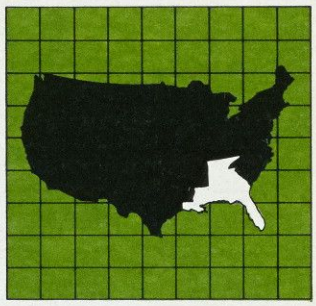
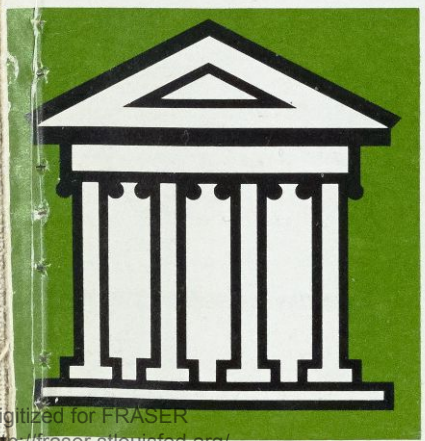
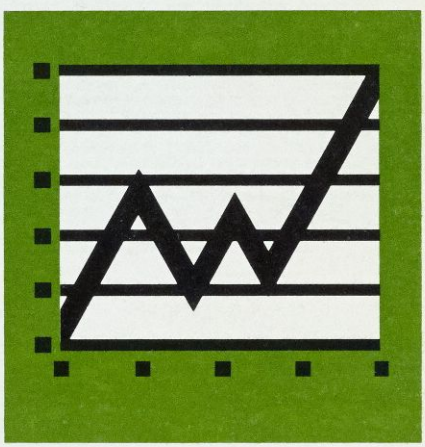
Economic Review



FEDERAL RESERVE BANK OF ATLANTA JANUARY 1983





Economic Review

FEDERAL RESERVE BANK OF ATLANTA

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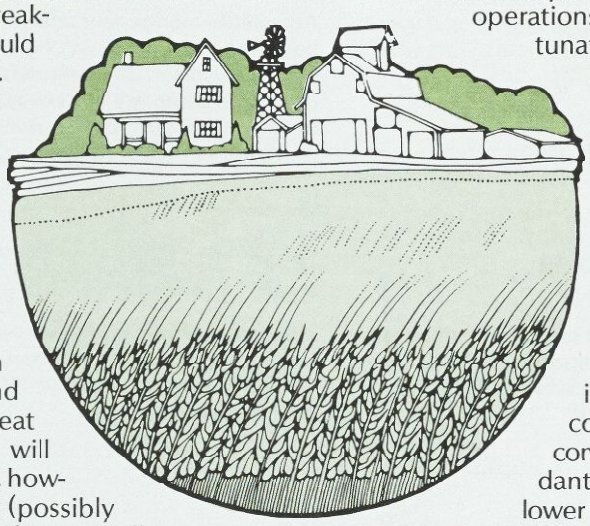
Farm Credit in the Southeast: Shakeout and Survival

Rocked by financial troubles, the Southeast's agricultural economy is seeing a shakeout of marginal, ill-managed farms. That shakeout will also affect a number of efficient farms afflicted by economic and physical problems. Most southern farmers, however, will survive and continue in business.

If an agricultural economist had seriously suggested in 1972 that 10 years later southern farmers would owe $20 billion and face $2 billion in annual interest payments, he would have been met with, at best, serious skepticism. If he also had included a prediction of crop prices below the break-even point, his credibility would not have been improved. Yet, as we enter 1983, all of the above are true.



For the farm economy, 1982 may well have marked a low point of the post-Depression farm era and of the present farm crisis. Despite widely read pessimism concerning delinquent debts, farm liquidations, low prices, and declining equities, the great majority of farmers will survive. That is not to deny, however, that several hundred (possibly as many as 3,000) southern farmers will leave the business over a two-or three-year span. Many farmers have already liquidated their operations, and a further rise in the rate of liquidations is generally expected. Although delinquency rates on Farmers Home Administration (FmHA) farm program loans remained high throughout 1982, they declined slightly for the Sixth Federal Reserve District as a whole.

