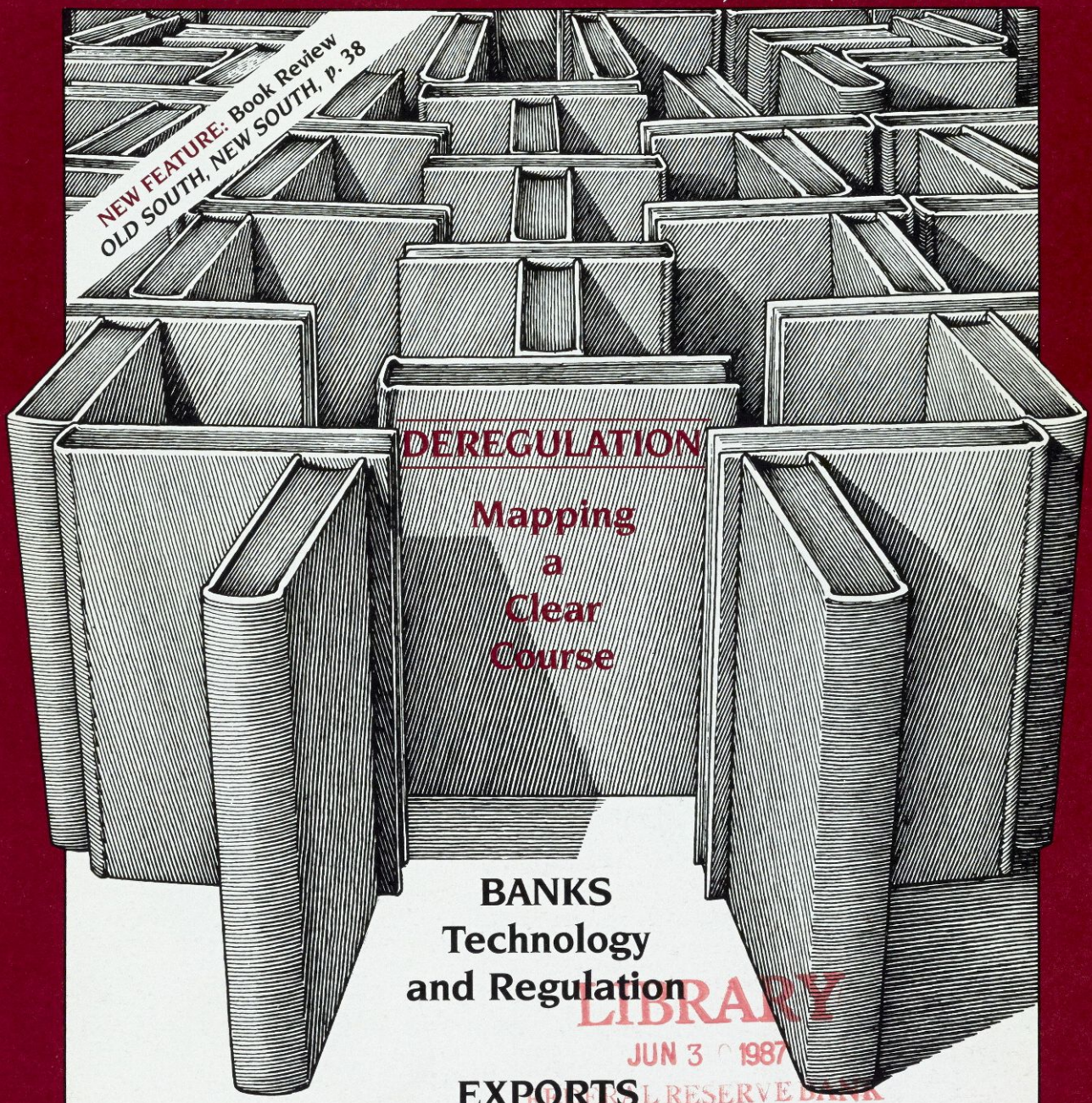
Economic Review

FEDERAL RESERVE BANK OF ATLANTA JANUARY/FEBRUARY 1987



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ISSN 0732-1813

Economic Review

Dear Reader,

According to noted economist Alan S. Blinder, communication is one of the keys to converting well-grounded theory into sound economic practice. Unfortunately, he says, many economists "are better at communicating in Fortran than in English." The result is that "economists have been watching their most cherished policy advice go unheeded for decades, maybe for centuries."

Keeping research accessible to those actively engaged in business, teaching, policymaking, and planning is the *Review's* primary mission. Our goal is to bring you the most significant and reliable findings from the Federal Reserve Bank of Atlanta in a form that is incisive and thorough. However, as Blinder points out, economic insight "is not easily summarized in slogans of five words or less." In order to provide the accuracy and depth essential for a solid grasp of how economic theory applies to the marketplace or the public arena, as well as to present the more far-reaching implications of the Atlanta Fed's research, we are changing to a bi-monthly format that will bring you the best of our economists' work in greater detail.

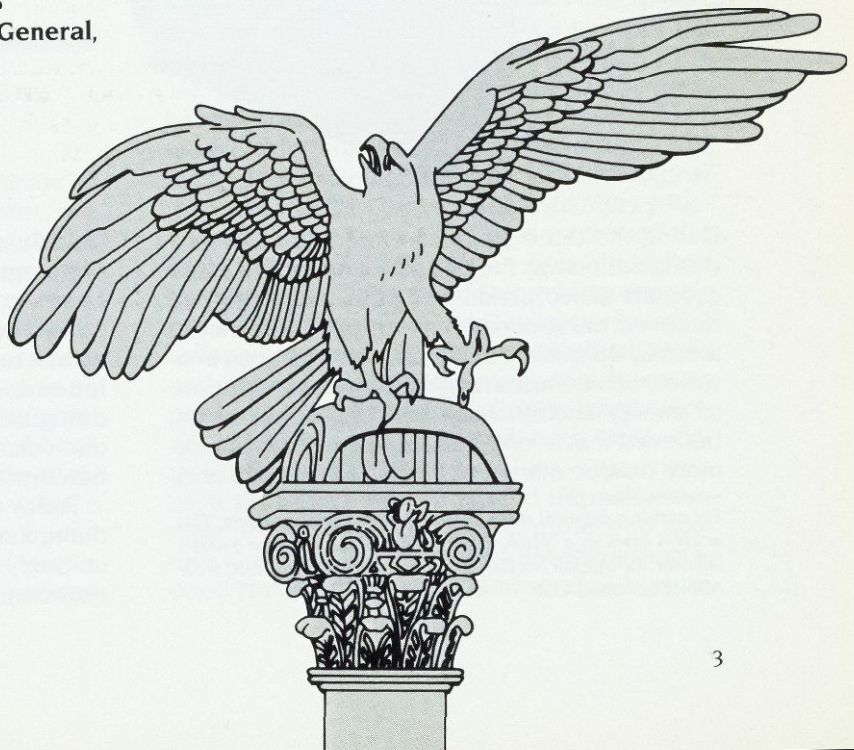
Two new features will be appearing in the *Economic Review* as well. "F.Y.I."—"For Your Information"—is an elaboration of the former "Economic Briefs" section of the magazine designed to provide a comprehensive look at topics of current or broad economic interest. A book review section will keep you abreast of works that are influencing today's thought about crucial economic issues. You will continue to receive statistical pages with finance, employment, general, and construction data for the United States and the Southeast.

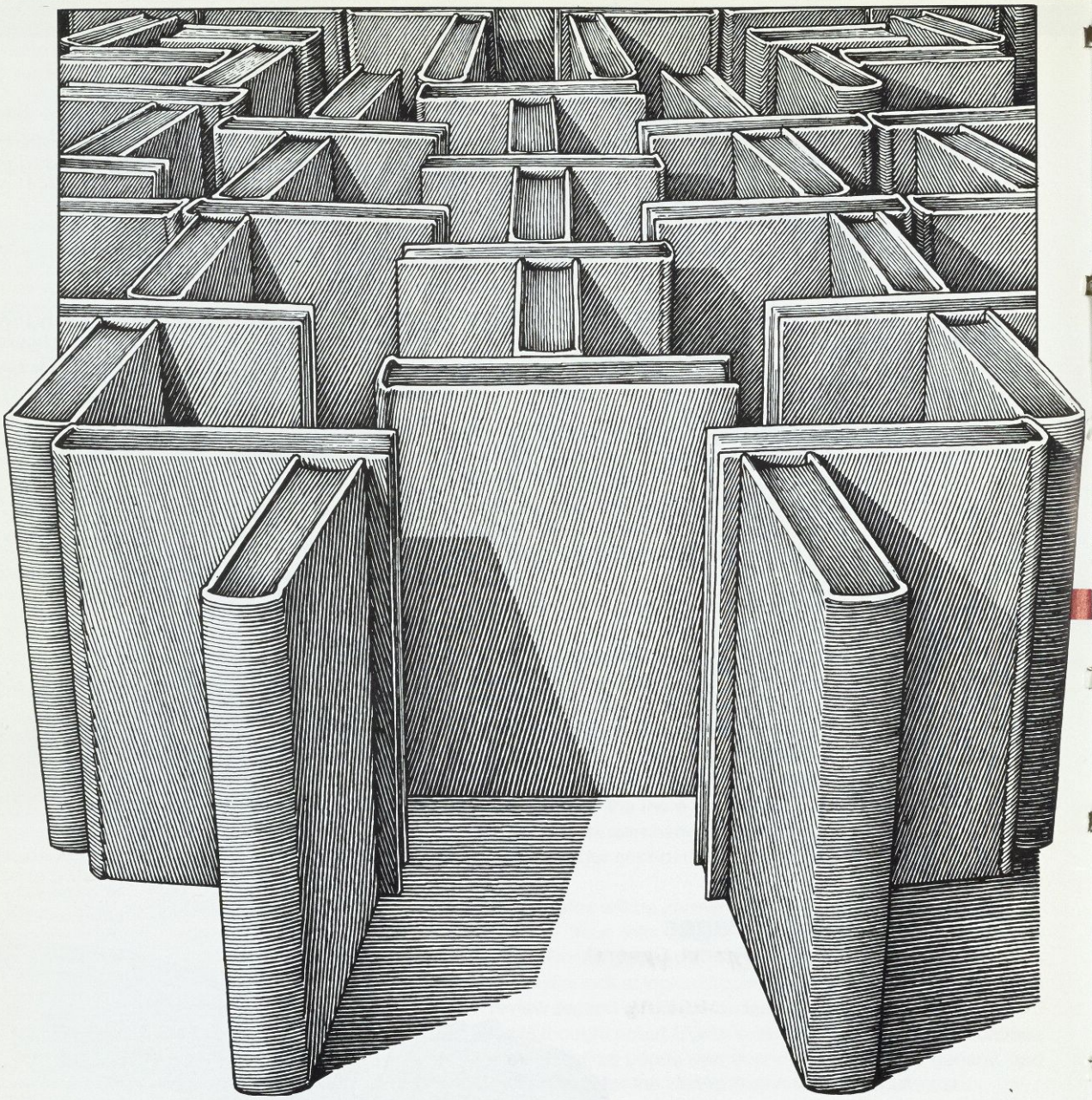
The *Economic Review's* commitment to high quality research, continued accessibility, and what we hope will be a pleasing new format has caused the magazine to miss some deadlines, but we believe that you will find the improvements worth it. The public information staff welcomes your comments, suggestions, and queries.

Sincerely,

Harriette Grissom

Harriette Grissom
Publications Coordinator





During the three years on either side of 1980, deregulation was the talk of Washington. It even got quite a bit of action. Congress and regulators removed many constraints on prices, services, areas of operation, and business practices in a variety of industries ranging from transportation to energy and financial services. Some of us believed that a long-needed movement to rely more on free market dynamics had begun and would continue as the benefits of the first wave of deregulation became apparent to everyone. However, the deregulation wave has neither spread quickly to new industries nor continued with as much force as one might have expected. Indeed, calls for new regulation in several deregulated industries have all but drowned out voices of those who still see potential benefits from further deregulation.

Today, I propose to look into the slowing deregulation movement in financial services, a uniquely important industry in any advanced economy. The rising number of bank failures in

The author is president of the Federal Reserve Bank of Atlanta. This article is based on a speech, "Deregulation of the Financial Services Industry: Too Much or Not Enough?," delivered in January 1987 to the Atlanta Economics Club.

Deregulation: Too Much or Not Enough?

Robert P. Forrestal

To achieve the long-run benefits that deregulation promises, policymakers must find a path between the advantages of a free market economy and the stabilizing effects of regulation.

recent years has caused concern about the soundness of our financial system. Should certain potential problems become real, or existing problems worsen, some observers fear the repercussions could affect the entire economy. My goal in this presentation will be to examine some of the arguments in favor of reregulation and thus to speculate about the future of deregulation and financial services generally.

The Regulatory System in Banking Before Deregulation

To place the current debate about financial deregulation versus reregulation in context, we need to ask what originally prompted regulation of many industries in what we call a free market economy. Looking back, one finds most regulations grew in response to market failure. In theory when the free market fails to meet a goal of society, the government should step in to adjust the market solution toward society's preferences. In practice, substantial problems often arise. Regulation may simply not be effective in achieving its goal, and it may have undesirable side effects. Firms find ways around regulation, making it ineffective and costly. Regulation is certain to have compliance and enforcement costs, which may prove to be greater than its public benefits. Furthermore, regulation often promotes special interest groups, which will make adjusting regulations to new market realities very difficult. Growing knowledge of these practical flaws in regulation came together with changing markets in the 1970s to spur the movement toward deregulation. In spite of the significant competitive benefits that have followed, many people are concerned that increased competition generates unacceptable risks and thus calls for reregulation.

Like the airline and certain other industries, banking has followed this cycle from market failure and regulation to deregulation and finally calls for reregulation. One of the original rationales for the current bank regulatory structure and deposit insurance was to protect the financial system from another episode of horrors like those of the Great Depression. A major problem at the start of the Depression was the collapse of confidence, first in individual banks and later in the entire banking system. Intent on preventing future bank runs, Congress constructed a system that protected both bank depositors and banks themselves. Depositors were protected through federal deposit insurance. To provide banks further protection from runs, Congress and the Federal Reserve strengthened procedures for discount window borrow-

ing for banks experiencing temporary liquidity problems.

In order to limit the exposure of the Federal Deposit Insurance Corporation (FDIC) to imprudent bank managers, a series of statutes and regulations was adopted by Congress, the states, and bank regulators. Both Congress and the states limited new bank charters and new branches. They established extensive financial reporting requirements to keep tabs on the institutions they supervised. On-site examinations not only produced information but also provided more or less forceful guidance for the banks being examined. In this system a set of informal capital requirements evolved. These were designed to make sure that banks had a buffer of capital that would allow them to sustain unpredicted losses. Furthermore, a series of restrictions was imposed on the activities permitted to commercial banks. Bank safety was a major motivation, though by no means the only one. The temptation for bank managers to engage in high-risk activities was further limited by a series of restrictions on competition. For example, the control on new bank charters and branches, already discussed, significantly constrained overall competition among banks. Deposit interest limits for banks set in the 1930s were designed to limit costs, and thus improve profitability and increase the probability of survival.

This regulatory framework imposed a variety of new costs: depositors could not get market rates for their money; institutions and their customers had to pay the costs of reporting and dealing with examinations; and institutions were assessed a premium for the insurance that protected their depositors from losses. Bank and thrift customers also paid the subtle cost of higher noncompetitive prices which resulted from limited competition and entry restrictions in many geographic markets and perhaps in financial product markets.

The protective system began to come apart when higher interest rates created an incentive to bypass many regulations and improved technology lowered the costs of skirting interest rate, geographic, and activity barriers. Among the most successful at avoiding such restrictions were nonbank competitors. For example, the development of money market mutual funds, which used computer technology to offer a market-interest, short-maturity account to consumers, circumvented interest rate ceilings on deposits as well as the geographic restrictions affecting conventional banks.

Deregulation

The response of Congress, bank regulatory agencies, and the states has been a fair amount of ad hoc deregulation. Congress enacted the most important change in 1980—deposit interest rate deregulation. This change was essential if banks and thrifts were to remain liquid, and the legislation gradually removed almost all the ceilings on deposit rates. Another significant move was to expand the powers to thrifts in both the Monetary Control Act in 1980 and the Garn-St Germain Act in 1982. The Comptroller relaxed restrictions on chartering new national banks, doing away with the test of economic need. For a time the Federal Home Loan Bank Board did the same for S&Ls. Regulators also provided for some deregulation by allowing banking organizations to form discount brokerages and investment advisory services.

"The protective system began to come apart when higher interest rates created an incentive to bypass many regulations . . . ."

Many of the states at first relaxed geographic restrictions on multioffice banking within their borders. Then as Congress failed to act on interstate restrictions, the states took the issue into their own hands with a variety of interstate banking laws—some allowing entry by banks from any other state, others allowing entry from a limited number of states on a reciprocal basis, some allowing limited service banks, and others allowing entry under special cases. All told, as of January, at least thirty-nine states had enacted laws allowing some sort of interstate banking. States also attempted to provide product deregulation by allowing state-chartered banks to engage in activities prohibited to national banks and nonbank subsidiaries of bank holding companies.

These actions provide a good start to the deregulation of the banking system, but many areas and activities "ripe" for deregulating were not affected. Congress almost completely deregulated deposit interest rates, but it continued the prohibition of interest payments on corporate demand deposits. This prohibition encourages unnecessary funds transfers by large corporations seeking a market rate and prevents many small businesses from earning any return on their excess balances. Opportunities for geographic diversification of loan portfolios and deposit bases are still constrained by laws that limit branching and cross-state bank holding companies. Regional interstate pacts have made strides toward rectifying this situation and have shown that the worst consequences of interstate banking have been substantially overstated. Nevertheless, eleven states (as of January this year) are still without interstate laws, and a hodgepodge of geographic limits still exists in the rest of the nation. In addition, most of the interstate laws now on the books prohibit de novo entry. This deprives consumers of a major potential benefit of interstate banking by eliminating the salutory influence of new competitors waiting "in the wings."

"The most important piece of unfinished work in the deregulation sphere is relaxation of restrictions on banks' activities."

