, and business and repair services is higher than in the nation. Interestingly, the share of employment in the professional, social, and related services in Georgia's services sector is well below the national share. In medical and other health services, for example, Georgia's share of services employment is more than 8 percentage points less than the nation's.

Because the services sector employs many part-time and unskilled workers, wages and salaries tend to be low. Wages and salaries per worker in services in Georgia was $10,674 in 1981. Only in retail trade was the annual per worker salary lower (Chart 1). In private households, where over 18 percent of Georgia service workers were employed, the annual 1981 per worker salary was less than $3,500 (Table 5).

The Outlook for Services in Georgia

Growth in the services industries has contributed significantly to Georgia's increasing prosperity over the past decade and has sustained economic activity during the recent recession.[11] These industries in Georgia are benefiting metropolitan areas around the state, but they are becoming increasingly concentrated in Atlanta.[12]

[9]See William J. Kahley, "Southern Fireworks: Will Defense Spending Light Up the South?" **Economic Review**, Federal Reserve Bank of Atlanta, December 1982.
[10]Philip A. Cartwright, director of the Georgia Economic Forecasting Project at the University of Georgia, led the discussion on Georgia.

[11]William N. Cox and R. Mark Rogers, "Georgia: Rebuilding in 1983," **Economic Review**, Federal Reserve Bank of Atlanta (February 1983): 20-29.
[12]See McCrackin.

Table 4. Distribution Of Employment in Services Industries as a Percentage Of Nonagricultural Wage and Salary Employment, Selected Years

Industry Group	1967		1970		1981	
	U. S.	Georgia	U. S.	Georgia	U. S.	Georgia
Total Services	67.4	68.5	69.2	69.0	72.9	72.6
Transportation, Comm., Utilities	5.9	5.6	5.8	5.9	5.4	6.1
Wholesale and Retail Trade	19.1	17.4	19.8	13.6	21.5	21.7
Finance, Insur., Real Estate	4.5	3.8	4.9	4.3	5.7	5.0
Services	17.2	17.3	17.7	17.1	20.9	17.8
Government	20.7	24.4	21.0	23.1	19.4	22.0

Sources: Regional Economic Information System, Bureau of Economic Analysis, "Number of Full- and Part-Time Jobs" (August, 1982), (1967, 1970 Data); "Employment By Type And Board Industrial Sources, 1976-81." Table 25.00 (April, 1983), (1981 Data).

The pace of economic growth in Georgia should continue to exceed that of the nation over the next ten years, but its high-powered growth rate may diminish. Traditional sources of Georgia's strength, such as nondurable goods manufacturing and services, will continue to enhance the state's economic growth and development.

However, there are some reasons to expect the rate of employment growth in the 1980s to fall below the annual average for the past ten years. First, the growth of the labor force seems to be slowing. Second, services will improve in productivity due to improved data processing technology and education. And third, the rapid growth of the government sector during the 1970s appears to be coming to an end.

Despite these slowing forces, forecasters described the intermediate-term outlook for Georgia's services industries as "good." Growth in services will follow largely from population growth and the general economic climate. The Southeast is expected to gain from migration through the next decade.[13] Atlanta's importance as a commercial center will increase, and the trend toward increased demand for services, and away from tangible goods, will continue during the 1980s.

Impact of Services

While Georgia has benefited from services' rapid growth, the focus on services has mixed implications. On the positive side, growth of Georgia's services translates into an increased number of new jobs that will open up. Many will provide employment for unskilled and part-time workers. Given Atlanta's importance as a transportation hub for the Southeast, Georgia's services industries will benefit as economic activity gains momentum in other states in the region. Moreover, some evidence suggest that services industries tend to be less sensitive to business cycle fluctuations[14] To the extent that the historical relationships hold throughout the 1980s, the stability of Georgia's economy is likely to be enhanced.

On the other hand, there may be minuses associated with the services emphasis. First, some economists contend that services employment tends to concentrate in above and below average jobs. The question of whether service industries are, in fact, developing without a middle wage structure deserves more research. If true, this trend would have important and potentially dangerous implications. Second, growth of services may not contribute much to economic

[13]See William J. Kahley, "Migration: Changing Faces of the South," **Economic Review**, Federal Reserve Bank of Atlanta, June 1982, pp. 32-42.

[14]Michael Urquhart, "The Services Industry: Is It Recession Proof?" **Monthly Labor Review** 104, 10 (October 1981): 17.

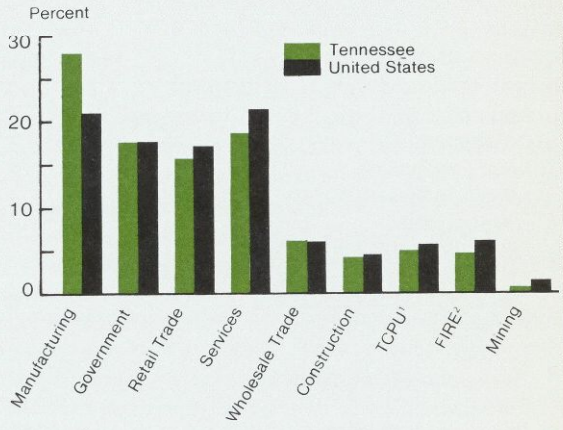
Table 5. Wages and Salaries Per Employee In Georgia Service Industries, 1981

Industry Group	Wages/Salary Per Employee ($)
All Services	10,674
Hotels, Other Lodging Places	9,031
Personal Services	9,009
Private Households	3,459
Business, Repair Services	12,409
Miscellaneous Business Services	12,285
Auto Repair, Services, Garages	12,070
Miscellaneous Repair Services	14,560
Amusement and Recreation, Incl. Motion Pictures	8,510
Amusement and Recreation Services	8,526
Motion Pictures	8,449
Professional, Social and Related Services	13,424
Medical and Other Health Services	14,814
Legal Services	16,927
Private Educational Services	9,900
Social Services	7,753
Museums	8,102
Nonprofit Membership Organization	10,086
Miscellaneous Services	20,575

Sources: Regional Economic Information System, Bureau of Economic Analysis, "Detailed Components of State Personal Income," Georgia (August, 1982); "Number of Full- and Part-Time Jobs," Georgia (August, 1982).

(Procedure: WSPE =Wages + Salaries for Each Industry ÷ Number of Full- and Part-Time Jobs for That Industry)

Chart 2. 1982 Distribution of Nonagricultural Employment, Tennessee and the United States



¹Transportation Communications and Public Utilities
²Finance, Insurance and Real Estate.

Source: Bureau of Labor Statistics

growth in rural areas.[15] Third, services industries facilitate economic growth, and simultaneously rely upon growth in other sectors for their well-being. Thus, it is unlikely that service industries alone can buoy the state's economy.

TENNESSEE: DURABLE GOODS

Forecasters described a potentially troubling trend in the structure of Tennessee's economy.[16] Historically, Tennessee has had a higher share of employment in manufacturing than has the nation as a whole (26.6 percent to 22.1 percent in 1977, Chart 2). The state has become highly concentrated in industries that are especially sensitive to recessions—durable manufacturing industries producing for houses and cars (Table 6).

Tennessee's electrical manufacturing, for example, includes few plants that make high-growth computer components; it is concentrated instead on household appliances like stoves, water heaters and refrigerators. Purchases of these items are likely to be postponed during recessions; such appliances also suffer when construction of new homes slows.

Similarly, 40 percent of the jobs in the fabricated metals industry are involved with producing structural steel for construction. What's more, the nonelectrical machinery sector is heavily focused on heating and cooling equipment, and the state's important lumber industry is directed primarily toward construction uses.

Studies by researchers at the University of Tennessee's Center for Business and Economic Research show that Tennessee's nondurable goods industries generally fare about the same as the nation during recessions, but the state's durable manufacturers usually do worse. As a result, when the construction industry slows down nationwide, the slump is even worse in Tennessee. The state will see a recovery, forecasters assured, but not as soon as will the rest of the nation.

In addition, the state has some particular "longer-term vulnerabilities" that deserve attention.

[15]See McCrackin.
[16]Richard Hofler, Center for Business and Economic Research, University of Tennessee, led the discussion on Tennessee.

Table 6. 1982 Manufacturing Employment
Tennessee and United States

Product	Tennessee		United States	
	Rank	Percent of Total Manufacturing Employment	Rank	Percent of Total Manufacturing Employment
Apparel	1	13.7	7	6.2
Chemicals	2	11.9	8	5.7
Food Processing	3	8.2	4	8.7
Electrical and electronic equipment and supplies	3	7.8	3	9.3
Machinery, non-electrical	5	6.7	1	12.1
Fabricated metals, except machinery and transport equipment	6	6.1	5	7.7
Printing and publishing	7	5.8	6	6.7
Textiles	8	5.4	10	4.0
Transportation equipment	9	4.8	3	9.2
Furniture	10	4.4	16	2.3
Rubber and plastics	11	4.2	11	3.7
Paper and allied products	12	3.6	14	3.5
Leather	13	3.5	18	1.1
Primary metals	14	3.5	9	4.9
Lumber	15	3.3	13	3.3
Stone, clay and glass	16	2.6	15	3.1
Miscellaneous manufacturing	17	2.1	17	2.1
Instruments, scientific measuring, photographic, medical, watches, and clocks	18	1.6	12	3.7
Tobacco	19	0.3	20	0.4
Petroleum refining	20	0.2	19	1.1

Source: Bureau of Labor Statistics.

A declining demand for water heaters, baseboard heaters, and other electrical appliances, for example, may be a permanent response to changing energy prices. The state's large apparel and textile firms have shown steady employment declines over the last ten years—a symptom of shifting demand and foreign competition that accelerated during recessions. The closing of some of the state's apparel plants—often the single large employer in a rural area—has been especially damaging to some localities.

Forecasters said the potentially dangerous tilt in the structure of Tennessee's economy raises some important issues for the state: should the state pursue "smokestack industries" further, or should it target particularly promising new industries? Will more money for education help attract high-tech industries? Do subsidies for relocation and tax incentives attract new companies? Can a state use spending programs to "protect" itself from national developments?

LOUISIANA: ENERGY

Louisiana is the second largest producer of natural gas and the third largest producer of oil in the nation.[17] In 1981, 95,400 persons were employed directly in Louisiana's oil and gas extraction industry.[18] These jobs generated $2.43 billion in wage, salary and proprietor's income in that year in Louisiana.[19]

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[17] Loren C. Scott, Professor of Economics, Louisiana State University, led the discussion on Louisiana.

[18] Louisiana Department of Employment Security, mimeograph report revised March 1983.

[19] "Detailed Components of State Personal Income," (Intermediate Table), Bureau of Economic Analysis, Regional Economics Information System, U.S. Department of Commerce, August 1982.

In addition, both the petrochemical and the petroleum refining industries have made massive capital investments in Louisiana in order to be near these energy sources. Over 36 percent of the value-added by the state's manufacturers comes from the chemical and allied products sector. Another 19 percent is contributed by the petroleum refining industry.[20]

The state government has relied heavily on the industry for revenues. In fiscal year 1982, Louisiana collected $1.63 billion in revenues from oil and gas severance taxes and from undedicated royalties, rentals, and bonus receipts.[21] These receipts alone accounted for over 40 percent of total state tax collections. In addition, state and local governments assess corporate income and franchise taxes, personal income taxes, sales taxes, personal property taxes, and other levies on Louisiana's energy industry.

Louisiana's industries face two major uncertainties in the near-term future. The first is the health of the "very crucial" oil and gas exploration and well servicing industry, which is now in the doldrums. In January 1982, 262 active drilling rigs were operating in the southern region of the state. But the per barrel price of oil dropped from $36 to $32 between January and March 1982, and active drilling rigs in the southern region dropped to 188 in April of that year. The price fell another $2 per barrel in the January to March 1983 period. By May, active rigs in the southern region were down to only 105.[22]

It is not so much the *level* of the current price of oil ($30 per barrel for Louisiana sweet) as it is uncertainty over the future path of oil prices that has arrested activity in the industry, forecasters said. Some believe the softness in oil prices is temporary, due to the national and worldwide recession, which has reduced the demand for petroleum. As the economic recovery continues to gain strength, the price of oil might then stabilize and even begin to drift upward by mid to late 1984.[23]

An alternative argument is that the $30 per barrel price may be too high even in the event of strong economic recovery and will leave suppliers with excesses. Proponents of this position argue that the softness in prices is due to a massive oil glut in the petroleum-exporting countries. For example, the OPEC quota under the March 1983 agreement was 17.5 million barrels per day.[24] The output capacity of those countries is estimated to be 32.1 million barrels per day.[25] Several of these countries have serious financial problems and cash needs. Given this massive excess capacity and the cash shortage problem, the incentives to cheat on the quota system—and thus drive the price down even further—are quite strong. Some argue that the price will fall again, to at least $25 per barrel and perhaps as low as $18. Such price-cutting would seriously arrest drilling activity in the state through the mid-1980s.

Which scenario is correct? One forecaster said that changes in oil prices for the last three years have occurred in the January to March period. Thus, people whose businesses or agencies are closely tied to this industry "might wait until early 1984 before making any final planning decision. Uncertainty should be noticeably reduced by that time. Under either scenario the state government's fiscal condition must erode as the growth in severance tax receipts either slows down or declines. Some sort of new state taxes seems inevitable at this point."

A second big question mark in Louisiana's economic future is its chemical industry. Prior to the Natural Gas Policy Act (NGPA) of 1978, this industry could generally secure all the natural gas it needed at prices that kept the industry competitive with chemical firms in other states. NGPA, however, virtually reversed those conditions. Now Louisana's chemical industries not only aren't assured of adequate supplies, but the gas they can buy must be produced at a price that begins to make Louisiana firms less cost-competitive with their out of state competitors. To add to the problem, a number of bulk chemical plants are being built in the Middle East, where gas is so cheap that it is often flared off.[26]

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[20] **Census of Manufactures: Louisiana: 1977**, Geographic Area Series, Bureau of the Census, U.S. Department of Commerce, October 1980.

[21] **Annual Report of the Department of Revenue, FY 1981-82**, and mimeograph data supplied by the Department of Natural Resources, Research Division.

[22] The rigs data are from the Hughes data set published in various issues of **World Oil** magazine.

[23] This is the forecast, for example, of the Wharton Econometric Associates. **Quarterly Model Outlook**, Wharton Econometric Forecasting Associates, July 1983, p. 33.

[24] Reuters Wire Service, March 14, 1983.

[25] **Petroleum Intelligence Weekly**, March 14, 1983.

[26] For additional details on this issue see Loren C. Scott and James A. Richardson, "Government Regulation and Market Distortions: The Case of the NGPA and the Louisiana Economy," **Journal of Energy and Development**, Autumn 1982, pp. 59-72.

Table 7. Covered Employment in Louisiana's Chemical Industry in 1990[a] Under Alternative Scenarios

Industry	1980 Covered Employment	Covered Employment in 1990[b]		Net Difference in Scenarios
		Assuming Continuation of Past Trends	Given Impacts of Natural Gas Policy Act & Foreign Competition	
Industrial				
Inorganic Chemicals	10,382	13,082	11,730	−1,352
Plastic Materials and Synthetics	4,888	6,159	6,030	−129
Drugs	59	74	74	0
Soaps, Cleaners, & Toilet Goods	510	642	642	0
Paints and Allied Products	397	500	474	−26
Industrial Organic Chemicals	11,607	14,625	12,500	−2,125
Agricultural Chemicals	4,165	5,248	5,030	−218
Miscellaneous Chemical Products	1,483	1,869	1,869	0
Total	33,491	42,199	38,349	−3,850

[a] Louisiana Department of Employment Security, Research Division.
[b] Loren C. Scott and Associates, Inc., Baton Rouge, Louisiana.

These conditions are expected to impact especially Louisiana's bulk chemical producers that operate in the industrial organic and inorganic chemical sectors. The NGPA and the new foreign competition will reduce employment in the inorganic chemicals industry to an estimated 1,352 jobs from its historical trend (Table 7). The comparable number for the organic chemical industry is 2,125 and the total impact is an estimated reduction of 3,850 jobs from the historical trends.[27] Since the job multiplier for the state's chemical industry is about 3.5,[28] total employment growth in the state should be reduced by some 13,475 from what it would have been without these developments.

On a more positive note, major coal contracts have been signed between mid-western coal producers and buyers in Japan, Denmark, Italy, and Spain. This coal will be coming down the Mississippi River and handled through the Baton Rouge and New Orleans ports. In 1979, some 1.4 million short tons of coal were shipped through these two ports. By 1981, this had risen to 14 million tons.[29] Some forecasters speculate that by 1990 coal exports could reach at least 20 million tons.

All this activity should create jobs in the relatively high-wage port sector, as well as in related areas such as barge building and contract construction. Coal export terminals are already under construction just south of Baton Rouge. The expected increase in this export activity in this country over the next decade should help the New Orleans and Baton Rouge ports, in particular.

ALABAMA: STEEL

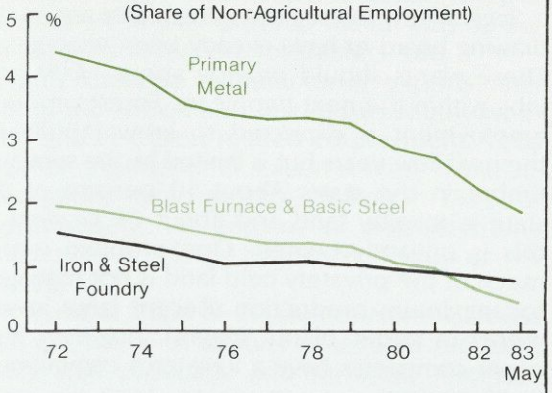
In Alabama, the historical predominance of the smokestack industries has been diminishing.[30] That trend appears most vividly in the steel industry. What's more, the downward trend, at least for steel, seems to have accelerated in the recent recession (Charts 3 and 4).

Because of this decline, the steel industry now has only marginal effect on the recovery of

[27] Estimates provided by Loren C. Scott and Associates, Baton Rouge, Louisiana, August 1983.
[28] The job multipliers were estimated from the Louisiana Input-Output Table. This table is housed in the Division of Research and Development, College of Business Administration, Louisiana State University, Baton Rouge Louisiana.

[29] Data supplied by the Marketing Division, Board of Commissioners on the Port of New Orleans, New Orleans, Louisiana, May 18, 1983.
[30] The discussion of Alabama was led by David C. Cheng, Center for Business and Economic Research, University of Alabama.

Chart 3. Long-Term Employment Trends in the Alabama Steel Industry
(Share of Non-Agricultural Employment)



Source: Alabama Department of Industrial Relations

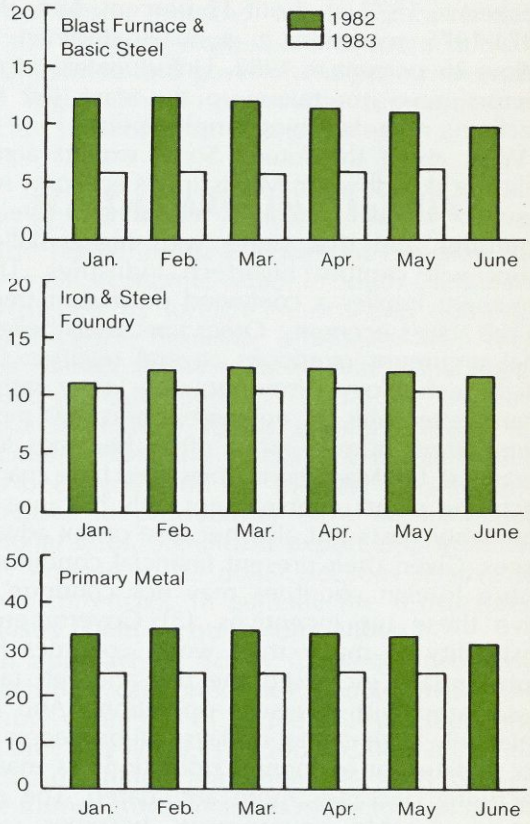
the state as a whole. But its local impact, especially in the Birmingham and Gadsden areas, cannot be overlooked. Steel still will be the second largest employer in Birmingham when the Fairfield plant reopens as expected.

Despite the overall downward trend, state forecasters see a continuing presence for the state's steel industry in the long run. The investment of $650 million in a pipe mill next to the Fairfield plant ensures the long-term commitment of U.S. Steel to Alabama, even though the firm has had to retrench from basic steelmaking because of international competition.

In the short run, signs of revival in steel began in the spring of 1983. However, because of automation not all laid off workers will be recalled. That same outlook applies to the state's fabricated metals and other smokestack industries.

Significantly, Alabama's nonmanufacturing industries have rebounded faster from the last recession than the state's manufacturing sector. In part, that experience reflects the continued structural weakness of the smokestack industries. Fortunately, Alabama is moving away from an industrial structure characterized by basic industries and agriculture. More of this diversification will leave the state less vulnerable to cyclical variations. Revitalization of basic industries, using state of the art technologies, offers additional growth opportunities for the state.

Chart 4. Recent Employment Trends in the Alabama Steel Industry
(Unit=1,000)



Source: Alabama Department of Industrial Relations

MISSISSIPPI: MANUFACTURING AND FOREST PRODUCTS

Historically, Mississippi's total nonagricultural employment has grown faster than the national rate during expansions and slower during recessions. [31] During the brief 1980-81 expansion, however, Mississippi's total nonagricultural employment grew at a slower rate than the nation and the pattern of relatively slow growth continued through the 1982 recession.

Mississippi now has a larger percentage of its workforce employed in manufacturing than

[31] Philip Pepper of the Mississippi Research and Development Center led the discussion on Mississippi.

does the nation, and manufacturing employment has been particularly hard-hit since 1979. The state's manufacturing employment as a percent of total nonagricultural employment peaked in 1972 at about 32 percent. After the 1973-1975 recession, it gradually declined to below 26 percent in 1982. Unfortunately, other sectors have not taken up the slack left by declining manufacturing employment.

What about the future? Some experts argue that the slowdown in Mississippi's economy is a result of low-skill industries relocating in foreign countries and that states with higher-skilled labor will capture high-tech industries. This argument implies a continued downward trend in the state's economy. Other forecasters believe that argument overlooks several realities: (1) High technology often requires lower rather than higher skills. As equipment becomes more automated, human input often becomes less technical. (2) Many companies now have manufacturing plants overseas not only because of low labor costs but also because of tax advantages. Given their present financial conditions, these foreign countries may not continue to give these tax incentives. (3) Governmental instability in many third world countries has substantially increased the risk and red tape associated with overseas operations. And (4) relatively large capital outlays will be necessary to update out-of-country operations as manufacturing becomes more automated. The risk from unstable governments becomes even greater.

Following that more hopeful argument, we would expect no large outflow of labor intensive jobs from Mississippi. In fact, the gradual population shift to the South combined with low wage rates, low industrial land costs, and a positive business climate provided by the state might make Mississippi relatively attractive to industry during the next decade.

But it is difficult to be optimistic about all sectors of the economy. Deregulation of gas prices may have a negative impact on Mississippi's oil and gas production and associated activity. Mississippi presently has one of the highest average well-head prices for natural gas in the nation because of its many deep wells. If natural gas prices are decontrolled, prices paid for Mississippi's natural gas will probably decrease.

Anticipated cutbacks in federal spending, particularly cuts in social welfare programs, will hurt Mississippi more than the average state.

A potentially significant development involves renewed signs of life in the state's forest products and related industries.

Several new forest processing plants are on the drawing board or have already been announced. These plants should provide about 1,000 new jobs within the next two years. Forest products employment is expected to grow rapidly for the next few years but is limited by the supply of timber in the state. About 50 percent of the state is forestry land and about 75 percent of this is privately owned. One problem is that much of the privately held land is not managed for maximum production. Recent large investments in paper plants suggest, however, that paper companies have a long-term commitment to Mississippi.

NORTH CAROLINA AND THE MANUFACTURING SECTOR: THE ROLE OF EXPORTS

North Carolina's economic structure has changed rather dramatically since the recession of 1974-75.[32] Diversification of North Carolina's industrial base has reduced the share of the "traditional" labor-intensive industries in the manufacturing sector. Second, changes in production technology generally have reduced the labor requirements per unit of output. And third, the importance of exports in the state's economy has increased significantly over the past decade.

Industrial diversification and changes in production technology should have a positive effect upon the North Carolina economy. But it is the rise or fall of exports that will largely determine how North Carolina fares compared to the rest of the nation.

Export trade of manufactured goods is important and increasing in importance in North Carolina. In 1980, over 96,000 people were employed in export-related manufacturing industries and an additional 58,000 in nonmanufacturing industries. This accounted for nearly 7.4 percent of private sector employment. Export-related manufacturing employment alone rose from 8.4 percent to 11.7 percent in the four years ending in 1980. This increased share in

[32] Rickey C. Kirkpatrick of Appalachian State University led the discussion on North Carolina.

exports, coupled with the increased diversification, made the North Carolina economy less vulnerable to the most recent recession (despite the drop-off in U.S. exports) than it was during the 1974-75 recession, forecasters said.

North Carolina manufactured exports rank 11th in the nation and first in the Southeast in value and in export-related employment. Total value of shipments in export-related manufactured goods rose from $3.7 billion in 1976, or approximately 10 percent of manufacturing production, to $7.8 billion in 1980, or 14 percent.