The farm economy's financial predicament can be blamed on a wide variety of factors. Yet, directly or indirectly, the essential element that has placed many farmers in a precarious position is the inflationary binge of the 1970s. Farmers became accustomed to the substantial and continuous rise in asset values, especially in land, and attempted to use it to expand their operations. Other farmers, less fortunate, were trying to use their increasing equity to offset losses from drought or other reasons.

Regardless of the rationale, the continuous increase in paper asset values made it much easier for farmers to utilize debt financing. In 1982, this bubble essentially burst, as the rate of inflation fell rapidly. The cooling of inflation, in combination with over-abundant supplies, weak demand, lower commodity prices, and still substantial interest rates all worked to squeeze the farm economy. An adjustment that could have been handled had it developed gradually was suddenly compressed into a one- or two-year period.

Perhaps subsiding inflation would have had less impact if farmers had not been racking up back-to-back years of low net incomes. National figures indicate that high incomes in 1979 were followed by substantially lower incomes in the following years.[1] Farm income in 1980

fell 38 percent from the preceding year; in 1981 it was still 22 percent lower than 1979. Present estimates for 1982 suggest net farm income will remain low.

For the Sixth District, net farm income peaked in 1979 and began a subsequent decline. Net income from farming in 1980 is estimated at $2 billion, or 49 percent less than in 1978. There was little improvement in 1981, nor is any likely in 1982.[2]

The recent low income years were preceded by the rapid climb in District farm debt. From 1970 to 1980 the increase exceeded 200 percent.

Contrary to what might have been anticipated, farm debt growth has actually slowed in the South since 1980 (Chart 1). Reports from individual lenders suggest loans outstanding have seen little increase during 1982 in the aggregate. The Federal Land Bank (FLB) was showing a 12 percent rise as of September 1982, but other lenders report either very small increases or actual declines. The increase in FLB loans outstanding might be explained by an increase in farmers using their farmland as collateral in order to repay short-term loans or to obtain operating funds. The decline in Production Credit Association (PCA) loans outstanding (9 percent) and increase in FLB loans outstanding suggest this might be happening, but it cannot be proven conclusively. Another possibility is that, with increasing numbers of farmers liquidating their farms and a shift by many farmers to low cost crops, demand for short-term loans simply may have declined. Reports from the farm community suggest farmers are trying to minimize or avoid debt as energetically as possible.

Recent data indicate sharp declines in loans closed by both PCAs and FLBs during the last year. A comparison of September 1982 with September 1981 shows approximately 50 percent fewer loan closures at FLB offices in the southern United States. The PCA loan volume was approximately 11 percent off from September 1981, although rates varied greatly between areas.

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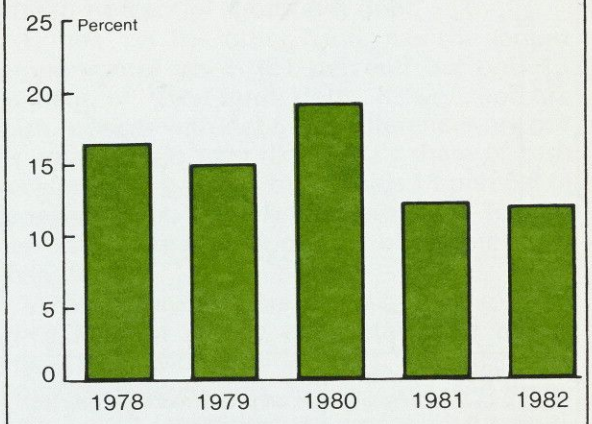
[1]"Economic Indicators of the Farm Sector," Economic Research Service,USDA.
[2]Economic Research Service, USDA.

Chart 1. Growth in District Farm Debt



Source: Farmers Home Administration USDA. Farm Credit Administration and Federal Reserve Board.