The most important piece of unfinished work in the deregulation sphere is relaxation of restrictions on banks' activities. Much of this deregulation has taken place through exploitation of loopholes, and nonbank firms have been the most successful in doing this. Nonbank firms are now active in a variety of areas that were once the exclusive province of banks. Insurance companies such as Prudential operate nonbank banks, offer cash management accounts, manage money market mutual funds, and compete with banks for loan business. Investment bankers seem even more successful: they operate nonbank banks, offer cash management accounts, compete directly for loan business, and underwrite commercial paper.

Banks have gained some additional powers, but they have also lost some important battles. Even when Congress was in a deregulatory mode a few years ago, it took a step backward in the Garn-St Germain Act by further limiting banks' ability to provide insurance to domestic customers. A lengthy battle has been waged in the courts over whether the underwriting of commercial paper is in violation of the Glass-Steagall Act. [More recently the Federal Reserve Board of Governors allowed some large U.S. bank holding companies to engage in several new activities, including underwriting commercial paper, on a limited basis. However, this ruling has been blocked in the courts.]

U.S. banking firms are currently permitted to engage in almost every investment banking function abroad. I find that the reasonable safety record so far is a little hard to reconcile with prohibitions on many of the same activities in this country. Since many large corporations are truly international, they may receive services from their banks that domestic firms are unable to purchase. Thus, the work of the deregulators is not finished in banking. Some product and geographic deregulation could actually enhance financial stability by permitting greater diversification. It would also increase competition and economic efficiency.

Current Calls for Reregulation

In spite of these economic advantages, cries for new regulation have begun to overwhelm the plea for deregulation. Insurance agents and underwriters have fought to limit banks' powers to engage in general sales and underwriting at every turn. Investment banks have done the same in the area of securities powers. On the surface, these opponents' concerns have been primarily with conflicts of interest and fairness of treatment—things one should worry about. Self-interest is also a factor, though.

This is not to say that there are no legitimate concerns. Since 1980 the number of bank failures has risen dramatically, leading some observers to blame this increase on the loss of

protected markets and the phase-out of interest rate limits. Activity in financial markets and the number of financial instruments have risen even more dramatically than have bank failures. This is a breath of fresh air to some. However, it leaves others —including many lawmakers and regulators—unsure of their grasp of the overall implications of market developments for financial system safety. More innovations provide, among other things, more opportunities to make mistakes and to fool customers and oneself. Some institutions found this out the hard way from events in the futures markets, the market for GNMA bonds, and the repurchase agreement market. Those of us who are charged with financial system safety felt plenty of fallout from problems in these markets. One need only think back to the thrift situation in Ohio in the spring of 1985.

Some blame the interaction of deposit insurance and deregulation for the increase in the bank failure rate. Deposit insurance reduces depositors' incentive to monitor their bank's condition and, thus, relaxes constraints on bank risk-taking. This problem, which is an example of what economists term moral hazard, occurs in many insurance relationships and in other situations. Until recently, the incentive to undertake additional risk was partially offset by regulations that limited bank risk-taking. More importantly, limits on competition ensured adequate profits to all but the most incompetent bankers and made bank charters a very valuable possession. But innovation and limited deregulation have changed this.

Still, I do not blame deregulation for most of these recent problems. Burgeoning bank failures seem more closely related to disinflation. One only has to look at farm banks to see this connection. Earlier regulation has also been a source of weakness. By protecting banks, we weakened them and made it difficult, if not impossible, for them to diversify. The linkage of much slower price increases and bank failures is most apparent among farm banks, which have seen crop prices and incomes of their customers decline while the value of farm land dipped as much as 50 percent in some areas. Other troubled banks also made bad bets that inflation would persist by making loans to customers in real estate, energy, or some other activities whose sustained prosperity depended on a continuation of high inflation. Even those who most fear financial deregulation find it difficult to attribute disinflation to deregulation or to blame it for farm problems, real estate overbuilding, or energy price declines.

I doubt that increasing regulation could return us to the more or less placid financial system of the early 1960s, even though I count myself among those who are uncomfortable with the rapid pace of change in the world's financial markets. High and volatile nominal interest rates in the 1970s and early 1980s gave the movement a spark. Improvements in information processing and communications technology provided a medium, and innovators and their imitators made things happen in an industry which offered attractive profit opportunities. Much deregulation followed breakthroughs by innovators who found ways around regulatory barriers. Their private actions quickly found political support because they provided good prices and services, and consumers objected to regulating them.

"More innovations provide, among other things, more opportunities to make mistakes and to fool customers and oneself."

Interest rates have come down and have been much less volatile, but we cannot expect financial service firms or the public to unlearn new techniques or to give up new technologies. Many of the changes in the financial markets are permanent. Yet the moral hazard problem created by deposit insurance remains and may have grown more significant.

Policy Implications

What should be done then? One answer is to regulate even less and let markets do more. Market discipline could obviously be improved by removing government protection of the banks and the banking system. However, I see no indication that safety has become a less

important concern. The value of bank charters might also be restored through increased regulation, but as I previously argued, we cannot institute the draconian measures needed for a return to a system of protected markets just to ensure the profitability of institutions and the absence of disturbance from the financial system. Facing those facts, one has to look for other ways of achieving greater system safety. There are several alternatives, and they are not mutually exclusive. Some are already being seriously explored by bank regulators.

At present the most popular way of reducing risk seems to be regulating financial decisions. With increased emphasis on capital requirements, we have devoted more and more attention to making banks provide a heftier cushion to protect their depositors and the FDIC. Capital/asset ratios at large banks have moved up quite handsomely in the interim, but some of us have the feeling that there is less than meets the eye in this. We seem again to have a case in which banks have found ways around binding regulations.

"If we persist in bailing out all creditors . . . then none of the proposals for increased market discipline has much chance of success."

One way that banks have responded to the regulations is to substitute high-risk, high-return assets for ones that earn a lower rate of return but are safer and more liquid. Another response of banks has been to increase "off-balance-sheet" transactions while slowing their rate of asset growth. Off-balance-sheet items allow banks to earn fee income for taking risks while avoiding the need to increase capital. Both of these responses by banks allow them to raise their measured capital ratios while maintaining their return on equity, but both may also increase the riskiness of the bank. After adjusting for changes in banks' balance sheets and off-balance-sheet items, it is hard to determine to what degree, if any, capital regulation has made banks less risky.

Another way of encouraging greater safety would be to maintain government protection of some insured depositors at banking organizations but to impel uninsured depositors and holders of subordinated debt to exert more surveillance and discipline. The FDIC's proposals for limited payout of uninsured deposits at failed banks and greater disclosure of banks' financial condition exemplify this approach. Another proposal would require banking organizations to issue additional subordinated debt, which like equity is uninsured, but pays holders a fixed return. Such creditors are less attracted by high-risk ventures. A third way is to force banking organizations to place riskier activities into a separate subsidiary of the bank holding company. The theory behind this is that the nonbank subsidiaries could fail without affecting the bank subsidiaries that the government wishes to protect. An extreme version of the separate subsidiary approach would require the banking subsidiaries to act like money market mutual funds and invest in only short-term government securities (and perhaps also in high grade commercial paper).

All of these proposals for greater market discipline have been dealt a severe blow by events over the last few years. The handling of the failure of Continental Illinois demonstrated regulatory concern about the effect of large bank failures on the financial system. In this case the FDIC's handling of the failure protected not only the insured depositors but also the uninsured depositors and even the uninsured creditors of the bank holding company. More recently, one of the largest banking organizations in Oklahoma encountered severe problems, and the FDIC again stepped in with assistance in a way that protected all of the holding company creditors. The rationale behind the FDIC's action appears to have been that no other banking organization was interested in acquiring the troubled institution, and so this was the cheapest way of handling the situation. If we persist in bailing out all creditors, though—even those of the holding company—then none of the proposals for increased market discipline has much chance of success. I do not want to imply that the handling of these banks was a mistake. However, we cannot expect market participants to monitor bank risk closely if they anticipate that the government will absorb the losses in the case of a failure; and each new exception to the rule that uninsured creditors are at risk when large banking organizations fail creates expectations of future exceptions to the rule.

Conclusion

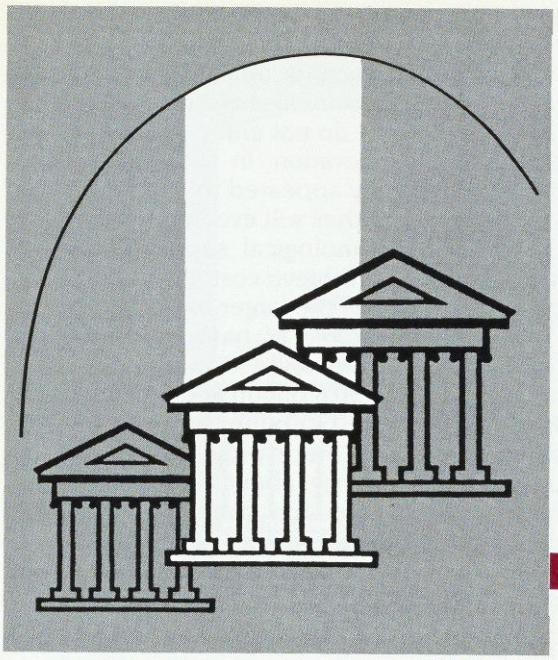
Finally, there is no clear answer to the question, "Have we had too much deregulation or not enough?" In an economic sector that is essential to public welfare, particularly one in which risk taking is subsidized by compact, some elements of public control are necessary. Often regulation involves significant costs, and in many cases it will simply not work over time. Even though we believe that we are protecting institutions, we frequently end up making them weaker, which is the situation we face now. Then, when deregulation takes place, many firms are not in a position to survive competition and the onset of market discipline.

What specifically do we need to do? First of all, we need a road map to help previously regulated institutions make the transition to a less regulated environment. Encouraging them to build larger capital cushions is one way, and we have already started to do this. This also means finding appropriate ways of relating capital to risk instead of just concentrating on ratios. The approach taken in the recently announced American and British capital requirements is a move in this direction, albeit one that has imperfections.

Even if we strengthen financial institutions, I do not believe that we should remove all regulation. We are committed, in this country, to limited deposit insurance and to a lender-of-last-resort role for the central bank. This means that regulatory agencies must act to limit the risks taken by institutions under their purview and reduce the possibility of systemic failure. While some greater diversification of bank activities will reduce the aggregate risk an institution faces, some activities may actually increase balance sheet risk. I do not think that we can protect a bank from the risks assumed by subsidiaries capitalized separately under their holding companies. Innovation and "creative" accounting often break down these regulatory walls. Whether certain powers add to or reduce risks is an empirical question, for the most part, and one that we should be studying.

We also need to enhance the role played by market discipline, even though it is often in conflict with short-term expediency. As financial institutions strengthen and as we get used to releasing more information about them, market discipline can assume more importance.

In summary, our task is to seek a balance that best achieves public goals. Rather than focusing on the theoretical arguments about what is the best equilibrium solution in the long run, though, we need to concern ourselves with how to achieve our goals given our current, and by no means optimal, situation. The future road of the financial services industry will necessarily involve elements of regulation and deregulation.



Concentration and Innovation: Striking a Balance in Deregulation

William C. Hunter and Stephen G. Timme

Will deregulation cause too much concentration in banking markets? This article, based on an Atlanta Fed working paper, explores the relation between bank size and innovation and suggests a trade-off between concentration and technical advance.

How would extensive deregulation of the U.S. commercial banking industry affect concentration of financial resources? Would significantly fewer banks of much larger size lead to higher prices as competition diminished, or would benefits that come with size be passed on to the consumer? These are some of the questions that arise in the ongoing discussion about the pros and cons of banking deregulation. Unfortunately most of the attempts to respond to these concerns have been theoretical and based on a less than complete analysis of the costs and the benefits of large-scale banking operations. One critical piece to the deregulation puzzle that has not been sufficiently analyzed, for example, is the impact of technological innovation among large banks as a source of both potential cost benefits and intensified market concentration.

Recent evidence suggests that significant operating cost economies are available to large banks due to their ability to utilize technologically efficient processes and equipment.[1] This research contrasts sharply with the widely assumed view that economies of scale are exhausted at a fairly small size level of bank operation—an assumption that rests largely on numerous studies which fail to find significant cost economies beyond the $30 to $50 million level of output, typically measured using total assets (See Mester [1987] for a review of the literature supporting this conception). However, because these studies have relied on small bank samples, particularly on Federal Reserve System Functional Cost Analysis survey data, they have excluded banks larger than $1 billion in assets and have taken for granted that the results for banks smaller than $1 billion could be applied to all banks, irrespective of how large. More recent research explicitly examining large-scale banking organizations suggests that previous suppositions about economies of scale may be wrong, that commercial banking operations in fact exhibit economies of "superscale."[2]

A study by Hunter and Timme (1986) found significant scale economies in a sample of large bank holding companies during the 1970s and early 1980s. Not only did technical change add to economies of scale in bank operating costs during the period surveyed, but a large operation appeared essential to exploit the full potential of scale economies.

The availability of economies of superscale suggests that policies allowing the formation of

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larger banks do not necessarily run counter to the public interest. However, economies of superscale have some negative implications for long-term economic welfare that must be considered in policy decisions as well. The positive implications can be traced to a hypothesis set forth by Joseph Schumpeter (1984) and elaborated by John Kenneth Galbraith (1952). It states that large-scale enterprise is conducive to innovation. According to this view, bigger firms with large economic profits and financial resources are better able to develop and adopt technologically efficient equipment and processes and adapt more readily to external changes in order to reduce costs. If the benefits available to larger firms with a technological advantage are passed on to the consumer, then the usual economic arguments concerning the potential for prices to be higher than their social optimum in firms with market power are less significant. Accordingly, public policy devoted to regulating concentration and making industries more competitive may lose much of its rationale. The negative dimension of the Galbraith-Schumpeter hypothesis concerns the long-run possibility that these larger organizations, since they enjoy faster rates of innovation, will ultimately develop excessive market power to the detriment of consumers.

The policy questions surrounding the innovation issue depend critically on the empirical relationship between bank size and the rate of innovation as well as market structure. If larger banks innovate faster than smaller banks, they would enjoy faster rates of cost decline over time while keeping input prices and output constant. Theoretically this implies a risk of increased concentration. This is especially so if the rate of cost decline increases as bank size increases. However, if the rate of cost decline eventually levels out or decreases as banks get larger, the concentration issue is less important. In this situation, bank combinations, such as those taking place through various regional interstate banking agreements, could help smaller firms achieve the scale of the operation necessary to exploit the full potential of cost economies. In either case, the essential public policy issue is whether regulation of banking combinations can be formulated so that it allows banks to realize the benefits of being larger without opening the door for innovators to develop excessive market power in the long run. If the largest banking organizations do not show faster rates of innovation, then policymakers should be less concerned over the possibility that some banks might amass excessive market power.

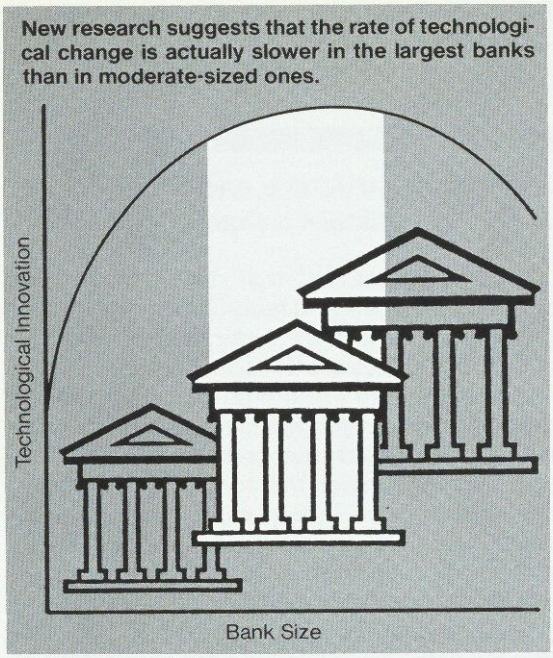
This research suggests, among other findings, that despite the economies of scale available to larger banks, they do not enjoy a faster rate of technological innovation. In fact, the smaller banks in the study appeared to innovate more quickly, implying they will eventually approach the level of technological sophistication at larger banks and achieve cost structures comparable to those of the larger banks.

Analyzing a sample of bank holding companies between 1972 and 1982, with asset sizes ranging between $0.6 billion and $41 billion in 1972 and $1.3 to $130 billion in 1982, the research presented here provides previously unavailable evidence about the relationship between innovation and bank size. This evidence in turn suggests insights that may help to evaluate the alternatives for the future direction of bank regulation.

The Impact of Market Concentration

Casual analysis of U.S. banking deposit statistics shows that national concentration ratios have remained roughly constant since 1970 and tend to be quite low compared to most other American industries. Local banking markets, including states, metropolitan statistical areas (MSAs), and non-MSAs, though more concentrated than regional or national markets, have actually become less concentrated in recent years. The persistent decline in local market concentration has been documented by Talley (1977) and more recently by Rhoades (1985a). Clearly, however, recent regional interstate banking agreements and resulting bank mergers will increase concentration of bank resources at the regional level. In addition, the advent of interstate banking will undoubtedly intensify the concentration of banking resources on a national basis.

While conventional theory suggests that concentration erodes competitive conditions in a market, it does not quantify the size of the impact of concentration on prices. Empirical analysis can answer this question. Most of the many empirical studies examining the relationship between market concentration and bank prices examine concentration at the local rather than at the regional or national market level. Although the results are mixed, the weight of



this evidence suggests that loan rates are slightly higher in more concentrated local markets.[3] However, the importance of these findings is diminished by the small size of the relationship among the coefficients that emerge in the analysis, the lack of compelling evidence that concentration ratios in local banking markets will increase significantly under full-scale structural deregulation, and the possibility that these studies all suffer from serious methodological flaws.[4] Furthermore, these findings, which are derived from studying local market behavior, may not be relevant to regional or national concentration issues. Even if these objections to the pertinence of prior studies' findings are dismissed, local market concentration is not the only factor to consider in judging the impact of a proposed merger. Meaningful policy inferences seem to demand further analysis of the Galbraith-Schumpeter hypothesis, which is to say, an evaluation of the merger's potential for accelerating a firm's rate of technological innovation.