In terms of value of shipments, North Carolina leads the nation in exports of tobacco products, textile mill products, and furniture. Between 1976 and 1980, North Carolina continued to increase its share of U.S. exports in tobacco products and furniture, but experienced a modest decrease in its share of textile products. Interestingly, real output growth and employment growth in exports exceeded the growth in production, in some cases significantly. Moreover, on an industry-by-industry basis, North Carolina's export-related growth in production and employment exceeded the nation's in almost all cases. Export growth, hastening the further diversification of the state's industrial base, has been a factor of growing importance to the state's current economic receovery.

Implications for the Future

Forecasters expect that the structure of the North Carolina economy will continue to be influenced strongly by three factors: a strong growth in the export markets, further diversification of the industrial base, and more efficient production techniques. Labor-saving production techniques will restrain the growth in employment but will boost manufacturing production and exports. It is doubtful, even in a robust recovery, that this export growth will be sufficient to offset a significant portion of this loss in employment.

Even if national exports grow slowly, the outlook for continued strong growth in the export of North Carolina manufactured goods was described as "excellent." Boosting the state's advantages are: (1) a banking sector that is increasing its international services, (2) a growing number of public, quasi-public and private organizations for the marketing and promoting of export activities, and (3) a growing commitment by the universities and community colleges within the state to incorporate international business in their curriculums.

"Perhaps the greatest threat to growth in the state's export industry," as one forecaster said, "is the renewed expressions of protectionism. Businessmen and government policymakers in the region should resist the temptation to accept protectionism as a panacea."

SOUTH CAROLINA: TEXTILES

The textile industry is without question the dominant economic sector in South Carolina.[33] Threatened by foreign imports and domestic obsolescence, domestic producers have seen their market shares reduced and many plants closed permanently.

But forecasters found several reasons for optimism. Plant and equipment modernization has been going on for the last decade, and increases in productivity have far exceeded national rates. Significant export opportunities may emerge if the dollar declines relative to other currencies. In general, the restructured industry could be quite competitive.

In approaching South Carolina's economy, forecasters cautioned, we should avoid the narrow definition of textile mill products and apparel. Key linkages in South Carolina include textile machinery and chemicals such as dyes. The former group includes many foreign manufacturers that came to the state in the mid to late 1970s.

So, although the core sectors have had significant declines in employment over the last decade, these declines have been offset in part by the entrance and growth of linked industries. For example, textile mill employment peaked at 160,000 in 1973 and had fallen to 113,000 by the end of last year. In 1970, textile mill employment was about 18 percent of total employment and 44 percent of manufacturing. By 1980, these figures had dropped to 11.5 percent and 35 percent, respectively. Apparel employment has remained relatively constant in absolute terms. But large percentage gains in chemicals and machinery have compensated for about 40 percent of the job losses in textile mill products.

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[33] Richard Ellson, Division of Research, University of South Carolina, led the discussion of South Carolina.

The state's economy has generally worsened since the end of 1979. More importantly, the textile and apparel plant closures, which exceeded 40 in 1982 alone, have hurt many small towns whose local economies were dominated by a single plant. The effects of restructuring, then, have been uneven, with middle-aged and older workers and traditional mill towns carrying most of the burden.

The longer term outlook is somewhat brighter. A recent study by the USC Center for Industry Policy and Strategy, titled **The U.S. Textile Mill Products Industry: Strategies for the 1980's and Beyond**, noted that the domestic textile industry can out-produce, in terms of both cost and quality, the industries of virtually any other country. The industry obviously is attractive to low wage developing nations. Yet the study points out that a lowering of international trade barriers would benefit the domestic industry, since market growth lies largely in developing nations. In the interim, the U.S. government apparently will enforce import restrictions to protect domestic firms.

Policies for the Future

In analyzing possible development policies, forecasters warned that improvements in state economic aggregates may mask continuing difficulties in predominantly small rural communities that have borne the burden of restructuring in the textile industry. Capital inflows are the key determinant of growth in the state. With vigorous competition in this region, South Carolina is not in any position to direct investment geographically. Development activities likely will remain concentrated in the state's urban areas.

A general development policy for the state would seek to:

1. Stabilize the textile industry.
2. Promote tourism.
3. Maintain and expand the transportation infrastructure.
4. Promote technology.

Although general educational levels are a severe constraint on development, the technical education system is regarded as one of the best in the nation.

The state has been active in economic development. But forecasters emphasized that "the threats to the South Carolina economy are clear-cut and include further declines in the textile industry and a reduction in expected capital inflows." In fact, if the economic base of the state does not stabilize and expand, the gap between South Carolina and the nation could worsen, but forecasters said the outlook is favorable that this will not occur during this decade.

CONCLUSION

The broad, structural changes that are sweeping through the national economy will affect southeastern states in several ways. A declining export-base, especially in durable manufacturing industries, will hurt some states—like Alabama, Tennessee, and Mississippi—more than others. North Carolina, which also has a strong manufacturing sector, has taken steps to diversify and automate its manufacturing, so it is now less concentrated in labor-intensive industries. As a result, its growth remained relatively strong during the recession, and longer-term prospects remain good.

Georgia and Florida, which are stronger in services and high-tech industries, should benefit from a shift toward faster national growth in those industries. Questions remain, however, about the disparity between high and low paying jobs in services, and about whether job growth in high-tech industries may be in predominantly low-skill, low-wage jobs.

Another fundamental trend is a gradual drain of jobs from rural areas. This movement, a by-product of the closing of manufacturing plants and the shift toward services, is especially noticeable in areas dependent on the textile and apparel industries.

It would be misleading, however, to suggest that growth opportunities lie only in the "new" industries. Persistent signs indicate that restructuring in some traditional industries—such as textiles in South Carolina—is creating substantial opportunities in both domestic and foreign markets.

These structural changes, many of which are still unfolding, raise several important questions for future research:

1. How can traditional industries be revitalized to contribute to economic growth?
2. How can we solve the rural unemployment problem created in the region by manufacturing shifts?

3. How can states identify and foster potentially high-growth companies?

Structural changes present both problems and opportunities for "traditional" as well as "new" industries. For states and localities that recognize these changes and take action, the potential for solid economic growth remains good.

— William J. Kahley and Gary W. Tapp

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Employee Stock Ownership Plans: Economic Boon for the Southeast?

ESOPs have the potential to improve productivity, reduce turnover and enhance personnel relations, according to an Atlanta Fed survey. So far, however, most southeastern firms are using the plans more as employee benefits rather than as productivity or investment aids.

Do workers perform better when they own the companies that employ them? Advocates of employee stock ownership plans, or ESOPs, argue that this method of broadening stock ownership can alleviate a variety of current economic and social problems. These include inadequate savings, insufficient capital investment, slow productivity growth, and income inequality.

Many of these problems relate to disincentives to save or produce, which, in turn, may be a result of high marginal tax rates, adversarial management-labor relations, or outdated management methods. Techniques to improve incentives, morale, and motivation suggest possible solutions. Both psychologists and management experts have long observed that one important factor influencing worker motivation is "ownership." The term ownership may imply either ownership in the decision-making process (participatory management) or actual stock ownership in a company. This article focuses on the latter.

Since the mid-1970s, when Congress began enacting tax incentives to encourage the spread of employee stock ownership plans (see "What is an ESOP?"), approximately 5,000 ESOPs have been established. Over 300 are in the Southeast. This study examines the experiences of southeastern companies with ESOPs, experiences that suggest ESOPs are likely to provide a remedy for some but not all of the challenges facing the region. These problems include a continuing gap between regional and national

personal income and the need to finance growth in new industries to offset long-term losses in declining sectors. With its special needs and its tradition of more harmonious industrial relations, the region offers a favorable testing ground for ESOPs. Consequently, our findings have implications for the potential success of ESOPs nationwide.

The core of our analysis consisted of a survey of ESOP companies. We found that ESOPs have been most popular at smaller, privately held southeastern companies, that is, at businesses with fewer than 500 employees and less than $50 million in sales. Most produce services rather than manufactured goods. These companies established ESOPs primarily as benefit plans and have not used ESOPs to finance capital expansion. The majority experienced a general improvement in employee relations since establishing an ESOP, but most observed little change in productivity.

ESOPs and Today's Economic Problems

Among the fundamental economic challenges facing the nation and the Southeast are a low rate of savings and investment, sluggish productivity growth, and continued inequality of income despite massive government efforts to narrow the gap between rich and poor. The rate of personal savings in the United States has been averaging 6 percent in recent years.[1] This is closer to the rates of developing countries than to those of the developed nations. In Japan, for instance, the savings rate is approximately 19 percent.[2] Our low savings rate constrains investment by shrinking the pool of funds available to finance capital formation. High labor costs reduce corporate net income and thereby lower the amount of funds available for corporate savings. This double limitation on sources of capital investment, ESOP proponents contend, has slowed our productivity growth over the last decade because advances in labor productivity stem in large measure from capital investment in more modern equipment.

These problems are even more pronounced in the Southeast. Per capita personal income in most states of the region remains substantially below the national average even though the difference is much less than at the end of World War II. Excluding Florida, where per capita personal income is almost 97 percent of the national average, per capita personal income as a percent of the U.S. norm ranges from 71 percent in Mississippi to 91 percent in Louisiana.[3] Moreover, competition in world markets bodes long-term decline for textile, apparel, and other industries that provided the foundation for post-war economic growth in certain localities. Developing countries now offer the same comparative cost advantages the South formerly held over regions of the United States. These advantages apply not only to labor but also to other factors of production, including raw materials and energy. Tennessee's energy costs, which were an important factor in attracting energy-intensive aluminum producers to the state, now suffer by comparison with South American locations; Louisiana's chemical and petrochemical industries are having difficulty competing against foreign producers who pay much lower prices for raw materials.

Industry executives, economists, and state economic development planners recognize that one key to meeting the regional problems described above is to increase the value added by southeastern manufacturing. Textile and apparel makers, for example, must concentrate less on mass-produced items and more on current fashions and specialty clothing.[4] This transition will require substantial capital investment, and funds for that investment are relatively scarcer in the Southeast than in other sections of the country. The region has long been considered a net importer of capital. The "new federalism," with its reduction in federal assistance to poorer regions such as the South, exacerbates this capital shortage. Theoretically, ESOPs seem capable of responding to many of these problems.

Say's Law is the economic foundation of ESOPs. Jean Baptiste Say, a nineteenth century

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[1]"Personal Income and Its Disposition," **Survey of Current Business**, U.S. Department of Commerce, Bureau of Economic Analysis (July 1983), p. 40.

[2]"Development in Individual Countries," **OECD Economic Outlook**, 33 (July 1983), p. 89.

[3]Calculated from data in **Survey of Current Business**, U.S. Department of Commerce (August 1982), pp. 55, 57.

[4]Thomas N. Roboz, "Apparel: Innovations That Will Lead to Growth," **Growth Industries in the 1980s: Proceedings of a Conference Sponsored by the Federal Reserve Bank of Atlanta** (Westport, Connecticut: Greenwood Press), forthcoming.

What is an ESOP?

An ESOP is a program whereby employees acquire shares of stock in their companies through tax-deductible contributions from their employers. An ESOP is both employee benefit plan and a method of corporate finance. Being qualified benefit plans, ESOPs share certain characteristics with profit-sharing, pension, and stock bonus plans. All qualify for special tax advantages, such as deductions, deferrals, and credits, and all are distinct from thrift or savings plans because such plans require employee contributions that the employer will match. ESOP funds expand and contract in concert with a company's fortunes, whereas profit-sharing plans require employers to contribute only when a company turns a profit. ESOPs must invest primarily in the corporate employer's stock, whereas pension funds must follow the "prudent man" rule of finance and diversify their holdings. A large percentage of employees must participate in ESOPs, which is not true with stock bonus plans, and participants need not exercise an "option" to purchase stock. Perhaps most importantly, only ESOPs can be leveraged—that is, they can borrow to purchase stock.

As a tool of corporate finance, ESOPs can provide a tax-deductible source of debt financing that corporations may use for expansion. ESOPs also can facilitate transfers of ownership. Aging owners of small firms can funnel corporate stock into ESOPs to avoid heavy estate tax burdens while they retain control until retirement. Employees in a large corporation can use an ESOP to acquire their division if the corporation seeks to divest it or to close it down.

According to Internal Revenue Service regulations, ESOPs must be established for the exclusive benefit of employees or their beneficiaries and must meet minimum participation standards determined by the IRS and the Department of Labor. ESOPs need not include all employees, but they must pass one of two coverage tests. The first requires that an ESOP—depending on certain restrictions—cover at least 70 to 80 percent of employees. The second test prohibits discrimination in favor of officers, shareholders, or highly compensated employees. Although ESOPs may not discriminate in favor of highly paid employees, employer allocations to both leveraged and non-leveraged ESOPs may be based on the relative compensation of the employees or on a combination of pay and service. Thus, a worker earning $50,000 a year may build up an account five times as large as one earning $10,000. However, before these eligibility tests are performed, union members, younger employees, nonresident aliens, and workers with less than one year of service may be excluded.

ESOPs must invest primarily in qualifying employer securities. ESOPs must also meet IRS minimum voting requirements. For a publicly traded company, ESOP plan participants must be granted full pass-through voting on all corporate issues. Nonpublicly-traded ESOP company participants must be permitted to vote their shares on corporate issues that require more than a majority vote of outstanding stock voted. Such issues are determined by state law or corporate charter and usually include merger, consolidation, or the sale of assets. Ordinarily, voting rights are exercised by a trustee, appointed by the board of directors. Trustees usually vote as the board directs.

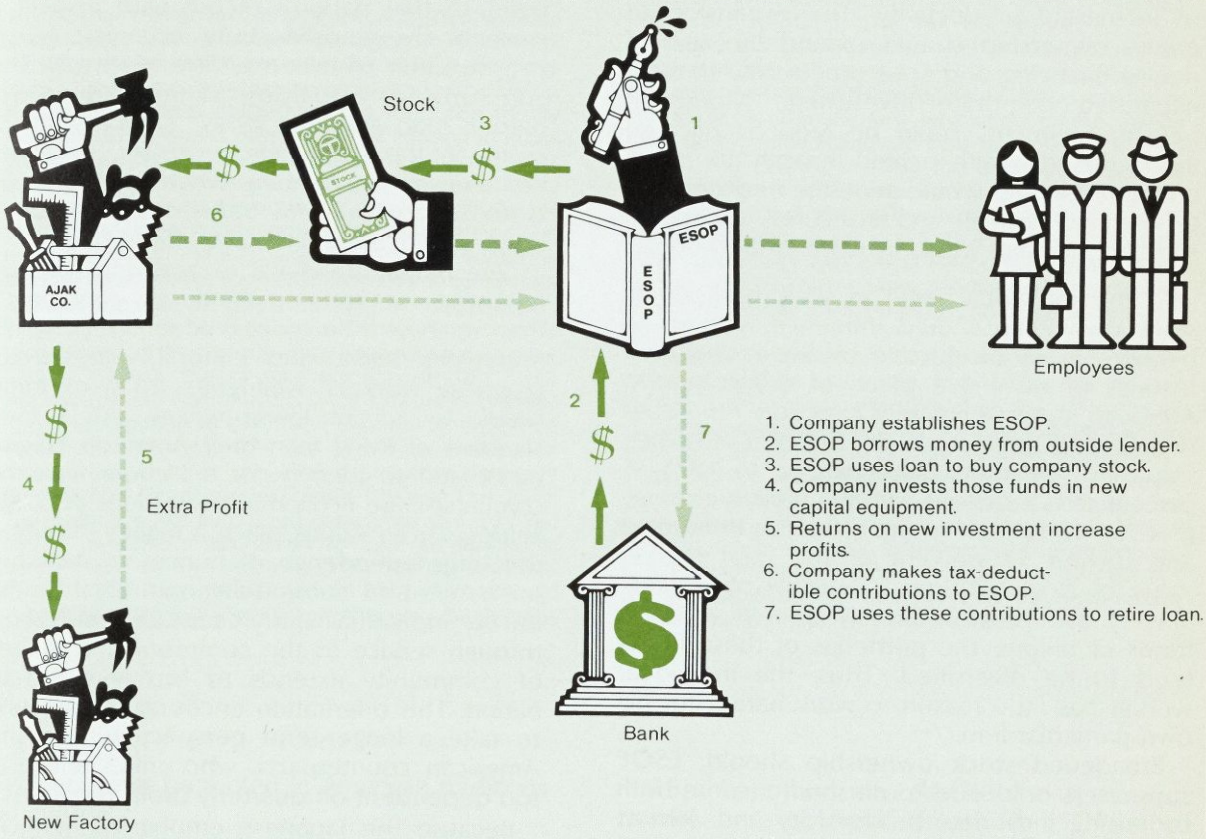
ESOPs must follow one of the vesting schedules allowed by the IRS. These range from graduated vesting over a period of years to full vesting after 10 years of service. The timing and formula of ESOP distributions must be included in the ESOP trust instrument. Distributions are generally made at retirement or termination of employment and may be made in cash or stock, in a lump sum or in installments. Closely held companies are required to offer a "put option" for their stock; that is, they are liable to repurchase the stock since there is essentially no outside market. This provision does not apply to banks, which are prohibited from purchasing their own stock. Closely held firms are also given the right of first refusal: participants wishing to sell stock to a third party must first offer to sell to the employer or the ESOP.

We can classify ESOPs into four categories: non-leveraged, leveraged, TRASOPs, and PAYSOPs. In a non-leveraged ESOP the employer simply contributes stock (or money to purchase stock) to the ESOP trust. A leveraged ESOP is the classic application of employee stock ownership plans as a means of capital formation (see Figure 1). Typically, a company establishes an ESOP, which then borrows money from an outside lender. Usually the loan is guaranteed by the corporation. The ESOP uses the loan proceeds to acquire newly issued stock from the corporation. The corporation invests these funds in new capital equipment that, over several years, should increase its earnings. The employer makes annual tax-deductible contributions up to 25 percent of the participating employees' payroll. The ESOP uses these contributions to retire the loan. Any dividends may be applied to the loan payments as well. As the loan is repaid, shares are released for allocation to participants' accounts.

A tax credit ESOP, or TRASOP, allowed companies making investments that qualified for a tax credit under the Tax Reduction Act of 1975 to take an additional credit equal to one percent of the value of the employer's annual qualified investment. The credit's indefinite tenure discouraged many companies from establishing TRASOPs. TRASOPs, which favored capital-intensive companies, were terminated as of December 31, 1982. Payroll-based ESOPs, or PAYSOPs, were authorized by the Economic Recovery Tax Act of 1981 to extend the TRASOP concept to labor-intensive companies. Establishing a PAYSOP allows a company to claim a tax credit of 0.5 percent of payroll. The rules governing PAYSOPs are somewhat tighter than those governing ESOPs in general. For example, immediate vesting of participants is required, compensation on which share allocation is based cannot exceed $100,000, and voting rights must be conferred.

Employer contribution limits are determined by the type of ESOP chosen. Leveraged ESOP contributions cannot exceed 25 percent of the ESOP participant's payroll plus the amount applied to pay interest on the ESOP loan. Employer contributions to a non-leveraged ESOP are limited to 15 percent of employee-participant

Figure 1. Leveraged ESOP



payroll, or 25 percent of participant payroll if the plan is a combination of a stock ownership and money purchase pension plan. For both leveraged and non-leveraged ESOPs the employer may claim a federal income tax deduction equal to the amount of the contribution. If the contribution is less than 25 percent of participant payroll, the unused deduction may be carried forward and deducted in succeeding years. The employer takes a payroll-based tax credit for contributions to a PAYSOP.

ESOPs are neither a modern form of syndicalism, whereby workers own and manage their respective companies, nor an income redistribution scheme. They do aim to broaden direct stock ownership among workers and, as a by-product, equalize income distribution, but their focus is on newly created wealth.

French classical economist, believed that savings stimulate employment because people produce more in order to consume more. By increasing incentives to produce, demand should increase automatically. Encouraging savings stimulates production, in other words, because savings flow into investment. This investment creates jobs for producers of intermediate goods and for services just as household consumption creates demand for consumer goods. The result is a generally higher standard of living.

These theoretical underpinnings of ESOPs imply that laws, regulations, and policies that encourage demand and consumption are misguided; it would be better to focus policies on stimulating savings and production through such programs as employee stock ownership plans. If more households could become owners

of equity capital, their net worth would expand over time without upward pressure on wages because capital, not labor, is the primary means of increasing productivity. The expansion of equity ownership should extend the use of equity financing and spur productivity through expanded corporate investment. Moreover, transfer payments could be reduced because the increased wealth created through the return on higher savings would generate new demand for both intermediate and final goods. Ultimately, sufficient demand would increase employment.

At the individual level as well, broadening stock ownership should influence workers to become more productive by increasing their feelings of owning a piece of the company. Although approximately 32 million Americans directly own some stock, the diffusion of ownership has remained quite narrow. In 1971, 1 percent of U.S. families with the highest incomes received 47 percent of the dividends distributed and owned 51 percent of the total market value of stock.[5] Although millions of workers already own stock indirectly through pension funds or unions, the portfolios of these funds tend to be diversified. Thus, the individual worker has little reason to work harder for his own particular firm.

Broadened stock ownership should, ESOP supporters hold, add to personal income both by raising individual productivity and, hence, justifying non-inflationary wage increases, and by augmenting the value and amount of stock individuals own. Moreover, this wealth is not taxed until retirement or termination of employment.

Partial evidence that ESOPs do mitigate wage pressures is to be found in the willingness of Pan American Airlines employees to identify their self-interest with the larger interests of their company. They agreed to $180 million in wage rollbacks in exchange for the establishment of an ESOP. In little more than a year their action has helped Pan Am to reduce costs and thereby to turn a profit for the first time in several years and to experience a near doubling of its stock price.

ESOPs appear more consistent with American customs and values than many of the Japanese methods that have been proposed as solutions to fundamental national and regional economic problems. Advocates of the Japanese model point to that nation's record with respect to personal savings, productivity, economic growth, and equality of income. The methods they urge Americans to adopt range from participatory management styles, such as quality circles in the production processes, to government economic planning whereby fiscal policy would encourage new industries that promise rapid growth and high value-added output.

One major drawback in applying particular Japanese methods to American problems is that much of their success seems to be tied to underlying social and cultural values. Many Japanese workers' willingness to work longer hours, to accept lower wages and a lower standard of living than their American counterparts, and to identify for a lifetime with their companies, are economic expressions of cultural values. These values place a higher priority on the interdependence of human relationships, on family and community membership, than on the individual. Individual fulfillment comes through service to the community. This sense of community extends to business and the nation. This orientation encourages businesses to take a longer-term perspective than their American counterparts, who critics allege are too dependent on quarterly profit reports.

Because the Japanese emphasize harmony, labor-management relations and business-government relations are marked by cooperation that facilitates government intervention in the economy through such agencies as MITI, the Ministry of Industry and Trade. The Japanese values—communitarian interests, hierarchy, and harmony[6]—may be a result of that nation's limited natural resources, its island geography, or other factors. They are, nonetheless, quite distinct from the predominant American values of individualism, freedom, and equality. Consequently, if the United States were to adopt a governmentally guided industrial policy similar to that of MITI or to enact legislative incentives to encourage the development of greater interdependence by employers and employees, the results could be less successful because

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[5] Marshall E. Blume, Jean Crockett, and Irwin Friend, "Stock Ownership in the United States: Characteristics and Trends," **Survey of Current Business** (November 1974), p. 17.

[6] George C. Lodge, **The New American Ideology** (New York: Knopf, 1975), pp. 9-15, 343-350 summarizes the differences between American and Japanese values.

Background of ESOPs

The ESOP is one of several methods of broadening stock ownership advanced by the concept's originator, Louis Kelso. Kelso, a lawyer experienced in investment banking, developed his ideas over several decades before they won congressional recognition in the 1970s. Kelso and several colleagues set forth the theory justifying ESOPs and other forms of expanded stock ownership in several books. Because broadened stock ownership promises such beneficial changes, Kelso argues, the federal government should facilitate the process by conferring favorable tax treatment on corporations that contribute stock (or funds for acquiring stock) to broad groups, such as employees and consumers.

Under the political aegis of Senator Russell Long, long-time chairman of the Senate Finance Committee, a progression of tax reform acts have turned at least part of Kelso's theory into practice. In the 1973 Regional Rail Reorganization Act, Congress granted formal recognition to the ESOP concept as a defined contribution plan. In 1974 the Employee Retirement Income Security Act specified a statutory definition for leveraged and non-leveraged ESOPs. The 1975 Tax Reduction Act authorized companies that qualified for an investment tax credit to take an additional credit equal to the value of their annual qualified investment if they contributed an equivalent amount in cash or stock to a stock ownership plan. Such plans became known as Tax Reduction Act Stock Ownership Plans, or TRASOPS. The Tax Reform Act of 1976 extended the Tax Reduction Act and authorized an additional one-half percent investment tax credit for the employer if ESOP participants made matching contributions. Subsequent legislation in the 1970s extended, codified, and clarified previous legislation concerning ESOPs. In 1981 the Economic Recovery Act provided for the replacement of TRASOPs after December 31, 1982, with payroll-based tax credit stock ownership plans, or PAYSOPs. This act and the 1982 Tax Equity and Fiscal Responsibility Act made certain technical changes and added further provisions regarding ESOP contributions, participation, and distribution.