Farm Mortgages

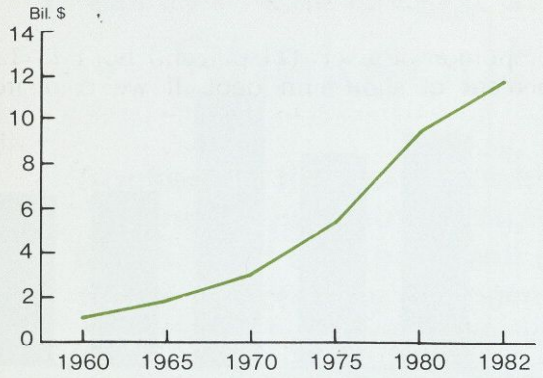
Long-term debt secured by farm real estate in the Southeast has changed substantially in recent years. Banks have lost more of the market to other lenders, the FmHA has expanded its loan volume, and the FLB has become the single most important source of credit to farmers. Of the lenders, FmHA has the most serious problem with borrower delinquencies.

A broad swing in borrower attitudes shows up clearly here. Following the Depression, a basic precept of farm financial management was to minimize debt. The period from 1939 until 1956 saw only a doubling of farm loans outstanding in the District. Yet since 1956 farm real estate debt has increased eightfold. It has doubled since 1975 (Chart 2).

By the 1980s the FLB had emerged as the major source of farm real estate loans. Prior to the mid-1970s, farmers utilized a variety of sources for real estate debt, but in most District states the FLB had substantial amounts outstanding. Insurance companies held significant amounts of debt in Alabama, Florida, and Mississippi (where they were the largest single source). At present, the FLB is the largest supplier of funds in each District state, representing 44 percent of all loans outstanding in Georgia.

Florida and Georgia have the greatest share of long-term farm debt, representing 42 percent of the total District debt. At the other end of the scale, Alabama and Louisiana have consistently

Chart 2. Farm Real Estate Debt



Source: Agricultural Statistics 1981, USDA. Farm Real Estate Debt 1982, Statistical Bulletin 31, Farm Credit Administration.

been the states with the District's lowest debt throughout the last 20 years. Mississippi held the largest share 20 years ago, but its share has receded since.

Farm Non-real Estate Debt

The three main sources of non-mortgage farm debt are: commercial banks, PCAs, and the FmHA. PCAs do make loans secured by real estate, but they usually are counted as short-term and intermediate loans. Recent estimates of District non-real estate farm debt of these lending institutions suggest it is approximately $8 billion. Such debt appears to have grown at a 9 percent rate in 1981-82, in line with a national growth rate of 8 percent. Assuming that District rates are comparable with national rates, the pattern is similar to farm mortgages:

Box 1. The Dimensions of Farm Credit

When speaking of farm credit one is referring to a relatively important amount of debt, a substantial number of debtors, and a variety of lending institutions. Nationally, farm debt has been estimated at approximately $200 billion. For the Sixth District it is more difficult to arrive at an estimate, but the addition of known debt quickly sums to $18 billion and $20 billion is more likely. Likewise, the number of indebted farmers in the District cannot be estimated precisely, since figures are unavailable from some lending sources, and some borrowers probably are indebted to more than one source. A highly approximate estimate would be 150,000 indebted farmers. These farmers have available to them a wide variety of lending sources. These sources of farm credit include the Federal Land Banks, Production Credit Assoications, Farmers Home Administration, commercial banks, the insurance industry, agribusiness enterprises, and individuals. The latter two categories, for which information is generally unavailable, consist primarily of short-term credit such as farm equipment sales, fertilizer sales, and similar arrangements. In addition, the Small Business Administration (SBA) was active for a few years making disaster-related farm loans. Although the SBA has ceased such activity, it maintains a substantial portfolio of long-term loans.

The FmHA, a governmental entity within the Department of Agriculture, has been performing in a number of capacities, although to the farm industry its basic function is "lender of last resort." In the past it has extended credit to farmers otherwise unable to obtain necessary funds for entering the business, expanding their existing farm operation, or remaining in business. It has also extended credit to farmers affected by physical disasters such as floods or drought and briefly functioned as a source of funds to farmers unduly hurt by economic circumstances beyond their control. The organization has many additional functions, but the above are of primary relevance to the farm economy.