Determining the Potential for Accelerated Innovation

The overall productivity of a banking operation can be readily analyzed using the bank's production function, which measures the organization's output in relation to its productive inputs and organizational characteristics:

$$Q = h(\mathbf{X}, B, H) \qquad (1)$$

where Q is output, **X** is a vector or composite variable representing labor and capital inputs, B is the number of banking offices, and H is a bank's holding company form (multibank or one-bank). Assuming profit-maximizing behavior, the bank's total cost of producing its output can be expressed as a function of the output level, the prices of labor and capital inputs, and its organizational characteristics:

$$C = f(Q, \mathbf{P}, B, H). \qquad (2)$$

In equation (2) C is aggregate cost, **P** is a vector representing input prices for capital "P_K" and labor "P_L", and all other variables are as defined in equation (1).

Technical change in production is defined as occurring when the maximum or most efficient output that can be produced from any given set of inputs increases over time due to such factors as experience, increased knowledge, better production techniques and equipment, or changes in external factors such as the market environment. Technical change can take place separately from "factor" inputs such as shifts in the approach to management, production processes, or regulation; or it can be embodied in factor inputs, for example, in newer, more efficient capital equipment or a more efficient work force.

Traditionally, technical change is gauged by including a technology index in the aggregate or total cost function. Since it is difficult to measure technology directly, the technology index is most often taken to be time: holding output and input prices constant, any changes in aggregate costs over time must be due to technological innovations. While the use of a time index captures all the technical change occurring over a given period, it does not directly reveal the sources of the technical change. However, sources of the change can be determined from information revealed by shifts in the components of the cost function through time, and the changes can be categorized on the basis of their impact on inputs of labor and capital per unit of output. The final form of the cost function, then, can be written as follows, where T, a time (technological change) index, has been added:

$$C = f(Q, \mathbf{P}, B, H, T). \qquad (3)$$

To apply equation (3) in the analysis of bank production, it must be given an explicit form suitable for statistical analysis. The generalized form used in the analysis is presented in the appendix along with the specific details of how technical change is measured using the generalized cost function. A test for the Galbraith-Schumpeter hypothesis is also described.

Analyzing the Data. To carry out the statistical analysis of bank production and cost characteristics, data were collected for the 11-year period 1972 through 1982 for 91 bank holding companies operating in a total of 28 states.[5] The sample banks' asset sizes ranged from $0.61 billion to $40.89 billion in 1972 and $1.30 billion to $130 billion in 1982. For each year, each bank's operating costs (C) were estimated by summing depreciation, occupancy and service expense (for physical capital), and salaries, wages, pension, and employee benefits (for labor).

Bank output (Q) equaled total loans, investment securities, and deposits adjusted for loan and security loss reserves.[6] Thus, bank output is defined according to the idea that real bank output (as opposed to purely financial output) includes deposits as well as earning assets, since depositors receive benefits such as security or liquidity from deposit accounts and banks incur positive costs for providing these benefits. Using this definition of bank output and concentrating on operating costs as opposed to total costs, the analysis measures the effect of technical change on the efficient utilization of internal bank resources to produce and maintain deposits and earning assets.

The technology index (T) was assigned a value between 1 and 11 for each of the years between 1971 and 1982: 1 for 1972, 2 for 1973, and so forth. The banking office variable (B) was the number of banking offices reported on the *Bank Compustat* file. The price for labor (P_L) was derived using aggregate state data from the *FDIC Bank Operating Statistics* and *County Business Patterns*.[7] For each year and state included in the study, the price of labor was estimated by dividing total aggregate bank-related labor costs by total bank employees. Individual banks were assigned the price of labor for the state in which they were headquartered. The price for physical capital (P_K) was defined as the sum of depreciation, occupancy, and servicing expenses, divided by the book value of net bank premises, furniture, equipment, and fixtures. Both the total cost and output measures are stated in real terms, that is 1972 dollars, using the consumer price index as the deflator.[8]

How Bank Structure and Size Affect Technical Change

This analysis found that during the period studied, one-bank and multibank holding companies experienced the same amount of technical change. Because it is an expensive and inefficient way to expand output, branching in multibank holding companies offset any advantage that larger size might offer. While the study gave some indication that technical change was capital-using and labor-saving, and definitely showed that labor's share of total operating costs had decreased over the period, these results were not strong enough to reject the possibility that technical change had a neutral impact in this regard. Finally, these results suggested that, in fact, medium-sized banks innovate faster than large banks. Given this apparent rejection of the Galbraith-Schumpeter hypothesis that the rate of innovation increases as a bank gets larger, the study attempted to determine the size at which innovation is maximized. The analysis showed that $24 billion in total assets, valued in 1986 dollars,was the most efficient size for maximizing innovation. The average sample bank was about $2.9 billion smaller than the optimum size required to enjoy the maximum rate of change. These findings could have some important implications for deregulation.

Bank Structure and Technical Change. Over the sample period, one-bank and multibank holding companies experienced the same amount of technical change. While the multibank holding companies were larger than the sample one-bank holding companies, the economies associated with being larger were significantly offset by the expense of their larger number of branches. Although one-bank holding companies benefited from having fewer branches, as a result they were smaller in absolute scale than the multibank holding companies.

As noted earlier, the changes associated with the passage of time have been used as a proxy for the influence of technological change on bank costs. However, other influences on bank costs—the level of output, capital and labor costs and inputs, the number of offices, and

Table 1.
Parameter Estimates of Cost Function in Equation (5)
(Calculated t-statistics in parentheses)

Parameter	Estimate	Parameter	Estimate	Parameter	Estimate
β_Q	0.867	β_{KB}	0.006	β_{QQT}	0.030
	(4.57)***		(3.09)***		(4.66)***
β_{QQ}	-0.004	β_H	-0.890	β_{KT}	0.002
	(-0.15)		(-2.85)***		(1.19)
β_K	0.188	β_{HQ}	0.051	β_{BT}	0.022
	(11.37)***		(1.26)		(1.46)
β_{KK}	0.040	β_{KH}	0.010	β_{BBT}	-0.004
	(14.19)***		(1.76)*		(-1.03)
β_{KQ}	-0.006	β_{BH}	0.096	β_{HT}	0.001
	(-2.47)***		(3.05)***		(0.03)
β_B	0.120	β_T	1.196	β_O	-3.513
	(1.33)		(5.00)***		(-4.59)***
β_{BB}	0.031	β_{TT}	-0.174		
	(2.72)***		(-8.70)***		
β_{QB}	-0.022	β_{QT}	-0.270		
	(-2.15)**		(-4.85)***		

*Significant at the .10 level
**Significant at the .05 level
***Significant at the .01 level

holding company status—also change over time. These influences must be removed to estimate the effect of technological change alone. To do this, an index which measures the influence of time (technology) has been computed using the basic cost function. (The algebra for the index is shown in equation (6), Appendix.) The index is calculated using data given by the values of the parameters shown in Table 1 and the grand geometric means of the variables in our model.

The technical change index that results from these calculations equals -.215, a value indicating that the sample banks enjoyed significant productivity gains from technological advance over the period studied, reflected in real cost declines of 1.5 to 2.0 percent per year.[9] Separate indexes for multibank and one-bank holding companies moreover show no differences in the extent of savings due to technological advance for the two different types of organizations.[10] These results imply that no systematic advantage accrues to banks operating in states with one-bank and multibank laws, and they should be important in structural regulation debates.

The parameter value of β_{KT} in Table 1 sheds light on the nature of the measured technical change over the sample period. A positive value

means that the technical change was capital-using. In other words, capital's share of total operating cost increased over the period. Similarly, the value of labor's share of total operating cost is measured by β_{LT}, which is not shown in Table 1 but is by definition equal to the negative of β_{KT}. The value of β_{KT} in Table 1 is .002, implying a β_{LT} value of -.002. Thus, the technical change over the sample period would be classified as capital-using and labor-saving; that is, labor's share of total operating cost declined over the period. However, the parameter value .002 is not statistically significant, which means that little confidence can be placed in this number and that it should be taken as zero in the statistical sense. Thus, while the technical change over the period appears to have been labor-saving and capital-using, statistically, the possibility that it was actually neutral cannot be rejected.

Even though the impact of technical change or innovation was found to be statistically neutral, this result should not diminish the importance of the finding that technical change lowered aggregate operating costs for the sample banks. In conjunction with the finding that over this same period large scale banking was more conducive to technical change, the lower operating costs in response to technical change suggest that if banks expand their scale they will be better able to maximize available operating cost scale economies. However, it does not follow that banks should expand their scale in an unlimited fashion. As in many economic relationships, there exists a point of diminishing returns to scale expansion. Determining the optimal size for fully exploiting these technology-induced cost economies will be the focus of a later discussion.

Changes in structural regulation that allow smaller banks to move toward a size conducive to realizing technology-based cost economies may, then, be in the public interest, even if it implies fewer individual banks and increases the concentration of banking assets. For example, between 1966 and 1983, eighteen states made significant changes in their laws governing bank structure (Amel and Savage, 1986). Of the twenty changes that were made (two of the eighteen states made two changes), ten liberalized branching laws and ten allowed the formation and expansion of multibank holding companies. In 90 percent of these cases, the rate of decline in the number of banks after the liberalization of banking laws exceeded the rate of decline before the change in the law, with a concomitant increase in the concentration of bank assets in the state. However, on the basis of findings by Hunter and Timme (1986), Shaffer and David (1986), and the results reported here, it is not possible to conclude that these seemingly anticompetitive trends are, in fact, detrimental to consumer welfare.[11] The increases in scale may provide benefits that more than compensate for increases in concentration.[12] These benefits include, but are not limited to, lower prices and more services. Benefits notwithstanding, if it were the case that large-scale enterprises implemented technology at a rate faster than smaller banks, the danger of overconcentration of market power would still exist. Thus, the Galbraith-Schumpeter hypothesis must be examined.

How Size Affects the Rate of Change. The Galbraith-Schumpeter hypothesis that larger firms innovate at a faster rate than smaller firms is tested using equation (7) and the estimated value of the parameter β_{QQT} in Table 1. The parameter β_{QQT} measures how total operating costs change over time with bank output as output increases. Stated differently, it measures the impact of increases in output on the impact of technical change on scale economies. A negative value means that larger banks innovate at a faster rate than smaller banks. The parameter β_{QQT} has an estimated value of 0.03 which is significant at the .01 level. In other words the probability is only 1 in 100 that this finding occurred by chance. We, therefore, reject the Galbraith-Schumpeter hypothesis for our banks over the sample period.

In analyzing how size affects the rate of technological change, statistically significant evidence emerged that the smaller banks in the sample innovate at a faster rate than the larger ones. This finding is important since, as stated earlier, if the rate of innovation or technical advance increases with respect to bank size, then judicious regulation of banking combinations is in the public interest. If, on the other hand, the rate of innovation or technical change is smaller for large banks, such regulation could be duplicating market forces. If larger banks did innovate faster, then, without judicious regulation, excessive market power (monopoly) would be possible because larger banks could outpace smaller banks. If costs fell at a faster rate for larger banks, in the long run only a few extremely large institutions with excessive market power would survive in an unregulated environment. Our finding implies that smaller banks can survive over time since their cost

structures will converge with those of the largest banks if they continue to advance technically.

The Optimum Size for Innovation. At what scale of operation (output level) did this analysis show that the rate of technical change was maximized? According to these results, the optimal output size is approximately $8.1 billion, based on our estimation of the cost function. (Output was defined, once more, as total loans, securities, and deposits adjusted for reserves and is stated in real terms.) The average output of banks in this study was $5.2 billion over the sample period. Thus, the average sample bank was approximately $2.9 billion smaller in scale than the optimal size required to enjoy the maximum rate of technical change. Therefore, any regulatory restrictions preventing the sample banks, which were on average significantly smaller than the $8.1 billion optimum, from approaching the optimal size through merger or some other forms of expansion may not have been in the public interest. In 1986 dollars, the optimal scale translates into $21.23 billion in loans, investment securities, and deposits, or approximately $24 billion in total assets.[13]

To arrive at these results, the partial derivative (see Appendix)

$$\partial^2 \ln C / \partial \ln T \partial \ln Q = \beta_{QT} + \beta_{QQT} \ln Q \qquad (4)$$

was set equal to zero, and solved for Q ($Q = \exp(\beta_{QT}/\beta_{QQT})$). This partial derivative measures the impact of scale on technical change and can be used in conjunction with the estimated parameter values from Table 1 and the grand geometric mean value for lnQ to find the optimal size for exploiting technical change.

The Implications for Deregulation

The empirical findings reported here should provide interesting fuel for the current interstate banking debate. For example, some banking authorities have recently urged Congress to limit concentration as a matter of course in any interstate banking legislation.[14] These results suggest, however, that legislation judging bank merger activities solely on the basis of concentration ratios could prevent some socially beneficial banking combinations from taking place. In addition to concentration ratios, this study indicates that any legislation should also consider the potential cost-reducing benefits resulting from the relationship between technical change and the scale of output. This is particularly true in cases where only a few banks compete in a given market and where higher market concentration is the inevitable result of merger activity. In such situations the empirical findings offered here take on added importance, indicating that the regulation of this class of banking combinations should be formulated in a manner that allows banks to realize the benefits of being larger without leading to situations where excessive market power results in welfare losses to the public.

Conclusion

Widespread concern exists that the increased concentration in banking markets that would occur under structural deregulation might result in excess market power. This study suggests that these concerns should be tempered by a consideration of the benefits that could result from increased scale. Examining the impact of technical change on bank costs along with the relationship between bank size and the rate of technical change shows that the positive benefits of technical change, which generally require bigness, may potentially offset the negative aspects of increased concentration. Thus, informed structural regulation of the banking industry should weigh the trade-off between concentration and technical advance.

APPENDIX
The Generalized Cost Function

The recent studies by Benston and others (1982), Clark (1984), Humphrey (1981a, b), and Hunter and Timme (1986) have demonstrated that a flexible form of equation (3) which performs quite well in the analysis of bank cost functions is the translog approximation. To analyze technical change in more detail, a truncated third-order translog model similar in structure but more general and flexible than the second-order model used by Hunter and Timme (1986) is used.[15] The truncated third-order translog approximation of the cost function in equation (3) stated in terms of the price ratio P_K/P_L is:[16]

$$\begin{aligned}\ln(C/P_L) = {} & \beta_O + \beta_Q \ln Q + 1/2\beta_{QQ}(\ln Q)^2 \\ & + \beta_K \ln(P_K/P_L) + 1/2\beta_{KK}\ln(P_K/P_L)^2 \\ & + \beta_{KQ}\ln Q \ln(P_K/P_L) + \beta_B \ln B \\ & + 1/2\beta_{BB}(\ln B)^2 + \beta_{QB}\ln Q \ln B \\ & + \beta_{KB}\ln(P_K/P_L)\ln B + \beta_H H \\ & + \beta_{HQ}\ln Q H + \beta_{KH} H \ln(P_K/P_L) \\ & + \beta_{BH} H \ln B + \beta_T \ln T + 1/2\beta_{TT}(\ln T)^2 \\ & + \beta_{QT}\ln Q \ln T + 1/2\beta_{QQT}\ln T(\ln Q)^2 \\ & + \beta_{KT}\ln T \ln(P_K/P_L) + \beta_{BT}\ln T \ln B \\ & + 1/2\beta_{BBT}\ln T(\ln B)^2 + \beta_{HT}\ln T H \qquad (5)\end{aligned}$$

In equation (5) H is assigned a value of one for multibank holding companies and zero for one-bank holding companies. Hence, the parameters β_H, β_{HQ}, β_{KH}, β_{HB}, and β_{HT} reflect the differences in one-bank and multibank holding company cost structures. Using equation (5) and letting C represent scaled cost, technical change is given by:

$$\begin{aligned}\frac{\partial \ln C}{\partial \ln T} = {} & \beta_T + \beta_{TT}\ln T + \beta_{QT}\ln Q + 1/2\beta_{QQT}(\ln Q)^2 \\ & + \beta_{KT}\ln(P_K/P_L) + \beta_{BT}\ln B \\ & + 1/2\beta_{BBT}(\ln B)^2 + \beta_{HT}H \qquad (6)\end{aligned}$$

If $\beta \ln C/\beta \ln T < 0$, technological change allows the same level of output to be produced at lower costs, or conversely, a greater level of output to be produced at the same level of aggregate costs. Any observed technical change can be categorized (using the Hicksian definitions) by examining the statistical values of β_{KT} (and β_{LT}) from the estimated cost function. For example, if β_{KT} (β_{LT}) is found to be positive and significant, then the observed technical change is said to be capital-using (labor-using). Likewise, if β_{KT} (β_{LT}) is not significantly different from zero, the technical change is said to be neutral. Finally, if β_{KT} (β_{LT}) is significantly negative, the technical change is considered capital-saving (labor-saving).

A concomitant consideration, which is the focal point of this paper, is whether larger banks innovate at a faster rate than smaller banks. In terms of the aforementioned Galbraith-Schumpeter hypothesis, this question is explored by examining how aggregate costs change over time as output is increased. Mathematically, this is determined by the following partial derivative:

$$\partial[\partial^2 \ln C/\partial \ln T \partial \ln Q]/\partial \ln Q = \beta_{QQT} \qquad (7)$$

If β_{QQT} is negative, evidence is provided that larger banks innovate at a faster rate than smaller banks. If this parameter value is positive, then larger banks tend to innovate at a slower rate than smaller banks. That is, the rate of innovation decreases with respect to increases in bank size. In this case, an additional consideration is optimal bank size defined relative to technical change. For example, over a given period banks of all sizes may experience advantageous technical change. However, an important question is, at what level of output is the rate of innovation or technical change maximized? (See "The Optimum Size for Innovation," this article.)