Although Congressional recognition and encouragement of ESOPs since the mid-1970s has helped spread Kelso's ideas, the legislation did not enact all of his recommendations. For example, ESOPs encompass only employees in private, for-profit institutions. They exclude more than one-third of the labor force, including members of the armed forces, employees of government agencies and non-profit organizations, farm workers, and the self-employed. Furthermore, ESOPs omit the unemployed. Kelso has urged ESOPs for all employees in industry and for government workers and consumer groups as well.

they would not be rooted in American traditions and culture.

Employee stock ownership plans—with their participatory management elements—seem to offer many of the same qualities admired in Japanese society, but they grow from American customs and values. Because ESOPs link employee compensation more closely to corporate earnings, they are likely to inculcate the importance of controlling costs, increasing productivity, and investing in new plants and equipment. Since employees participating in ESOPs have a double link to their respective companies, they are likely to take a somewhat longer-term perspective than stockholders whose ties are merely those of investors and who are likely to sell their interest when quarterly reports show reduced earnings. At the same time ESOPs foster the important American values of individualism and property by enabling more people at lower income levels to share in stock ownership. (For more information on the background and legislative development of ESOPs, see "Background of ESOPs".)

Thus, hypothetically, the Southeast appears to offer an auspicious climate for ESOPs since its needs complement the promises of ESOPs. The area requires investment and capital formation to offset the loss of jobs in declining industries. Although the long-term goal is restructuring the economic base to higher value-added industries, over the next decade the region needs to continue attracting industries that can provide jobs for low-skilled, perhaps undereducated workers. Insofar as ESOPs increase per capita wealth without raising wage rates, the region would retain an important comparative advantage during this transition period.

The Southeast's relatively harmonious labor-management relations should prove a more hospitable breeding ground for ESOPs than regions with a history of conflict or a high degree of unionization. In the Southeast the percentage of workers affiliated with unions ranges from 7.8 percent in South Carolina to 21.8 percent in Alabama. In contrast, the national average is 25.2 percent, and in some states

such as Michigan it exceeds 30 percent.[7] Every state in this region except Louisiana has right-to-work laws. Furthermore, by improving workers' attitudes toward their companies, ESOPs could lower turnover and absenteeism and spur productivity growth. Such growth would enhance the prospects of higher wages for workers and higher profits for businesses, both without inflationary pressures.

Evaluation of ESOPs

The theory of ESOPs has drawn little academic interest. Few economists have analyzed ESOPs from either a theoretical or an empirical perspective. Most analysis is financial rather than economic, although a few surveys have been done. These analyses reflect three major criticisms of ESOPs. First, ESOPs are a risky method for augmenting the wealth of middle and lower income workers because, by law, such plans may not be diversified investments. Moreover, ESOP participants in privately held companies know less about corporate decision making and operations than an average stockholder who owns shares in but is not employed by a publicly traded corporation. ESOPs in privately held companies exercise voting rights on most matters through a trustee appointed by the company. Trustees ordinarily vote as directed by the corporate directors. Unless corporate officers and directors are willing to divulge more inside information or unless ESOP rules are amended to require more pass-through voting, this feature could limit the spread of ESOPs in companies with highly trained personnel who demand more complete disclosure.

Indeed, ESOPs are limited in number and scope. There are almost 496,000 pension plans[d] and over 300,000 profit-sharing plans[d] in contrast with only 5,000 ESOPs. Of course, pension and profit-sharing plans have enjoyed legal recognition for over half a century; moreover, the growth of pension plans did not accelerate until after World War II. Nonetheless, ESOPs have grown primarily in privately held corporations. Only an estimated 350 are in publicly traded companies.[10] Many ESOP firms previously had only limited pension and benefit plans or none at all. For such companies ESOPs merely supplement wages; they are not intended to serve as a second major income source. Such limited ESOPs fall short of substantially broadening capital ownership. However, critics maintain that if ESOPs were to become a major source of household income across socioeconomic strata, many workers could find their incomes fluctuating from year to year as the value of their companies' stock changes, and some might face retirement with no pension.

Second, while ESOP proponents maintain that loans made to a leveraged ESOP are more favorable than conventional debt financing because both their principal and interest are tax deductible, critics say that compared with conventional debt or equity financing, ESOPs are an inferior method of financing publicly held companies. Accounting regulations concerning ESOPs and corporate balance sheets require that corporate contributions to ESOPs to retire loans must be reflected as a liability. Yet the company cannot offset this liability by counting ESOP assets because it has no control over them. Thus, corporate earnings are reduced. Moreover, ESOPs usually increase the number of shares outstanding. Hence, ESOPs result in lower earnings per share. Stockholders experience a dilution in the value of their shares, and the capital gains derived from appreciation in stock value are diminished because the market price is usually determined as a multiple of earnings per share.[11]

The standard rebuttal to this charge is that corporations can use funds acquired through ESOP borrowing to expand investment and thereby increase earnings and profits. However, either conventional method of financing offers the same potential gains without simultaneously increasing both debt and equity. A secondary rebuttal is that this problem is irrelevant to privately held companies, which are not concerned with market prices of stock and earnings per share. However, as long as ESOPs remain limited to privately held businesses, many

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[7] U.S. Department of Commerce, **Statistical Abstract of the United States 1982-83**, p. 409.

[d] "Estimates of Participants and Financial Characteristics of Private Pension Plans," Pension and Welfare Benefits Program, 1983.

[d] Estimated by the Profit Sharing Research Foundation from IRS quarterly reports.

[10] Corey Rosen, "Is Employee Ownership Right for You?" **In Business** (January-February 1981), p. 50.

[11] Hearings before the Joint Economic Committee, U.S. Congress, Part I (December 11, 1975), pp. 49-72 "Broadening the Ownership of New Capital," Joint Economic Committee, U.S. Congress (June 17, 1976), pp. 35-49.

American workers as well as the economy as a whole will not attain the full benefits of broadened stock ownership.

A third criticism is that ESOPs fail to increase productivity significantly. The financial rewards of ESOP participation grow slowly and accrue to most workers only upon retirement. Participants exercise little control over corporate decision making. Thus, the linkage between productivity and ESOPs is remote. Critics say it may take years for a firm's work force to see the relationship between the ESOP and their efforts to control costs, produce more, and generally do whatever is needed to help their company make and sell its products successfully. In addition, installing an ESOP can add substantially to corporate costs, particularly at the outset when start-up costs can total $17,000.[12] Establishing a plan requires the services of lawyers, accountants, and often consultants. A trustee may have to be found to serve as fiduciary for the plan. Privately held companies must have their stock valued and make provisions to meet their repurchase liability.

Empirical evidence regarding ESOP productivity is mixed. Several studies have concluded that the plans increase productivity. For example, in a 1982 ESOP Association survey of over 200 of its members, 70 percent of those polled reported improved productivity and employee motivation. A 1980 survey of over 200 ESOP companies concluded that their productivity grew from 1975 to 1979, whereas a weighted national average of companies in comparable industries declined.[13] However, the researchers measured productivity gains by calculating changes in sales in relation to total compensation. This operational definition of productivity is rather inexact because the ratio can reflect many factors other than workers' output.

In the same survey, more direct, subjective questions concerning employee motivation found that most of the managers polled had observed no change since their companies instituted ESOPs. Another study found that firms with ESOPS performed no better financially and often did worse than non-ESOP counterparts. However, this research defined ESOPs in a broad manner that encompassed a variety of qualified benefit plans, and its time period was such that most of the plans could not have been true ESOPs.[14] Thus, at least two studies conclude that ESOPs increase productivity, but the results of one varied according to the measurement of productivity, and a third found that ESOPs had no positive effect on a variety of measures of financial performance.

Because of the potential benefits of ESOPs and the limited and conflicting results of previous studies, we undertook a special survey focusing on southeastern-based companies to learn about their experience with ESOPs and to assess the likelihood that ESOPs can offer a meaningful response to regional economic problems.

Survey of Southeastern ESOPs

Identifying or even counting ESOPs is difficult. Private organizations such as the ESOP Association do not encompass all ESOPs. Some public agencies keep lists that include ESOPs, but these do not single them out, nor are they completely current. To survey southeastern companies with ESOPs, we utilized membership lists of the ESOP Association, a 1976 Department of Labor list of companies interested in establishing ESOPs, and an IRS list of southeastern companies that filed forms required of employee stock ownership (and similar) plans. From these three sources we identified 345 ESOP companies based in eight southeastern states. We sent a cover letter and questionnaire to each of these companies in June and mailed a follow-up letter in July. The 152 respondents constitute at least 44 percent of the probable population. Thus, we can conclude with confidence that the results of this survey are representative of southeastern ESOP firms in general.

One of the most striking characteristics is the comparatively small number of ESOPs in the region. These 345 ESOPs constitute only 7 percent of the estimated 5,000 ESOPs nationwide, although these eight states accounted for 18 percent of the U.S. population in 1981.[15] A second salient feature of southeastern ESOPs,

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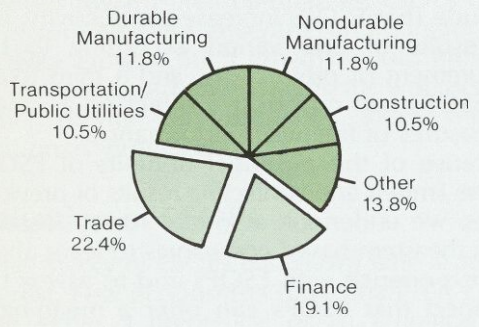
[12] Rosen, *op. cit.*, p. 50.

[13] Thomas R. Marsh and Dale E. McAllister, "ESOP's Tables: A Survey of Companies with Employee Stock Ownership Plans," **Journal of Corporation Law**, VI, 3 (Spring 1981), pp. 551-623.

[14] Leroy D. Brooks, James B. Henry, and D. Tom Livingston, "How Profitable are Employee Stock Ownership Plans?" **Financial Executive**, L, 5 (May 1982), pp. 32-40.

[15] Computed from data in "Population Estimates and Projections," Series P-25, No. 913, U.S. Department of Commerce, (May 1982), p. 2.

Chart 1. Distribution of Southeastern ESOPs by Industry



Source: Federal Reserve Bank of Atlanta survey

typical of national patterns, is their relatively small size. The average number of employees in southeastern ESOP companies was 2,080, but more than half have fewer than 500. The median, probably a more accurate statistic because of the skewing effect of a few large companies, was 400. Similarly, most southeastern ESOP firms had sales of $50 million or less; only 12, or 9 percent of the sample, reported more than $500 million in 1982 sales.[16]

The majority of southeastern ESOPs are privately held, but ESOPS at publicly traded firms are relatively more numerous in this region than in the nation. ESOPs at private companies comprised about two-thirds of the sample; nationally, an estimated 93 percent of the ESOPs are at private companies. ESOPs are more popular in services than in manufacturing enterprises. More than three-quarters of southeastern ESOPs sampled are in nonmanufacturing firms. Almost 40 percent of those polled were in trade and finance (see Chart 1).[17] Within the manufacturing sector, ESOPs in food processing and electrical machinery production comprise more than one-third of all industrial ESOP firms. Unions represented employees at only 24 percent of the southeastern ESOP firms polled. In only 7 percent of the businesses surveyed did most workers belong to unions. Thus, the typical southeastern ESOP company has fewer than 500 (non-union) employees, generates less than $50 million in sales, and provides services rather than manufactured goods.

The survey also indicates that the mean age of southeastern ESOPs is seven years. About half of the firms polled established their ESOPs in 1975-76. On the average, 68 percent of the companies' employees are covered. Non-leveraged ESOPs are the most popular type in the Southeast, judging by the survey. Fully 53 percent of the companies had non-leveraged ESOPs; about one-fifth had leveraged ESOPs; and almost one-fifth had tax credit ESOPs. TRASOPs outnumbered PAYSOPs by almost two-to-one (see "What is an ESOP?" for explanations of these two terms). Only 41 percent reported using ESOPS for corporate expansion. The limited number of leveraged ESOPS or of ESOPs used in any manner for corporate expansion indicates that they are not being widely used as a method of corporate finance.

Many ESOPs (37 percent of the sample) hold newly issued stock; 43 percent had purchased stock from existing shareholders; the remainder held both. Southeastern ESOPs overwhelmingly hold their own companies' stock: the amount of company stock held by ESOPs averaged 91 percent. Few southeastern employees gave up current compensation in exchange for an ESOP. (This practice is fairly common in employee buy-outs of plants about to be closed.) The average portion of corporate stock held by southeastern ESOPs was 21 percent. Over one-third of the ESOPs polled held less than 9 percent of their corporations' outstanding stock; one-fifth held 10-19 percent; and slightly less than one-fifth held 20-29 percent. Only 10 percent of the plans held a majority of their companies' stock. This is, nonetheless, twice the national norm. In general, a typical southeastern ESOP is seven years old, is non-leveraged, covers 68 percent of the firm's employees, holds more than 90 percent of its assets in company stock, and controls no more than 20 percent of the company's total stock.

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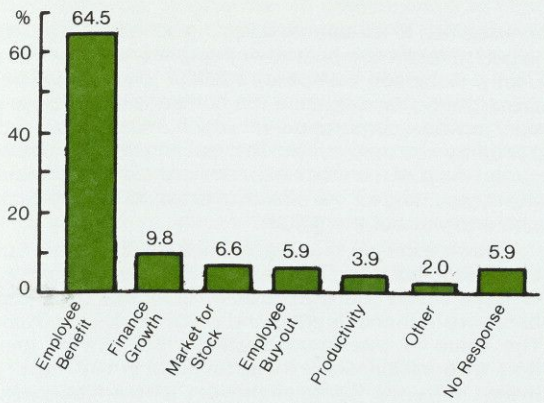
[16] Twenty-three firms did not disclose sales; nonetheless, only 9 percent of those who responded to this question had sales of $500 million or more.

[17] The popularity of ESOPs in financial institutions may be attributable to the special attractiveness of ESOPs to banks as an alternative method of raising capital. Instead of forming a bank holding company that would obtain a loan from a correspondent bank to purchase newly authorized shares, a bank could create an ESOP to achieve the same end while avoiding not only the higher costs but also the additional regulation by the Federal Reserve System that accompanies the creation of a bank holding company. M. Scott Lawyer and John G. Gourlay, Jr., "Having Capital Problems? ESOPs May Be Answer," **ABA Banking Journal** (March 1982), p. 117.

Chart 2. Reasons for Forming ESOPs



Source: Federal Reserve Bank of Atlanta survey.

Southeastern companies' experience with ESOPs reflects the motivations for establishing them. Almost two-thirds cited employee benefits as the primary reason for creating an ESOP (see Chart 2). Financing corporate growth, providing a private market for existing stock, and financing employees' purchase of the company were each cited by 6-10 percent of the sample. Virtually none listed improving worker productivity, estate planning, or avoiding merger or shutdown as primary motivations. Productivity was more important as a second choice: one-fourth of the companies listing more than one reason ranked productivity number two. However, about the same number of firms ranked benefits as a secondary motivation.

Given such reasons for establishing ESOPs, it is not altogether surprising that southeastern firms noted little change in productivity since establishing an ESOP. Less than 2 percent observed sharp increases in productivity, and only about one-fourth reported at least moderate improvement.[18] Several commented that they had installed no methods for measuring productivity gains because they envisioned their ESOPs essentially as employee benefit programs. Only 40 respondents (26 percent) indicated that at least a moderate reduction in turnover had occurred since their respective ESOPs had been installed; in contrast, 86 companies reported no change. Only 12 firms noticed any decline in absenteeism. However, a clear majority (61 percent) indicated that employee relations had improved since they established an ESOP.

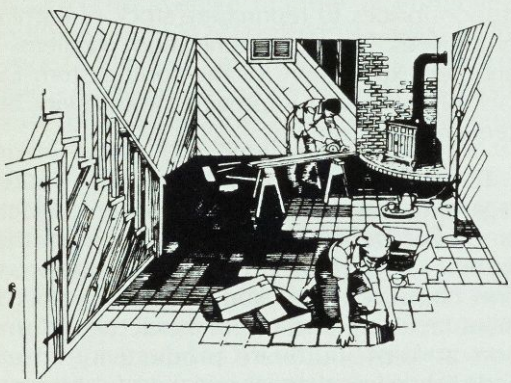
By far the most common problem cited was communications: 41 percent of the sample listed this as the major problem with ESOPs although a nearly equal percentage indicated they had no problems with their ESOPs. Administrative costs and regulatory compliance were a primary problem for 11 and 14 percent, respectively. Few cited inadequate bank understanding of ESOPs or valuation as major difficulties, and none listed as primary problems disclosing information or meeting their financial responsibilities to repurchase stock of terminating employees. The communication problems offer another explanation for the southeastern ESOPs' lack of success in improving productivity, absenteeism, and turnover.

To evaluate more carefully ESOPs' potential regarding productivity and other aspects of employer behavior, we disaggregated the responses to discern possible correlations with firm characteristics. About 40 percent of both manufacturing and nonmanufacturing firms report at least moderate productivity advances, and slightly less than 60 percent of each reported no changes. Comparing manufacturing and nonmanufacturing firms showed similar results with regard to turnover, absenteeism, and employee relations. Private companies reported higher productivity somewhat more often than publicly traded companies. Among the former, 45.9 percent observed sharp or moderate increases in productivity, whereas only 33 percent of publicly traded companies found such gains. Some 35.3 percent of private firms reported lower turnover, whereas only 21.7 percent of publicly traded companies noticed such changes. A similar pattern was noticeable with regard to absenteeism and employee relations. One explanation for this distinction probably pertains to firm size. Private firms tend to be smaller in terms of employees and sales, and ESOPs at

[18] Productivity and other employee behavior was measured subjectively. We asked senior financial officers to indicate the degree to which productivity, turnover, absenteeism, and employee relations had changed since establishing an ESOP. We employed Likert-scale choices ranging from sharp improvement to sharp deterioration. The direction of questions was altered to avoid problems of response set bias. The fact that we found so little evidence of productivity and other behavioral improvements despite our use of such a liberal measure strengthens our conclusion that ESOPs seem to have little influence on these aspects of employee behavior.

Anecdotal evidence based on interviews with and statements from individual companies suggests that ESOPs hold greater potential than revealed in this survey, especially in high growth companies. One of the most successful southeastern employee stock ownership plans was established by Robinson-Humphrey, an Atlanta-based brokerage firm, in 1974. It was terminated last year upon Robinson-Humphrey's acquisition by Shearson/American Express. During this period the value of stock in the ESOP trust grew from $5.6 million to $36 million. This growth meant that individual employees, some at the clerical level, accumulated accounts of $70,000 to $80,000. The fund's cash value will be distributed this year to the firm's 900 or so employees.

Robinson-Humphrey in many respects was ideally suited for an ESOP. Perhaps most importantly, the company grew rapidly during the ESOP's existence: revenues expanded from $15 million to $80 million. Second, Robinson-Humphrey employees were well matched to this type of benefit plan. Since one of the firm's main product lines is equity securities, employees



at even the lowest levels comprehended the benefit they were receiving. They understood its value; they were familiar with sources of additional information about the stock and the corporation; and they probably held a more long-term view of financial assets, such as corporate stock ownership, than most employees. Hence, fluctuations in company performance were more likely to be regarded as normal.

In addition, Robinson-Humphrey maintained a pension plan to which the ESOP was a supplement. Thus, prospects for retirement remained secure. In other companies the abstract nature of a retirement benefit grounded in equity that fluctuates in value might inhibit ESOPs' positive influence on employee productivity and turnover.

Robinson-Humphrey officials believe its ESOP proved helpful in reducing turnover. In the securities industry, it is not uncommon for upper level employees to move from one company to another frequently. Given this climate, Robinson-Humphrey's ESOP, with its handsome bonuses tied to an extended vesting schedule, probably helped to retain competitive entrepreneurial employees. Finally, Robinson-Humphrey's ESOP worked well because during its existence the company was a closely held, private corporation in which most stock was owned by key employees. The individuals who initially owned most of the stock experienced minimal dilution, after accounting for the effects of taxes on their holdings with and without the ESOP.

Another example of a highly successful southeastern ESOP is to be found at Intelligent Systems, a Norcross, Georgia-based manufacturer of computer terminals, hardware enhancements, and color graphic systems. The value of Intelligent System's ESOP trust grew from $1.5 million when it was founded in 1977 to $7.5 million currently. Some employees who are becoming fully vested have accumulated as much as 4,000 shares of stock, worth $64,000.

Until 1980, when the firm went public, the ESOP provided a financial vehicle for corporate expansion. Because the firm was privately held, it issued new stock to the ESOP rather than purchasing shares

from existing stockholders. Since the stock was not publicly traded, dilution of earnings per share was essentially irrelevant. After Intelligent Systems went public, the price of its stock fluctuated between $32 and $5 a share, although it recently stabilized at $16. This change, however, did not concern employees greatly because, like Robinson-Humphrey's ESOP, Intelligent Systems' ESOP is a supplemental benefit. Intelligent Systems traditionally has pursued a policy of treating its work force well. By adding substantially to employees' assets, the ESOP has served this objective. In addition, company executives believe it may have helped reduce turnover. Because of high growth rates, intense competition, and a shortage of engineers, rapid turnover is common in high-technology companies.

Intelligent System's work force overall is probably less familiar with stock than are Robinson-Humphrey employees. About half are unskilled, production-line workers. Inadequate communications regarding ESOPs

may have been exacerbated by the company's rapid growth. It was too busy developing and producing new products to establish an infrastructure to handle ESOP-related communication problems. Until recently, for instance, it had no personnel department. Nonetheless, Intelligent System executives believe that ESOPs will succeed over time in a growing company. As expanding corporate revenues and profits increase the value of employee-owned stock and as employees become vested, appreciation and understanding of ESOPs grow automatically. An ESOP in a growing company, they believe, can help inculcate a corporate culture that permeates all aspects of employee attitudes and behavior. They feel it encourages cost-consciousness, mutual trust and loyalty between employees and managers, and a general sense of company ownership among workers.

The Lowe's Company, a home building supply retailer based in North Carolina, exemplifies the potential success of an ESOP under different circumstances. Lowe's, too, experienced rapid growth in sales, profits, and the value of stock owned by its employees. However, Lowe's executives attribute some of this rapid growth to ESOP-induced changes in employee behavior and attitudes. Unskilled employees comprise a larger portion of Lowe's work force than of Robinson-Humphrey's or Intelligent Systems'. Moreover, its operations are spread over 19 states in stores each with no more than 20 to 30 employees. To help employees understand their ESOP, Lowe's has instituted several means of handling communication problems. It maintains an ESOP advisory committee with employee representation. In each facility, one employee serves as an ESOP representative, conveying information to other employees, responding to their questions about ESOPs, and providing input into the ESOP administration. Employees are encouraged to save money in store operations, thereby reducing costs, raising profits, and increasing stock values. Lowe's has a graduated vesting schedule whereby benefits build gradually over 15 years, then accelerate rapidly. This schedule helps motivate employees to remain with the firm. Lowe's officials believe the ESOP has improved employee attitudes about serving customers and containing costs as well as reducing turnover, which had been quite high among entry-level personnel. Although these examples are representative of successful ESOPs, they illustrate how three southeastern companies have realized some of the potential of such plans.

smaller firms seem more likely to enhance productivity and related behavior.

As Table 1 illustrates, firms with fewer than 500 employees were more likely to report productivity gains than those with larger staffs. For example, more than half of those with 101 to 500 workers observed at least moderate advances, whereas only one-fourth to one-third of those with more than 500 workers noticed even moderate gains. The largest firms, those with more than 5,000 employees, also showed the lowest tendency to report reductions in turnover. Only 16.7 percent of firms in this category reduced turnover even moderately, whereas 30 to 35 percent of firms in the other classes achieved moderate or sharp declines in turnover after they instituted ESOPs. Changes in absenteeism and employee relations were less marked or consistent, but only 8.3 percent of the largest firms reduced absenteeism, whereas about 15 percent of middle-sized firms (101-1,000 workers) had either sharp or moderate drops in absenteeism.

The importance of company size in the success of ESOPs is further suggested by analyzing differences in levels of sales (see Chart 3). Companies most likely to experience higher productivity fall in the small to middle sales ranges. About 60 percent of the companies with sales of $10-$100 million have experienced moderate or sharp gains in productivity since establishing an ESOP, whereas only one-fifth of larger firms and fewer than one-third of firms in the lowest sales category report such advances. Other improvements in employee behavior and relations show similar concentration in the middle sales ranges. The relatively poor performance of the firms with the lowest sales suggests there may be a threshold below which ESOPs are ineffective. Very small firms may be either too new or too strapped for funds to carry out the necessary communications. This reasoning implies that the largest firms, with established personnel and public relations departments, should enjoy the best performance. However, these advantages may be offset by size factors: large firms are often spread over a wide area and an employee in such a business can exert only modest influence by means of personal changes in absenteeism, productivity, and turnover.