The FmHA, as of the third quarter of 1982, had extended credit to 50,012 District borrowers composing the traditional farm programs (Table 1).

Mississippi has the largest number of farmers indebted to the FmHA, representing 27 percent of the entity's District borrowers. Florida, on the other hand, has the smallest number with only 7 percent of District debtors. In the aggregate, District borrowers compose 17 percent of FmHA's national farm program borrowers.

Table 1. Number of FmHA Borrowers, as of 3rd Quarter 1982

Alabama	7,138
Florida	3,548
Georgia	9,139
Louisiana	7,623
Mississippi	13,744
Tennessee	8,820

Source: Farmers Home Administration, Farmer Program Status Report, September 30, 1982.

In 1982 the FmHA had a total of $4.8 billion in farm program loans outstanding in the Sixth District.[1] Georgia and Mississippi are virtually tied for the highest loan amounts outstanding (Table 2). Together they comprise 50 percent of the total dollar amount. Since Mississippi has 46 percent more borrowers than Georgia, the implication is that Georgia loans may be for larger amounts. Alabama has the smallest amount of loans as well as farm borrowers.

The Federal Land Bank is a division of the Farm Credit System originally created by the federal government. At present the FCS is an independently functioning enterprise. The FLB is essentially a source of long-term farm real estate loans, although it also makes rural home loans and farm-related business loans. As of the third quarter of 1982 the amount of farm loans outstanding totaled $6.9 billion, or 14 percent, of national FLB farm loans outstanding. Georgia holds 24 percent of District FLB loans outstanding while Alabama has the smallest share of any District state with 12 percent.

Production Credit Associations are another facet of the Farm Credit System. Generally speaking, they are oriented more toward supplying short-term credit to farmers. In terms of loans outstanding, PCAs located in the District states have $2.8 billion in loans. On a state basis the amounts range from $291 million in Alabama to $643 million in Georgia.[2] District loans represent 12.8 percent of national PCA lending. Georgia

the peak rate of increase occurred in 1978 and 1979 with a steady decline thereafter.

An examination of short-term farm debt at the state level reveals substantial differences among the District states. Alabama has the least amount of debt with only 11 percent of the District total, while Georgia has the largest amount with 24 percent. From 1981 to 1982 Louisiana had the sharpest increase (20 percent) whereas Tennessee's non-real estate farm debt climbed only 4 percent. By September, 1982, however, PCA loans outstanding had declined in every Sixth District state with Tennessee undergoing a 19 percent decline. Short-term bank farm loans were lower only in Alabama and Georgia.

Table 3 gives each state's share of District farm assets, debts, and cash receipts. Georgia has 16 percent of farm assets but 20 percent of long-term and 25 percent of short-term debt. Similarly, Mississippi has 17 percent of assets but 20 percent of short-term debt.

Florida, on the other hand, has the largest proportion of assets (21 percent) but only 13 percent of short-term debt. If we compare cash receipts with debt, the differences are not as great but do exist. Louisiana's share of cash receipts is 11 percent, but it holds 15 percent of long-term debt. Similarly, Mississippi and Tennessee have a smaller proportion of cash receipts than debt.

What explanations are available for the difference in debt among the states? Part of the answer is obvious: some states have high proportions of assets and cash receipts, and therefore a high percentage of District farm debt.