NOTES

[1]See Hunter and Timme (1986), Shaffer (1984), and Shaffer and David (1986). The majority of studies examining bank cost functions have concentrated on the measurement of scale economies. See, for example, the studies by Bell and Murphy (1968), Benston (1965, 1972), Benston and others (1982), Greenbaum (1967), Humphrey (1981a, 1981b), Kalish and Gilbert (1973), and Murphy (1982). See Gilligan, Smirlock, and Marshall (1984) for an analysis of economies of scope in banking, and McNulty (1982) for a study of scale economies in the savings and loan industry.

See Hannan and McDowell (1984) for an analysis of the determinants of banks' willingness to adopt new technology. The new technology examined in their study is exemplified by automatic teller machines.

[2]Hunter and Timme (1986), Shaffer (1984), and Shaffer and David (1986). Research into the impact of technical change on bank production and on economies of superscale is in its infancy. As more studies are conducted, more definitive conclusions concerning the relationship between technical change and scale economies and the consequent tradeoff between concentration and innovation in bank markets will be forthcoming. Identification of specific technology indexes for use in bank cost functions will also facilitate the identification of the exact sources of any observed technical change. The authors are currently undertaking some of that work, as well as examining the data for more recent years.

[3]The recent studies by Rhoades (1985b) and Smirlock (1985) examined the relationship between a bank's market share and its earnings performance. Both studies report a positive, significant relationship between bank market share and profitability; however, the authors interpret this result quite differently. Rhoades views the findings as indicative of market power, while Smirlock interprets the results as reflecting superior operating efficiency of the larger banking firms. Both studies concentrate on bank earnings rather than prices and costs. Thus, both interpretations, while plausible, do not provide unambiguous evidence on the concentration issue. Also, see Clark (1986), Beighley and McCall (1975), Edwards (1964), and Jacobs (1971).

[4]See Clark (1986) for a thorough discussion of the methodological flaws associated with most bank structure-performance studies.

[5]This is the same data used by Hunter and Timme (1986).

[6]Various other measures of bank output were also examined (for example, total loans, and total loans and deposits). The results using other measures of output are similar to the ones reported in this paper. The invariance of the results are attributable to the high degree of correlation between the various measures of output.

[7]Data from the *FDIC Bank Operating Statistics* and *County Business Patterns* were used due to inconsistencies in the number of full-time equivalent employees reported on the *Bank Compustat* tape.

[8]The statistical analysis was conducted using an econometric model developed by Avery (1977).

One problem with the generalized cost function given in the Appendix is that the variables on the right-hand side tend to be correlated with one another making it difficult to ascertain their true statistical properties. However, the parameter estimates are still unbiased, but inefficient. (See Kmenta, 1971, pp. 380-391). To mitigate the effects of multicollinearity, the cost function in equation (5) is estimated along with its capital share (W_K) equation which, using Shepard's (1953, 1970) lemma, is given by:*,**

$$W_K = \beta_K + \beta_{KK}\ln(P_K/P_L) + \beta_{KQ}\ln Q + \beta_{KB}\ln B + \beta_{KH}H + \beta_{KT}\ln T. \quad (8)$$

By adding degrees of freedom, we increase the efficiency of the parameter estimates. The system of equations (5) and (8) are jointly estimated using Avery's (1977) seemingly unrelated error components model. Avery's model was specifically developed to facilitate the estimation of systems of equations using pooled cross-sectional and time series data. In the model, the error terms consist of independent cross-sectional and time components and another component incorporating the joint effect of the cross-sectional unit and time.

*One share equation is dropped from the estimation procedure since by definition the sum of the share equations equal unity and, hence, they are not linearly independent.

**Barten (1979) has shown that the results from maximum likelihood estimation techniques are invariant to the share equation dropped. The Avery (1977) seemingly unrelated model used in this study is not a maximum likelihood estimation technique. However, the parameter estimates associated with dropping the capital share equation are identical to those reported in this paper associated with dropping the labor share equation.

[9]The standard error of the technical change estimate was derived using the grand mean values of the variables in (6) and the parameters' estimated covariance matrix.

[10]The overall technical change index and those for one-bank and multibank holding companies are all statistically significant at the .01 level.

See Hunter and Timme (1986) for more discussion of why one-bank and multibank holding companies experience the same amount of technical change. Measures of scale economies and the impact of technical change on scale economies for this sample are also available in Hunter and Timme (1986).

[11]There are other reasons to question whether increases in banking concentration at the state level indicate decreased consumer welfare: States do not generally seem to define the geographic market boundaries for bank services; thus states may not be relevant markets in which to analyze competition. In addition, banks are not the only competitors in markets for many products which banks offer, thus banking concentration may overestimate actual product market concentration.

[12]In a related study, Hannan and McDowell (1984) found that for the 1971-1979 period banks operating in more concentrated markets and having a larger size exhibited a higher conditional probability of adopting new technology (automatic teller machines) than smaller banks or those operating in less concentrated markets.

[13]This estimate compares favorably with those given by Shaffer and David (1986). Using a different statistical methodology applied to the 100 largest banks in the United States, Shaffer and David estimate the optimal bank size to be between $15 billion and $37 billion in total assets.

[14]See the *Wall Street Journal,* May 9, 1985, p. 3. While banking analysts may be justifiably concerned with the concentration issue, there are arguments to suggest that the safety and soundness of the banking system will not be impaired by a move toward full-scale interstate banking [See Eisenbeis (1985)].

[15]See Stevenson (1980) for an example of the use of a truncated third-order translog model to estimate technological change in the U.S. electric utility industry.

[16]Stating the translog model in terms of the price ratio P_K/P_L imposes the two theoretical restrictions of 1) price homogeneity (e.g., $\beta_K + \beta_L = 1$ and $\beta_{KQ} + \beta_{LQ} = 0$) and 2) symmetry (i.e., $\beta_{KL} = \beta_{LK}$).

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Government Policies: Will They Increase Farm Exports?

W. Gene Wilson

The export market is vital to American farmers since almost 40 percent of the volume of U.S. farm crop production is shipped to foreign consumers. An increase in the value of our agricultural exports could be helpful in narrowing the large U.S. trade deficit as well. However, the volume of U.S. farm exports has been falling since the start of this decade after a long period of substantial growth (Table 1). The dollar amount of agricultural exports, too, has declined—so much so that the value of exports fell short of imports in May 1986 after 15 years of monthly agricultural trade net surpluses (Table 2). Since that low point, some improvement has been observed, as indicated in Table 3, prompting a look at the prospects for farm exports.

The decline in the value of the dollar in foreign exchange markets should help the U.S. real trade balance over time, but the dollar's value is only one influence. To further boost agricultural exports, the American government has made several farm policy changes in recent years. Although various government programs and the drop in the dollar's value will affect U.S. agricultural exports, the net impact will nevertheless depend on the actions of other producing nations, the response of demand to lower world prices, and general economic conditions. If government-prompted declines in the price of U.S. farm exports are matched by similar price-cutting moves in other nations, potential gains in volume and value could be greatly diminished.

Agricultural Exports and Prices

Among the many factors that affect demand for U.S. agricultural exports, prices—relative to other goods and services that people buy, to their incomes, and to the prices charged by other producers—are certainly central. Although the value of U.S. currency in the foreign exchange markets affects prices, the dollar may not always move evenly in regard to other currencies. For example, it has only recently fallen versus currencies of countries that are major importers of U.S. grains and cotton.

Another factor affecting the demand for exports is the relative price of substitutable products; for example, various oils can be used interchangeably. The types of foodstuffs demanded may also change as wealth and income increase. When living standards rise, more food is typically consumed, but relatively less is spent on unprocessed food once basic needs are satisfied.

Table 1.
U.S. Agricultural Exports

Fiscal Year	Volume (Million ton)	Year-over-Year Percent Change	Value ($ Billion)[1]	Year-over-Year Percent Change
1977	111.9		24.0	
1978	131.3	17	27.3	14
1979	137.4	5	32.0	17
1980	163.9	19	40.5	27
1981	162.3	-1	43.8	9
1982	158.1	-3	39.1	-11
1983	144.8	-8	34.8	-11
1984	143.6	-1	38.0	9
1985	125.7	-12	31.2	-18
1986	120.5	-4	26.3	-14
Percent change from peak		-27		-39

[1]In this and subsequent tables, all dollar figures are stated in current terms unless otherwise noted.

Source: Computed by the Federal Reserve Bank of Atlanta from data released by the U.S. Department of Agriculture, Foreign Agricultural Service, *Outlook for U.S. Agricultural Exports,* various issues.

Government programs and incentives, changes in subsidies, tariffs, and quotas by both the U.S. and foreign governments can also influence world prices and affect the quantities of agricultural exports and imports. To encourage farm exports, the American government has recently lowered price supports for major commodities sold abroad and enhanced other programs that support agricultural exports directly (Table 4).

Government Programs Encouraging Exports

Government programs aimed at increasing agricultural exports generally come under two major headings: export credit grants or guarantees, and programs to reduce export prices.

Credit Programs. The oldest United States Department of Agriculture (USDA) export credit program, Public Law 480, has existed for more than 30 years. Its enactment laid the foundation for the most extensive international transfer of agricultural commodities the world has ever experienced.[1] Under Title I of that legislation, long-term sales to foreign buyers are made with repayment periods of up to 40 years at low interest rates. In fiscal year 1985, sales under Title I reached $1.1 billion. Under Title II, the United States donates commodities to areas with extreme food needs and pays the shipping costs. Food was recently sent to countries in sub-Saharan Africa through Title II.

The greatest credit impact on farm exports in recent years, however, has come from the Export Credit Guarantee Program (GSM-102). This legislation provides for U.S. government payment to U.S. lenders should a foreign buyer fail to repay any loan used to purchase U.S. agricultural commodities. These credit guarantees protect U.S. exporters and lending institutions from losses due to nonpayment and are seen as a stimulus to export activity. From fiscal year 1982 through fiscal year 1986, the USDA furnished approximately $22 billion in export credit guarantees.

Price Programs. Other major government initiatives encourage agricultural exports through programs designed to reduce the prices of U.S.

Table 2.
Value of U.S. Exports
($ Billion)

	Agricultural	Nonagricultural	Agricultural Share of Total (Percent)
1968	6.3	27.9	18
1969	6.0	31.4	16
1970	7.3	35.3	17
1971	7.7	35.8	18
1972	9.4	39.6	19
1973	17.7	52.6	25
1974	21.9	75.2	23
1975	21.9	84.7	21
1976	23.0	90.7	20
1977	23.7	95.4	20
1978	29.4	111.7	21
1979	34.8	143.8	19
1980	41.2	175.4	19
1981	43.3	185.6	19
1982	36.6	170.5	18
1983	36.1	159.9	18
1984	37.8	174.3	18
1985	29.0	177.8	14
1986	26.3	176.6	13

Source: Computed by the Federal Reserve Bank of Atlanta from data released by the U.S. Department of Agriculture, Economic Research Service, *FATUS: Foreign Agricultural Trade of the United States,* Calendar Year 1985 Supplement.

Table 3.
Agricultural Exports by Crop

	Wheat (mil. bu)			Cotton (thou. bales)			Soybeans (mil. bu)			Corn (mil. bu)		
	1984	1985	1986	1984	1985	1986	1984	1985	1986	1984	1985	1986
Quarter I	366	267	227	2,402	2,296	567	239	206	266	509	548	385
Quarter II	339	229	202	1,856	1,406	323	167	116	166	451	415	163
Quarter III	532	236	338	1,147	675	653	89	77	78	375	270	178
Quarter IV	375	248	218	1,447	649	1,761	221	229	275	609	516	351

Source: U.S. Department of Agriculture, Economic Research Service, *Agricultural Outlook,* various issues.

Table 4.
Domestic Price Support Levels of Major Crops

	Soybeans ($/bu)	Corn ($/bu)	Cotton ($/lb)	Wheat ($/bu)	Rice ($/cwt)
1979	4.50	2.10	.5023	2.50	6.79
1980	5.02	2.25	.48	3.00	7.12
1981	5.02	2.40	.5246	3.20	8.01
1982	5.02	2.55	.5708	3.55	8.14
1983	5.02	2.65	.55	3.65	8.14
1984	5.02	2.55	.55	3.30	8.00
1985	5.02	2.55	.5730	3.30	8.00
1986	4.78	1.92	.55	2.40	7.20
1987	—	1.82	.5225	2.28	6.84

Source: U.S. Department of Agriculture, Economic Research Service, *Agriculture Information Bulletin*, Numbers 467, 470, 471, 472, 476.

products sold in the world market. One important U.S. policy development has been the substantial lowering of commodity loan rates for most major crops. Commodity loan rates support prices and generally serve as a price floor for major U.S. crops included in farm programs. In the support program, the farmer uses his or her crop as collateral and borrows from the Commodity Credit Corporation (CCC) against it at the support price. If the market price stays near or below the loan rate, the farmer could elect not to repay the loan. In this case, the government would acquire his crop. Major crops included in such farm programs are cotton, rice, peanuts, tobacco, wheat, corn, and grain sorghum.

As long as market prices are above the loan rate, the support system has essentially no impact, and prices are set in a free market. When market prices fall below the loan rate, however, the support mechanism encourages the sale of commodities to the government. The loan rate then acts as a price floor (for U.S. products at least) because U.S. producers will not sell in the world market at a price below the existing loan rate. If world prices are below the support level, the U.S. support price serves as an incentive to foreigners to increase production and their world market share as U.S. output is withheld from the market.

In reaction to high price supports that reduced our ability to sell internationally and resulted in overproduction of crops, the USDA substantially lowered the price supports of various major crops (see Table 4). The price support for corn increased 26 percent between 1979 and its 1983 peak at $2.65. In 1984, however, the rate dropped 4 percent, remaining unchanged in 1985. For the 1986 crop year the price support for corn was lowered sharply—24 percent—as the USDA attempted to rely more heavily on market prices to balance supply and demand. The price support for wheat was cut 35 percent from its peak in 1983, and the price for rice was down 11 percent from its highest point. As a consequence, domestic market prices for these commodities have fallen.

World prices have decreased with the sharp decline in the price floor of U.S. crops as well, because more U.S. output will be available to the international marketplace. This suggests that foreign producers will have to adjust their supplies in the face of lower world prices, and foreign consumption of U.S. exports should increase. However, the extent to which U.S. export sales rise depends greatly on the reaction of foreign governments, many of which also subsidize their producers. The evidence suggests that they too will reduce prices as much as possible in order to remain competitive. For example, Argentina has dropped its prices for wheat and corn to levels as low or lower than U.S. prices.

The Export Enhancement Program, another program that reduces export prices, uses CCC stocks as in-kind payment to exporters, thus

enabling them to sell to foreign buyers at low prices, often well below U.S. support prices. Since the program's beginning in May 1985 the CCC has publicly announced the targeting of various countries for specific commodities. For example, the CCC may indicate a target, or goal, of 100 million bushels of wheat for Egypt. Private exporters will then attempt to sell this amount of wheat (or portion of it) to Egypt. Once a deal has been tentatively made, the exporter goes to the CCC with a request for a generic certificate reflecting the amount of discount which the exporter has had to offer Egypt to make the sale.[2] Suppose, for instance, that Egypt will buy 100 million bushels of wheat for $2 per bushel, but the exporter has had to pay $3 per bushel. If the CCC concludes that the deal is the best available, it provides the exporter with a certificate that has a face value sufficient to cover the difference—in this case, $100 million. The exporter may sell the certificate or exchange it for its value in any commodity held in CCC stocks (except cotton). As of mid-March 1987, $1.3 billion in farm products had been sold to 32 nations under the auspices of the Export Enhancement Program.

Begun in 1986, the newly instituted marketing loan program allows farmers to repay their CCC loans at world market prices rather than at the price support level. At present only rice and cotton are covered, but the USDA could decide to extend the program to wheat, feed grains, and soybeans. The effect is not only to lower the support price still further for those commodities included in the program, but also to decrease domestic market prices and prices to foreign buyers.

The Role of the Dollar

The impact of changes in support prices and farm programs combined with the effect of the cheaper dollar is substantial. Although the relative weight of these two factors is difficult to separate, the considerable decline in the dollar against the German mark and Japanese yen, as well as more moderate declines against many other currencies, will clearly play a role in the future of farm exports.

With the devaluations of U.S. currency in the early 1970s, the dollar began a period of being relatively inexpensive vis-a-vis other major foreign currencies. According to a USDA publication in the early 1980s, "from 1970-1979, the real value of the U.S. dollar, based on various agricultural trade-weighted indexes, declined by 25 to 30 percent."[3]

More recently, the value of the dollar in comparison to the German mark, adjusted for inflation in both countries, reached a low point in the first quarter of 1979 and then rose fairly regularly to a high in the last quarter of 1984 on average. Since then, it has fallen steadily and rapidly by approximately 30 percent.[4]

The dollar's value adjusted for inflation relative to the yen reflects an upward trend from the fourth quarter of 1978 until the first quarter of 1985. The average value of the dollar has since fallen almost 40 percent.

Since many factors influence U.S. agricultural exports, an overall decline in the dollar does not guarantee an immediate increase in even the volume of exports. For example, Japan's imports of U.S. farm goods grew from 1977 through 1984 even though the dollar was rising against the yen in the latter part of the period. Beginning in 1985, the Japanese imported fewer U.S. farm commodities, a trend that continued in 1986.

Measuring the Impact

Lower commodity prices in tandem with a weak dollar should cut the prices of U.S. farm products considerably, especially in Europe and Japan. Table 5 shows the computed per-unit value of three major U.S. crops in German and Japanese currency from the first quarter of 1982 to the first quarter of 1987. A Japanese importer who would have paid 652 yen for a bushel of corn in 1985 paid only 220 yen this year, a 66 percent drop. A German importer paying over 8 marks per bushel for wheat two years ago paid 70 percent less. Considering that Europe and Japan account for more than 40 cents of each dollar spent by foreigners on U.S. food and fiber, these sharp price declines could lead to increased consumption of U.S. farm goods.