Staff participation in ESOPs is noticeably higher in firms with fewer employees. For example, 81 percent of the workers in firms with fewer than 100 employees participate in their companies' ESOPs; 56 percent of workers

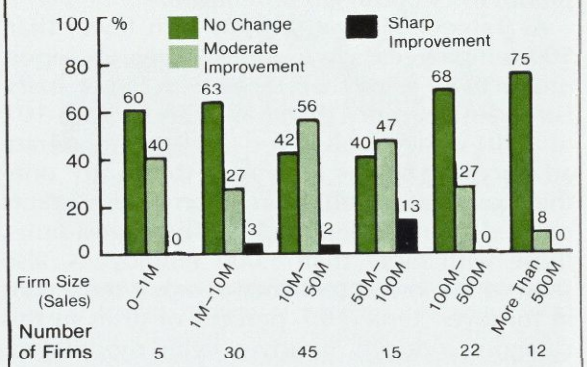
Table 1. Post ESOP Changes in Productivity in Relation to Firm Size (Number of Employees and Participation Rate)

Number of Employees	1 to 100			101 to 500			501 to 1,000			1,001 to 5,000			5,001 to . . .		
	#	%	PAR	#	%	PAR	#	%	PAR	#	%	PAR	#	%	PAR
Risen Sharply				4	8.0	75.0									
Risen Moderately	13	37.1	74.4	22	44.0	78.5	7	36.8	51.1	8	33.3	70.6	3	23.1	31.1
No Change	22	62.9	86.2	24	48.0	70.8	11	57.9	60.4	15	62.5	55.8	8	61.5	34.0
Fallen Moderately															
Fallen Sharply															
No Response Given							1	5.3	71.4	1	4.2	66.6	2	15.4	64.4
Total	35	100.0	81.2	50	100.0	74.5	19	100.0	57.9	24	100.0	61.4	13	100.0	38.0

- number of firms with specified range of employees
% - percent of firms within range giving designated response.
PAR - average percentage of employees participating in ESOP giving designated response (not all employees necessarily participate in a company's ESOP)

in firms with 501-1,000 employees are covered; and in firms with more than 5,000 employees only 32 percent participated. Despite this clear pattern between size ranges, Table 1 illustrates that, within size categories, participation rates among firms reporting better productivity are not consistently higher than those reporting no change in productivity. Moreover, firms in which as many as three-quarters of employees are union members, who are excluded from ESOP coverage, report sharp gains in productivity after instituting their ESOPs. Consequently, we can conclude that ESOPs in the Southeast have proven most successful at smaller, privately held firms with moderate sales. Success, as measured by improved productivity, lower turnover and absenteeism, and better employee relations, appears to be unaffected by the presence of unions or by the nature of the enterprise's activity (services versus manufacturing).

Chart 3. Productivity Changes in Relation to Level of Sales



Source: Federal Reserve Bank of Atlanta survey. (Percentages displayed may not add to 100 due to incomplete response from some of those surveyed.)

Implications for the Southeast

This survey suggests that ESOPs are likely to help meet only some of the challenges that the Southeast and the nation face. Even if these plans become more widespread as awareness increases, their relatively low utilization as a tool of corporate finance suggests that ESOPs are unlikely to become a significant vehicle for increasing capital formation in this region. Most southeastern ESOPs are simply benefit plans. As such, they will augment employee compensation without driving up wages and, over a period of years, the value of employee accounts in ESOP trusts can become considerable.

Yet the plans are unlikely to increase per capita personal income substantially as long as they remain relatively few and concentrated in smaller, privately held companies, because this base encompasses too narrow a range of the southeastern population. Our survey offers limited evidence to suggest that ESOPs in the Southeast contribute somewhat to improved productivity. Given enhanced communications, ESOPs may provide small- and medium-sized employers a means of raising worker productivity, lowering turnover and absenteeism, and improving employee relations (see "Successful Southeastern ESOPs"). Moreover, they may foster more profound and widespread changes in the long-run by encouraging greater identification of interests between employers and workers.

—Bobbie McCrackin and Sandra Davis

Additional Reading

Theory

Kelso, Louis O. **The Capitalist Manifesto.** New York: Random House, 1958.

Kelso, Louis O. and Mortimer J. Adler. **The New Capitalists** (Westport, Connecticut: Greenwood Press, 1961).

Kelso, Louis O. and Patricia Hetter. **Two-Factor Theory: The Economics of Reality.** New York: Random House, 1967.

Practice

The ESOP Association, Washington, D.C., is a clearinghouse of technical and other information about the operation of ESOPs. The U.S. Senate Finance Committee is another good source of practical information.

Analysis

"Employee Stock Ownership Plans (ESOPs)." Hearings before the Joint Economic Committee, U.S. Congress, Parts I and II (December 11-12, 1975).

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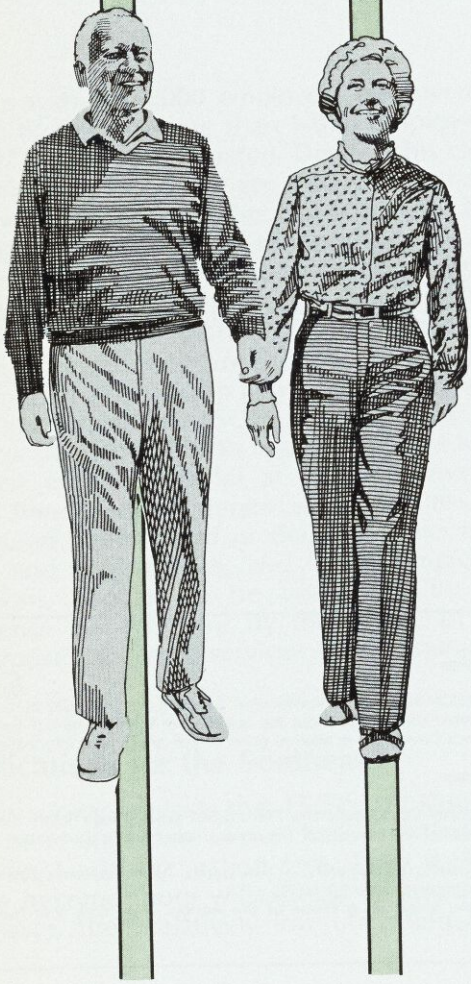
Speiser, Stuart M. **A Piece of the Action.** New York: Van Nostrand Reinhold, 1977.



Retirement Plans: Deferred Compensation's Popularity Soars

Employers and workers alike are embracing deferred compensation savings plans, while payroll-deduction IRAs have stalled. Insurance companies are capturing a much higher share of both kinds of accounts than are banks, credit unions and thrifts.

Retirement programs with tax deferral features such as IRA and 401(k) plans offer substantial incentives for savers.[1] When these programs are offered through employee payroll deduction, rather than through direct contact between the individual and the financial institution, the plans may differ and the funds invested may be channeled into different institutions. One reason for this variety is that financial institutions are unregulated in their competition for these funds. To monitor the competition for funds from voluntary-contribution retirement plans, the Federal Reserve Bank of Atlanta surveyed large private employers in the Southeast in early May to find out what kinds of plans were offered, whether the plans were successful, what financial institutions were administering the plans, and how depository institutions were meeting their increased competition.

[1] New individual retirement accounts permit employed persons under age 70½ to contribute annually the lesser of $2,000 or 100 percent of earned income if single, the lesser of $4,000 or 100 percent of earned income for a husband and wife if both are working, and the lesser of $2,250 or 100 percent of earned income for an individual with a nonworking spouse. The 401(k) or deferred compensation plan allows private sector employees to defer as much as 20 percent of compensation with an annual limit of $30,000.

Our results show:

1. Thirty-five percent of the responding companies offered an individual retirement account (IRA) plan; 17 percent offered a deferred compensation [401(k)] program. Larger companies offered voluntary-contribution plans more often than did smaller companies.
2. Forty-two percent of the companies responding were planning a 401(k), while only 1 percent were planning an IRA.
3. More than half of the companies not yet offering a 401(k) may do so after proposed regulations have been issued by the Internal Revenue Service (IRS) and clarified. Companies without plans for IRA programs, by contrast, appear unlikely to offer an IRA in the future.
4. Employee participation in 401(k) programs was much higher than in IRA programs. Over half the companies offering 401(k)s reported at least 70 percent employee participation, while almost half of those companies offering IRAs had less than 4.5 percent employee participation.
5. Certificates of deposit offered by banks, thrifts and credit unions held only .03 percent of all 401(k) investment and only 2.1 percent of IRA investment from payroll deduction plans. Guaranteed income contracts (GICs) offered by insurance companies have proved to be the most popular investment choice for voluntary-contribution programs. Forty-six percent of 401(k) investment and 40 percent of IRA investment were channeled into GICs.
6. Fewer companies offering 401(k)s selected depository institutions to manage their program funds than those offering IRAs (10 percent and 28 percent, respectively).
7. Fifty percent of the companies offering 401(k)s managed their own programs, while only 28 percent offering IRAs did so.

Our survey indicates that 401(k) programs are spreading among large employers, while payroll-deduction IRA programs seem to have penetrated as far as they are going to. If our results are typical, the spread of 401(k)s will make it harder for depository institutions to obtain voluntary-contribution retirement funds directly or indirectly. Our study shows that those institutions manage only a small proportion of the plans. They may or may not gain as the recent removal of interest rate ceilings has eliminated one competitive disadvantage. Current regulatory changes give depository institutions greater flexibility in structuring their accounts to meet investors' needs; however, their past record indicates that they may not necessarily take advantage of this opportunity. Unless depository institutions become imaginative in structuring their accounts, they will continue to secure only a small share of the voluntary-contribution retirement market.

Voluntary-Contribution Retirement Programs: Background

The Economic Recovery Act of 1981 increased both the number of persons eligible to open an individual retirement account and the maximum income they could shelter from income taxes. Prior to that legislation, only income earners not covered by a qualified private or government pension plan were eligible to establish IRAs. The maximum amount of income an individual could shelter from federal income taxes in one year was $1,500 or 15 percent of earned income, whichever was less. A couple could shelter $3,000 or 15 percent of earned income if both were employed, or $1,750 or 15 percent of income if only one spouse was employed. Beginning in January 1982, eligibility was expanded to include anyone earning income. Maximum sheltered income was raised to the lesser of 100 percent of earned income or $2,000 for an individual, 100 percent of earned income or $4,000 for a couple with both members earning income and 100 percent of earned income or $2,250 for a couple with only one person earning income.

The changes in IRA laws substantially increased the number of people eligible to open an IRA. According to Treasury Department estimates, the changes increased the number of workers eligible for IRAs from 35 million to 75-85 million. If everyone eligible established an IRA, it would make between $80 billion and $100 billion available for IRAs. The estimated IRA participation as of last March, however, was only about 33 percent of the potential in the second quarter of 1982,[2] thereby reducing the pool of additional assets to a range between $26.4 billion and $33

[2] This figure was obtained from statistical data found in: "Impact of IRAs on Saving" Robin C. DeMagistris and Carl J. Palash, **Quarterly Review**, Federal Reserve Bank of New York, Vol. 7 (Winter 1982-83) pp. 24-32. Current data for insurance companies was not available; consequently, the figure for this sector was dropped from the potential IRA investment total, as well as from the total for actual IRA investment.

Table 1. IRA/Keough Accounts Outstanding at Depository Institutions
($ billions)

End of Period	All Institutions	Commercial Banks	Mutual Savings Banks	Savings & Loan Associations
	Total	Total	Total	Total
1981 December	25.4e	7.4e	4.8e	13.2e
1982 June	N.A.	14.9	5.8	N.A.
1982 September	41.1	16.2	6.1	18.8
1982 December	N.A.	18.1	6.3	N.A.
1983 March	53.7	23.6	7.1	23.0
1983 May	N.A.	27.4	7.7	N.A.

e = estimated from incomplete data.
N.A. - not available

Sources: Commercial and Mutual Savings Banks—Federal Reserve Board, "Money Stock Measures and Liquid Assets."
Savings and Loan Associations—Federal Home Loan Bank Board, **Journal** and staff.

billion. This figure is significantly lower than the earlier estimates, and therefore does not provide as attractive a market as originally projected.

Depository institutions moved aggressively to offer IRAs in 1982 and 1983, but the expanded pool of IRA funds was not totally allocated to these institutions. Funds in IRA and Keogh accounts at commercial banks, mutual savings banks and savings and loans associations increased from $25.4 billion in December 1981 to $53.7 billion in March 1983 (see Table 1). As of March, commercial banks had attracted 57 percent of the total increase, S&Ls had attracted 35 percent and mutual savings banks 8 percent.

Payroll deduction IRA programs may be more convenient for employers as well as for employees. Unlike other pension plans, separate payroll deduction IRAs are free of the complicated regulations under the Employee Retirement Income Security Act (ERISA), as long as employers do not directly endorse a particular investment option and employees are aware that they may at any time leave their employer's program and set up an individual IRA. Employers offering payroll deduction IRAs simply collect contributions and then select an outside financial institution to administer the funds. The employer is not responsible for the investment choices made by the administering institution. If employers want to take a more active part in managing the invested funds, they can add an IRA program to their qualified pension, profit-sharing or savings plan.

Deferred Compensation: An Alternative to IRAs

Another reason for the decline in IRA investment at depository institutions may be the spread of employer-sponsored 401(k) deferred compensation plans. The deferred compensation program is another savings-incentive plan that allows nongovernment employees to defer taxes on their contributions. These 401(k)s take their name from the section of the Internal Revenue Code proposing regulations concerning these programs. They are also known as "cash or deferred arrangements" (CODAs). Although 401(k) programs appear to represent a more recent trend in employee benefits than IRA programs, they actually have a longer history than many realize. Before passage of the Employee Retirement Security Act (ERISA—also the original legislation creating IRAs in 1974), deferred arrangements were quite common. ERISA prohibited the formation of new 401(k) programs until Congress could decide how they would qualify for favorable tax treatment under the Internal Revenue Code. By passing the Revenue Act in 1978, Congress allowed 401(k)s to receive deferred taxation on program contributions.

After passage of that 1978 act, the IRS in November 1981 issued proposed regulations on Section 401(k) of the Internal Revenue Code. Final regulations still have not been issued. In February 1982 the IRS announced that companies could use the proposed regulations as guidelines in qualifying their plans. The Internal Revenue

Code qualifies 401(k) programs under the existing rules for pension, profit-sharing or stock bonus plans. The 401(k)s therefore may take the form of either deferred bonus compensation or a deferred percentage of current compensation. If the latter option is selected, the arrangement between employer and employee is known as a "salary reduction plan."

Although salary reduction plans appear similiar to IRAs, the two differ in several major respects. First, the contribution allowable with a 401(k) is in many instances much greater than with an IRA program. Because salary reduction programs are subject to ERISA requirements, the maximum allowable percentage deferable per employee is 20 percent of compensation with an annual limit of $30,000. Because of the nondiscrimination tests required by the proposed regulations, the deferable percentage selected by individual companies is often less than the maximum allowed. Discrimination tests are required in addition to the general coverage requirements applicable to all qualified 401(k) plans. These tests are designed to ensure that highly compensated employees do not defer a much greater percentage than do those less well paid. Failure to meet the tests, however, would not disqualify a company's plan. According to the IRS' actuarial division, any excess money contributed by highly compensated employees would simply increase the taxable income of all participants.

In addition to a greater maximum of shelterable income, 401(k) program contributions are not subject to the same normal withholding tax as IRA contributions. Before the passage of the Social Security Amendments of 1983 last April, participants in some states and cities paid no withholding tax on their contributions. With the amendments, employees must pay FICA taxes on contributions, but still are spared federal income taxes (and in some cases, state and local income taxes) on contributions. In addition to these tax advantages, contributions to 401(k) programs are not included in an employee's taxable income.

Section 401(k) programs also differ in the regulations applicable to withdrawals from program accounts. Money in an IRA cannot be withdrawn without a penalty until the depositor reaches age 59½, unless that person becomes totally disabled. Participants in a 401(k) program may withdraw funds without a penalty before age 59½ if they leave their company. They may place the money in another company's 401(k) plan, roll it into an IRA account or keep it and pay the federal income tax on a 10-year-averaging basis. After the employee reaches age 59½, federal taxes on the money withdrawn may also be averaged over 10 years. Withdrawals from 401(k)s also are permitted if participants are able to demonstrate "financial hardship." The exact definition has yet to be issued by the IRS. Employees withdrawing funds because of financial hardship must describe their circumstances to a designated committee or board within their company. Such withdrawals are subject to ordinary taxation. Participants also may borrow against their deferred compensation funds if their particular company allows it. With the potential 10-year-averaging of withdrawals allowable under deferred compensation plans, 401(k)s may yield a higher rate of return than do IRAs.

Given the possibly greater return on investment and the greater liquidity associated with 401(k)s, deferred compensation plans appear superior to IRA programs, and are rapidly gaining popularity. Some employers, however, may find 401(k) programs unattractive. The complexity of the annual nondiscrimination tests and other adminstrative costs may discourage some employers from initiating these plans because they fear the benefits to employees will not be worth the costs. Other employers appear willing to offer deferred compensation programs because of their greater investment and savings opportunities. As more companies offer these plans to their employees, larger employers may be forced to adopt them to maintain competitive benefits programs.

The voluntary-contribution retirement market is potentially large and appears to be growing. Successful management of pension investment requires an ability to achieve target returns at a minimum risk. Pension fund managers seem drawn to institutions that can structure a variety of investment choices to best fit their companies' needs; therefore, these institutions should win a greater proportion of voluntary contribution retirement funds. In early 1982, as a first step in measuring the competition for funds from these programs, we surveyed financial institutions operating in the Sixth District on their original IRA offering in the expanded market created by the 1981 Tax Act.[3] A resurvey of these same

[3]B. Frank King, Delores Steinhauser, Jody Fletcher, and Michael Taylor, "IRAs in the Southeast: A Laboratory for Deregulation" **Economic Review**, Federal Reserve Bank of Atlanta, Vol. 67 (May 1982), pp. 4-12.

Table 2. Number of Firms in Each Size Range

Number of Employees	Number Surveyed	Number Responding
1,000 - 2,999	21	12
3,000 - 9,999	45	30
10,000 - 24,999	38	25
25,000 - 49,999	37	20
50,000 - 99,999	14	12
100,000 +	20	11
Total	175	110

Source: Federal Reserve Bank of Atlanta

Table 3. Companies Offering and Planning IRA and 401(k) Programs

	Number	Percent
Responding	110	
Offering IRA programs	39	35%
Offering 401(k) programs	19	17%
Offering IRA and 401(k) programs	9	8%
Planning IRA programs	1	1%
Planning 401(k) programs	47	42%

Source: Federal Reserve Bank of Atlanta

institutions in November 1982 tracked the evolution of IRA competition and found that deregulation had pulled more institutions into the IRA market.[4] Our third survey, reported here, dealt with the use of IRAs and 401(k)s in employers' benefits packages. It sought to determine: (1) which voluntary contribution program was drawing more investment, (2) which program showed the most potential for further development, (3) which institutions were attracting and managing the funds, and (4) the proportion of total IRA and 401(k) investment held by depository and nondepository institutions.

In April, we sent questionnaires to 175 of the largest private employers in our district.[5] A total of 110 responded (Table 2). The survey included questions about employee participation in IRA and 401(k) programs, the amount invested in each program, the type of investments made with contributions, and the institutions managing program funds.

Results

Our study indicates that 401(k) programs are spreading, while IRA programs are not. Over half the companies responding were offering or planning to offer 401(k)s (17 percent and 42 percent, respectively). While 35 percent of the responding companies offered an IRA program, only 1 percent said they were planning an IRA (see Table 3). Larger companies offered voluntary contribution retirement plans more often than did smaller companies (see Table 4).

Over half of the companies without 401(k) programs plan to offer them in the future, indicating that they will continue to spread. Of the 44 companies not offering or planning payroll deduction 401(k)s, one third said they felt nondiscrimination tests were too complex. Another 27 percent are waiting for final IRS regulations before they begin planning a program (see Table 5).

By contrast, companies without IRA programs show little interest in planning one in the future. Only 1 percent had payroll deduction IRAs in the offing. Almost half of the companies without IRAs said they felt that IRA investment should be handled on an individual basis, or that they were planning or offering a 401(k) program instead (see Table 5). Thirteen percent not planning an IRA program cited lack of employee interest.

The 401(k)s seem likely to bypass the popularity of IRAs for several reasons. In addition to offering a higher maximum contribution amount, the program's attractiveness is enhanced by possible employer contributions and by participants' ability to borrow against funds. We found that 79 percent of the responding companies with 401(k)s contributed to their employees' accounts and that 21 percent included borrowing as a feature of their programs (see Table 6).

Most employers offering 401(k)s felt that the program would help them maintain a competitive benefits package, an important component of total compensation. Eighty five percent of the responding companies with 401(k)s said that a commitment to keeping a competitive benefits program was important in deciding to participate. Only 51 percent of the responding companies

[4] B. Frank King and Kathryn Hart, "The Evolution of IRA Competition" **Economic Review**, Federal Reserve Bank of Atlanta, Vol. 68 (March 1983) pp. 23-32.

[5] Lists of top employers were furnished by each state's Department of Labor or comparable agency. Mississippi was unable to participate.

Table 4. Companies with IRA and 401(k) Programs

Number of Employees	IRA Number	IRA Percent Responding Within Size Range	401(k) Number	401(k) Percent Responding Within Size Range
1,000 - 2,999	4	33%	1	8%
3,000 - 9,999	8	27%	2	7%
10,000 - 24,999	6	24%	5	20%
25,000 - 49,999	8	40%	3	15%
50,000 - 99,999	7	58%	4	33%
100,000 +	6	50%	4	33%
Total	39	35%	19	17%

Source: Federal Reserve Bank of Atlanta

Table 5. Reasons Given For Not Offering IRA and 401(k) Programs*

	IRA Number	IRA Percent of Companies Not Offering or Planning	401(k) Number	401(k) Percent of Companies Not Offering or Planning
Existing retirement plans are adequate	30	43%	14	42%
Too much trouble with payroll deduction	15	21%	3	9%
Lack of employee interest	9	13%	4	12%
IRA only:				
Investment should be handled on an individual basis	20	28%		
Offer or planning 401(k) program	14	20%		
Administrative burden too great	2	2%		
401(k) only:				
Nondiscrimination tests too complex			11	33%
Waiting for final IRS regulations			9	27%
Other	6	8%	8	24%

*Most companies gave more than one reason; therefore, the numbers and percentages presented are greater than the number of offering companies.

Source: Federal Reserve Bank of Atlanta

Table 6. Additional Information About Existing 401(k) Programs

	Number of Offering Companies	Percent of Offering Companies
Contributing to employee accounts	15	79%
Allow borrowing from accounts	4	21%
Number of times per year employee allowed to change rates of contribution:		
unlimited	5	26%
twice a year	4	21%
once a year	3	16%
four times a year	3	16%
other	4	21%

Source: Federal Reserve Bank of Atlanta

with IRAs felt an IRA would improve the attractiveness of their benefits package (see Table 7).

About half the companies with either program attributed their involvement in part to employee interest or inquiry. Initial employee interest, however, appears to have been sustained only in 401(k) programs. Their greater appeal, again, is shown by their higher level of employee participation. The median percentage of current participation is 70 percent, having grown from 62.5 percent initially. Current participation in IRA programs, on the other hand, is only 4.5 percent and was only 3 percent initially (see Table 8). Of the nine companies offering both plans, the median percentage of current participation in their 401(k)s (80 percent) is also much higher than in their IRA programs (3.8 percent).

The 401(k)s also enjoy much greater employee participation than anticipated. The median percentage of 401(k) participation was 70 percent when we conducted our survey, well above the anticipated 50 percent (see Tables 8 and 9). For IRA programs, participation among employees has been much lower than expected. The median percentage of participation was only 4.5 percent, less than half of the 10 percent anticipated (see Tables 8 and 9).

With the high participation figures in deferred compensation programs, 401(k)s seem able to draw more investment than IRAs (see Table 10). Although total IRA investment remains higher than 401(k) investment among survey respondents (19.09 million and $15.35 million, respectively), the trends suggest that 401(k) funds will soon grow to a much greater portion of voluntary-contribution retirement investment.

Larger companies held higher percentages of IRA investment at the time of our survey than did smaller companies. However, fewer companies had actually started 401(k) programs, and those plans had been in operation for a shorter period than IRA plans. Therefore, it appears likely that 401(k) investment eventually will assume the same size distribution as investment in payroll deduction IRAs.

As 401(k)s spread, it will become harder for depository institutions to secure voluntary-contribution funds directly. Our survey shows that depository institutions manage relatively few plans (see Table 11). Commercial banks, the sole depository institution administering 401(k) programs, managed a mere 10 percent of the programs. The remaining plans were managed by the companies themselves (53 percent), by insurance companies (5 percent) or by more than one administrator (31 percent). Larger companies generally managed their own 401(k) programs, while most smaller companies relied on nondepository administrators.

More than half the IRA investment also was managed by nondepository institutions, or by the plan sponsors (see Table 11). Fully 28 percent of the companies offering IRAs managed the funds themselves, 27 percent used nondepository institutions and 18 percent used more than one administrator. Fewer than 30 percent used depository institutions. (Ten percent used commercial banks and 18 percent used employee credit unions). The majority of the programs offered by the smallest companies were managed by the sponsors. Most of the remaining companies used various nondepository institutions.