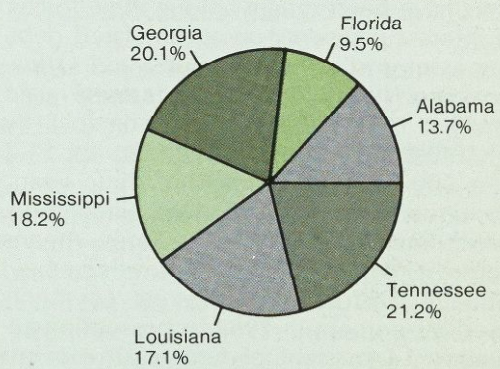
Table 2. District Farm Loans Outstanding* (thousands of dollars)

	PCA	FLB	Banks	FmHA
Alabama	291,171	850,925	451,765	520,926
Florida	530,205	1,457,610	317,324	410,136
Georgia	643,780	1,639,496	649,294	1,309,923
Louisiana	436,742	1,137,446	620,712	820,713
Mississippi	393,766	1,016,160	664,104	1,356,254
Tennessee	543,888	836,617	717,396	664,464

*As of September 30, 1982. In addition to these SBA has farm loans outstanding of $983 million in eight southern states.

Sources: Farm Credit Administration, Federal Reserve and Farmers Home Administration.

Chart A. Distribution of Commercial Bank Farm Loans



Source: Federal Reserve Call Reports.

farmers have 23 percent of PCA loans outstanding while Alabama has 10 percent, remarkably similar to the distribution of FLB lending.

Banks for Cooperatives, the third section of the FCS, extends credit to farm cooperatives. It has less loan activity than its two counterparts with loans outstanding of $2.2 billion as of September 1982. Since 1977 PCA loans outstanding have grown 63 percent, while FLB lending has increased 149 percent. Banks for Cooperatives increased loans outstanding by 53 percent. During this same period, bank agricultural lending saw a 24 percent rise.[3]

For many years the banking industry was the dominant source of credit for farmers, but the onslaught of the Great Depression set in motion forces that have drastically reduced the role of commercial banking in the last 50 years. The large number of bank failures in the 1930s combined with widespread farm liquidations made bankers highly averse to risk, and, at the same time, they equated agriculture with risk.

At present, banks have approximately $3.3 billion loaned out for agricultural purposes. Of this, $1.9 billion is secured by farm real estate and the remainder is short-term farm loans. In size of loans outstanding, Georgia and Tennessee bankers consistently have had the largest amount (Chart A). In the first quarter of 1976, the two states accounted for 50 percent of farm real estate loans outstanding and 39 percent of production loans outstanding. By second quarter 1982 both had fallen, to 46 percent and 38 percent respectively, still a substantial share of Sixth District bank farm lending. Likewise, by dollar value, the Florida banking industry had the smallest amount of farm loans outstanding, approximately half the amount of either Georgia or Tennessee.[4]

In the District the importance to banks of agricultural lending has continued to decline. In 1976 total farm loans composed 5.7 percent of all loans outstanding. Six years later they comprised only 4 percent of the total. Short-term farm loans made up 3.1 percent of loan portfolios in 1976, just 2.3 percent in 1982.

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[1]The term "farm program" is used here to refer to the loan categories of farm ownership, operating loans, emergency, economic emergency, recreation, soil and water, and economic opportunity. The first four represent the major farm loan divisions.
[2]Farm Credit Administration.
[3]Farm Credit Administration.
[4]Federal Reserve.

Table 3. Farm Financial Structure
(Percent of District)

	Cash Receipts	Assets	Debt	
			Long-Term	Short-Term
Ala.	14	13	12	11
Fla.	27	21	21	13
Ga.	21	16	20	25
La.	11	16	15	14
Miss.	15	17	16	20
Tenn.	12	16	16	17

Other states were affected by a series of droughts resulting in an accumulation of debt. The variations in crop types, proportion of livestock relative to crop farming, and other factors unique to the individual states also account for differences in the financial structure of the states.

Anatomy of the Squeeze

Farmers have been caught among three forces: (1)high interest payments on accumulated debt, (2)falling asset and collateral values, and (3)low farm income. In 1977 District farmers paid $850 million in interest on debt principal. By 1980 interest payments had grown to $1.7 billion, a 100 percent increase in three years. The continued rise in farm debt since then, along with increases in interest rates, means that interest payments also have increased substantially. District farm interest payments increased 29 percent in 1981, representing approximately 14 percent of farm cash receipts compared with 9 percent as recently as 1979. Farmers with substantial accumulated debt found it harder to earn satisfactory returns as interest rates climbed.