The steep drop in U.S. crop prices to the Germans and Japanese reflects the impact of lower U.S. prices and the cheaper dollar. The precise influence of each factor is difficult to determine and varies depending on the time period under consideration. For example, if the exchange rate

Table 5.
Prices of U.S. Farm Commodities
(Equivalent value in marks and yen)

	1982	1983	1984	1985	1986	1987
Corn (per bu.)						
United States ($)	2.44	2.56	3.11	2.62	2.32	1.42
Japan (yen)	590.00	614.00	739.00	652.00	383.00	220.00
Germany (marks)	5.74	6.51	8.66	8.02	5.10	2.64
Soybeans (per bu.)						
United States ($)	6.04	5.66	7.28	5.75	5.18	4.69
Japan (yen)	1,462.00	1,357.00	1,729.00	1,432.00	855.00	726.00
Germany (marks)	14.20	14.39	20.27	17.60	11.39	8.72
Wheat (per bu.)						
United States ($)	3.71	3.64	3.33	3.38	3.06	2.45
Japan (yen)	898.00	873.00	791.00	842.00	510.00	379.00
Germany (marks)	8.72	9.25	9.27	10.35	6.73	4.56

Source: Computed by the Federal Reserve Bank of Atlanta from data released by the U.S. Department of Agriculture, Statistical Reporting Service, Crop Reporting Board, *Agricultural Prices 1984 Summary,* June 1985; *Agricultural Prices,* March 31, 1986; and *Agricultural Prices,* March 31, 1987. U.S. prices are average prices for the month of February in each year as listed in the above. The price in foreign currency is computed directly from the foreign exchange rate for the appropriate dates as listed in the *Federal Reserve Bulletin.* The table does not take into account any other costs imposed by the market or government.

is held fixed at 1982 levels and the U.S. price used, the price to German and Japanese buyers varies from more than 20 percent less for soybeans to 40 percent less for corn (Table 6). If crop prices are held at 1982 levels and the U.S. dollar exchange rate is used, price declines since then would be about the same or smaller. Thus, it appears as though the drop in price experienced by foreigners reflects price declines more than changes in the exchange rates. If one looks at the 1986-87 period, the difference is even more dramatic, showing that domestic price reductions account for more of the change in price to foreigners than the declining dollar alone.

This analysis suggests that the reduction in price supports will probably have a more widespread impact on agricultural exports in the short run than the falling dollar will. While the dollar is much cheaper for Japan and Europe, many nations whose currencies are linked to the value of the dollar have experienced less movement in the exchange rate.[5] Some of these nations, such as Korea and Taiwan, also import substantial quantities of American agricultural products. In these cases particularly, demand will be stimulated more by the lower prices.

Other Considerations

How much the volume and value of U.S. farm exports rise in response to farm export policy changes and the declining dollar depends, however, on several other factors as well. Possibly the key among these is the reaction of foreign prices to declining prices of U.S. products. If U.S. products' price declines are matched by those of foreign products, the chance of substantial gains in the volume and value of U.S. agricultural exports is greatly diminished.

Critics of export enhancement programs contend that they partially replace commercial exports and will also evoke similar responses from our trading competitors, who would lower

Table 6.
The Impact of Exchange Rate Changes versus Price Changes on Equivalent Value in Marks and Yen of U.S. Farm Commodities

Exchange Rate Fixed at 1982 Levels

	1985	1986	1987
Corn			
United States	2.62	2.32	1.42
Japan	634.00	561.00	344.00
Germany	6.16	5.45	3.34
Soybean			
United States	5.75	5.18	4.69
Japan	1,392.00	1,254.00	1,135.00
Germany	13.52	12.18	11.03
Wheat			
United States	3.38	3.06	2.45
Japan	818.00	741.00	593.00
Germany	7.95	7.19	5.76

U.S. Price at 1982 Levels

	1985	1986	1987
Corn			
United States	2.44	2.44	2.44
Japan	608.00	403.00	378.00
Germany	7.47	5.36	4.54
Soybean			
United States	6.04	6.04	6.04
Japan	1,504.00	997.00	935.00
Germany	18.49	13.28	11.23
Wheat			
United States	3.71	3.71	3.71
Japan	924.00	612.00	574.00
Germany	11.36	8.16	6.90

Source: Computed by author.

Table 7.
Export Prices for Wheat
(U.S. $ per metric ton)

	United States	Argentina	Canada	Australia
1981	177	189	212	175
1982	162	166	187	160
1983	158	138	185	161
1984	153	135	186	153
1985	138	108	178	140
1986				
January	133	108	182	140
February	131	102	177	133
March	136	97	183	139
April	125	96	182	137
May	120	90	175	131
June	108	85	151	114
July	101	82	143	106
August	103	80	140	104
September	104	81	138	104
October	106	79	129	108
November	107	79	140	110
December	108	78	140	110
1987				
January	110	83	141	110
February	113	91	141	112
March	122	91	142	115

Source: U.S. Department of Agriculture, Foreign Agricultural Service, *World Grain Situation and Outlook*, March 1987.

the prices of their products.[6] These objections have proven true to some extent. The European Economic Community (EEC), for example, has moved to increase subsidization of exports, thereby lessening the impact of the U.S. program.

Indeed, the behavior of prices in 1986 and early 1987 reveals falling prices worldwide for major commodities. Table 7, for example, shows that the export price of wheat has declined in other major producing countries. In fact, upon comparing the March 1987 price relationship with that of 1985, the basic price relationships between the United States and other countries appear to remain largely unchanged. Argentine wheat prices have been maintained at 25 percent less, Canadian wheat prices remain moderately above the U.S. price, and Australian wheat prices have actually improved their competitive position vis-a-vis the U.S. since 1985. Both the Canadian and Australian governments are taking further actions to lower their support prices on wheat for the new crop year. These actions will make their wheat producers willing to sell at lower prices than in the past.

Based on price relationships alone, other nations appear to be maintaining their ability to compete effectively at lower prices. This suggests that any U.S. gain in market share will be

Table 8.
Cumulative U.S. Exports by Major Trading Partners[1]

	Corn (Thousands of metric tons)		Soybeans (Thousands of metric tons)		Cotton (Thousands of bales)	
	1986	1987	1986	1987	1986	1987
Eur. Community (exc. Germany)	3,097	1,186	5,983	6,675	189	437
Africa	1,731	1,905	41	97	85	171
Western Hemisphere	2,720	3,208	590	780	93	109
China	0	401	125	158	NA	NA
U.S.S.R.	6,089	0	811	0	NA	NA
Japan	6,290	6,553	2,765	2,551	391	1,110
Germany	42	19	908	1,015	28	160
Taiwan	1,749	1,792	906	1,222	34	453
Korea	973	1,831	546	507	401	830

[1]Through March 19, 1987 (marketing year).

Source: U.S. Department of Agriculture, Foreign Agricultural Services, *U.S. Export Sales,* March 26, 1987.

Table 9.
World Trade and Consumption
(Millions of metric tons)

	1984-85	1985-86	Projected 1986-87
Consumption			
Total Grains	1,593	1,576	1,635
Soybeans	89	92	98
Cotton	70	77	81
Trade			
Total Grains	240	204	212
Soybeans	25	26	27
Cotton	20	20	24

Source: U.S. Department of Agriculture, Economic Research Service, Foreign Agricultural Service, *World Agricultural Supply and Demand Estimates,* WASDE-204, April 9, 1987.

modest and that, while the volume of exports may increase, a similar rise in their value is most unlikely.

Will consumption, then, increase substantially in reaction to world price decreases? If so, U.S. exports can increase even if their market share does not. Recent USDA data indicate that world markets are expanding (Tables 8 and 9). Improving U.S. farm exports are evident in Table 10. Although corn exports are lagging, other

Table 10.
Cumulative U.S. Exports by Crop[1]
(Thousands of metric tons)

	1986	1987	Percent Change
Wheat	19,020.8	20,127.4	6
Corn	24,130.1	18,165.8	-25
Soybeans	13,410.9	13,664.1	2
Rice	1,059.7	1,643.3	55
Cotton (Thousands of bales)	1,404.9	4,046.6	188

[1]Through March 19, 1987 (marketing year).

Source: Computed by the Federal Reserve Bank of Atlanta from data released by the U.S. Department of Agriculture, Foreign Agricultural Service, *U.S. Export Sales,* March 26, 1987.

crops show modest to substantial improvement. Cotton exports to virtually every major importer have risen sharply, as have rice exports. Other major crops show a more mixed pattern, but most demonstrate moderate improvement.

Export volume is nevertheless quite unlikely to increase enough to raise the value of exports as well as the volume. Increases in export volume greater than the declines of 20 to 50 percent in farm export prices would be needed to raise value. Although this is likely for a few commodities like cotton, for most major export crops no such volume increase is indicated by current or past behavior.

Outlook

The decline in the volume and perhaps the value of U.S. farm exports probably reached bottom in fiscal year 1986. Sharp reductions in the prices of U.S. farm commodities, in and of itself, should improve the nation's ability to sell in world markets. While the outlook for U.S. farm trade will improve in fiscal year 1987, by no means will a major reversal of recent years' market conditions occur. Favorable weather and adoption of modern agricultural technology have resulted in a surge of crop production by developing nations. Therefore, demand from nations that were formerly large importers has fallen off, and the export capabilities of various countries have increased. While falling world prices will precipitate supply adjustments, these will occur slowly and will probably be impeded by government intervention. In light of these considerations, the prognosis for U.S. farm exports is that the volume of exports will rebound moderately while the value may continue to hover near its 1986 low. During the balance of this decade, the dollar value of farm exports will probably rise slowly, providing a little assistance in resolving the nominal trade balance problem.

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NOTES

[1]Luther G. Tweeten, *Foundations of Farm Policy,* The University of Nebraska Press (Lincoln, Nebraska), 2nd edition, 1979, p. 440.

[2]Widely used, generic certificates are redeemable in almost any commodity held by the CCC; hence the name generic. Aside from subsidizing exports, these certificates serve as partial payment to farmers for various farm program activities such as acreage reduction, paid land diversion, Conservation Reserve, disaster and other programs. Authorized by the Food Security Act of 1985, the certificates are issued for a dollar face amount and can be redeemed at any CCC storage facility for almost any commodity. They do not incur storage cost as would holding inventory and often avoid transportation costs. Consequently farmers, merchants, and others can hold the certificates in lieu of inventory or can sell them as if directly selling the commodity. The overall impact of the program has been to reduce farmers' costs and lower prices.

[3]Jim Longmire and Art Morey, "Strong Dollar Dampens Demand for U.S. Farm Exports," Foreign Agricultural Economic Report No. 193, U.S. Department of Agriculture, December 1983, p. 20.

[4]Computed by the author from foreign exchange rates and the pertinent national inflation rate as measured by the Consumer Price Index.

[5]Jeffrey A. Rosensweig, "A New Dollar Index: Capturing a More Global Perspective," *Economic Review,* Federal Reserve Bank of Atlanta, June/July 1986, p. 12.

[6]Carl Zulauf and Dennis Henderson, "Exports May Have Shifted From an Engine of Growth to a Catalyst for Downsizing U.S. Agriculture," *Choices: The Magazine of Food, Farm, and Resource Issues* (Third Quarter, 1986), pp. 36-37.

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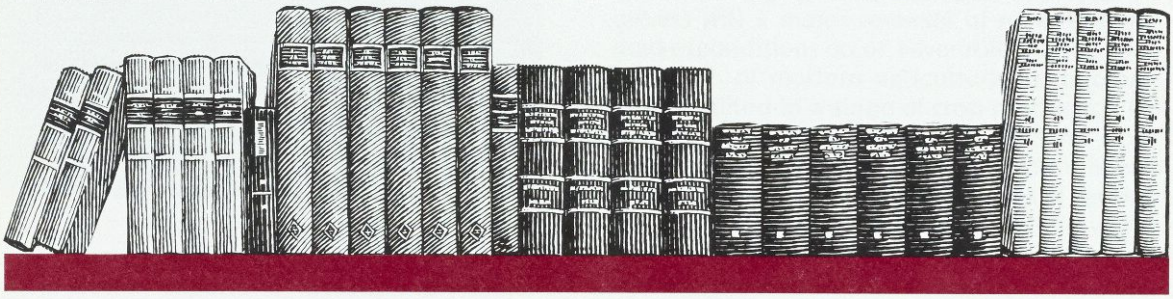
Book Review

Old South, New South:
Revolutions in the Southern Economy Since the Civil War

by Gavin Wright
Basic Books, New York, 1986.
$19.95.



Economists and historians agree that the southern economy performed poorly after the Civil War. The destruction of life and property during the war and initial confusion about how agricultural production should be reorganized help to explain the dismal economic conditions immediately after the war. The recovery, however, was prolonged and perhaps incomplete. By 1880 southern commodity output per capita was still 21 percent below its 1860 level, and it was not until the beginning of the twentieth century that it had returned to its 1860 level.

Explaining the long-run pattern of decline and recovery of the postbellum southern economy has proved more difficult and complex than explaining the immediate post-Civil War pattern. Most economic research in recent years has emphasized the agricultural sector, proceeding along several paths. The explanations for the South's poor performance after the war include the rise of monopolistic and exploitive credit markets, a large withdrawal of labor by blacks, a shift away from agricultural self-sufficiency towards production of cotton for the market, and a slowdown in world demand for cotton. Emancipation without redistribution of land to freedmen has also been suggested as a cause of weak credit markets and a contributor to the development of family sharecropping.

In *Old South, New South*, Gavin Wright brings an extensive and diverse collection of economic evidence to the debate on the economic development of the South after the Civil War. To coordinate the abundance of information, Wright introduces the theme of a southern labor market isolated from the rest of the nation, a labor market characterized by unskilled labor and low wages operating independently of influences from the North. New Deal legislation helped to bring the southern labor market into contact with the national market by establishing minimum wages and other measures that made industries based on unskilled labor less attractive to investors. The South began welcoming new industries from the North, which eventually led to the economic rebirth of the region.

To understand the causes of the South's low-wage, isolated labor market, Wright looks first at the role of slavery. Slaves, according to Wright, were valuable assets, and they were easily moved to the more productive states like Mississippi, Louisiana, and eastern Texas to take advantage of more fertile soil. Wright contends that because their wealth was primarily in the form of slaves, planters had few ties to a local area and little incentive to make long-term investments in other assets like land improvement, community development, or education.

Such investments would improve land values, but they would not add to the value of slave capital. Thus, the antebellum South was marked by a lack of towns and schools. Cotton production on plantations that were often self-contained communities was emphasized, while diversification into other natural resources like iron, various minerals, and timber was neglected.

Emancipation turned the South's specialization in cotton and slave labor into a liability. Land became the planter's primary asset, and cotton production became even more important because it was the crop that yielded the highest value per acre. The former slaves became part of a low-wage, unskilled labor force that was mobile within the South but isolated from the higher-wage northern labor force. Much of the labor force was engaged in agriculture as sharecroppers, an arrangement that had evolved after planters and freedmen realized that cash wages could not be paid regularly owing to a lack of ready cash. The lack of investment in schools and community development before the Civil War contributed to the persistence of the unskilled labor force after the war. There was remarkably little migration into or out of the South until the turn of the century, when blacks began migrating to the northern industrial areas.

The isolated labor market affected the choice of technology and output in various industries. The expanding textile industry was labor-intensive and for a long time tended to produce coarser and more basic materials. Because of abundant low-wage labor, the southern textile industry dominated the New England mills by 1910-20. The iron and steel industry in Tennessee and Alabama manufactured mostly pig iron that was later processed in northern plants. The South had little success in shifting into modern methods of steel-making, partly because of an unskilled labor force. Wright argues that little incentive existed to develop capital- or machine-intensive technologies and processes. Cotton harvesting could have been mechanized sooner, but the economic incentives did not yet exist in the nineteenth and first half of the twentieth centuries. It was cheaper to use unskilled labor. It was not until 1970 that virtually all cotton was mechanically harvested. As late as 1960, about half was still harvested by hand. Wright adds that the South had little incentive to invest in the education of its citizens because workers with increased skills could command higher wages. Unfortunately, they would probably migrate to the North, where wages were higher, rather than stay in the South, where business was unwilling to pay higher wages, and the South would have nothing to show for its investment.

The New Deal and World War II brought the isolated southern labor market into contact with the national market. Minimum wage laws were particularly effective in raising wages in the South, giving workers whose jobs were eliminated by higher wages the incentive to move north. Subsidies and benefit payments created by the Agricultural Adjustment Act in 1934 gave planters more reason to eliminate tenants and wage laborers. The displaced agricultural workers had no place to go because minimum wage laws effectively prevented southern industrialists from hiring them as well. Many unskilled workers, whites as well as blacks, migrated north in hope of finding work. With the elimination of a distinct southern labor market, the South welcomed flows of outside capital and skilled labor into new and modern industries. By the 1950s southern communities were actively recruiting northern industry. Some had started as early as 1937. The result we see today is a completely new economy developing in the shell of one that no longer exists.

Wright's theme of an isolated labor market coordinates the detail in *Old South, New South* effectively. It also leaves one asking for more. The term "isolated" suggests that barriers prevented labor from entering or leaving the South, but what these barriers may have been is vague. Northern perceptions of racism and slavery may have made the South an undesirable place to live, but they did not prevent Northerners from developing significant financial contacts in the antebellum South. The sense in which the southern labor market was "isolated" is unclear. There were no legal restrictions or trade sanctions imposed on trade with the postbellum South. Indications exist that railroad freight rates discriminated against the South, but this has been disputed by some economists. Others have pointed out that declining transportation costs in general in this century helped to bring the South into the national economy. Jim Crow laws enacted around the turn of the century were an attempt to restrict black mobility, but they were also a reaction in part to the migration of blacks to northern cities. White landowners and industrialists were fearful of losing their source of cheap, unskilled labor. Even so, they did not prevent blacks from migrating by the thousands to the North. Finally, without slave

labor, the South's extraordinary ability to produce cotton profitably and efficiently was lost; what replaced slave farming after the Civil War provided little incentive for migrants to settle in the South or for northerners to continue lending capital there. However, the fact that the South was poorer than the rest of the nation after the Civil War does not establish that it was isolated.