Depository institutions also appear to be at a disadvantage in getting 401(k) and IRA funds indirectly. We found that certificates of deposit offered by banks, thrifts and credit unions accounted for a mere .03 percent of total 401(k) investment and only 2.1 percent of total IRA investment (see Table 12). The most common investment vehicle selected for voluntary-contribution funds was guaranteed insurance contracts (GICs) offered by insurance companies (46.6 percent of total 401(k) investment and 40.7 percent of total IRA investment). GICs are fixed income investments with a specified interest rate and date of maturity. GICs are attractive to

Table 7. Reasons Given For Offering IRA and 401(k) Programs*

	IRA		401(k)	
	Number	Percent of Offering Companies	Number	Percent of Offering Companies
Commitment to maintaining competitive benefits package	20	51%	16	84%
Employee interest and/or inquiry	18	46%	11	58%
Convenience of payroll deduction	7	18%	0	0
Other	6	15%	6	31%

*Most companies gave more than one reason; therefore, the numbers and percentages presented are greater than the number of offering companies.

Source: Federal Reserve Bank of Atlanta

Table 8. Percentage of Employee Participation*

	Companies with IRA and 401(k) Programs							
	IRA		401(k)		IRA		401(k)	
	Current	Initial	Current	Initial	Current	Initial	Current	Initial
High	20%	20%	91%	91%	20%	20%	91%	91%
Median	4.5%	3%	70%	62.5%	3.8%	3.25%	80%	80%
Low	.005	0	16%	16%	.75%	.75%	.45%	45%

*Not all companies were able to furnish current and initial participation percentages. 401(k) figures are percentages of total employee number, not just those who are eligible to participate.

Source: Federal Reserve Bank of Atlanta

Table 9. Companies Expecting a Percentage of Employee Participation

	IRA Number	401(k) Number
Anticipating a particular percentage of participation	6	13
Not anticipating a particular percent of participation	23	6
	Anticipated percentage*	
	IRA Percent	401(k) Percent
High	12.5%	90%
Median	10%	50%
Low	2%	12.5%

*Not all companies indicated anticipated percentages of participation.

Source: Federal Reserve Bank of Atlanta

Table 10. Total IRA and 401(k) Investment - April 1983*

	Percent of Total Investment	
Number of Employees	IRA	401 (k)
1,000 - 2,999	.08%	4.39%
3,000 - 9,999	1.48%	4.68%
10,000 - 24,999	2.47%	24.37%
25,000 - 49,999	11.37%	4.88%
50,000 - 99,999	20.73%	65.81%
100,000 +	63.87%	12.77%
Total Investments ($ Millions)	19.088	15.353

*Total investment figures were not available for all companies. Companies also used different ending dates in calculating their total investment figures.

Source: Federal Reserve Bank of Atlanta.

Table 11. Administering Institutions-Percentages of Offering Companies

	1,000-2,999[1]				3,000-3,999				10,000-24,999			
	IRA		401(K)		IRA		401(K)		IRA		401(K)	
	#	% of Co.'s	#	% of Co.'s	#	% of Co.'s	#	% of Co.'s	#	% of Co.'s	#	% of Co.'s
Own Company	3	75%			3	33%	1	50%			4	80%
Commercial Bank					1	11%			1	17%	1	20%
Employee C. U.					1	11%			3	50%		
Mutual Fund	1	25%			2	22%			1	17%		
Insurance Company					1	11%						
Securities Dealer												
More Than One Administrator			1		1	11%	1	50%	1	17%		
Total	4		1		9		2		6		5	

Source: Federal Reserve Bank of Atlanta

[1]Number of employees

Note: Percentages may not add to 100 because of rounding.

Table 12. Program Investment[1]

	Percent of Total[2] IRA Investment	Percent of Total[2] 401(k) Investment
	(percent)	(percent)
Guaranteed Income Funds/ Guaranteed Interest Contracts	40.7	46.6
Money Market Funds	23.8	.02
Equities	3.8	9.2
Mutual Funds	2.1	1.4
Certificates of Deposit at Depository Institutions	2.1	.03
Company Stock	1.5	0
Corporate Securities	.5	3.5
Annuities	.3	.02
Government Securities	0	2.8
Real Estate	0	28.9
Other	5	3.3

[1]Investment type percentages were not available for all companies; therefore, each column does not equal 100 percent.

[2]Total program investment figures as noted were not available for all companies. Companies also varied in the ending date used in calculating their figures.

Source: Federal Reserve Bank of Atlanta

pension managers because they transfer reinvestment risk from plan sponsors to insurance companies. Fluctuating interest rates have become a great concern to managers of large pension funds, and GICs present them a risk-free method of maintaining a target rate of return for employees' invested funds. Insurance companies, competing aggressively for pension investment, will tailor a GIC to fit a company's particular needs.

The remaining voluntary-contribution retirement funds are invested in a variety of instruments offered by nondepository institutions (see Table 12). Some of the more popular choices included real estate (28.9 percent of total 401(k) investment), money market mutual funds (23.8 percent of total IRA investment), and equities (9.2 percent of 401(k) and 3.8 percent of IRA).

Summary and Conclusions

Currently, 401(k) plans are spreading and will probably continue to do so when proposed IRS regulations are spelled out. Those programs apparently are more appealing than IRAs because

25,000-49,999[1]				50,000-99,999				100,000+				TOTAL			
IRA		401(K)		IRA		401(K)		IRA		401(K)		IRA		401(K)	
#	% of Co.'s	#	% of Co.'s	#	% of Co.'s	#	% of Co.'s	#	% of Co.'s	#	% of Co.'s	#	% of Co.'s	#	% of Co.'s
1	12.5%	2	67%	3	43%	2	50%	1	17%	1	25%	11	28%	10	53%
1	12.5%	1	33%	1	14%							4	10%	2	10%
2	25%							1	17%			7	18%	0	0
2	25%							2	33%			8	20%	0	0
										1	25%	1	2%	1	5%
1	12.5%			1	14%							2	5%	0	0
1	12.5%			2	29%	2	50%	2	33%	2	50%	7	18%	6	31%
8		3		7		4		6		4		40		19	

of their higher allowable contribution amount and greater liquidity of investment.

The continued increase in the number of 401(k) plans means that depository institutions will have to work much harder to obtain a significant proportion of the voluntary-contribution retirement market. Thus far, depository institutions have had little success in becoming managers of payroll deduction accounts or of attracting the investments of such accounts. They may have been at a disadvantage because interest-rate ceilings and deposit minimums inhibited their structuring of plans. Except for rate ceilings on passbook savings and NOW accounts, these restrictions were removed as of October 1.

Further study is needed to determine whether depository institutions will eventually attract a substantial portion of funds from 401(k) and IRA plans. If they are to compete against insurance companies and securities and mutual fund dealers for funds from voluntary-contribution retirement programs, they will have to take advantage of their increased regulatory freedom and construct their accounts creatively to suit the needs of their customers. Depository institutions also will need to market aggressively if they are to persuade pension managers to invest program funds with them instead of with nondepository institutions.

—B. Frank King and Kathryn Hart

Ellen Roberts, compensation and benefits coordinator in the Human Resources Department of the Federal Reserve Bank of Atlanta, provided valuable background information in preparing this article.

Why Are Some Banks More Profitable? A Statistical Cost Analysis

Effective management—a bank's asset and funding practices, and its non-interest cost controls—remains the most important element in determining banks' profitability, overshadowing both bank size and market concentration.

Numerous factors can affect a bank's profitability. We examined the impact of a bank's asset and liability management, its management's control over operations costs, its size and the concentration in its local market in the September **Economic Review.** That study identified differences in the small and medium sized independent banks' revenue and expense ratios and then used economic logic to link profitability to differences in asset and liability distributions. It found that size and the average concentration of the markets in which banks operate do **not** influence profits, but that banks' asset and liability portfolios, their reliance on equity funding and their control over operating costs do appear to affect profitability.

This study, which concludes the two-part series, will use the same sample of banks and a procedure called statistical cost analysis to determine if banks' profitability would still differ if their asset and liability portfolios, size, market concentration and region were identical. This study's primary advantage over its predecessor is that it controls for differences in the portfolios of **individual banks** rather than controlling for differences in the portfolio distribution of **groups of banks.** Our results indicate that, even if the banks had identical portfolios their profitability would still differ significantly. The most profitable banks often have significantly higher adjusted revenues and always have lower non-interest expenses than other banks in the sample after adjusting for differences in their asset and liability portfolios.

The most profitable banks, however, do not enjoy a large advantage in their interest expenses, and we found no evidence that size or market concentration influenced bank profitability. Our study suggests that the most profitable banks are better at managing their assets and at controlling their operations expenses.

Importance of the Determinants of Bank Profitability

Understanding what determines bank profitability is important even though differences between banks and other financial institutions are being steadily eroded. Banks still dominate many of the markets for financial services.[1] The public as a whole has a stake in the financial health of America's commercial banks that it does not have in Merrill Lynch, for example, because bank deposits are insured by the government, while the liabilities of Merrill Lynch are not and because banks have a unique role in the nation's payments mechanism.

Bank regulators and managers can use an improved understanding of bank profitability in several ways. They can use the information to focus attention on the most important bank operations, for example. If differences in banks' non-interest expenses cannot be fully explained by differences in their asset and liability portfolios, then regulators and managers should look at the efficiency of bank operations. The effect of bank size on profits holds important implications for deregulation. If large banks enjoy certain advantages over small banks, then deregulation that increases competition may allow large banks to drive small ones out of business. The effect of market concentration in bank markets on bank profits is important because regulators use concentration in evaluating bank merger cases. Market concentration is used as a proxy for the degree of competition in bank markets. If concentration is high in a particular market, then bank mergers in that market receive careful consideration by regulatory agencies. If it turns out that bank profits are unrelated to concentration, it would cast doubt on the link between concentration and the degree of competitiveness of a bank market.

[1]See the May 1982 issue of this **Economic Review** for a discussion of markets dominated by banks.

Bank Profitability Studies

Most previous studies of the determinants of bank profitability have explored some but not all of the issues addressed by our studies. Previous studies have usually examined one of three specific issues: economies of scale, market concentration, or financial ratios associated with bank profitability. Studies of economies of scale look at one advantage that large banks may enjoy over small banks, an advantage in the cost of producing financial services. These studies typically find no economies of scale for banks with assets in excess of $100 million.[2] Studies of market concentration typically have found that market concentration has either very little effect on bank profits or a statistically insignificant effect.[3] Other studies have found that differences in non-interest expenses are significantly lower at highly profitable banks and some research has found that highly profitable institutions earned a slightly higher return on some assets.[4]

The two studies that most closely approximate our research were conducted by Kwast and Rose. They studied banks with assets in excess of $500 million in 1977 that had posted either consistently good or consistently bad profits. One study compared the financial ratios of high and low profitability banks over the period 1970-1979 and found that highly profitable banks have lower loan losses, non-interest expenses, interest on subordinated notes and debentures, other liabilities and subordinated notes.[5] It also found that highly profitable banks hold more state and local securities. They concluded that lower operating costs are the "principal determinant of the superior earnings performance of the high-profit banks." They found no difference in the average size or market concentration of the two groups of banks. Their second study, using statistical cost analysis, compared rates of return on the assets and liabilities of high and low

[2]See the November 1982 **Economic Review** for a discussion of economies of scale.

[3]Rhoades (10) surveyed recent studies of market concentration. He concludes that most studies found that market concentration has a small but statistically significant effect. Osborne and Wendel (9) also examined market concentration studies. They note that many studies have major flaws and that other studies report significant concentration effects even if market concentration was insignificant in a majority of the regressions. After taking account of these two problems, they conclude that the weight of the evidence does not support the hypothesis of significant concentration effects.

[4]Some of the financial ratio comparison studies are Ford(1), Gady (2), Haslem (3,4), Haslem and Longbrake (5) and Kwast and Rose (7).

[5]See Kwast and Rose (7).

profitability banks with assets in excess of $500 million in 1977 over the period 1970-1977.[6] They found no evidence that differences in bank prices accounted for differences in profitability. They also found that bank size and market concentration do affect bank profits. They did find evidence that high-profit banks have lower operating costs on some liabilities, but they also found that these banks have higher operating costs for some assets. From this study, they concluded, "—there is no compelling evidence that high-profit banks are characterized by greater operating efficiency than their low earnings counterparts." They resolved the apparent conflict in the two studies, by noting that they used different selection criteria that could account for the different findings.[7]

Financial Ratio Comparisons

Our first article compared the financial ratios of 114 independent banks with assets between $50 and $500 million in 1981. The banks in the sample fell into one of four profitability quartiles in at least seven of the 10 years in the sample period from 1972 to 1981. The banks' financial ratios are compared over two time periods, 1972-1977 and 1978-1981. We chose two periods to compensate for major changes in the banking environment (including deposit rate deregulation and increases in the level and volatility of interest rates). Our research used controls to compensate for the bank's size, the average market concentration and the region where the bank operates.

We found that the most profitable banks are characterized by lower interest and non-interest expenses. Our study associated the lower interest expenses of most profitable banks with their greater reliance on equity financing and non-interest bearing liabilities. The high-profit banks have asset portfolios that are less costly to service, rely more on equity financing and appear to maintain better control over operating expenses. We found little evidence to suggest that a bank's size or market concentration influenced its profitability nor did we find that the most profitable banks have higher revenues **given their asset portfolio**.

Statistical Cost Comparisons

Using multiple linear regression, we examined the effect of bank size and market concentration on profitability and the effect of management on revenues, interest expenses and non-interest expenses.[8] The regression models we used contain controls for the effect on earnings of differences in banks' operating regions and their asset and liability portfolios. We used several measures of bank income, including adjusted revenue (revenue plus an adjustment for tax exempt income and minus loan losses), adjusted revenue less interest expenses, tax adjusted operating income and net income.[9] This allowed income differences to be attributed to differences in banks' revenues, interest expenses and non-interest expenses. We ran two sets of regressions for each of the 10 years. The first set looked at the effect of size and market concentration on profitability. The second set was used to estimate the revenue, interest expense, and non-interest expense advantage that Quartile 1 banks (banks from our sample ranking in the top 25 percent in return on assets over the last 10 years, see Appendix) have over each of the other three quartiles. Any significant differences observed between Quartile 1 and the other quartiles would indicate that, after controlling for the other influences, Quartile 1 banks still have a significant earnings advantage. This advantage probably is the result of several factors, but we attribute most of it to factors controlled by management. If no significant differences were observed, it would indicate that any earnings differences between Quartile 1 banks and other banks can be explained in terms of asset and liability portfolios, size, market concentration and region.

The first set of regressions failed to support the hypotheses that bank size and average market concentration affect earnings. The coefficients on size and average market concentration were virtually always insignificant, even using a variety of measures of bank earnings. These results indicate that, **within this sample of banks**, bank size and market concentration did not affect revenues or expenses. These results are broadly consistent with the results of most of the previous

[6] See Kwast and Rose (8).

[7] The banks in their financial ratio study fell in the highest or lowest 30 percent of all listed banks' return on equity for at least seven of the 10 years in their sample. Banks in their statistical cost study fell in the highest or lowest 30 percent of all listed banks' return on assets in at least five of the eight years analyzed.

[8] See the Appendix for a more detailed discussion of the data and statistical methods used in this study.

[9] Bank adjusted revenues are adjusted for tax-exempt income and loan losses. The adjustment to bank operating income is for tax-exempt income.

Table 1. Mean Revenue and Expense Advantages Enjoyed by Quartile 1 Banks Over Quartile 2 Banks Expressed as a Percent of Assets

	Adjusted Revenue	Interest Expense	Non-Interest Expense	Total Advantage
1972-1973	0.07	0.07	0.28	0.42
1974-1975	0.20	0.15	0.30	0.65
1976-1977	0.13	0.14	0.31	0.58
1978-1979	0.18	0.24	0.19	0.61
1980-1981	0.18	0.13	0.22	0.53

Source: Federal Reserve Bank of Atlanta

Table 2. Mean Revenue and Expense Advantages Enjoyed by Quartile 1 Banks Over Quartile 3 Banks Expressed as a Percent of Assets

	Adjusted Revenue	Interest Expense	Non-Interest Expense	Total Advantage
1972-1973	0.05	−0.03	0.64	0.68
1974-1975	0.23	−0.02	0.69	0.90
1976-1977	0.20	0.06	0.71	0.97
1978-1979	0.41	0.04	0.50	0.95
1980-1981	0.67	0.20	0.53	1.00

Source: Federal Reserve Bank of Atlanta

studies that have used different samples and different statistical models which found that size and market concentration have little or no effect on bank profits.

The second set of regressions finds that Quartile 1 banks would be more profitable even if their asset and liability portfolios are identical to those of the other banks (Tables 1-3). The first column indicates the revenue advantage that Quartile 1 banks enjoy over banks in the other quartiles.[10] For example, the value in the first column of Table 1 for the period 1974-1975 is 0.20, which indicates that Quartile 1 banks had 0.20 more revenue as a percent of assets than banks in Quartile 2 after adjusting for the banks' asset and liability portfolios, their size, the average market concentration facing them and their region. The second column is the interest expense advantage that Quartile 1 banks enjoy over other banks.[11] This advantage is 0.14 percent of assets over banks in Quartile 2 for the period 1974-1975. The third column is the non-interest expense advantage enjoyed by Quartile 1 banks.[12] Quartile 1 banks also enjoyed a 0.31 non-interest expense advantage over banks in Quartile 2 from 1974 through 1975 according to Table 1. The total pretax revenue and expense advantage enjoyed by Quartile 1 banks is given in Column 4 and it is the sum of Columns 1, 2 and 3. The figures for Quartile 2 banks for 1974-1975 indicate that differences in revenues and non-interest expenses account for most of the pretax profitability differences. Almost 50 percent of the total pretax advantage enjoyed by Quartile 1 banks over Quartile 2 banks during the 1974-1975 period came from their lower non-interest expenses (.31 non-interest expense advantage divided by 0.65 total advantage), 31 percent of the advantage is due to differences in revenue and only 22 percent of the advantage is due to differences in interest expenses.[13]

Most of the before tax earnings advantage of Quartile 1 banks over Quartile 2 banks lies in Quartile 1 banks' lower non-interest expense over the period from 1972 through 1977 (Table 1). Quartile 1 banks' higher revenue and lower interest expenses than Quartile 2 banks become relatively more important after 1977, while Quartile 1 banks' non-interest expense advantage declined.[14]

Quartile 1 banks have a large non-interest expense advantage over banks in Quartile 3 for all five periods examined (Table 2). Furthermore, their revenue advantage over Quartile 3 banks is

[10] These statistics are the coefficients on the quartile dummy variables in the adjusted revenue equations. See the Appendix for a discussion of the equation estimated.

[11] These statistics are derived by subtracting the coefficient on the quartile dummy variables in the adjusted revenue equation from the coefficient on the quartile dummies in the adjusted revenue less interest expense equation. See the Appendix for a discussion of the equations estimated.

[12] These statistics are derived by subtracting the coefficient on the quartile dummy variable in the adjusted revenue less interest expense equation from the coefficients on the quartile dummy variables in the adjusted operating income equation. See the Appendix for a further discussion of the equations that are estimated.

[13] Some evidence of multicollinearity was found during the estimation. An alternative estimation model found that Quartile 1 banks enjoyed a smaller adjusted revenue advantage and a larger non-interest expense advantage than is reported in Tables 1, 2 and 3. The alternative estimation model found that for the three subperiods from 1976 to 1981 the adjusted revenue advantage enjoyed by Quartile 1 banks is overstated by 0.1 percent of assets for banks in Quartile 2 and is overstated by approximately .2 percent of assets for banks in Quartiles 3 and 4. The non-interest expense advantage increased by a comparable amount. The multicollinearity problem and the alternative model are discussed in greater detail in the working paper.

[14] The revenue advantage disappeared, however, in the alternative estimation model used to reduce the influence of multicollinearity.

Table 3. Mean Revenue and Expense Advantages Enjoyed by Quartile 1 Banks Over Quartile 4 Banks Expressed as a Percent of Assets

	Adjusted Revenue	Interest Expense	Non-Interest Expense	Total Advantage
1972-1973	0.35	0.11	0.57	1.03
1974-1975	0.46	0.10	0.70	1.26
1976-1977	0.57	0.09	0.64	1.30
1978-1979	0.53	0.23	0.34	1.10
1980-1981	0.84	−0.06	0.33	1.11

Source: Federal Reserve Bank of Atlanta

much larger in 1978-1981 than it is in 1972-1977. Quartile 1 banks' revenue advantage grew from 0.05 percent of assets in 1972-1973 to 0.67 percent of assets in 1980-1981. Quartile 1 banks do not appear to enjoy much of an interest expense advantage over banks in Quartile 3; indeed, Quartile 3 banks appear to have lower interest expenses in every period except 1976-1977.

Quartile 1 banks have enjoyed consistently large revenue and non-interest expense advantages over banks in Quartile 4 (Table 3). The revenue advantage has grown from less than one-half of Quartile 1 banks' total advantage over banks in Quartile 4 to over three-quarters of Quartile 1 banks' total advantage. The non-interest expense advantage has remained large but has declines from 0.70 percent of assets in 1974-75 to 0.33 percent of assets in 1980-1981. The interest expense enjoyed by Quartile 1 banks over Quartile 4 banks is small, below 0.15 percent of assets in all but one case.

The results of this study may appear to be in conflict with those reported in our study last month, which found that Quartile 1 banks do not enjoy larger revenues than banks in the other quartiles, but the results are actually consistent. The financial ratio study showed that Quartile 1 banks do not have significantly greater revenues per dollar of asset **given their respective portfolios,** while this study shows that Quartile 1 banks would earn significantly higher revenues if they had **identical portfolios**. That is, Quartile 1 banks would earn more revenue if their portfolios were identical to those of banks in the other quartiles, but Quartile 1 banks did not earn greater revenues because their asset portfolios were different. The analysis of bank asset structures in the financial ratio comparison supports this interpretation. Quartile 1 banks held relatively more securities (which tend to pay lower interest rates) and relatively fewer loans (which tend to pay higher interest rates) than did banks in the other Quartiles. Quartile 1 banks made up for the fact that their portfolios are skewed towards lower revenue items by earning higher rates of return on the individual items within their portfolios.[15]

Interest expenses do not explain much of the profitability differences between banks in Quartile 1 and banks in the other quartiles. The interest expense advantage of Quartile 1 banks over banks in Quartile 3 and 4 is especially small relative to Quartile 1 banks' total pretax advantage. The financial ratio study found that Quartile 1 banks have significantly lower interest expenses. That study suggested, however, that the main reason Quartile 1 banks have lower interest expenses is that they have more demand deposits and equity than other banks and less liabilities that pay a market rate of interest. This study finds that after these differences are taken account of, Quartile 1 banks' interest expense advantage is small.

Non-interest expenses are a relatively important factor in explaining why banks in Quartile 1 are more profitable than other banks. This finding is in accordance with the findings of the financial ratio comparison study. The non-interest expense advantage enjoyed by Quartile 1 banks declined over the decade studied, however, with the decline especially noticeable relative to Quartiles 2 and 4.

Implications of These Studies

Several conclusions about bank profitability can be drawn from these studies. These conclusions are, strictly speaking, applicable only to the sample of banks we analyzed.[16] Yet they are generally supported by other studies that used different banks. Furthermore, the results of this study extend our understanding of what determines bank profitability in two important ways:

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[15] Adjusted revenues include an adjustment for loan losses which could explain part of Quartile 1 banks' advantage over Quartile 4 banks. Quartile 1 banks did not have significantly lower loan losses than banks in Quartiles 2 and 3. Less than one-half of Quartile 1 banks' adjusted revenue advantage could be explained by Quartile 1 banks having lower loan losses than banks in Quartile 4.

[16] Banks in the sample were independent banks that belonged to the Federal Reserve System, were headquartered in an SMSA and reported between $50 and $500 million in assets in 1981.

they extend prior results by using data from the late 1970s and early 1980s, and they extend prior results by overcoming some of the sample limitations inherent in most previous studies.[17]

The key conclusions we can draw from this series of studies are:

1. Differences in non-interest expenses are a prime determinant of bank profitability.

Financial ratio comparisons suggested that the most profitable banks had lower non-interest expenses than could be explained by differences in their asset and liability portfolios. This is confirmed by statistical tests in our study that take into account differences in banks' assets and liabilities. It is also supported by a variety of studies that examined the financial ratios of banks from the 1960s through the mid-1970s.[18] This conclusion suggests that bank managers and regulators should pay close attention to banks' operational efficiency.

2. Differences in size are not a significant determinant of bank profitability.

Neither of our studies found any evidence that bank size is related significantly to bank profitability. This is supported by a variety of studies, including those published in November 1982 in this **Economic Review**. They suggest that large banks will not necessarily be able to drive well-managed small banks out of business if restrictions on branching are reduced.

3. Differences in the average market concentration facing a bank do not influence bank profitability significantly.

Neither study turned up evidence that the average market concentration facing a bank can affect its profits significantly. Other studies generally have found that market concentration has either no effect on profits or such a small effect as to call into question the current use of market concentration in bank merger cases. Going beyond these studies, the effect of bank concentration on profits is likely to diminish in the future as continuing developments in the financial services industry generate more competition between banks, savings and loans, and non-depository financial intermediaries. This trend suggests that market concentration factors should be given less weight in future bank merger cases.

4. Differences in ability to generate revenue affect bank profits.

Our financial ratio comparison found that banks in Quartile 1 had no consistent advantage in earning revenue over banks in the other quartiles, but they have more securities in their asset portfolios. If we adjust for the composition of the banks' asset portfolios, we find that Quartile 1 banks do earn more revenue than other banks, particularly those in Quartile 4. This result is in general accord with the financial ratio studies cited above.[19] It seems to indicate that the rate of return on assets does influence bank profitability. This evidence is not overwhelming, however, and the effect of revenue differences on bank profits are generally smaller than those associated with operating cost differences.