Financial Condition of Borrowers

Reports from the farm community suggest that total asset values have declined substantially since 1981.[3] For the District states, the 1982 debt-asset ratio is approximately 22 percent, much higher than the 17-18 percent of past years. Although the increase represents a major shift in the relationship of debts to assets, for most farmers the situation remains within acceptable limits.

In recent years the purchasing farmer could hope the value of his assets would climb, so his debt-to-asset position would steadily improve as the value of his assets increased and he repaid his loans.

With recurring years of low farm income, however, the value of farm assets has begun to fall. With two or three low income years in a row, as many southern farmers have experienced, and

[3]Based on conversations with farm lenders and others in agriculture.

Box 2.
WIDE VARIATIONS IN SOUTHEASTERN STATES

Leading Sources of Farm Cash Receipts in Sixth District States

Alabama	Florida	Georgia
Poultry/Eggs	Fruit	Poultry/Eggs
Cattle	Vegetables	Peanuts
Soybeans	Cattle	Soybeans

Louisiana	Mississippi	Tennessee
Soybeans	Soybeans	Soybeans
Food grain	Cotton	Cattle
Cotton	Poultry/Eggs	Hogs

Source: ERS, USDA

While southeastern states are often regarded as a homogeneous entity, there are in fact a multitude of differences. In agriculture, not only are a variety of crops planted but differences in climate and soils between areas frequently result in substantial disparities in yields of identical crops. Also the financial condition of farmers may well vary from one crop area to another because of variations in markets for different products as well as differences in weather from one area to another.

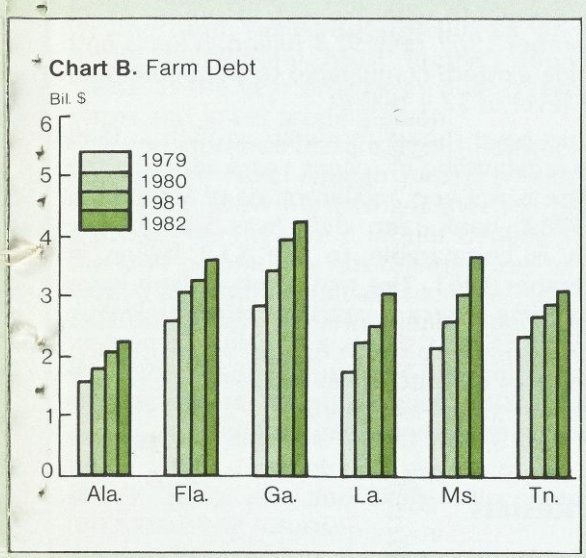
In Louisiana and Florida, for instance, sugarcane growers are faring relatively well in 1982. Rice growers in Louisiana, on the other hand, have faced a 25 percent decline in 1982's market price for rice, and some farmers are in a severe financial strain. Tobacco farmers in Georgia, Florida, and Tennessee have also survived 1982 in better financial condition because support prices have protected them from the significant price declines endured by grain and soybean farmers.

In terms of farm debt, there are significant differences in the amount held by District states (Chart B). Georgia farmers are the most indebted of all with $4.3 billion in us

asset values on the decline, the situation for the highly leveraged farmer may become untenable.

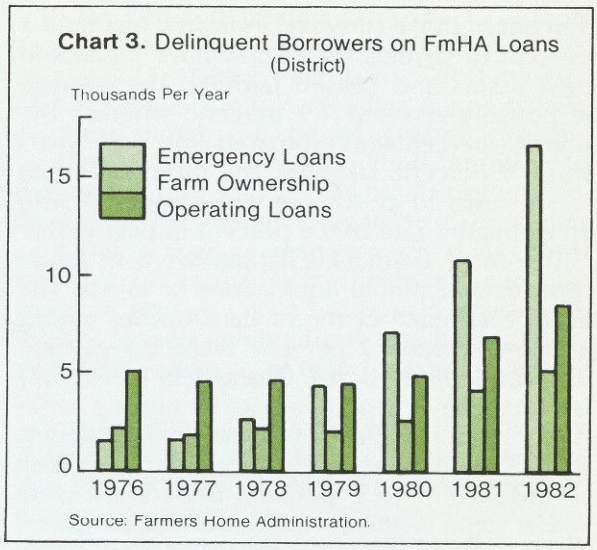
This has led to delinquencies. For fiscal year 1982 emergency loan applications to the FmHA from Sixth District farmers reached 15,295, or 32 percent of all U. S. applications. This disproportionate share illustrates the large number of southern farmers affected by financial stress.