There is little doubt that the southern labor force was less skilled and, hence, more limited in opportunities, than the northern. That the southern labor force was unskilled and poorly educated, however, was probably due in part to the large proportion of former slaves in the population; these individuals would have received no education while they were enslaved, regardless of how mobile slave owners had been or how unwilling to invest in schools (presumably for whites only) or community development. If slaves and owners had not been mobile, it is hard to believe that the labor force would have been much better educated and more skilled. The transience of planters and mobility of slaves does not really explain why the southern labor force remained unskilled after the Civil War. A similar westward migration before and after the war was taking place in the North, with farmers from older, less productive farms in the East and foreign immigrants moving to the new and more productive land of the Midwest. Their mobility did not prevent them from setting up schools or developing communities.

Wright's emphasis on an isolated labor market at times obscures other economic factors that help to explain the development of the Southern economy and also the distinctiveness of the Southern labor force. A poor credit market and less productive land tenure arrangements are two such factors that Wright and others have presented that are worth further elaboration. The system of sharecropping that replaced slave farming after the Civil War and continued into the 1930s was far less efficient and profitable. In short, emancipation eliminated a valuable source of wealth and collateral as well as a profitable method of production for some southerners.

Wright also intentionally keeps the level of statistical analysis low so as not to discourage the general reader. The lack of some simple time-series or correlation analysis of northern and southern wage rates, however, frustrates our understanding of the sense in which the southern labor market was isolated. If southern wages tended to move with northern wages, this would indicate that perhaps both regions had labor markets that were either linked or responding to a common set of influences. Showing that southern wages were simply lower than northern wages does not really establish the fact that the South was isolated. It is the degree of co-movement that is of real interest here. Perhaps the postbellum South was isolated in the sense that it was an area with little profit opportunity rather than an area that was inaccessible to investment or labor flows.

Wright suggests that the book chronicles the history of an economy that no longer exists; he provides few policy implications for future growth. Nevertheless, he points out that the new South is part of a larger, global economy, and he warns that reliance on economic forces alone is not enough to assure social justice. In particular, he points out that while historically blacks have been excluded from many skilled and professional occupations, the increasing importance of white-collar, high-skill, high-tech occupations may exclude unskilled and minority people from economic advancement even more than in the past. Continuing direct effort by government to bring these people into the expanding economy will be necessary.

In spite of my concern over the term "isolated," *Old South, New South* should be read; it brings together many separated strands of research in a thought-provoking style that is accessible to the general reader as well as the economist.

—Jon Moen

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FINANCE

	FEB. 1987	JAN. 1987	FEB. 1986	ANN. % CHG.		FEB. 1987	JAN. 1987	FEB. 1986	ANN. % CHG.
$ millions									
UNITED STATES									
Commercial Bank Deposits	1,677,505	1,742,205	1,523,777	+10	S&Ls Total Deposits	678,194	699,954	611,574	+11
Demand	361,869	432,768	319,535	+13	NOW	31,492	34,280	23,774	+32
NOW	148,728	155,807	109,653	+36	Savings	162,360	166,914	139,410	+16
Savings	512,799	515,443	431,481	+19	Time	481,947	496,689	447,047	+ 8
Time	693,956	693,608	698,287	- 1	Credit Union Deposits	60,843	61,041	42,258	+44
					Share Drafts	8,165	8,523	5,809	+41
					Savings & Time	52,254	51,626	35,248	+48
SOUTHEAST									
Commercial Bank Deposits	198,075	203,513	177,612	+12	S&Ls Total Deposits	89,519	90,136	80,638	+11
Demand	39,820	46,397	36,661	+ 9	NOW	5,192	5,361	4,027	+29
NOW	20,957	21,792	14,923	+40	Savings	20,738	20,739	18,170	+14
Savings	57,632	57,817	49,032	+18	Time	63,103	63,552	58,190	+ 8
Time	83,923	83,873	81,186	+ 3	Credit Union Deposits	6,766	6,790	5,081	+33
					Share Drafts	772	819	540	+43
					Savings & Time	5,798	5,690	4,232	+37
ALABAMA									
Commercial Bank Deposits	19,969	20,497	17,260	+16	S&Ls Total Deposits	6,101	6,077	4,666	+31
Demand	4,038	4,645	3,684	+10	NOW	347	355	220	+58
NOW	2,049	2,151	1,416	+45	Savings	1,153	1,160	855	+35
Savings	4,408	4,347	3,635	+21	Time	4,626	4,597	3,588	+29
Time	9,899	9,950	9,018	+10	Credit Union Deposits	896	896	769	+17
					Share Drafts	138	154	123	+12
					Savings & Time	750	739	634	+18
FLORIDA									
Commercial Bank Deposits	76,588	79,059	66,022	+16	S&Ls Total Deposits	56,464	57,098	57,325	- 2
Demand	15,325	18,006	13,631	+12	NOW	3,216	3,341	2,795	+15
NOW	9,333	9,750	6,443	+45	Savings	13,990	14,011	13,435	+ 4
Savings	26,800	27,009	22,509	+19	Time	38,797	39,220	40,757	- 5
Time	27,080	27,104	25,072	+ 8	Credit Union Deposits	3,549	3,559	2,565	+38
					Share Drafts	398	414	262	+52
					Savings & Time	2,927	2,834	2,028	+44
GEORGIA									
Commercial Bank Deposits	31,273	32,352	27,862	+12	S&Ls Total Deposits	7,550	7,562	6,175	+22
Demand	8,242	9,590	7,445	+11	NOW	798	790	480	+66
NOW	3,007	3,107	1,964	+53	Savings	1,639	1,640	1,351	+21
Savings	9,183	9,222	7,777	+18	Time	5,150	5,203	4,401	+17
Time	12,153	12,216	11,958	+ 2	Credit Union Deposits	1,274	1,303	1,039	+23
					Share Drafts	130	139	84	+55
					Savings & Time	1,157	1,161	938	+23
LOUISIANA									
Commercial Bank Deposits	28,617	29,050	28,314	+ 1	S&Ls Total Deposits	10,550	10,568	5,835	+81
Demand	5,101	5,785	5,198	- 2	NOW	375	400	246	+52
NOW	2,287	2,325	1,852	+23	Savings	2,336	2,310	1,360	+72
Savings	8,154	8,114	7,291	+12	Time	7,840	7,881	4,249	+85
Time	13,506	13,497	14,414	- 6	Credit Union Deposits	*	*	*	...
					Share Drafts	*	*	*	...
					Savings & Time	*	*	*	...
MISSISSIPPI									
Commercial Bank Deposits	13,755	13,890	13,101	+ 5	S&Ls Total Deposits	2,243	2,215	1,023	+119
Demand	2,341	2,666	2,425	- 3	NOW	111	114	56	+98
NOW	1,339	1,357	1,026	+31	Savings	311	312	149	+109
Savings	3,079	3,060	2,654	+16	Time	1,738	1,696	806	+116
Time	7,297	7,190	7,283	+ 0	Credit Union Deposits	*	*	*	...
					Share Drafts	*	*	*	...
					Savings & Time	*	*	*	...
TENNESSEE									
Commercial Bank Deposits	27,873	28,665	25,053	+11	S&Ls Total Deposits	6,611	6,616	5,614	+18
Demand	4,773	5,705	4,278	+12	NOW	345	361	230	+50
NOW	2,942	3,102	2,222	+32	Savings	1,309	1,306	1,020	+28
Savings	6,008	6,065	5,166	+16	Time	4,952	4,955	4,389	+13
Time	13,988	13,916	13,441	+ 4	Credit Union Deposits	1,047	1,032	708	+48
					Share Drafts	106	112	71	+49
					Savings & Time	964	956	632	+53

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 Monday of the month. This data, reported by institutions with over $26.8 million in deposits and $2.6 million of reserve requirements as of June 1986, represents 95% of deposits in the six state area. The annual rate of change is based on most recent data over comparable year ago data. 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 $26.8 million in deposits as of June 1986. 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 in process of collection from demand deposits, while the call report does not. The Southeast data represent the total of the six states. Subcategories were chosen on a selective basis and do not add to total.
* = fewer than four institutions reporting.

FINANCE

$ millions

	MAR. 1987	FEB. 1987	MAR. 1986	ANN. % CHG.		MAR. 1987	FEB. 1987	MAR. 1986	ANN. % CHG.
UNITED STATES									
Commercial Bank Deposits	1,677,794	1,677,748	1,527,584	+10	S&Ls Total Deposits	679,102	678,182	612,777	+11
Demand	355,623	362,027	323,522	+10	NOW	32,138	31,487	24,425	+32
NOW	151,019	148,687	111,361	+10	Savings	164,028	162,359	138,987	+18
Savings	515,988	512,796	434,285	+19	Time	480,668	481,902	448,160	+ 7
Time	695,979	693,967	698,744	- 0	Credit Union Deposits	61,706	60,847	42,529	+45
					Share Drafts	8,295	8,165	5,856	+42
					Savings & Time	52,847	52,255	35,592	+48
SOUTHEAST									
Commercial Bank Deposits	149,383	198,248	179,139	+11	S&Ls Total Deposits	89,705	89,476	80,221	+12
Demand	40,128	39,820	37,183	+ 8	NOW	5,360	5,191	4,129	+30
NOW	22,248	20,960	15,210	+46	Savings	20,917	20,736	18,094	+16
Savings	58,228	57,633	49,511	+18	Time	62,941	63,064	57,713	+ 9
Time	84,294	83,810	81,855	+ 3	Credit Union Deposits	6,853	6,766	5,275	+30
					Share Drafts	791	772	584	+35
					Savings & Time	6,756	5,798	4,412	+53
ALABAMA									
Commercial Bank Deposits	20,281	19,969	17,503	+16	S&Ls Total Deposits	6,176	6,101	4,659	+33
Demand	4,039	4,038	3,787	+ 7	NOW	349	347	223	+56
NOW	3,000	2,050	1,450	+107	Savings	1,156	1,153	849	+36
Savings	4,648	4,407	3,664	+ 27	Time	4,691	4,626	3,594	+31
Time	9,997	9,899	9,130	+ 9	Credit Union Deposits	911	896	775	+18
					Share Drafts	138	138	127	+ 9
					Savings & Time	757	750	640	+18
FLORIDA									
Commercial Bank Deposits	77,298	76,716	66,921	+16	S&Ls Total Deposits	56,518	56,421	55,699	+ 1
Demand	15,596	15,325	13,911	+12	NOW	3,321	3,215	2,850	+17
NOW	9,507	9,333	6,556	+45	Savings	14,133	13,988	13,142	+ 8
Savings	27,046	26,800	22,783	+19	Time	38,585	38,758	39,337	- 2
Time	27,080	26,930	25,361	+ 7	Credit Union Deposits	3,583	3,549	2,804	+28
					Share Drafts	410	398	298	+38
					Savings & Time	3,859	2,927	2,252	+71
GEORGIA									
Commercial Bank Deposits	31,346	31,316	28,071	+12	S&Ls Total Deposits	7,592	7,550	6,423	+18
Demand	8,277	8,242	7,503	+10	NOW	843	798	499	+69
NOW	3,018	3,009	2,021	+49	Savings	1,642	1,639	1,431	+15
Savings	9,196	9,185	7,867	+17	Time	5,142	5,150	4,525	+14
Time	12,337	12,192	12,128	+ 2	Credit Union Deposits	1,290	1,274	951	+36
					Share Drafts	136	130	87	+56
					Savings & Time	1,164	1,157	851	+37
LOUISIANA									
Commercial Bank Deposits	28,451	28,615	28,184	+ 1	S&Ls Total Deposits	10,536	10,550	6,676	+58
Demand	5,080	5,101	5,213	- 3	NOW	376	375	262	+44
NOW	2,244	2,287	1,793	+25	Savings	2,345	2,336	1,481	+58
Savings	8,175	8,154	7,316	+12	Time	7,826	7,840	4,968	+58
Time	13,431	13,504	14,379	- 7	Credit Union Deposits	*	*	*	...
					Share Drafts	*	*	*	...
					Savings & Time	*	*	*	...
MISSISSIPPI									
Commercial Bank Deposits	13,913	13,755	13,232	+ 5	S&Ls Total Deposits	2,260	2,243	1,170	+93
Demand	2,320	2,341	2,425	- 4	NOW	117	111	60	+95
NOW	1,430	1,339	1,087	+32	Savings	313	311	177	+77
Savings	3,107	3,079	2,669	+16	Time	1,752	1,738	923	+90
Time	7,355	7,297	7,355	0	Credit Union Deposits	*	*	*	...
					Share Drafts	*	*	*	...
					Savings & Time	*	*	*	...
TENNESSEE									
Commercial Bank Deposits	28,094	27,877	25,228	+11	S&Ls Total Deposits	6,623	6,611	5,594	+18
Demand	4,816	4,773	4,344	+11	NOW	354	345	235	+51
NOW	3,049	2,942	2,303	+32	Savings	1,328	1,309	1,014	+31
Savings	6,056	6,008	5,212	+16	Time	4,945	4,952	4,366	+13
Time	14,094	13,988	13,502	+ 4	Credit Union Deposits	1,069	1,047	745	+43
					Share Drafts	107	106	72	+49
					Savings & Time	976	964	669	+46

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 Monday of the month. This data, reported by institutions with over $26.8 million in deposits and $2.6 million of reserve requirements as of June 1986, represents 95% of deposits in the six state area. The annual rate of change is based on most recent data over comparable year ago data. 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 $26.8 million in deposits as of June 1986. 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 in process of collection from demand deposits, while the call report does not. The Southeast data represent the total of the six states. Subcategories were chosen on a selective basis and do not add to total.
* = fewer than four institutions reporting.

EMPLOYMENT

	JAN 1987	DEC 1986	JAN 1986	ANN. % CHG		JAN 1987	DEC 1986	JAN 1986	ANN. % CHG
UNITED STATES									
Civilian Labor Force - thous.	117,703	118,049	115,431	+2	Nonfarm Employment - thous.	100,296	101,948	97,903	+2
Total Employed - thous.	109,084	110,588	106,959	+2	Manufacturing	19,023	19,172	19,140	-1
Total Unemployed - thous.	8,620	7,461	8,472	+2	Construction	4,702	4,927	4,481	+5
					Trade	23,943	24,661	23,277	+3
Unemployment Rate - % SA	6.6	6.6	6.7		Government	16,889	17,156	16,617	+2
					Services	23,281	23,449	22,208	+5
Mfg. Avg. Wkly. Hours	40.8	41.6	40.7	+0	Fin., Ins. & Real. Est.	6,440	6,453	6,072	+6
Mfg. Avg. Wkly. Earn. - $	401	409	395	+2	Trans., Com. & Pub. Util.	5,294	5,390	5,217	+1
SOUTHEAST									
Civilian Labor Force - thous.	15,935	15,974	15,358	+4	Nonfarm Employment - thous.	13,258	13,312	12,815	+3
Total Employed - thous.	14,632	14,725	14,151	+4	Manufacturing	2,317	2,331	2,309	+0
Total Unemployed - thous.	1,303	1,249	1,194	+9	Construction	778	795	757	+3
					Trade	3,311	3,371	3,170	+4
Unemployment Rate - % SA	7.7	7.6	7.1		Government	2,320	2,314	2,282	+2
					Services	2,871	2,873	2,703	+6
Mfg. Avg. Wkly. Hours	40.9	41.9	41.0	+0	Fin., Ins. & Real. Est.	654	786	743	-12
Mfg. Avg. Wkly. Earn. - $	359	365	328	+9	Trans., Com. & Pub. Util.	728	734	722	+1
ALABAMA									
Civilian Labor Force - thous.	1,862	1,876	1,817	+2	Nonfarm Employment - thous.	1,465	1,474	1,441	+2
Total Employed - thous.	1,676	1,696	1,642	+2	Manufacturing	354	356	357	-1
Total Unemployed - thous.	186	180	176	+6	Construction	75	75	72	+3
					Trade	325	332	311	+5
Unemployment Rate - % SA	9.3	9.3	9.1		Government	297	296	297	0
					Services	261	262	250	+4
Mfg. Avg. Wkly. Hours	41.1	41.9	41.1	0	Fin., Ins. & Real. Est.	70	70	67	+4
Mfg. Avg. Wkly. Earn. - $	359	365	358	+0	Trans., Com. & Pub. Util.	71	71	72	-1
FLORIDA									
Civilian Labor Force - thous.	5,666	5,588	5,344	+6	Nonfarm Employment - thous.	4,772	4,739	4,509	+6
Total Employed - thous.	5,338	5,268	5,044	+6	Manufacturing	523	523	519	+1
Total Unemployed - thous.	328	320	301	+9	Construction	337	342	333	+1
					Trade	1,292	1,303	1,214	+6
Unemployment Rate - % SA	5.8	4.7	5.3		Government	722	721	699	+3
					Services	1,245	1,241	1,165	+7
Mfg. Avg. Wkly. Hours	40.8	42.1	40.7	+0	Fin., Ins. & Real. Est.	347	350	327	+6
Mfg. Avg. Wkly. Earn. - $	327	342	326	+0	Trans., Com. & Pub. Util.	247	250	243	+2
GEORGIA									
Civilian Labor Force - thous.	3,028	3,051	2,869	+6	Nonfarm Employment - thous.	2,723	2,747	2,597	+5
Total Employed - thous.	2,855	2,878	2,703	+6	Manufacturing	564	568	562	+0
Total Unemployed - thous.	173	173	166	+4	Construction	158	162	144	+10
					Trade	691	707	643	+7
Unemployment Rate - % SA	5.4	5.9	5.8		Government	464	456	454	+2
					Services	521	522	478	+9
Mfg. Avg. Wkly. Hours	40.6	41.6	41.1	-1	Fin., Ins. & Real. Est.	149	149	139	+7
Mfg. Avg. Wkly. Earn. - $	341	350	340	+0	Trans., Com. & Pub. Util.	168	168	165	+2
LOUISIANA									
Civilian Labor Force - thous.	1,936	1,961	1,953	-1	Nonfarm Employment - thous.	1,489	1,509	1,557	-4
Total Employed - thous.	1,652	1,699	1,719	-4	Manufacturing	164	166	168	-2
Total Unemployed - thous.	284	263	235	+21	Construction	84	86	95	-11
					Trade	360	370	374	-4
Unemployment Rate - % SA	14.2	14.0	12.9		Government	319	323	323	-1
					Services	313	316	320	-2
Mfg. Avg. Wkly. Hours	41.2	42.9	41.5	-1	Fin., Ins. & Real. Est.	85	85	86	-1
Mfg. Avg. Wkly. Earn. - $	442	457	437	+1	Trans., Com. & Pub. Util.	105	106	113	-7
MISSISSIPPI									
Civilian Labor Force - thous.	1,146	1,155	1,125	+2	Nonfarm Employment - thous.	846	860	844	+0
Total Employed - thous.	1,000	1,020	1,000	0	Manufacturing	219	222	224	-2
Total Unemployed - thous.	146	135	125	+17	Construction	32	35	34	-6
					Trade	183	189	179	+2
Unemployment Rate - % SA	11.8	12.3	10.3		Government	194	194	192	+1
					Services	135	136	132	+2
Mfg. Avg. Wkly. Hours	40.1	40.8	40.4	-1	Fin., Ins. & Real. Est.	38	38	36	+4
Mfg. Avg. Wkly. Earn. - $	304	309	298	+2	Trans., Com. & Pub. Util.	39	40	39	0
TENNESSEE									
Civilian Labor Force - thous.	2,298	2,343	2,234	+3	Nonfarm Employment - thous.	1,960	1,983	1,879	+4
Total Employed - thous.	2,112	2,165	2,043	+3	Manufacturing	492	497	482	+2
Total Unemployed - thous.	186	178	191	-3	Construction	93	94	81	+15
					Trade	460	470	452	+2
Unemployment Rate - % SA	7.0	7.5	8.6		Government	323	324	312	+4
					Services	395	397	365	+8
Mfg. Avg. Wkly. Hours	41.4	42.1	41.0	+1	Fin., Ins. & Real. Est.	93	95	88	+6
Mfg. Avg. Wkly. Earn. - $	365	370	347	+5	Trans., Com. & Pub. Util.	97	98	91	+7

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.