5. Differences in bank profits cannot be explained by differences in the interest they pay on liabilities.

The financial ratio analysis study found that Quartile 1 banks have lower interest expenses but suggested that they were attributable to these banks having more demand deposits and equity and fewer accounts paying market rates of interest. This study confirmed that Quartile 1 banks' interest expenses aren't lower after taking account of the structure of their liabilities. This is also supported generally by other financial ratio studies. One possible explanation is that the interest rate on deposits has been regulated, so banks could not pay market rates on most accounts for most of the sample period. If this is the explanation, then one result of the continuing deregulation of deposit rates is that interest expense differences could come to play an important role in determining bank profitability.

—Larry D. Wall

NOTE: This article summarizes a forthcoming Federal Reserve Bank of Atlanta Working Paper of the same title.

[17] Two important weaknesses of previous studies are that they failed to recognize that banks affiliated with holding companies may operate differently than independent banks and they ranked banks on their results over only a one or two year period.

[18] As noted above, however, Kwast and Rose's (7) statistical cost analysis did not find any differences in non-interest expenses of high and low profit banks.

[19] One study that did control for portfolio differences, Kwast and Rose (7), did not find any assets for which highly profitable banks earned a higher rate of return. Their study focused on banks with assets in excess of $500 million in 1977, and these large banks typically operate in the most competitive national and international markets. Their sample thus consists of banks least likely to earn differential rates of return.

Appendix

Most data in this study are taken from the Reports of Condition and Income that insured commercial banks file with the Federal Reserve System. Data from the Reports of Condition have been modified at the Board of Governors to reflect bank mergers.[20] The data on bank market concentration are taken from the Summary of Deposits data obtained for every year from 1972 through 1981. The concentration measure used is the average Herfindahl index—the squared market shares of the banks in a market—faced by a bank. The average Herfindahl faced by a bank is the weighted average of the Herfindahl indices of all of the markets in which a bank operates, with the weights equal to the proportion of the bank's total deposits derived in that market.[21]

The sample of 114 banks used in this study is identical to that in Wall (9). The banks were chosen by a two-step process. A pool of banks with common characteristics was selected and then those with consistent profitability records were singled out for futher analysis. Banks chosen for inclusion in the first pool had to be a Federal Reserve member unaffiliated with a holding company, have between $50 and $500 million in assets in 1981, be headquartered in an SMSA, and must not have changed their charter class.[22] This pool was then divided into four equal sized groups (quartiles) based on their return on assets in each of the 10 years. Banks that fell into the same profitability quartile for seven of the 10 years and always fell into that quartile or an adjacent quartile were selected into the sample.[23]

The statistical cost model used in this study is similar to the expanded least squares cost accounting model of Kwast and Rose (7). The model used to analyze the effect of bank size and market concentration took the form:

$$y = A^*B_1 + L^*B_2 + (1/ta)^*B_3 + h^*B_4 + R^*B_5 + Y^*B_6 + e$$

with

y = one of four measures of bank earnings deflated by total bank assets
A = a set of bank asset categories deflated by total bank assets
L = a set of bank liability categories deflated by total bank assets
t = total bank assets restated in 1972 dollars
h = the average Herfindahl Index facing the bank
R = a set of bank region dummy variables.
Y = a dummy variable for the first year in each regression
e = random error terms

This model was run with banks from all four quartiles for each of the 10 years. The four measures of bank earnings are adjusted revenue, adjusted revenue less interest expense, adjusted operating income and net income.[24] The asset categories are securities, federal funds sold, total loans, and other assets. The liability categories are individual, partnership and corporate (IPC) demand deposits, IPC time and savings deposits, all other deposits, federal funds purchased, subordinated notes and all other liabilities. We divided the nation into six regions: Northeast, East North/Central, South Atlantic, South/Central, West North/Central, and West. The dummy variable for the West North/Central quartile was dropped.[25] The second set of regressions uses a modified expanded statistical cost model that includes quartile dummy variables for Quartiles 2, 3 and 4. This model is used to estimate the revenue, interest expense and non-interest expense and non-interest expense advantage enjoyed by Quartile 1 banks. The regression equation used is

$$y = A^*B_1 + L^*B_2 + (1/ta)^*B_3 + h^*B_4 + R^*B_5 + Y^*B_6 + Q^*B_7 + e$$

with

Q = a set of Quartile dummy variables for Quartiles 2, 3 and 4.

This model was also run with banks from all four quartiles for each of the 10 years in the sample.[26] The quartile dummy variables are set equal to one if the bank is in that quartile, otherwise it is set equal to zero. The revenue, interest expense and non-interest expense advantages enjoyed by Quartile 1 banks are estimated using coefficients on the quartile dummy variables. These coefficients measure the difference between Quartile 1 banks and the other three quartiles. If the coefficients on these dummy variables are insignificant, it indicates that the other variables in the regression equations explain the differences in income measures.

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[20] The modifications attempt to match each bank's income with the assets used to produce that income.

[21] Bank markets are defined as the SMSA if the bank branch is in an SMSA; otherwise it is defined as the county the branch is in.

[22] The asset range of $50 to $500 million is arbitrary, but there are good reasons for excluding very small and very large banks from the study. Large banks operate in a variety of regional and national markets and any measure of market concentration for these banks is suspect. Small banks are not included because of problems in analyzing manager-owned banks. Managers can take profits out of their bank by paying themselves low salaries and paying high dividends, or by paying themselves high salaries and paying low dividends. Thus, even though two small banks may be equally profitable, they may report different levels of income.

[23] For example a bank that fell into the bottom 25 percent of banks in seven of the 10 years and that always fell into third or fourth profitability quartiles would be included in the sample. If, however, a bank that is ranked in the lowest profitability quartile for seven of 10 years is also ranked in the top quartile in one of the 10 years, it is excluded.

[24] Revenue is adjusted to arrive at expected after-tax revenue by grossing up receipts of tax exempt income by the bank's marginal tax rate, and by subtracting bank loan losses from revenue. The tax adjustment is necessary because income from state and local securities is exempt from federal income taxes. The adjustment for loan losses is made on the theory that banks expect that some loans will not be repaid so they set the interest rate in proportion to the risk of default. Therefore, banks that make riskier loans will show greater loan revenue before adjusting for their loan losses, even though after loan losses are taken into consideration their loan revenue is no greater.

[25] No intercept is used for reasons discussed in Hester and Zoeliner (6). One region and one year dummy are dropped to force the equation through the intercept. This means that the region coefficients are relative to the omitted region (West North/Central) and the first year's coefficient is relative to the second year. This procedure and interpretation of coefficients follows that of Kwast and Rose (7).

[26] The first quartile is dropped to force the equation through the intercept. The coefficients on the other three quartiles are relative to Quartile 1.

That is, if the dummies are insignificant, it indicates that Quartile 1 banks have significantly more income because they have different asset portfolio allocations, different liability and equity portfolio allocations, a different size, face a different average market concentration, or are located in a different region. If the dummies are insignificant, then the other coefficients in the equation are examined to determine where the profitability differences could arise.

If the quartile dummy variables are significant, it would indicate that factors outside the regression equation are at least partially responsible for income differences. Among these factors are that Quartile 1 banks may earn a different rate of return on their assets and liabilities, may have more effective cost controls, and may be better able to exploit differences in their region, size and market concentration.

Our use of quartile variables in equations with earnings could cause a simultaneous equations bias in the model because the quartile variables are functionally related to the dependent variables. A simultaneous equations bias exists when the regression errors are correlated with an independent variable. Two ways this could happen in our model are that the dependent variable may be measured with error and the quartile variables could be correlated with variables omitted from the regression. The sample selection procedure avoids correlation caused by errors in measurement and we want the quartile variables to proxy for omitted variables. The banks are selected based on their profitability records over ten years, while an error in the dependent variable would only affect one or two years' profitability. Therefore, it is unlikely that an error in measuring a bank's return on assets in one year would affect both the dependent variables used and the bank's quartile classification. The quartile variables, like the region variables, are intended to proxy for variables that are difficult or impossible to model. The quartile variables capture the average differences caused by all factors except the bank's asset and liability composition, its region and its size.

The second step estimates the adjusted revenue, interest expense, and non-interest expense advantage enjoyed by Quartile 1 banks through the use of three dependent variables: adjusted revenues, adjusted revenues less interest expenses and adjusted operating revenues (all three of which are deflated by the bank's total assets). The adjusted revenue advantage is estimated by the coefficients on the quartile variables in the adjusted revenue equation. The interest and non-interest expense advantages are each calculated using the coefficients on the quartile variables from two different equations. The interest expense advantage is calculated by subtracting the quartile coefficients in the adjusted revenue equation from the respective coefficients in the adjusted revenue less interest expense equation. The only difference in the dependent variables used in these equations is the bank's interest expenses, so differences in the quartile coefficients should be attributable to differences in the bank's interest expenses. The non-interest expense advantage is calculated by subtracting the quartile coefficients in the adjusted revenue less interest expense equation from the respective coefficients in the adjusted operating revenue equation. The one difference in the dependent variables used in these equations is their non-interest expense, so differences in the respective quartile coefficients should measure Quartile 1 banks' non-interest expense advantage.

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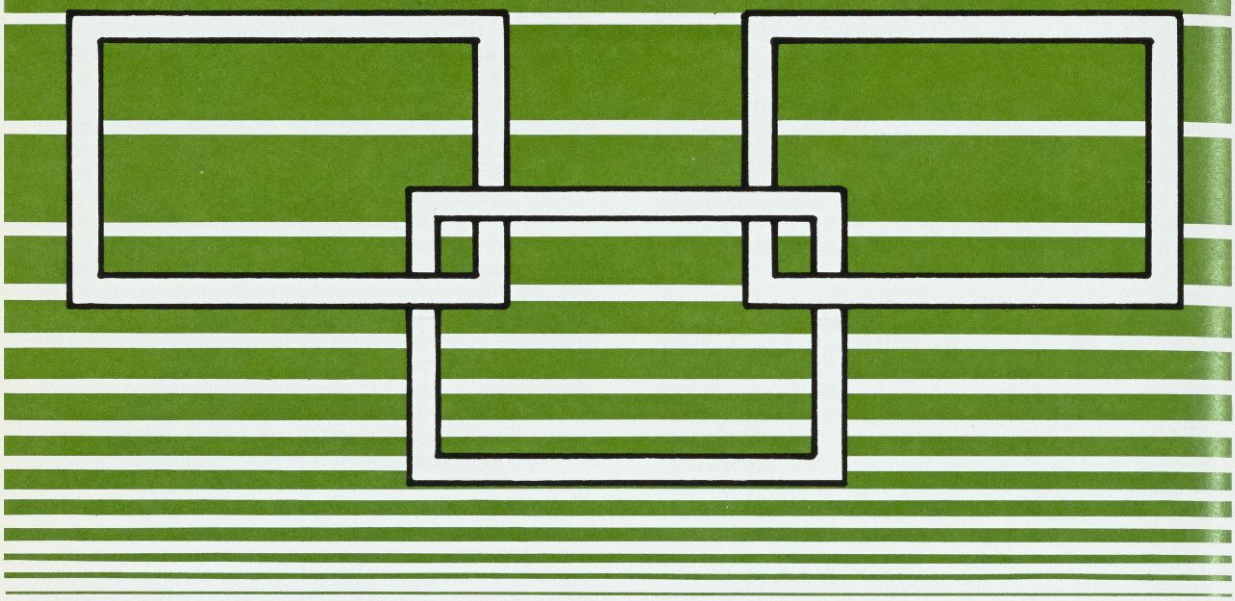
Business-to-Business Payments: Verging on a Breakthrough?



Electronic payments between businesses offer tremendous potential benefits. Development has been slow, however, because loss of disbursement float, high initial costs, unclear legal and security factors, and incomplete standardization still plague the systems. Pilot programs now underway should reduce these problems and quell some of the doubts of corporate treasurers.

Business-to-business payments inhabit a substantial niche in the payments system. Although they account for only 20 percent of the checks written in the United States,[1] they comprise over 80 percent of checks in the $75-$100 range. They also constitute the vast majority of checks greater than $500, which represent approximately 80 percent of the dollar volume generated.[2] Consequently, the wide scale adoption of electronic business-to-business payments would profoundly impact the paper-based payments system. Because of the specialized nature of business-to-business payments, they have proven less amenable to conversion than consumer transactions.

This article will focus on trade payments: transactions in which one corporation pays another for goods provided or services rendered.[3]

Generally, electronic trade payments remain at an embryonic stage. Wire transfer systems and today's automated clearinghouse (ACH) system constitute the most developed alternatives. Currently, the Federal Reserve system operates 31 of the 32 ACHs; all of them accomplish settlement through reserve account entries. (Because

[1] Special issue of the **Economic Review**, August 1983.

[2] Arthur D. Little, **The Consequences of Electronic Funds Transfer** (Cambridge, Mass., 1975), p. 51.

[3] In its Corporate Trade Payments Operating Rules, the National Automated Clearing House Association (NACHA) defines trade payments as: Entries initiated by one organization to consolidate funds of such originator from its branches, franchises, or agents, or other organizations; and entries initiated by an organization to pay or collect an obligation of such originator from the same or another organization.
NACHA Corporate Trade Payment Operating Rules, NACHA Corporate Trade Payments Notebook, National Automated Clearing House Association (1983), p. IV-7.

private sector alternatives are being developed our references to the ACH designate a generic clearinghouse, not necessarily the current Federal Reserve ACH.)

These electronic funds transfer options offer benefits. They eliminate check processing charges and lockbox fees and reduce postage, paperwork and personnel. In addition, heightened cash flow forecasting accuracy and the collapse of collection float greatly enhance the corporation's cash management effectiveness.

Yet several problems impede growth of electronic trade payments. The loss of disbursement float often outweighs EFT cost savings associated with electronic systems. Until a substantial portion of a corporation's payables and receivables are automated, simultaneous paper-based and electronic systems prevent full realization of predicted cost savings. Many legal and security elements lack clarification. These factors, plus the limited development of electronic infrastructure, detract from corporate implementation of electronic trade payments.

Environmental factors, however, are transforming the traditional check collection system, making the payments system more conducive to electronic networks. In the newly deregulated financial services industry, banks will no longer be able to absorb the expenses associated with check processing. Compensating balances, the traditional means of payment for corporate services, will have no value if they carry market interest rates. In conjunction with the increasing inefficiency of the paper-based payments system, escalating fees could render the ACH the most economical means of effecting trade payments and accelerate the transition from paper-based to electronic trade payments.

Several pilot programs currently being implemented indicate awareness of the ACH's potential. The first participants in the electronic networks will be large corporations; electronic trade payments will then filter down to small and middle-market companies. As the volume of electronic trade payments slowly increases, the automated infrastructure will slowly spread. In turn, more extensive infrastructure will stimulate additional volume. This article examines that evolution.

Contemporary Cash Management Practices

Cash management involves controlling the flow of cash into and out of a corporation, relying upon cash flow forecasting and mobilization of cash balances to maintain an adequate level for business transactions while investing all excess. Corporate treasurers therefore monitor payments made both by and to the company, referred to as payables and receivables, respectively. When a corporation receives a good or service, invoices accompanying the product include such information as the quantity of items and the terms of sale. When that corporation originates payment for that good or service, it issues a remittance detailing the same type of information plus any deductions for goods arriving damaged. Frequently, a single payment encompasses multiple invoices. While the accounts receivable and accounts payable departments of a corporation handle the particulars involved with the individual transactions, the corporate treasurer manages the overall cash flow.

In monitoring the cash flow of a corporation, cash managers must hold adequate cash for transactions, yet avoid any excess. Cash flow forecasting involves predicting how much cash a business will need at any given time. The corporate treasurer then reconciles the two amounts, investing any excess or obtaining funds to cover any deficiency. The quicker the cash is mobilized or transferred, the less interest earnings are sacrificed. Consequently, optimal management of corporate funds requires accurate cash forecasting and quick cash mobilization.

"Today's cash management operations... capitalize on the check collection system."

Today's cash management operations, some of which employ specially refined practices and sophisticated technology, capitalize on the check collection system. Corporate treasurers take full advantage of float. If corporation A writes corporation B a check, it takes an average of three days from the postmarked date before the check is credited to corporation B's account. Corporation B, therefore, has to wait three days before gaining use of the funds. If the check was written for $30,000, corporation B would have lost $25 in interest earnings at a 10 percent rate. When corporation B considers all the payments it

receives each year, the loss of interest earnings cumulates significantly. Consequently, corporation B wants to reduce this collection float as much as possible.

After the check is credited to corporation B's account, it may require an additional two days to be deducted from corporation A's account. Thus corporation A has use of its funds for five days after mailing the check. Corporation A's cash manager therefore "plays the float," meaning that he invests the funds with which he will pay corporation B until the fifth day. Then he will transfer funds into his account on the day the check is deducted. (At a 10 percent earnings rate, corporation A earns $41 in interest from the same $30,000 check. Hence it is quite evident why corporation A attempts to maximize disbursement float.)

Many cash management practices have developed to maximize float. The Federal Reserve discourages these practices, since they hamper the efficiency of the payments system.

"Current innovation in payments involves... entirely new processes and products."

The Federal Reserve Board on January 11, 1979, made public a statement of policy concerning the practice known as remote disbursement and announced a course of action intended to discourage such abuse of the check collection system.[4]

Some corporations nevertheless practice remote disbursements, drafting checks on banks located far away from payment recipients. This prolongs the period between writing the check and transferring sufficient funds to cover it.

In contrast to remote disbursement practices, lockbox systems speed up collection of receivables. Basically, a lockbox consists of a post office box to which all incoming payments are sent. A financial institution then picks up the payments and immediately processes them. By strategically selecting a financial institution centrally situated in reference to the incoming payments, collection time can be greatly reduced.

Automated lockbox technology has been highly refined; both corporations and financial institutions have invested considerably in lockboxes as well as in other check processing equipment. Currently, the cost and processing efficiency of the current check collection system is approaching its apex.[5]

As in other industries, however, a "dematuration" is permeating the payments system, involving "a shift from conservative to disruptive technical change."[6] Much of the current innovation in payments involves new technology, moving from a "mature" industry in which technological innovation merely modifies existing processes to one of entirely new processes and products. Payments system innovation presently involves little refining of existing products; instead, it heads in entirely new directions.

Electronic Alternatives

Two major alternatives are now available for electronic trade payments: wire transfers and the Federal Reserve's ACH. Neither option has yet attained great popularity.

Currently, corporations and financial institutions employ four major wire transfer networks—Fed Wire, Bank Wire II, SWIFT, and CHIPS—for very high-value transactions. For instance, in the first quarter of 1982, the Fed Wire's daily transfer volume averaged 220,000 per day with an average transaction value of $2,954,545.[7] Featuring online electronic interface between participating banks, these networks offer same-day settlement on both ends. Annual growth of all corporate wire transfer volume from 1981 through 1982 averaged 15 percent.[8] However, while corporations wire funds to locations within a corporation and to banks, wire transfers do not presently transact trade payments to any notable extent.

Contrasting with the wire transfer systems, the Federal Reserve's automated clearinghouse (ACH)

[4] "Report on Remote Disbursement," **Federal Reserve Bulletin**, Volume 65 (February 1979), p. 140.

[5] Donald L. Koch, Veronica M. Bennett, and Paul F. Metzker, "Lumbering at Top Speed: The Check Collection System, 1952-1979," **Economic Review**, Federal Reserve Bank of Atlanta, March 1982, pp. 29-33.

[6] William J. Abernathy, Kim B. Clark, Alan M. Kantrow, **Industrial Renaissance** (Basic Books, Inc., 1983), p. 114.

[7] Brown R. Rawlings, "The Federal Reserve Wire System," speech to the Cash Management Academy.

[8] Tom Tucker, principal research manager, Bank Administration Institute, telephone interview, June 1983.

transacts a larger number of lower-value payments. Although the ACH possesses the capacity to transfer up to $99,999,999.99, ACH transaction values average $686.[9] An ACH sorts and clears transactions received electronically or on magnetic tape from participating financial institutions; it is an off-line, batch system. Currently, 76 percent of all commercial banks and 16 percent of all thrift institutions belong to an ACH association.[10]

In recent years, growth in ACH volume accelerated rapidly. From 1981 to 1982, ACH volume doubled. Yet the 1982 ACH transaction volume approximated only 1 percent of checks written.[11] While private volume growth has been notable, direct deposit of employee payrolls and cash concentration debits comprised the vast majority of the private transaction items that the ACH processed in 1982. Very few corporate trade payments took this route.[12]

Why have corporate treasurers stayed with checks for trade payments? Thus far, they have had little incentive to use the electronic options. Usually, they dismiss the second alternative—on-line wire transfers—as simply too expensive for smaller value transactions. The Fed Wire costs $1.30 (65 cents for both payor and payee).[13] On the other hand, financial institutions charge corporations approximately 25 cents for each check drafted.

Also, electronic payments have not had the capacity to transmit invoice information. NACHA recently has developed a new corporate trade payment format allowing for invoice detail. With the lower costs of ACH transactions—ranging from 4.5 to 7.5 cents—one might wonder why corporate treasurers neglect that alternative. Yet when we recall our example of the $30,000 check, the $41 in check float obviously outweighs a saving of about 20 cents in processing charges. Using our example, the lower costs of ACH transactions would only compensate for the loss of disbursement float with checks written for under $146.

Moreover, the Federal Reserve "piggybacks" or transports ACH tapes in trucks making check courier deliveries, which slows down the payment process considerably. Such a tape is virtually a magnetic check. This detracts from the advantages associated with "electronic" systems. So it is not hard to see why cash managers have had little incentive to experiment with electronic alternatives.

Two special versions of wire transfer systems are in wide use: corporate treasury terminals and net settlement arrangements. In-house corporate treasury terminals facilitate a variety of electronic cash management services, including automated wire transfer systems. A 1982 study suggested that 58 percent of corporations possessed treasury terminals; of those, 47 percent employed the terminals to transfer funds within the United States.[14] Apparently, corporate treasury terminals are becoming increasingly commonplace among large corporations (those with sales over $125 million); however, these terminals mainly perform cash mobilization and cash concentration transactions. Few trade payments occur through these networks.

"I'll pay electronically when I'm paid that way," typifies corporate attitudes.

Conversely, net settlement networks employing wire transfer systems do enact electronic trade payments. In a net settlement, a third party generally conducts the "netting" of credits and debits among participating corporations, notifying each of their net position. As the settlement occurs on a predetermined date, the corporations wire-transfer sufficient funds preceding the settlement to cover their obligations (see box for specific examples). According to a small survey conducted by NACHA, five corporations out of 11 interviewed participate in some form of intra-industry net settlement.[15] Because the exact time and date when a check will clear is not

[9] **Report on the Payments System** (Washington: Association of Reserve City Bankers, 1982), p. 12.
[10] "Milano: Forging an ACH-Shared Network Link," **Bank Network News**, Volume I, (March 8, 1983), p. 4.
[11] "NACHA's Brubaker: Building a New ACH Strategy," **Bank Network News**, Volume 2 (July 2, 1983), p. 4.
[12] Ibid and other NACHA statements.
[13] Rawlings.
[14] "A Vigorous Market for Cash Management Services," **The Cash Manager**, Volume 6 (March 1983), p. 9.
[15] "NACHA Study Finds Float Is Not An Impediment To Corporate EFT Payments," NACHA Surepay Update (December 1981), p. 1.

Net Settlement Arrangements

For the most part, net settlement arrangements evolved because they are both easier and cheaper for the corporations involved. Instead of drafting numerous checks paying the same party, one transaction suffices. Net settlement arrangements are specifically tailored to the particular industry in question. Both the frequency and the timing of the settlement dates vary, as does the average number and dollar volume of transactions involved. Some net settlement arrangements, such as Petroclear, operate directly through a bank. Others, such as the Airlines Clearing House and TranSettlements, involve a "netting" of transactions by a third party.

Established in 1971, Petroclear comprises a net settlement arrangement for 11 oil companies. Operated through the Bank of the Southwest in Houston, Petroclear involves approximately 33 entries per month, with a dollar volume that fluctuates between $100-$150 million. The companies contact one another to determine their net debitor or creditor position with each of the other participants. Each corporation will then wire in ample funds; the Bank of the Southwest internally debits or credits their accounts around the 23rd of each month.[1]

Similarly, Chase Manhattan Bank internally debits the accounts of the 250 airlines that participate in the Airlines Clearing House. By the 20th of each month, each airline must send a statement of credits and debits to the Air Transportation Association of America (which operates the Airlines Clearing House). If an airline is in a net debitor position, it is notified by teletype on the 21st. Otherwise, it will receive a contract sheet in the mail by the 24th. Consequently, those airlines not maintaining sufficient balances with Chase Manhattan wire in money on the 27th; settlement occurs on the 28th. Approximately $750-$800 million is exchanged each month. This clearing house insists that participants use wire transfers exclusively since checks require too long both to travel and to clear; a $500 penalty is levied against any airline sending a late payment.[2]

On a somewhat smaller scale, TranSettlements in Atlanta serves as a clearing house for three freight carriers. Each carrier transmits his payables and receivables electronically to TranSettlements. The computer at TransSettlements stores the information until the other carrier involved enters a payable or receivable with a corresponding reference number and dollar amount. At that point, TranSettlements' computer notifies Citizens and Southern Bank, which internally debits or credits the account on the established settlement date. The companies are notified in advance, and wire sufficient funds preceding settlement. Although only three carriers participate in this arrangement, each of the biweekly settlements nets a large number of transactions. For instance, one settlement netted 11 receivables and 334 payables with a total exchange of $110,000.[3]

[1]Joe Larsen, vice-president and manager of the corporate services department, Bank of the Southwest, telephone interview, July 8, 1983.

[2]Claude H. McCall, secretary-treasurer of the Airlines Clearing House, telephone interview, July 8, 1983.

[3]Hank Lavery, vice-president, TranSettlements, telephone interview, June 8, 1983.

completely predictable, net settlement arrangements make almost exclusive use of wire transfer systems to make predictable and precisely timed funds transfers.

While net settlement arrangements are very efficient, they are somewhat limited to intra-industry payments, where each member regularly has both payables and receivables from the other participants. However, net settlement arrangements are not very viable for less-frequent or one-time inter-industry trade payments. Furthermore, as mentioned earlier, wire transfers do not carry the invoice information and are simply too expensive. Thus wire transfers prove economical only for high value transactions, not ordinary trade payments.

On the other hand, the automated clearing-house provides an efficient network for transacting large numbers of lower value payments. Yet a 1982 Electronic Banking Inc. (EBI) study found that (1) only 3.8 percent of the interviewed corporations disbursed trade payments through the ACH, and (2) the mean percentage of all trade payments made through the ACH was a mere 0.5 percent. In the future, however, only 23.5 percent of the corporations participating in EBI's study expect to make trade payments through the ACH; while 84 percent expressed a general interest in this concept.[16] Although electronic trade payments seemingly interest many corporations, few have actually taken concrete measures to implement them. The cliche, "I'll pay electronically when I'm paid that way" typifies corporate attitudes toward electronic trade payments.

[16]Jan Linker, Electronic Banking, Inc., telephone inverview, May 20, 1983.

NACHA, however, has been trying to overcome the obstacles. A pilot program for corporate-to-corporate payments began in June. Several modifications tailored the existing ACH system to handle trade payments adequately. A new file format allows up to 4,990 addenda records to accompany each payment, thereby providing invoice detail. The Federal Reserve charges 4.5 cents for an intra-ACH trade payment and 7.5 for an inter-ACH transaction; these fees include a 1.5 cents surcharge over usual ACH costs allowing for the transmission of up to 15 addenda records. Extra addenda records cost 0.1 cents for intra-ACH and 0.2 for inter-ACH payments.[17] In addition, the establishment of a variety of information requirements should deter fraud or error; the elimination of rescission rights avoids risks involved with the return of large item debits.[18]

Debits, however, will not be made during the pilot program because it involves only a small number of credits. The three initial participants—Sears, Westinghouse, and Black and Decker—are monitoring carefully the cost efficiency and accuracy of the ACH system in transmitting the additional addenda records. Several more corporations will begin participating this fall.

Benefits of Electronic Trade Payments

As evidenced by the recent interest in the NACHA pilot, corporate treasurers see the potential advantages in transacting trade payments electronically. The corporations involved in the NACHA pilot program performed cost analyses of the benefits associated with electronic trade payments. Obviously, the benefits gained in the electronic system must outweigh those of the current paper-based system if corporations are to switch. Inevitably, cost minimization is of crucial significance. From the corporate treasurer's perspective, cost reductions—both banking and administrative costs—provide the primary motivation for pursuing electronic trade payments.

Lower Banking Expenses

On both the payables and the receivables side, electronic trade payments result in substantial savings. According to studies completed for NACHA's pilot program, cost reductions for the participating corporations that originate an electronic trade payment average 40-45 cents per transaction.[19] Westinghouse estimates that it could save approximately $300,000 each year on its trade payables.[20] This reduction in expenses accrues primarily from the elimination of "per item" check processing charges.

From the perspective of the receiving corporation, ACH trade payments represent even greater potential savings. One estimate places cost reduction at $1.23 per transaction.[21] Westinghouse anticipates saving $700,000 per year from elimination of expensive wholesale lockbox fees.[22]

Reduced Administrative Costs

In the long run, ACH trade payments will probably impact administrative costs even more than banking costs. Westinghouse forecasts considerable administrative savings—in the range of $1.2 million per year—when all payments are made electronically.[23] Disbursing trade payments through the ACH reduces three major areas of administrative expenses: (1) postage, (2) paperwork and (3) personnel.

"Inevitably, cost minimization is of crucial significance."

An obvious target of adminstrative cost reduction is postage. With all of the attached invoices and remittances, trade payments generate significant mailing costs. From 1972 through

[17] "Interim Fee Schedules," **Federal Reserve Bulletin**, Volume 69 (May 1983), p. 366. The Fed recently proposed a revised fee schedule and enhanced ACH services. The new fee schedule, if approved, would go into effect in December 1983. Federal Reserve Board press release, Sept. 23, 1983.

[18] An ACH debit is defined as a transaction collecting payment from the receiving party; and ACH credit is a transaction paying the receiving party. For consumer related payments, parties that received a debit had 45 days to rescind or revoke the debit, meaning that the funds would have to be replaced in the receiving parties account. The corporate trade payment rules eliminate this right of rescission.

[19] Culled from telephone interviews with the three original participating corporations in NACHA's corporate trade payments pilot, June 1983.

[20] Robert L. Caruso, "New look at ACH cost/benefit details," **ABA Banking Journal**, Volume 75 (April 1983), p. 44.

[21] Clayton Roop, director of accounting and cash management, Black and Decker, telephone interview, June 8, 1983.

[22] Caruso.

[23] *Ibid.*

1979, first-class postage costs climbed 88 percent.[24] Using the ACH network eliminates all postage expenses associated with trade payments.

In addition, electronic trade payments drastically reduce the volume of paper—invoices, checks, and remittance documents—to be handled, another focus of administrative savings. Operational expenses of paper handling, therefore, would be significantly lowered and reductions in personnel would be possible.

Heightened Cash Management Effectiveness

An "electronically clean" system boosts the efficiency of all parties involved. In addition, supporters often cite the ACH's reliability. Although the U.S. Postal Service promises to deliver during "rain, sleet, or snow," many cash managers apparently would not classify it or private courier services as infallible. Occasional misroutings and delays occur from sorting errors or inclement weather conditions.

"The lack of universal automation... discourages interest in electronic trade payments."

Electronic trade payments reduce the uncertainty of the check collection system regarding funds availability dates. Exact knowledge of payment dates improves business relationships with recipients of trade payments. Electronic trade payments greatly heighten cash forecasting accuracy. Cash managers originating payables may invest funds until immediately before the transaction.

Electronic trade payments also enable cash managers to ascertain funds availability of their receivables. This precise knowledge of incoming cash allows for very accurate cash forecasting. In addition, the elimination of collection float by electronic transactions furthers cost savings of electronic trade payments. Cash management benefits ensuing from ACH trade payments thus include elimination of collection float, increased cash management efficiency, and most importantly, significant potential for reduced administrative and banking costs.

Deterrents to Growth

Seemingly, the advantages gained would motivate corporations to pursue electronic trade payments. Corporate treasurers have yet to implement such payments for several reasons:

Loss of Disbursement Float

Ultimately, cost effectiveness plays the crucial role in any decision concerning electronic trade payments. Hence loss of disbursement float serves as a major deterrent to sending trade payments through the ACH. Disbursement float earns corporations millions of dollars each year. In evaluating electronic trade payments, corporations compare the loss of float with the potential cost savings. Generally, the float loss outweighs perceived benefits. Consequently, few businesses elect to displace the paper-based disbursement system with an electronic one, especially smaller or middle-market companies possessing a smaller profit margin.

Because of disbursement float, the existing payments system strongly favors paper-based trade payments. Renegotiation of trade terms, however, could alleviate much of the inequalities caused by float. For instance, if terms of 2/10 net 30 shift to 2/14 net 34, both payor and payee sacrifice one day of float.[25] Many corporations employ terms stipulating that a check must be postmarked by the date specified. Crediting funds from the date of actual availability or applying "good funds" terms to both checks and ACH payments would thereby diminish the advantages of paper-based disbursements; checks would have to be initiated sooner than ACH transactions in order to reach their destination by

[24] Carl M. Gambs, "The Cost of Operating the Payment System," **Proceedings of a Conference on the Future of the U.S. Payments System**, June 23-25, 1981. Atlanta, Georgia: Federal Reserve Bank of Atlanta, 1981, p. 136.

[25] Trade terms such as 2/10 net 30 indicate that a two percent discount will be given on any funds received by the tenth day, the remainder of the payment being due by the 30th day. Corporations using a lockbox collection system usually receive their payments within three days after the check is mailed. Checks require an average of five days to clear the account of the originator. With an ACH payment, the receiving corporation will have use of the funds on the 10th day, while the originating corporation loses five days of disbursement float. If the terms are changed to 2/14 net 34, the originating business will only sacrifice one day of disbursement float. The receiving corporation will gain one day of collection float. Both originator and receiver have use of their funds for one day less, thus neutralizing the issue of float.

the necessary date. Establishing new credit terms, however, entails a difficult, tedious procedure involving many people in numerous industries. Successful renegotiation of trade terms usually requires action on the part of a recognized industry leader.

Dual Processing Systems

Unless a business automates a substantial portion of its trade payables, it cannot reduce its account payables staff; the same holds true for trade receivables and accounts receivable staff. Thus the simultaneous existence of paper-based and electronic systems negates much of the cost savings associated with completely electronic systems and makes it more difficult to recover start-up costs.

Unclear Legal and Security Elements

Legal and security elements lack clarity. While the internal identification between the payments and the addenda records should prevent fraud, the fact that the system has not yet been proven makes corporations reluctant to go electronic.

Such lack of clarification complicates the transmission of automated trade payments. According to the rules NACHA established for corporate trade payments, the originating financial institution warrants most items. Since few existing laws define liability in transacting electronic trade payments, participants in the NACHA pilot program must negotiate agreements between the originator and the receiver, and with their respective financial institutions. While these peripheral agreements seem burdensome, they are necessary at this stage in the development of ACH trade payments. In the near future, explicit rules governing electronic trade payments should greatly facilitate ACH use and provide more uniform audit trails.

Incomplete Standardization

Format standardization also should evolve. Although NACHA developed the present trade payment format allowing for the inclusion of multiple invoices, many industries already employ the invoicing format developed by the Transportation Data Coordinating Committee. Optimal efficiency demands one standard for a given payments network. Furthermore, companies attempting to make a simple trade payment find the NACHA format rather cumbersome. The remitter of a payment containing one invoice must send unnecessary addenda records; an expanded field on the actual payment record would greatly simplify certain ACH transactions. A definite need exists to have a single, universal set of standards built into the ACH software, facilitating direct electronic interface between all participants in the payments system.

Limited Development of Electronic Infrastructure

A successful ACH network for trade payments depends upon interfacing many participants electronically. The huge number of financial institutions in the United States, however, complicates this task. On a national level, the banking system lacks conformity. Very few banks are equipped to receive electronically the new NACHA trade payments with the attached addenda records. Many banks send non-automated returns, which, by definition, do not belong in an automated clearinghouse. Both originating and receiving financial institutions must be equally sophisticated; otherwise, decreased processing and cost efficiency of electronic payments results. Unless most financial institutions interface with the ACH electronically, resorting to paper-based communications is required, undermining the nature of a truly automated clearinghouse. The lack of universal automation and of unity in the present banking system, therefore, discourages interest in electronic trade payments.

"Electronic payments reduce the uncertainty of the check collection system regarding funds availability dates."

Furthermore, since the Federal Reserve simply "piggybacks" ACH tapes with check courier deliveries, it has little motivation to encourage direct computer interface. In addition, many corporations would prefer that the Fed establish a nightime window, enabling next day settlement for both credits and debits.[26]

[26] The Federal Reserve has established such a night-time window for one-day settlement of debits and credits, effective Oct. 6, 1983.

Summary of Deterrents

All of these factors detract from the appeal of today's ACH. Corporations will send trade payments through the ACH only if the benefits gained outweigh the loss of disbursement float. In the present system, lack of widespread automation offsets much potential advantage associated with electronic trade payments. Because the concept of electronic trade payments is relatively new, many quirks in the system require solutions, further discouraging implementation of automated corporate-to-corporate trade payments.

Changes Favoring Electronic Trade Payment

Given the current inadequacies of the ACH system, some corporate treasurers might complacently retain the traditional, time-proven paper-based disbursement system. Conceptually, using the ACH for trade payments is an excellent idea; quicker payments plus reduced costs obviously add up to increased efficiency. From a practical perspective, however, electronic trade payments do not always reach their potential. But changes in both the banking system and Federal Reserve operations are transforming the "tried and true" check collection system. These environmental factors will eventually sway corporate treasurers to more frequent electronic transmission of trade payables.

"Electronics are going to overwhelm businesses which aren't prepared."

Consequently, the overall corporate stance seems to be one of detached but alert observation. Many corporations are carefully monitoring the NACHA pilot program to verify cost efficiencies. A successfully functioning NACHA corporate-to-corporate trade payments system will undoubtedly generate much interest. Yet at what point the costs of disbursing checks becomes so prohibitive as to render the paper-based system uneconomical remains a topic of controversy. The general consensus among corporations, however, is that electronic trade payments and a transition to an automated payments system are inevitable. In fact, as one assistant treasurer observes, "electronics are going to overwhelm businesses which aren't prepared."[27]

The Depository Institutions Deregulation and Monetary Control Act of 1980 is significantly altering the payments system. The banking industry formerly absorbed the costs of the check collection system. Now, with financial institutions paying market interest rates on deposit balances and with the Federal Reserve charging explicitly for its check processing services, financial institutions are beginning to pass the payments system costs directly on to the corporate customer. From 1972 to 1979, total payments system costs of check handling increased 72 percent.[28] Because financial institutions are now charging directly for their services, future elevations in costs will impact corporate customers much more dramatically. With the implementation of explicit pricing for services, and the new sense of competitiveness accompanying the deregulation of the banking industry, both financial institutions and corporations will begin to consider electronic alternatives more seriously as a viable means of reducing check processing costs.

Thus, Federal Reserve pricing and overall deregulation favor electronic trade payments. Increased competition will compel the banking industry to investigate lower priced, more efficient electronic alternatives. Significant increases in banking costs will render the existing paper-based payments system increasingly uneconomical from the corporate point of view. Corporate treasurers will then pressure banks to develop electronic payment systems.

Environmental factors, therefore, will encourage the transition from paper-based to electronic trade payments. While this occurs, awareness of the electronic systems will continue to spread. Successful applications of the ACH for trade payments and other transactions such as direct deposit of payrolls will educate the public about the ACH's benefits, thereby contributing to the growth of electronic trade payments.

Probable Trends

Interest in the NACHA corporate-to-corporate payments pilot is keen. In all likelihood, the

[27] E. W. Brindle, assistant treasurer, Standard Oil, telephone interview, June 6, 1983.

initial stages testing the new corporate-to-corporate format will be slow. The participating corporations negotiated trade terms in such a way as to offset the loss of disbursement float. Since float is no longer an issue, the corporations are carefully measuring the cost benefits of the NACHA system. Undoubtedly, the small number of businesses involved in the pilot signify only the tip of the iceberg; but a smoothly functioning pilot program could lay the groundwork for marked escalation of trade payments made through the ACH.

In the near future, the Treasury Department plans to begin making vendor payments under $25,000 through the ACH. This fall, the Treasury will begin to transmit vendor payments greater than $25,000 over the Fed Wire; following the completion and evaluation of NACHA's pilot in 1984, the department plans to begin implementing ACH vendor payments. Since the Treasury makes approximately three million vendor payments under $25,000 each year, it will lend great impetus to the ACH system.[28] Once the Treasury disburses vendor payments through the ACH, financial institutions will find a new incentive to install direct links with the ACH.

With the establishment of a comprehensive infrastructure, large corporations will begin transmitting trade payables through the ACH. Gradually, electronic trade payments will filter down to small (less than $5 million in sales) and middle-market (between $5-$125 million) businesses. Since these companies conduct financial operations on a smaller scale, they will likely benefit most from being able to use a standardized format to automate trade payments. Their transaction volume probably is insufficient to warrant investment in electronic funds transfer software. On the other hand, large corporations with sophisticated data processing equipment probably will prefer to interface directly with the ACH or to operate their own electronic funds transfer equipment.

Financial institutions will play a more prominent role among small and middle-market corporations. Although these smaller businesses tend to have smaller balances and fewer transactions, they will rely on financial institutions for cash management services to a much greater extent than will large corporations. Cash management operations of large corporations will probably be more self-sufficient. Thus banks will focus their energies on gaining market share among the approximately 100,000 middle-market companies.[29] The shift from concentrating primarily on large corporations to emphasizing smaller ones is one of the important effects that the implementation of electronic trade payments will have on the banking industry.

These changes alter the very nature of the banking industry. As one observer put it:

> the banking industry is changing from an industry which was a reservoir in concept to one which is going to be a conduit.[30]

Banks no longer function as a depository for high balances. Even with the recent decline in interest rates, corporations continue to invest all excess cash. Now the banking industry's primary role consists of facilitating exchange between different accounts of a single customer and between different parties. Instead of controlling the payments system, financial institutions will serve as an intermediary.

"A smoothly functioning pilot program could lay the groundwork for marked escalation of trade payments made through the ACH."

Corporations will move toward whichever automated clearinghouse proves the most efficient and least expensive. As the Monetary Control Act ends Federal Reserve subsidization of its ACH, private sector competition is beginning to surface. The New England ACH, the California ACH, and NACHA have requested and received bids for an all-electronic private sector ACH.[31] This bidding may lead to same-day settlement through private ACH alternatives, Provision for

[28] Virginia B. Harter, director of the cash management regulations and compliance staff, Department of the Treasury-Bureau of Government Financial Operations, telephone interview, June 24, 1983.

[29] Allen M. Cohen "The Growth of Corporate Electronic Banking," **Bankers Monthly Magazine**, Volume 99 (June 1982) p. 20. See also Jean H. Crooks, William O. Adcock, and Genie M. Driskill, "Small Businesses and the Cash Management Culture," **Economic Review**, Federal Reserve Bank of Atlanta, January 1983, pp. 48-55.

[30] Cohen.

[31] "NACHA eyes bids for private sector ACHs," **Cashflow**, Volume 4 (June 1983), p. 44.

warehousing payments for delayed implementation will probably also emerge from the Fed-private sector competition for ACH services.

Additionally, Visa schedules an ACH pilot beginning in October 1983. Within the banking industry, Visa's established network greatly facilitates installation of an ACH. Ten to 15 banks nationwide will participate in the all electronic network. During the pilot, costs per transaction will be two cents; non-monetary records will be free. The pilot will include trade payments.[32] Many other possibilities exist for a private sector ACH.

"Competition will motivate the Federal Reserve to improve its network to meet the needs of its constituency."

While private sector clearing houses undoubtedly will flourish, they will not mark the demise of the Federal Reserve's ACH. The Federal Reserve operates a large, established system with high security. Competition will motivate the Federal Reserve to improve its network to meet the needs of its constituency. It will certainly continue to transact public sector payments; whether or not it will be competitive in the private sector market is more questionable. But, for the present, insufficient ACH volume probably prevents a truly cost-effective private sector alternative as extensive as the Fed's network.

In time, however, corporate treasurers will be faced with an array of electronic payment systems from which to choose, including both public and private sector alternatives. The current options—the Fedwire and the Federal Reserve's ACH—reside at two opposite ends of the spectrum. The Fedwire is a high-priced on-line system, whereas the ACH is a cheaper off-line batch system. Future networks will fill the territory between these two extremes.

Upcoming changes in the payments system parallel what Alvin Toffler refers to as the "third wave." His book, **The Third Wave**, describes how the future will deviate from the highly standardized, synchronized society of the present to the flexibility of future societies.[33] A multitude of electronic funds transfer networks will vary according to speed, cost, format, hours of operation, extensiveness of infrastructure, and numerous other factors. Corporate treasurers may access these networks through in-house microcomputers; they will choose the appropriate system and network for each transaction.

Compensating for Float

In January 1983, Synergistics Research Corporation of Atlanta asked 230 corporations how they will compensate for the Federal Reserve's reduction of float. The most frequent response was that the respondent planned to delay the mailing of checks. Next the corporations were asked if they expected to increase their volume of electronic payments.

Annual sales	% delaying the mailing of checks	% increasing electronic payments
(million)		
$1-25	56	8
$25-100	59	15
over $100	39	17

When the companies were asked if electronic payments will reduce the need for lockboxes within the next five years, their responses were:

10% yes
15% not sure
75% no

*Data of companies under $100 million in annual sales is not statistically significant.

Source: Jean Crooks, Synergistics Research Corporation, telephone interview, June 17, 1983

Conclusion

Competition will provide incentive for both the Federal Reserve and the private sector to develop extremely refined electronic payment systems. These highly evolved networks should quell many doubts on the part of corporate treasurers regarding the heightened efficiency of electronic trade payments.

Concurrently, changes within the banking industry will render the check collection system less and less competitive for trade payments.

[32] Steve Schapp, VISA, telephone interview, June 24, 1983.

[33] Alvin Toffler, **The Third Wave** (Bantam Books, 1980).

Many immediate corporate reactions to the Monetary Control Act entail compensatory modifications within the current payments system environment (see "Compensating for Float"). Both corporations and financial institutions have invested heavily in check-processing equipment; before they abandon paper-based trade payments, electronics alternatives must be exceedingly cost efficient. Yet falling interest rates and Federal Reserve actions are diminishing the importance of disbursement float: corporations will become increasingly inclined to renegotiate trade terms. Gradually, electronic trade payments will gain momentum.

Automated trade payments remain on the frontier of a slowly emerging electronic payments system. The NACHA pilot will begin to generate additional volume within the upcoming year. During the next decade, corporate-to-corporate traffic through the ACH should accelerate gradually. Increasing numbers of corporations disbursing trade payments through the ACH should encourage the establishment of a more comprehensive infrastructure, and vice versa. Format standardization and clarification of legal elements accompany the evolving networks. And, as automated trade payment volume multiplies, the increasing cost efficiencies should persuade additional businesses to jump on the bandwagon.

This article was prepared by Helen Stacey under the supervision of William N. Cox.