EMPLOYMENT

	FEB 1987	JAN 1987	FEB 1986	ANN. % CHG
UNITED STATES				
Civilian Labor Force - thous.	117,967	117,703	115,725	+2
Total Employed - thous.	109,464	109,084	106,685	+3
Total Unemployed - thous.	8,503	8,620	9,041	-6
Unemployment Rate - % SA	6.6	6.6	7.2	
Mfg. Avg. Wkly. Hours	40.8	40.8	40.3	+1
Mfg. Avg. Wkly. Earn. - $	401	401	391	+3
Nonfarm Employment - thous.	100,500	100,185	98,113	+2
Manufacturing	19,062	19,005	19,137	-0
Construction	4,559	4,675	4,353	+5
Trade	23,706	23,859	23,109	+3
Government	17,176	16,896	16,948	+1
Services	23,498	23,268	22,389	+5
Fin., Ins. & Real. Est.	6,461	6,444	6,103	+6
Trans., Com. & Pub. Util.	5,316	5,312	5,206	+2
SOUTHEAST				
Civilian Labor Force - thous.	16,028	15,955	15,466	+4
Total Employed - thous.	14,763	14,638	14,245	+4
Total Unemployed - thous.	1,266	1,317	1,220	+4
Unemployment Rate - % SA	7.9	7.8	7.7	
Mfg. Avg. Wkly. Hours	41.1	41.0	40.2	+2
Mfg. Avg. Wkly. Earn. - $	360	358	345	+4
Nonfarm Employment - thous.	13,240	13,200	12,858	+3
Manufacturing	2,319	2,317	2,312	+0
Construction	775	778	753	+3
Trade	3,301	3,310	3,170	+4
Government	2,336	2,316	2,296	+2
Services	2,897	2,869	2,739	+6
Fin., Ins. & Real. Est.	784	783	745	+5
Trans., Com. & Pub. Util.	727	727	719	+1
ALABAMA				
Civilian Labor Force - thous.	1,866	1,870	1,836	+2
Total Employed - thous.	1,681	1,682	1,655	+2
Total Unemployed - thous.	184	188	181	+2
Unemployment Rate - % SA	9.2	9.4	9.2	
Mfg. Avg. Wkly. Hours	41.3	41.1	40.6	+2
Mfg. Avg. Wkly. Earn. - $	359	358	351	+2
Nonfarm Employment - thous.	1,468	1,466	1,445	+2
Manufacturing	355	355	357	-1
Construction	74	75	72	+4
Trade	323	325	310	+4
Government	300	298	301	-0
Services	263	261	253	+4
Fin., Ins. & Real. Est.	70	70	67	+4
Trans., Com. & Pub. Util.	71	71	71	-1
FLORIDA				
Civilian Labor Force - thous.	5,722	5,665	5,381	+6
Total Employed - thous.	5,422	5,338	5,092	+6
Total Unemployed - thous.	299	327	289	+3
Unemployment Rate - % SA	5.7	5.8	5.8	
Mfg. Avg. Wkly. Hours	40.5	40.9	40.5	0
Mfg. Avg. Wkly. Earn. - $	329	333	323	+2
Nonfarm Employment - thous.	4,755	4,722	4,542	+5
Manufacturing	525	523	518	+1
Construction	339	338	334	+1
Trade	1,297	1,293	1,221	+6
Government	727	719	705	+3
Services	1,262	1,244	1,181	+7
Fin., Ins. & Real. Est.	349	347	329	+6
Trans., Com. & Pub. Util.	247	247	243	+2
GEORGIA				
Civilian Labor Force - thous.	3,047	3,031	2,909	+5
Total Employed - thous.	2,870	2,851	2,727	+5
Total Unemployed - thous.	178	180	182	-2
Unemployment Rate - % SA	5.6	5.6	6.0	
Mfg. Avg. Wkly. Hours	41.2	41.0	40.3	+2
Mfg. Avg. Wkly. Earn. - $	345	342	332	+4
Nonfarm Employment - thous.	2,723	2,719	2,604	+5
Manufacturing	564	563	564	0
Construction	157	157	144	+9
Trade	687	690	641	+7
Government	466	463	457	+2
Services	524	521	483	+8
Fin., Ins. & Real. Est.	149	149	140	+6
Trans., Com. & Pub. Util.	168	168	164	+2
LOUISIANA				
Civilian Labor Force - thous.	1,941	1,943	1,967	-1
Total Employed - thous.	1,663	1,655	1,725	-4
Total Unemployed - thous.	277	289	242	+14
Unemployment Rate - % SA	13.7	14.3	11.8	
Mfg. Avg. Wkly. Hours	42.0	41.5	40.9	+3
Mfg. Avg. Wkly. Earn. - $	454	445	438	+4
Nonfarm Employment - thous.	1,482	1,487	1,546	-4
Manufacturing	162	164	167	-3
Construction	82	84	93	-11
Trade	357	360	371	-4
Government	320	319	325	-2
Services	313	313	320	-2
Fin., Ins. & Real. Est.	85	85	85	0
Trans., Com. & Pub. Util.	105	105	112	-6
MISSISSIPPI				
Civilian Labor Force - thous.	1,147	1,148	1,133	+1
Total Employed - thous.	1,008	1,002	1,004	+0
Total Unemployed - thous.	140	146	130	+8
Unemployment Rate - % SA	11.1	11.7	10.4	
Mfg. Avg. Wkly. Hours	40.1	40.0	39.4	+2
Mfg. Avg. Wkly. Earn. - $	303	304	292	+4
Nonfarm Employment - thous.	849	846	843	+1
Manufacturing	221	219	223	-1
Construction	31	32	33	-5
Trade	182	183	178	+2
Government	195	194	193	+1
Services	137	135	133	+3
Fin., Ins. & Real. Est.	38	38	36	+5
Trans., Com. & Pub. Util.	39	39	38	+3
TENNESSEE				
Civilian Labor Force - thous.	2,304	2,297	2,239	+3
Total Employed - thous.	2,118	2,110	2,043	+4
Total Unemployed - thous.	186	187	196	-6
Unemployment Rate - % SA	6.9	7.0	8.3	
Mfg. Avg. Wkly. Hours	41.6	41.4	39.4	+6
Mfg. Avg. Wkly. Earn. - $	368	364	335	+10
Nonfarm Employment - thous.	1,962	1,960	1,879	+4
Manufacturing	492	493	483	+2
Construction	91	93	77	+18
Trade	455	460	450	+1
Government	328	323	316	+4
Services	399	395	369	+8
Fin., Ins. & Real. Est.	93	93	87	+7
Trans., Com. & Pub. Util.	97	97	90	+7

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.

GENERAL

	LATEST DATA	CURR. PERIOD	PREV. PERIOD	YEAR AGO	ANN. % CHG.
UNITED STATES					
Personal Income					
($ bil. - SAAR)	Q4	3,529.7	3,498.7	3,379.7	+ 4
Taxable Sales - $ bil.		N.A.	N.A.	N.A.	
Plane Pass. Arr. (thous.)		N.A.	N.A.	N.A.	
Petroleum Prod. (thous.)	FEB.	8,277.2	8,437.4	8,933.7	- 7
Consumer Price Index					
1967=100	FEB.	334.4	333.1	327.5	+ 2
Kilowatt Hours - mils.	DEC.	199.8	184.6	196.4	+ 2
SOUTHEAST					
Personal Income					
($ bil. - SAAR)	Q4	430.3	427.4	410.6	+ 5
Taxable Sales - $ bil.		N.A.	N.A.	N.A.	
Plane Pass. Arr. (thous.)	JAN.	5,201.3	5,621.1	4,964.0	+ 5
Petroleum Prod. (thous.)	FEB.	1,419.0	1,422.0	1,513.0	- 6
Consumer Price Index					
1967=100		N.A.	N.A.	N.A.	
Kilowatt Hours - mils.	DEC.	31.3	30.7	29.3	+ 7
ALABAMA					
Personal Income					
($ bil. - SAAR)	Q4	45.4	45.2	43.7	+ 4
Taxable Sales - $ bil.		N.A.	N.A.	N.A.	
Plane Pass. Arr. (thous.)	JAN.	122.8	137.6	126.3	- 3
Petroleum Prod. (thous.)	FEB.	53.0	54.0	57.0	- 7
Consumer Price Index					
1967=100		N.A.	N.A.	N.A.	
Kilowatt Hours - mils.	DEC.	4.1	3.9	4.0	+ 0
FLORIDA					
Personal Income					
($ bil. - SAAR)	Q4	169.1	168.1	159.9	+ 6
Taxable Sales - $ bil.					
Plane Pass. Arr. (thous.)	JAN.	2,727.2	2,907.1	2,572.7	+ 6
Petroleum Prod. (thous.)	FEB.	24.0	25.0	33.0	-27
Consumer Price Index		**JAN.**	**NOV.**	**JAN.**	
1977=100 MIAMI		177.2	175.8	174.6	+ 1
Kilowatt Hours - mils.	DEC.	9.3	9.4	8.5	+ 9
GEORGIA					
Personal Income					
($ bil. - SAAR)	Q4	82.0	81.3	77.3	+ 6
Taxable Sales - $ bil.		N.A.	N.A.	N.A.	
Plane Pass. Arr. (thous.)	JAN.	1,795.4	1,931.5	1,759.8	+ 2
Petroleum Prod. (thous.)		N.A.	N.A.	N.A.	
Consumer Price Index		**DEC.**	**OCT.**	**DEC.**	
1967=100 ATLANTA		342.2	339.9	335.3	+ 2
Kilowatt Hours - mils.	DEC.	5.1	5.0	4.9	+ 4
LOUISIANA					
Personal Income					
($ bil. - SAAR)	Q4	50.4	50.5	50.3	+ 0
Taxable Sales - $ bil.		N.A.	N.A.	N.A.	
Plane Pass. Arr. (thous.)	JAN.	270.2	306.2	307.4	-12
Petroleum Prod. (thous.)	FEB.	1,265.0	1,265.0	1,340.0	- 6
Consumer Price Index					
1967=100		N.A.	N.A.	N.A.	
Kilowatt Hours - mils.	DEC.	5.2	4.3	4.4	+18
MISSISSIPPI					
Personal Income					
($ bil. - SAAR)	Q4	25.3	25.1	24.6	+ 3
Taxable Sales - $ bil.		N.A.	N.A.	N.A.	
Plane Pass. Arr. (thous.)	JAN.	35.2	40.5	33.6	+ 5
Petroleum Prod. (thous.)	FEB.	77.0	78.0	83.0	- 7
Consumer Price Index					
1967=100		N.A.	N.A.	N.A.	
Kilowatt Hours - mils.	DEC.	2.0	3.1	2.0	0
TENNESSEE					
Personal Income					
($ bil. - SAAR)	Q4	58.1	57.2	54.8	+ 6
Taxable Sales - $ bil.		N.A.	N.A.	N.A.	
Plane Pass. Arr. (thous.)	JAN.	250.5	298.2	164.2	+53
Petroleum Prod. (thous.)		N.A.	N.A.	N.A.	
Consumer Price Index					
1967=100		N.A.	N.A.	N.A.	
Kilowatt Hours - mils.	DEC.	5.6	5.0	5.5	+ 2

	FEB. 1987	R JAN. 1987	FEB. 1986	ANN. % CHG.
Agriculture				
Prices Rec'd by Farmers				
Index (1977=100)	122	119	121	+ 1
Broiler Placements (thous.)	87,077	86,574	81,516	+ 7
Calf Prices ($ per cwt.)	70.60	65.10	61.60	+15
Broiler Prices (¢ per lb.)	30.10	31.10	29.00	+ 4
Soybean Prices ($ per bu.)	4.69	4.69	5.13	- 9
Broiler Feed Cost ($ per ton)	(Q1)174	(Q4)177	(Q1)191	- 9
Agriculture				
Prices Rec'd by Farmers				
Index (1977=100)	111	110	109	+ 2
Broiler Placements (thous.)	36,147	35,797	33,880	+ 7
Calf Prices ($ per cwt.)	67.94	61.43	59.67	+14
Broiler Prices (¢ per lb.)	28.45	30.09	27.84	+ 2
Soybean Prices ($ per bu.)	4.83	4.80	5.23	- 8
Broiler Feed Cost ($ per ton)	(Q1)168	(Q4)179	(Q1)184	- 9
Agriculture				
Farm Cash Receipts - $ mil.				
Dates: DEC., DEC.	1,945		2,077	- 6
Broiler Placements (thous.)	12,799	12,648	11,470	+12
Calf Prices ($ per cwt.)	66.50	60.90	58.50	+14
Broiler Prices (¢ per lb.)	28.00	29.00	27.00	+ 4
Soybean Prices ($ per bu.)	4.88	4.80	5.19	- 6
Broiler Feed Cost ($ per ton)	175	191	183	- 4
Agriculture				
Farm Cash Receipts - $ mil.				
Dates: DEC., DEC.	4,691		4,816	- 3
Broiler Placements (thous.)	2,209	2,289	2,136	+ 3
Calf Prices ($ per cwt.)	70.40	63.30	60.60	+16
Broiler Prices (¢ per lb.)	28.00	29.00	27.00	+ 4
Soybean Prices ($ per bu.)	4.88	4.80	5.19	- 6
Broiler Feed Cost ($ per ton)	175	191	235	-26
Agriculture				
Farm Cash Receipts - $ mil.				
Dates: DEC., DEC.	3,176		3,327	- 5
Broiler Placements (thous.)	14,526	14,143	13,879	+ 5
Calf Prices ($ per cwt.)	65.10	59.10	55.90	+16
Broiler Prices (¢ per lb.)	27.50	29.50	27.00	+ 2
Soybean Prices ($ per bu.)	4.88	4.71	4.93	- 1
Broiler Feed Cost ($ per ton)	175	191	181	- 3
Agriculture				
Farm Cash Receipts - $ mil.				
Dates: DEC., DEC.	1,362		1,460	- 7
Broiler Placements (thous.)	N.A.		N.A.	
Calf Prices ($ per cwt.)	68.40	60.90	60.01	+14
Broiler Prices (¢ per lb.)	30.30	32.50	30.00	+ 1
Soybean Prices ($ per bu.)	4.67	4.66	5.22	-11
Broiler Feed Cost ($ per ton)	147	144	250	-41
Agriculture				
Farm Cash Receipts - $ mil.				
Dates: DEC., DEC.	1,747		2,136	-18
Broiler Placements (thous.)	6,614	6,717	6,394	+ 3
Calf Prices ($ per cwt.)	71.00	62.90	62.70	+13
Broiler Prices (¢ per lb.)	30.30	32.50	30.80	- 2
Soybean Prices ($ per bu.)	4.91	4.89	5.31	- 8
Broiler Feed Cost ($ per ton)	147	144	159	- 8
Agriculture				
Farm Cash Receipts - $ mil.				
Dates: DEC., DEC.	1,833		2,057	-11
Broiler Placements (thous.)	N.A.		N.A.	
Calf Prices ($ per cwt.)	65.70	60.30	59.30	+11
Broiler Prices (¢ per lb.)	30.30	31.00	26.00	+17
Soybean Prices ($ per bu.)	4.83	4.88	5.35	-10
Broiler Feed Cost ($ per ton)	187	181	186	+ 1

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.