FINANCE

STATISTICAL SUPPLEMENT

$ millions	AUG 1983	JUL 1983	AUG 1982	ANN. % CHG.		AUG 1983	JUL 1983	AUG 1982	ANN. % CHG.
UNITED STATES									
Commercial Bank Deposits	1,278,512	1,283,357	1,163,103	+ 10	Savings & Loans				
Demand	302,351	324,565	286,095	+ 6	Total Deposits	603,973	599,609	534,363	+ 13
NOW	80,674	81,761	58,171	+ 39	NOW	17,634	17,897	10,519	+ 68
Savings	344,075	344,649	150,116	+129	Savings	186,131	189,165	91,963	+102
Time	584,242	580,314	695,861	- 16	Time	403,469	396,803	432,781	- 7
Credit Union Deposits	61,029	61,395	49,479	+ 23		JUN	MAY	JUN	
Share Drafts	5,448	5,535	3,324	+ 64	Mortgages Outstanding	471,853	470,999	512,399	- 8
Savings & Time	49,885	49,847	42,093	+ 19	Mortgage Commitments	30,576	30,060	16,839	+ 82
SOUTHEAST									
Commercial Bank Deposits	144,684	144,736	124,861	+ 16	Savings & Loans				
Demand	35,375	37,317	33,180	+ 7	Total Deposits	87,573	87,383	78,882	+ 11
NOW	10,313	10,441	7,536	+ 37	NOW	2,969	3,031	1,696	+ 75
Savings	38,024	38,019	14,673	+159	Savings	24,367	24,833	11,558	+111
Time	64,329	63,480	72,160	- 11	Time	61,064	60,453	65,727	- 7
Credit Union Deposits	5,859	5,875	4,634	+ 26		JUN	MAY	JUN	
Share Drafts	480	485	330	+ 45	Mortgages Outstanding	66,196	66,004	69,890	- 5
Savings & Time	4,982	4,974	3,880	+ 28	Mortgage Commitments	4,598	4,327	3,357	+ 37
ALABAMA									
Commercial Bank Deposits	15,164	15,284	13,953	+ 9	Savings & Loans				
Demand	3,690	3,897	3,439	+ 7	Total Deposits	5,080	5,054	4,517	+ 12
NOW	915	922	653	+ 40	NOW	138	140	89	+ 55
Savings	3,152	3,194	1,557	+102	Savings	886	894	546	+ 62
Time	7,898	7,896	8,715	- 9	Time	4,119	4,086	3,908	+ 5
Credit Union Deposits	904	911	815	+ 11		JUN	MAY	JUN	
Share Drafts	84	85	64	+ 31	Mortgages Outstanding	3,657	3,627	3,946	- 7
Savings & Time	775	774	654	+ 19	Mortgage Commitments	205	178	78	+163
FLORIDA									
Commercial Bank Deposits	50,358	50,393	40,642	+ 24	Savings & Loans				
Demand	12,459	13,309	11,605	+ 7	Total Deposits	54,540	54,403	47,681	+ 14
NOW	4,304	4,411	3,268	+ 32	NOW	2,076	2,138	1,155	+ 80
Savings	17,279	17,195	6,180	+180	Savings	16,728	17,068	7,693	+117
Time	17,243	16,795	20,293	- 15	Time	36,178	35,709	38,783	- 7
Credit Union Deposits	2,547	2,570	2,116	+ 20		JUN	MAY	JUN	
Share Drafts	240	245	183	+ 31	Mortgages Outstanding	39,068	38,944	41,364	- 6
Savings & Time	1,997	1,994	1,647	+ 21	Mortgage Commitments	3,241	3,079	2,519	+ 29
GEORGIA									
Commercial Bank Deposits	20,797	20,710	17,400	+ 20	Savings & Loans				
Demand	6,779	7,080	5,911	+ 15	Total Deposits	9,756	9,718	9,898	- 1
NOW	1,366	1,382	1,089	+ 25	NOW	298	291	190	+ 57
Savings	4,684	4,668	1,635	+186	Savings	2,223	2,241	1,190	+ 87
Time	9,016	8,844	9,623	- 6	Time	7,399	7,363	8,599	- 14
Credit Union Deposits	1,329	1,334	853	+ 56		JUN	MAY	JUN	
Share Drafts	70	68	32	+119	Mortgages Outstanding	8,144	8,137	9,062	- 10
Savings & Time	1,192	1,196	773	+ 54	Mortgage Commitments	455	366	171	+166
LOUISIANA									
Commercial Bank Deposits	24,946	24,986	22,758	+ 10	Savings & Loans				
Demand	5,840	6,025	5,876	- 1	Total Deposits	8,389	8,407	7,893	+ 6
NOW	1,369	1,378	1,036	+ 32	NOW	173	178	111	+ 56
Savings	5,355	5,307	2,448	+119	Savings	2,411	2,453	1,223	+ 97
Time	12,887	12,877	13,888	- 7	Time	5,893	5,864	6,585	- 11
Credit Union Deposits	196	192	126	+ 56		JUN	MAY	JUN	
Share Drafts	23	22	10	+130	Mortgages Outstanding	7,529	7,494	7,246	+ 4
Savings & Time	191	189	116	+ 65	Mortgage Commitments	462	465	269	+ 72
MISSISSIPPI									
Commercial Bank Deposits	11,509	11,497	10,372	+ 11	Savings & Loans				
Demand	2,394	2,481	2,205	+ 9	Total Deposits	2,402	2,423	2,436	- 1
NOW	793	784	571	+ 39	NOW	85	88	53	+ 60
Savings	2,450	2,459	733	+234	Savings	494	510	228	+117
Time	6,152	6,128	6,993	- 12	Time	1,852	1,862	2,168	- 15
Credit Union Deposits	N.A.	N.A.	N.A.			JUN	MAY	JUN	
Share Drafts	N.A.	N.A.	N.A.		Mortgages Outstanding	1,997	1,987	2,187	- 9
Savings & Time	N.A.	N.A.	N.A.		Mortgage Commitments	40	42	17	+135
TENNESSEE									
Commercial Bank Deposits	21,910	21,866	19,736	+ 11	Savings & Loans				
Demand	4,213	4,525	4,144	+ 2	Total Deposits	7,406	7,378	6,457	+ 15
NOW	1,566	1,564	919	+ 70	NOW	199	196	98	+103
Savings	5,104	5,196	2,120	+141	Savings	1,625	1,667	678	+140
Time	11,133	10,940	12,648	- 12	Time	5,623	5,569	5,684	- 1
Credit Union Deposits	883	868	724	+ 22		JUN	MAY	JUN	
Share Drafts	63	65	41	+ 54	Mortgages Outstanding	5,801	5,815	6,085	- 5
Savings & Time	827	821	690	+ 20	Mortgage Commitments	195	197	303	- 36

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. N.A. = fewer than four institutions reporting.

CONSTRUCTION

12-month Cumulative Rate

	JUL 1983	JUN 1983	JUL 1982	ANN % CHG		JUL 1983	JUN 1983	JUL 1982	ANN % CHG
UNITED STATES									
Nonresidential Building Permits - $ Mil.					Residential Building Permits				
Total Nonresidential	46,560	45,983	48,090	- 3	Value - $ Mil.	57,555	54,763	34,772	+ 66
Industrial Bldgs.	5,079	5,014	5,780	- 12	Residential Permits - Thous.				
Offices	11,512	11,268	13,884	- 17	Single-family units	787.6	752.6	461.5	+ 71
Stores	5,827	5,726	5,602	+ 4	Multi-family units	595.1	573.8	392.6	+ 52
Hospitals	1,889	1,926	1,701	+ 11	Total Building Permits				
Schools	846	845	849	- 0	Value - $ Mil.	104,115	100,746	82,862	+ 26
SOUTHEAST									
Nonresidential Building Permits - $ Mil.					Residential Building Permits				
Total Nonresidential	7,184	7,076	6,489	+ 11	Value - $ Mil.	10,334	9,719	6,467	+ 60
Industrial Bldgs.	622	621	763	- 18	Residential Permits - Thous.				
Offices	1,697	1,616	1,378	+ 23	Single-family units	162.2	154.1	92.7	+ 75
Stores	1,077	1,048	1,054	+ 2	Multi-family units	125.2	116.4	83.9	+ 49
Hospitals	424	418	263	+ 61	Total Building Permits				
Schools	166	166	95	+ 75	Value - $ Mil.	17,517	16,795	12,956	+ 35
ALABAMA									
Nonresidential Building Permits - $ Mil.					Residential Building Permits				
Total Nonresidential	379	371	398	- 5	Value - $ Mil.	353	329	239	+ 48
Industrial Bldgs.	28	30	78	- 64	Residential Permits - Thous.				
Offices	53	60	54	- 2	Single-family units	7.2	6.8	4.0	+ 80
Stores	66	60	67	- 1	Multi-family units	6.4	5.6	5.2	+ 23
Hospitals	30	29	21	+ 43	Total Building Permits				
Schools	8	4	8	0	Value - $ Mil.	732	699	637	+ 15
FLORIDA									
Nonresidential Building Permits - $ Mil.					Residential Building Permits				
Total Nonresidential	3,636	3,620	3,269	+ 11	Value - $ Mil.	5,920	5,579	4,062	+ 46
Industrial Bldgs.	324	327	381	- 15	Residential Permits - Thous.				
Offices	809	799	639	+ 27	Single-family units	84.8	80.3	49.6	+ 71
Stores	596	593	563	+ 6	Multi-family units	70.0	66.5	52.7	+ 33
Hospitals	258	253	157	+ 64	Total Building Permits				
Schools	52	54	20	+160	Value - $ Mil.	9,557	9,199	7,332	+ 30
GEORGIA									
Nonresidential Building Permits - $ Mil.					Residential Building Permits				
Total Nonresidential	1,125	1,083	1,045	+ 8	Value - $ Mil.	2,062	1,959	1,077	+ 91
Industrial Bldgs.	155	144	156	- 1	Residential Permits - Thous.				
Offices	320	271	247	+ 30	Single-family units	37.4	35.6	20.9	+ 79
Stores	114	108	104	+ 10	Multi-family units	21.2	20.0	10.0	+112
Hospitals	26	24	27	- 4	Total Building Permits				
Schools	24	25	34	- 29	Value - $ Mil.	3,187	3,041	2,123	+ 50
LOUISIANA									
Nonresidential Building Permits - $ Mil.					Residential Building Permits				
Total Nonresidential	1,148	1,133	905	+ 27	Value - $ Mil.	923	912	579	+ 59
Industrial Bldgs.	56	60	91	- 38	Residential Permits - Thous.				
Offices	380	354	263	+ 44	Single-family units	16.0	15.4	9.2	+ 74
Stores	120	121	168	- 29	Multi-family units	12.5	12.8	8.5	+ 47
Hospitals	60	59	21	+186	Total Building Permits				
Schools	65	66	25	+160	Value - $ Mil.	2,071	2,045	1,483	+ 40
MISSISSIPPI									
Nonresidential Building Permits - $ Mil.					Residential Building Permits				
Total Nonresidential	165	156	173	- 5	Value - $ Mil.	256	239	142	+ 80
Industrial Bldgs.	6	7	15	- 60	Residential Permits - Thous.				
Offices	15	14	42	- 64	Single-family units	4.6	4.4	2.8	64
Stores	34	31	39	- 13	Multi-family units	3.1	2.9	1.9	+ 63
Hospitals	14	14	4	+250	Total Building Permits				
Schools	8	8	2	+300	Value - $ Mil.	420	396	315	+ 33
TENNESSEE									
Nonresidential Building Permits - $ Mil.					Residential Building Permits				
Total Nonresidential	730	713	698	+ 5	Value - $ Mil.	819	702	368	+123
Industrial Bldgs.	53	54	41	+ 29	Residential Permits - Thous.				
Offices	119	117	133	- 11	Single-family units	12.2	11.6	6.2	+ 97
Stores	146	137	114	+ 28	Multi-family units	12.0	8.6	5.6	+114
Hospitals	36	40	33	+ 9	Total Building Permits				
Schools	8	8	6	+ 33	Value - $ Mil.	1,477	1,415	1,066	+ 39

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)	1Q	2,640.5	2,616.1	2,499.8	+ 6
Taxable Sales - $bil.		N.A.	N.A.	N.A.	
Plane Pass. Arr. 000's	JUL	N.A.	N.A.	N.A.	
Petroleum Prod. (thous.)	AUG	8,648.6	8,695.0	8,669.1	- 0
Consumer Price Index 1967=100	AUG	300.3	299.3	292.8	+ 3
Kilowatt Hours - mils.	JUN	171.5	158.4	158.6	+ 8
SOUTHEAST					
Personal Income ($bil. - SAAR)	1Q	318.0	314.5	296.4	+ 7
Taxable Sales - $ bil.		N.A.	N.A.	N.A.	
Plane Pass. Arr. 000's	JUL	4,310.2	4,412.1	4,353.0	- 1
Petroleum Prod. (thous.)	AUG	1,381.0	1,407.0	1,387.5	- 0
Consumer Price Index 1967=100		N.A.	N.A.	N.A.	
Kilowatt Hours - mils.	JUN	28.6	24.8	28.8	- 1
ALABAMA					
Personal Income ($bil. - SAAR)	1Q	35.1	34.7	33.0	+ 6
Taxable Sales - $ bil.	MAY	26.9	26.5	25.2	+ 7
Plane Pass. Arr. 000's	JUL	116.6	123.7	107.8	+ 8
Petroleum Prod. (thous.)	AUG	53.0	54.0	56.5	- 6
Consumer Price Index 1967=100		N.A.	N.A.	N.A.	
Kilowatt Hours - mils.	JUN	3.5	3.3	3.8	- 8
FLORIDA					
Personal Income ($bil. - SAAR)	1Q	118.6	117.4	108.9	+ 9
Taxable Sales - $ bil.	AUG	70.7	69.9	99.6	-29
Plane Pass. Arr. 000's	JUL	2,083.3	2,142.1	2,277.5	- 9
Petroleum Prod. (thous.)	AUG	59.0	62.0	75.0	-21
Consumer Price Index - Miami Nov. 1977 = 100		**JUL** 160.8	**MAY** 159.4	**JUL** 155.1	+ 4
Kilowatt Hours - mils.	JUN	8.0	7.0	7.9	+ 1
GEORGIA					
Personal Income ($bil. - SAAR)	1Q	56.0	55.3	52.0	+ 8
Taxable Sales - $ bil.	1Q	39.9	39.4	38.2	+ 4
Plane Pass. Arr. 000's	JUL	1,641.8	1,676.7	1,504.1	+ 9
Petroleum Prod. (thous.)		N.A.	N.A.	N.A.	
Consumer Price Index - Atlanta 1967 = 100	AUG	**AUG** 303.9	**JUN** 302.3	**AUG** 295.6	+ 3
Kilowatt Hours - mils.	JUN	4.7	3.7	4.7	0
LOUISIANA					
Personal Income ($bil. - SAAR)	1Q	45.4	44.7	43.1	+ 5
Taxable Sales - $ bil.		N.A.	N.A.	N.A.	
Plane Pass. Arr. 000's	JUL	276.1	272.9	273.5	+ 1
Petroleum Prod. (thous.)	AUG	1,185.0	1,205.0	1,164.0	+ 2
Consumer Price Index 1967 = 100		N.A.	N.A.	N.A.	
Kilowatt Hours - mils.	JUN	5.1	4.3	5.1	0
MISSISSIPPI					
Personal Income ($bil. - SAAR)	1Q	20.5	20.4	19.3	+ 6
Taxable Sales - $ bil.		N.A.	N.A.	N.A.	
Plane Pass. Arr. 000's	JUL	37.5	32.5	32.8	+14
Petroleum Prod. (thous.)	AUG	84.0	86.0	92.0	- 9
Consumer Price Index 1967 = 100		N.A.	N.A.	N.A.	
Kilowatt Hours - mils.	JUN	2.0	1.6	2.0	0
TENNESSEE					
Personal Income ($bil. - SAAR)	1Q	42.4	42.0	40.1	+ 6
Taxable Sales - $ bil.	AUG	36.3	36.4	31.6	+15
Plane Pass. Arr. 000's	JUL	154.9	164.2	157.3	- 2
Petroleum Prod. (thous.)	AUG	N.A.	N.A.	N.A.	
Consumer Price Index 1967 = 100		N.A.	N.A.	N.A.	
Kilowatt Hours - mils.	JUN	5.3	4.9	5.3	0

	AUG 1983	JUL (R) 1983	AUG (R) 1982	ANN. % CHG.
UNITED STATES				
Agriculture				
Prices Rec'd by Farmers Index (1977=100)	137	131	133	+ 3
Broiler Placements (thous.)	79,386	81,201	80,621	- 2
Calf Prices ($ per cwt.)	58.30	60.30	61.80	- 6
Broiler Prices (¢ per lb.)	31.8	30.7	26.6	+20
Soybean Prices ($ per bu.)	8.09	6.11	5.59	+45
Broiler Feed Cost ($ per ton)	228	217	215	+ 6
SOUTHEAST				
Agriculture				
Prices Rec'd by Farmers Index (1977=100)	122	115	120	+ 2
Broiler Placements (thous.)	30,270	31,573	30,172	+ 0
Calf Prices ($ per cwt.)	54.18	56.36	57.84	- 6
Broiler Prices (¢ per lb.)	31.2	30.1	25.6	+22
Soybean Prices ($ per bu.)	7.92	6.66	5.78	+37
Broiler Feed Cost ($ per ton)	217	206	213	+ 2
ALABAMA				
Agriculture				
Farm Cash Receipts - $ mil. (Dates: JUN, JUN)	931	-	946	- 2
Broiler Placements (thous.)	10,034	10,365	9,938	+ 1
Calf Prices ($ per cwt.)	52.50	54.60	57.20	- 8
Broiler Prices (¢ per lb.)	30.0	30.0	25.0	+20
Soybean Prices ($ per bu.)	7.60	6.78	5.73	+33
Broiler Feed Cost ($ per ton)	225	215	210	+ 7
FLORIDA				
Agriculture				
Farm Cash Receipts - $ mil. (Dates: JUN, JUN)	2,812	-	2,722	+ 3
Broiler Placements (thous.)	1,956	1,917	1,839	+ 6
Calf Prices ($ per cwt.)	64.60	66.20	61.10	+ 6
Broiler Prices (¢ per lb.)	34.5	30.0	25.0	+38
Soybean Prices ($ per bu.)	7.60	6.78	5.73	+33
Broiler Feed Cost ($ per ton)	235	230	220	+ 7
GEORGIA				
Agriculture				
Farm Cash Receipts - $ mil. (Dates: JUN, JUN)	1,253	-	1,262	- 1
Broiler Placements (thous.)	12,213	12,630	12,423	- 2
Calf Prices ($ per cwt.)	50.60	50.50	54.20	- 7
Broiler Prices (¢ per lb.)	31.0	29.5	25.0	+24
Soybean Prices ($ per bu.)	8.37	6.45	5.85	+43
Broiler Feed Cost ($ per ton)	210	200	215	- 2
LOUISIANA				
Agriculture				
Farm Cash Receipts - $ mil. (Dates: JUN, JUN)	556	-	631	-12
Broiler Placements (thous.)	N.A.	N.A.	N.A.	
Calf Prices ($ per cwt.)	56.60	56.50	60.70	- 7
Broiler Prices (¢ per lb.)	32.0	31.5	28.0	+14
Soybean Prices ($ per bu.)	8.19	6.46	5.84	+40
Broiler Feed Cost ($ per ton)	270	265	250	+ 8
MISSISSIPPI				
Agriculture				
Farm Cash Receipts - $ mil. (Dates: JUN, JUN)	832	-	882	- 6
Broiler Placements (thous.)	6,068	6,660	5,973	+ 2
Calf Prices ($ per cwt.)	50.00	55.00	58.10	-14
Broiler Prices (¢ per lb.)	32.5	21.0	27.5	+18
Soybean Prices ($ per bu.)	8.13	6.89	5.83	+39
Broiler Feed Cost ($ per ton)	197	180	205	- 4
TENNESSEE				
Agriculture				
Farm Cash Receipts - $ mil. (Dates: JUN, JUN)	863	-	795	+ 9
Broiler Placements (thous.)	N.A.	N.A.	N.A.	
Calf Prices ($ per cwt.)	50.90	54.00	55.90	- 9
Broiler Prices (¢ per lb.)	30.5	29.0	25.0	+22
Soybean Prices ($ per bu.)	7.26	6.58	5.63	+29
Broiler Feed Cost ($ per ton)	215	200	181	+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

	JUL 1983	JUN 1983	JUL 1982	ANN. % CHG.		JUL 1983	JUN 1983	JUL 1982	ANN. % CHG.
UNITED STATES									
Civilian Labor Force - thous.	113,980	113,383	112,526	+ 1	Nonfarm Employment- thous.	90,107	90,641	89,221	+ 1
Total Employed - thous.	103,273	101,813	101,490	+ 2	Manufacturing	18,664	18,709	18,704	- 0
Total Unemployed - thous.	10,707	11,570	11,036	- 3	Construction	4,219	4,099	4,147	+ 2
Unemployment Rate - % SA	9.5	10.0	9.8		Trade	20,555	20,608	20,482	+ 0
Insured Unemployment - thous.	N.A.	N.A.	N.A.		Government	15,146	15,849	15,009	+ 1
Insured Unempl. Rate - %	N.A.	N.A.	N.A.		Services	19,960	19,817	19,239	+ 4
Mfg. Avg. Wkly. Hours	40.1	40.4	38.9	+ 3	Fin., Ins., & Real Est.	5,542	5,506	5,411	+ 2
Mfg. Avg. Wkly. Earn. - $	355	356	333	+ 7	Trans. Com. & Pub. Util.	4,992	5,031	5,089	- 2
SOUTHEAST									
Civilian Labor Force - thous.	14,596	14,526	14,304	+ 2	Nonfarm Employment- thous.	11,394	11,477	11,294	+ 1
Total Employed - thous.	13,152	13,039	12,881	+ 2	Manufacturing	2,154	2,161	2,151	+ 0
Total Unemployed - thous.	1,444	1,486	1,421	+ 2	Construction	644	639	662	- 3
Unemployment Rate - % SA	9.6	9.8	9.4		Trade	2,725	2,712	2,678	+ 2
Insured Unemployment - thous.	N.A.	N.A.	N.A.		Government	2,070	2,163	2,059	+ 1
Insured Unempl. Rate - %	N.A.	N.A.	N.A.		Services	2,295	2,298	2,236	+ 3
Mfg. Avg. Wkly. Hours	40.6	41.0	39.1	+ 4	Fin., Ins., & Real Est.	666	663	651	+ 2
Mfg. Avg. Wkly. Earn. - $	311	312	288	+ 8	Trans. Com. & Pub. Util.	696	697	700	- 1
ALABAMA									
Civilian Labor Force - thous.	1,755	1,732	1,737	+ 1	Nonfarm Employment- thous.	1,319	1,319	1,316	+ 0
Total Employed - thous.	1,526	1,510	1,470	+ 4	Manufacturing	327	330	332	- 2
Total Unemployed - thous.	228	222	267	-15	Construction	60	61	59	+ 2
Unemployment Rate - % SA	12.2	12.2	14.4		Trade	267	266	268	- 0
Insured Unemployment - thous.	N.A.	N.A.	N.A.		Government	302	299	292	+ 3
Insured Unempl. Rate - %	N.A.	N.A.	N.A.		Services	219	218	217	+ 1
Mfg. Avg. Wkly. Hours	40.9	40.8	38.8	+ 5	Fin., Ins., & Real Est.	59	59	59	0
Mfg. Avg. Wkly. Earn. - $	310	307	282	+10	Trans. Com. & Pub. Util.	71	71	72	- 1
FLORIDA									
Civilian Labor Force - thous.	5,017	4,957	4,809	+ 4	Nonfarm Employment- thous.	3,802	3,849	3,694	+ 3
Total Employed - thous.	4,608	4,522	4,447	+ 4	Manufacturing	463	468	449	+ 3
Total Unemployed - thous.	409	434	361	+13	Construction	255	250	257	- 1
Unemployment Rate - % SA	8.4	8.8	7.7		Trade	1,027	1,020	986	+ 4
Insured Unemployment - thous.	N.A.	N.A.	N.A.		Government	592	645	592	0
Insured Unempl. Rate - %	N.A.	N.A.	N.A.		Services	930	932	893	+ 4
Mfg. Avg. Wkly. Hours	40.6	40.9	39.1	+ 4	Fin., Ins., & Real Est.	293	291	280	+ 5
Mfg. Avg. Wkly. Earn. - $	297	297	276	+ 8	Trans. Com. & Pub. Util.	231	234	228	+ 1
GEORGIA									
Civilian Labor Force - thous.	2,698	2,712	2,682	+ 1	Nonfarm Employment- thous.	2,236	2,254	2,206	+ 1
Total Employed - thous.	2,502	2,518	2,470	+ 1	Manufacturing	501	503	499	+ 0
Total Unemployed - thous.	196	194	212	- 8	Construction	107	106	107	0
Unemployment Rate - % SA	6.9	6.5	7.6		Trade	537	537	524	+ 2
Insured Unemployment - thous.	N.A.	N.A.	N.A.		Government	420	441	426	- 1
Insured Unempl. Rate - %	N.A.	N.A.	N.A.		Services	395	394	377	+ 5
Mfg. Avg. Wkly. Hours	41.0	41.6	38.7	+ 6	Fin., Ins., & Real Est.	121	120	118	+ 3
Mfg. Avg. Wkly. Earn. - $	285	295	262	+ 9	Trans. Com. & Pub. Util.	147	146	147	0
LOUISIANA									
Civilian Labor Force - thous.	1,892	1,886	1,861	+ 2	Nonfarm Employment- thous.	1,583	1,585	1,608	- 2
Total Employed - thous.	1,659	1,639	1,663	- 0	Manufacturing	193	191	203	- 5
Total Unemployed - thous.	234	247	198	+18	Construction	115	114	125	- 8
Unemployment Rate - % SA	12.2	12.4	11.1		Trade	366	365	369	- 1
Insured Unemployment - thous.	N.A.	N.A.	N.A.		Government	305	310	300	+ 2
Insured Unempl. Rate - %	N.A.	N.A.	N.A.		Services	306	307	302	+ 1
Mfg. Avg. Wkly. Hours	40.7	40.7	40.8	- 0	Fin., Ins., & Real Est.	80	80	80	0
Mfg. Avg. Wkly. Earn. - $	403	395	386	+ 4	Trans. Com. & Pub. Util.	126	125	130	- 3
MISSISSIPPI									
Civilian Labor Force - thous.	1,077	1,076	1,069	+ 1	Nonfarm Employment- thous.	783	790	788	- 1
Total Employed - thous.	933	927	946	- 1	Manufacturing	203	203	204	- 0
Total Unemployed - thous.	144	148	123	+17	Construction	40	41	41	- 2
Unemployment Rate - % SA	12.2	12.3	11.2		Trade	163	162	164	- 1
Insured Unemployment - thous.	N.A.	N.A.	N.A.		Government	172	177	172	0
Insured Unempl. Rate - %	N.A.	N.A.	N.A.		Services	123	124	122	+ 1
Mfg. Avg. Wkly. Hours	39.8	40.8	38.3	+ 4	Fin., Ins., & Real Est.	33	33	33	0
Mfg. Avg. Wkly. Earn. - $	266	271	244	+ 9	Trans. Com. & Pub. Util.	39	39	40	- 3
TENNESSEE									
Civilian Labor Force - thous.	2,157	2,163	2,146	+ 1	Nonfarm Employment- thous.	1,671	1,680	1,682	- 1
Total Employed - thous.	1,924	1,923	1,885	+ 2	Manufacturing	467	466	464	+ 1
Total Unemployed - thous.	233	241	260	-10	Construction	67	67	73	- 8
Unemployment Rate - % SA	10.1	10.9	11.2		Trade	365	362	367	- 1
Insured Unemployment - thous.	N.A.	N.A.	N.A.		Government	279	291	277	+ 1
Insured Unempl. Rate - %	N.A.	N.A.	N.A.		Services	322	323	325	- 1
Mfg. Avg. Wkly. Hours	40.6	41.2	38.9	+ 4	Fin., Ins., & Real Est.	80	80	81	- 1
Mfg. Avg. Wkly. Earn. - $	306	307	277	+10	Trans. Com. & Pub. Util.	82	82	83	- 1

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.

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