GENERAL

	LATEST DATA	CURR. PERIOD	PREV. PERIOD	YEAR AGO	ANN. % CHG.
UNITED STATES					
Personal Income ($ bil. - SAAR)	Q4	3,529.7	3,498.7	3,379.7	+ 4
Taxable Sales - $ bil.		N.A.	N.A.	N.A.	
Plane Pass. Arr. (thous.)		N.A.	N.A.	N.A.	
Petroleum Prod. (thous.)	MAR.	8,433.0	8,277.2	8,821.2	- 4
Consumer Price Index 1967=100	MAR.	335.9	334.4	326.0	+ 3
Kilowatt Hours - mils.	JAN.	209.1	199.8	209.4	- 0
SOUTHEAST					
Personal Income ($ bil. - SAAR)	Q4	430.3	427.4	410.6	+ 5
Taxable Sales - $ bil.		N.A.	N.A.	N.A.	
Plane Pass. Arr. (thous.)	FEB.	5,723.8	5,201.3	4,880.7	+17
Petroleum Prod. (thous.)	MAR.	1,424.0	1,419.0	1,416.0	+ 1
Consumer Price Index 1967=100		N.A.	N.A.	N.A.	
Kilowatt Hours - mils.	JAN.	32.3	31.3	32.6	- 1
ALABAMA					
Personal Income ($ bil. - SAAR)	Q4	45.4	45.2	43.7	+ 4
Taxable Sales - $ bil.		N.A.	N.A.	N.A.	
Plane Pass. Arr. (thous.)	FEB.	130.6	122.8	113.3	+15
Petroleum Prod. (thous.)	MAR.	55.0	53.0	60.0	- 8
Consumer Price Index 1967=100		N.A.	N.A.	N.A.	
Kilowatt Hours - mils.	JAN.	4.4	4.1	4.4	0
FLORIDA					
Personal Income ($ bil. - SAAR)	Q4	169.1	168.1	159.9	+ 6
Taxable Sales - $ bil.					
Plane Pass. Arr. (thous.)	FEB.	3,072.1	2,727.2	2,594.0	+18
Petroleum Prod. (thous.)	MAR.	23.0	24.0	32.0	-28
Consumer Price Index		**MAR.**	**JAN.**	**MAR.**	
1977=100 MIAMI		178.4	177.2	174.5	+ 2
Kilowatt Hours - mils.	JAN.	9.2	9.3	9.2	0
GEORGIA					
Personal Income ($ bil. - SAAR)	Q4	82.0	81.3	77.3	+ 6
Taxable Sales - $ bil.		N.A.	N.A.	N.A.	
Plane Pass. Arr. (thous.)	FEB.	1,891.6	1,795.4	1,698.1	+11
Petroleum Prod. (thous.)		N.A.	N.A.	N.A.	
Consumer Price Index		**DEC.**	**OCT.**	**DEC.**	
1967=100 ATLANTA		342.2	339.9	335.3	+ 2
Kilowatt Hours - mils.	JAN.	5.5	5.1	5.5	0
LOUISIANA					
Personal Income ($ bil. - SAAR)	Q4	50.4	50.5	50.3	+ 0
Taxable Sales - $ bil.		N.A.	N.A.	N.A.	
Plane Pass. Arr. (thous.)	FEB.	305.2	270.2	288.7	+ 6
Petroleum Prod. (thous.)	MAR.	1,266.0	1,265.0	1,240.0	+ 2
Consumer Price Index 1967=100		N.A.	N.A.	N.A.	
Kilowatt Hours - mils.	JAN.	4.7	5.2	4.7	0
MISSISSIPPI					
Personal Income ($ bil. - SAAR)	Q4	25.3	25.1	24.6	+ 3
Taxable Sales - $ bil.		N.A.	N.A.	N.A.	
Plane Pass. Arr. (thous.)	FEB.	38.5	35.2	30.3	+27
Petroleum Prod. (thous.)	MAR.	80.0	77.0	84.0	- 5
Consumer Price Index 1967=100		N.A.	N.A.	N.A.	
Kilowatt Hours - mils.	JAN.	2.2	2.0	2.2	0
TENNESSEE					
Personal Income ($ bil. - SAAR)	Q4	58.1	57.2	54.8	+ 6
Taxable Sales - $ bil.		N.A.	N.A.	N.A.	
Plane Pass. Arr. (thous.)	FEB.	285.8	250.5	156.3	+ 83
Petroleum Prod. (thous.)		N.A.	N.A.	N.A.	
Consumer Price Index 1967=100		N.A.	N.A.	N.A.	
Kilowatt Hours - mils.	JAN.	6.3	5.6	6.6	- 5

	MAR. 1987	R FEB. 1987	MAR. 1986	ANN. % CHG.
UNITED STATES				
Agriculture				
Prices Rec'd by Farmers Index (1977=100)	122	122	122	0
Broiler Placements (thous.)	89,111	87,077	84,655	+ 5
Calf Prices ($ per cwt.)	71.90	70.60	61.90	+16
Broiler Prices (¢ per lb.)	29.10	30.10	30.20	- 4
Soybean Prices ($ per bu.)	4.69	4.69	5.23	-10
Broiler Feed Cost ($ per ton)	(Q1)174	(Q4)177	(Q1)191	- 9
SOUTHEAST				
Agriculture				
Prices Rec'd by Farmers Index (1977=100)	112	111	108	+ 4
Broiler Placements (thous.)	36,761	36,147	35,311	+ 4
Calf Prices ($ per cwt.)	70.29	67.94	58.17	+21
Broiler Prices (¢ per lb.)	27.80	28.45	28.55	- 3
Soybean Prices ($ per bu.)	4.79	4.83	5.27	- 9
Broiler Feed Cost ($ per ton)	(Q1)168	(Q4)179	(Q1)184	- 9
ALABAMA				
Agriculture				
Farm Cash Receipts - $ mil. Dates: JAN., JAN.	146		166	-12
Broiler Placements (thous.)	13,061	12,799	11,997	+ 9
Calf Prices ($ per cwt.)	70.20	66.50	57.50	+22
Broiler Prices (¢ per lb.)	27.00	28.00	28.00	- 4
Soybean Prices ($ per bu.)	4.82	4.88	5.45	-12
Broiler Feed Cost ($ per ton)	175	191	183	- 4
FLORIDA				
Agriculture				
Farm Cash Receipts - $ mil. Dates: JAN., JAN.	345		497	-31
Broiler Placements (thous.)	2,213	2,209	2,296	- 4
Calf Prices ($ per cwt.)	72.60	70.40	59.40	+22
Broiler Prices (¢ per lb.)	27.00	28.00	28.00	- 4
Soybean Prices ($ per bu.)	4.82	4.88	5.45	-12
Broiler Feed Cost ($ per ton)	175	191	235	-26
GEORGIA				
Agriculture				
Farm Cash Receipts - $ mil. Dates: JAN., JAN.	205		234	-12
Broiler Placements (thous.)	14,683	14,526	14,275	+ 3
Calf Prices ($ per cwt.)	67.20	65.10	56.50	+19
Broiler Prices (¢ per lb.)	27.00	27.50	28.00	- 4
Soybean Prices ($ per bu.)	4.83	4.88	5.05	- 4
Broiler Feed Cost ($ per ton)	175	191	181	- 3
LOUISIANA				
Agriculture				
Farm Cash Receipts - $ mil. Dates: JAN., JAN.	155		164	- 5
Broiler Placements (thous.)	N.A.		N.A.	
Calf Prices ($ per cwt.)	70.00	68.40	58.00	+21
Broiler Prices (¢ per lb.)	29.90	30.30	30.50	- 2
Soybean Prices ($ per bu.)	4.71	4.67	5.25	-10
Broiler Feed Cost ($ per ton)	147	144	250	-41
MISSISSIPPI				
Agriculture				
Farm Cash Receipts - $ mil. Dates: JAN., JAN.	160		219	-27
Broiler Placements (thous.)	6,804	6,614	6,764	+ 1
Calf Prices ($ per cwt.)	72.40	71.00	59.40	+22
Broiler Prices (¢ per lb.)	29.90	30.30	30.50	- 2
Soybean Prices ($ per bu.)	4.79	4.91	5.28	- 9
Broiler Feed Cost ($ per ton)	147	144	159	- 8
TENNESSEE				
Agriculture				
Farm Cash Receipts - $ mil. Dates: JAN., JAN.	146		179	-18
Broiler Placements (thous.)	N.A.		N.A.	
Calf Prices ($ per cwt.)	68.60	65.70	57.70	+19
Broiler Prices (¢ per lb.)	29.90	30.00	26.50	+13
Soybean Prices ($ per bu.)	4.86	4.83	5.27	- 8
Broiler Feed Cost ($ per ton)	187	181	186	+ 1

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.

CONSTRUCTION

12-month cumulative rate

	JAN 1987	DEC 1986	JAN 1986	ANN. % CHG		JAN 1987	DEC 1986	JAN 1986	ANN. % CHG
UNITED STATES									
Nonresidential Building Permits - $ Mil.					Residential Building Permits				
Total Nonresidential	47,164	47,657	68,260	-31	Value - $ Mil.	94,691	94,694	84,137	+13
Industrial Bldgs.	8,669	8,879	8,776	-2	Residential Permits - Thous.				
Offices	13,895	11,047	17,373	-20	Single-family units	1,067.2	1,070.7	964.2	+11
Stores	11,945	11,889	11,228	+7	Multifamily units	656.3	673.2	776.7	-16
Hospitals	2,494	2,574	2,266	+10	Total Building Permits				
Schools	1,163	1,212	1,137	+2	Value - $ Mil.	141,864	142,360	152,397	-7
SOUTHEAST									
Nonresidential Building Permits - $ Mil.					Residential Building Permits				
Total Nonresidential	7,826	7,895	11,351	-31	Value - $ Mil.	15,708	15,696	15,027	+5
Industrial Bldgs.	1,125	1,127	1,219	-8	Residential Permits - Thous.				
Offices	1,931	1,983	2,675	-28	Single-family units	203.9	204.5	199.3	+2
Stores	2,342	2,328	2,261	+4	Multifamily units	135.2	137.6	164.7	-18
Hospitals	457	473	372	+23	Total Building Permits				
Schools	159	160	141	+13	Value - $ Mil.	23,533	23,591	26,378	-11
ALABAMA									
Nonresidential Building Permits - $ Mil.					Residential Building Permits				
Total Nonresidential	598	569	617	-3	Value - $ Mil.	680	677	566	+20
Industrial Bldgs.	77	73	55	+41	Residential Permits - Thous.				
Offices	148	133	157	-6	Single-family units	11.1	11.0	10.1	+10
Stores	176	173	160	+10	Multifamily units	8.2	8.2	8.1	+1
Hospitals	21	24	15	+40	Total Building Permits				
Schools	18	18	14	+22	Value - $ Mil.	1,277	1,246	1,183	+8
FLORIDA									
Nonresidential Building Permits - $ Mil.					Residential Building Permits				
Total Nonresidential	3,795	3,850	5,811	-35	Value - $ Mil.	8,628	8,528	8,490	+2
Industrial Bldgs.	421	425	539	-22	Residential Permits - Thous.				
Offices	938	988	1,197	-22	Single-family units	105.7	104.5	105.3	+0
Stores	1,123	1,114	1,234	-9	Multifamily units	85.7	86.6	99.1	-14
Hospitals	288	288	203	+42	Total Building Permits				
Schools	43	43	43	0	Value - $ Mil.	12,423	12,379	14,301	-13
GEORGIA									
Nonresidential Building Permits - $ Mil.					Residential Building Permits				
Total Nonresidential	1,748	1,764	2,054	-15	Value - $ Mil.	3,717	3,783	3,270	+14
Industrial Bldgs.	342	354	330	+4	Residential Permits - Thous.				
Offices	427	418	554	-22	Single-family units	50.9	51.8	47.4	+7
Stores	515	510	331	+56	Multifamily units	23.5	24.5	27.8	-15
Hospitals	29	37	32	-10	Total Building Permits				
Schools	40	40	17	+135	Value - $ Mil.	5,466	5,548	5,324	+3
LOUISIANA									
Nonresidential Building Permits - $ Mil.					Residential Building Permits				
Total Nonresidential	497	551	1,311	-62	Value - $ Mil.	550	565	752	-27
Industrial Bldgs.	43	46	50	-14	Residential Permits - Thous.				
Offices	121	155	451	-73	Single-family units	8.3	8.6	11.6	-28
Stores	150	158	241	-138	Multifamily units	2.4	2.3	5.7	-58
Hospitals	37	44	49	+22	Total Building Permits				
Schools	40	39	46	-13	Value - $ Mil.	1,046	1,166	2,064	-49
MISSISSIPPI									
Nonresidential Building Permits - $ Mil.					Residential Building Permits				
Total Nonresidential	246	247	304	-19	Value - $ Mil.	333	343	342	-3
Industrial Bldgs.	30	28	66	+15	Residential Permits - Thous.				
Offices	62	63	55	+13	Single-family units	5.5	5.7	5.8	-5
Stores	79	79	64	+23	Multifamily units	2.1	2.3	2.5	-16
Hospitals	22	22	18	+22	Total Building Permits				
Schools	8	8	7	+14	Value - $ Mil.	578	590	646	-11
TENNESSEE									
Nonresidential Building Permits - $ Mil.					Residential Building Permits				
Total Nonresidential	942	914	1,253	-25	Value - $ Mil.	1,801	1,800	1,608	+12
Industrial Bldgs.	212	200	219	-3	Residential Permits - Thous.				
Offices	235	225	271	-13	Single-family units	22.4	22.8	19.1	+17
Stores	298	294	231	+29	Multifamily units	13.4	13.8	21.5	-38
Hospitals	60	58	55	+9	Total Building Permits				
Schools	9	12	14	-36	Value - $ Mil.	2,743	2,914	2,861	-4

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 represents the total of the six states.

CONSTRUCTION

12-month cumulative rate

	FEB 1987	JAN 1987	FEB 1986	ANN. % CHG
UNITED STATES				
Nonresidential Building Permits - $ Mil.				
Total Nonresidential	46,693	47,164	67,313	-31
Industrial Bldgs.	8,445	8,669	8,834	-4
Offices	13,644	13,895	17,323	-21
Stores	11,875	11,945	11,472	+3
Hospitals	2,481	2,494	2,274	+9
Schools	1,170	1,163	1,097	+7
Residential Building Permits				
Value - $ Mil.	95,114	94,691	84,486	+13
Residential Permits - Thous.				
Single-family units	1,075.6	1,067.2	968.3	+11
Multifamily units	639.5	656.3	780.3	-18
Total Building Permits				
Value - $ Mil.	141,806	141,855	151,799	-7
SOUTHEAST				
Nonresidential Building Permits - $ Mil.				
Total Nonresidential	7,798	7,826	11,168	-30
Industrial Bldgs.	1,109	1,125	1,187	-7
Offices	1,925	1,931	2,631	-27
Stores	2,337	2,342	2,310	+1
Hospitals	442	457	375	+18
Schools	161	159	143	+13
Residential Building Permits				
Value - $ Mil.	15,652	15,708	15,347	+2
Residential Permits - Thous.				
Single-family units	205.2	203.9	200.6	+2
Multifamily units	139.5	135.2	169.2	-23
Total Building Permits				
Value - $ Mil.	23,450	23,533	26,514	-12
ALABAMA				
Nonresidential Building Permits - $ Mil.				
Total Nonresidential	614	598	639	-4
Industrial Bldgs.	75	77	58	+30
Offices	176	148	157	+12
Stores	193	176	165	+17
Hospitals	24	21	13	+90
Schools	18	17	14	+27
Residential Building Permits				
Value - $ Mil.	682	680	569	+20
Residential Permits - Thous.				
Single-family units	11.3	11.1	9.4	+20
Multifamily units	7.8	8.2	8.5	-8
Total Building Permits				
Value - $ Mil.	1,296	1,277	1,208	+7
FLORIDA				
Nonresidential Building Permits - $ Mil.				
Total Nonresidential	3,771	3,795	5,697	-34
Industrial Bldgs.	421	421	495	-15
Offices	906	938	1,192	-24
Stores	1,115	1,123	1,245	-10
Hospitals	281	288	213	+32
Schools	39	45	46	-14
Residential Building Permits				
Value - $ Mil.	8,501	8,628	8,714	-2
Residential Permits - Thous.				
Single-family units	106.2	105.7	106.0	+0
Multifamily units	80.4	85.7	103.3	-22
Total Building Permits				
Value - $ Mil.	12,272	12,423	14,411	-15
GEORGIA				
Nonresidential Building Permits - $ Mil.				
Total Nonresidential	1,761	1,748	2,038	-14
Industrial Bldgs.	334	342	330	+1
Offices	439	427	538	-18
Stores	518	515	354	+46
Hospitals	21	29	38	-46
Schools	44	40	17	+159
Residential Building Permits				
Value - $ Mil.	3,739	3,717	3,349	+12
Residential Permits - Thous.				
Single-family units	51.1	50.9	48.5	+5
Multifamily units	23.4	23.5	27.7	-16
Total Building Permits				
Value - $ Mil.	5,500	5,466	5,388	+2
LOUISIANA				
Nonresidential Building Permits - $ Mil.				
Total Nonresidential	467	497	1,251	-63
Industrial Bldgs.	43	43	49	-7
Offices	104	121	420	-75
Stores	141	150	232	-39
Hospitals	36	37	49	-27
Schools	42	40	45	-7
Residential Building Permits				
Value - $ Mil.	537	550	745	-28
Residential Permits - Thous.				
Single-family units	8.0	8.3	11.5	-30
Multifamily units	2.3	2.4	5.5	-58
Total Building Permits				
Value - $ Mil.	1,004	1,046	1,996	-50
MISSISSIPPI				
Nonresidential Building Permits - $ Mil.				
Total Nonresidential	245	246	307	-20
Industrial Bldgs.	24	30	33	-27
Offices	62	62	58	+7
Stores	85	79	65	+31
Hospitals	22	22	18	+22
Schools	7	8	7	0
Residential Building Permits				
Value - $ Mil.	330	333	346	-5
Residential Permits - Thous.				
Single-family units	5.4	5.5	5.9	-8
Multifamily units	2.0	2.1	2.5	-20
Total Building Permits				
Value - $ Mil.	575	578	652	-12
TENNESSEE				
Nonresidential Building Permits - $ Mil.				
Total Nonresidential	940	942	1,237	-24
Industrial Bldgs.	212	212	223	-5
Offices	239	235	267	-10
Stores	286	298	250	+14
Hospitals	59	60	45	+31
Schools	9	9	14	-31
Residential Building Permits				
Value - $ Mil.	1,864	1,801	1,624	+15
Residential Permits - Thous.				
Single-family units	23.2	22.4	19.3	+20
Multifamily units	13.6	13.4	21.6	-37
Total Building Permits				
Value - $ Mil.	2,804	2,743	2,860	-2

NOTES: Data supplied by the U.S. Bureau of the Census, Housing Units Authorized by Building Permits and Public Contracts, C-40.
Nonresidential data excludes the cost of construction for publicly owned buildings.
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Federal Reserve Bank of Atlanta
104 Marietta St., N.W.
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