On the subject of delinquent debtors, information is limited. In the case of the FCS, delinquencies are a small proportion of the total loans, approximately 4 percent,although



c a loans outstanding, while Alabama has the least with of $2.2 billion. There has been rapid farm debt growth in of every state, but Georgia, Louisiana, and Mississippi ils have experienced the highest rates in the last four dis- years. Even so, through 1981 asset growth in the latter cial two states was sufficient to lower the ratio of debts to rea assets from its level in 1978. Georgia, on the other ent hand, has undergone a substantial increase in its ne ratio, illustrating that debt growth related to a series of weather disasters in Georgia was outpacing the increase in value of assets.

ne Comparisons of farm revenue also show major s in differences between states in both farm cash receipts ent and net income. Florida's net farm income typically me exceeds that of any other District state and in 1981 cco was larger than the net income of Louisiana, Mississippi, lso and Tennessee combined. Every District state has use suffered sharply reduced net income beginning in ant 1980 with widespread drought, untimely freezes, and ers. spiraling costs. All but Florida and Louisiana recovered ces somewhat in 1981, although net income remained rgia much below normal. Net farm income has been un- n in usually low in all six states during the last three years.



higher than in previous years. The FmHA, as of third quarter 1982, had a District delinquency rate of 38 percent on farm loans (Chart 3). Delinquency rates from other lending sources are unavailable, but delinquencies apparently comprise a small proportion of total loans.

The FmHA farm program's emergency loan sector has suffered the largest increases in delinquencies. From 1977 until 1982 the proportion of emergency loan borrowers who were delinquent increased from 32 to 50 percent. In comparison, operating loan delinquencies rose from 36 to 53 percent, while farm ownership delinquencies climbed from 11 to 27 percent.

Despite the high delinquency rates among FmHA borrowers, liquidations have been moderate. As of September 30, District foreclosures during fiscal 1982 totaled 199 with an additional 829 liquidations. Mississippi is by far the state hardest hit, with 55 percent of foreclosures and 50 percent of liquidations among FmHA borrowers.

An Atlanta Fed survey of agricultural lenders in the Sixth District suggests a very small percentage of southern farmers are in extreme financial difficulty, while many more are suffering some financial stress. However, replies to the survey indicate recent increases in liquidations and foreclosures with a further rise anticipated.

For instance, the number of farmers who have left the business within the past six months because of forced or voluntary liquidation is estimated to be less than 5 percent. Sixty-five

percent of those surveyed indicated less than 3 percent of farmers they know have liquidated their assets and ceased farming. The average response given was 1.9 percent, whereas the normal percentage estimated for past years was 0.9 percent. Likewise, the foreclosure rate was estimated at 1.8 percent compared with an estimated rate of 0.6 percent in past years.

The most dramatic changes were in bankruptcies and partial liquidations of assets. The average estimate of recent bankruptcies among all farmers was 1.2 percent, while 0.3 percent was considered normal. Changes in bankruptcy laws may have had an impact by making bankruptcy more feasible than in years past. Regarding partial liquidations, the respondents indicated an average of 5.2 percent of farmers were selling some assets in recent months, compared to an estimate of 1.4 percent in past years. Several lenders suggested that more partial liquidations would be occurring if the market for farm assets was better. The conclusion, based on the limited number of lenders surveyed, is that liquidations, foreclosures, and bankruptcies thus far have affected relatively few southern farmers.

However, virtually all categories show an increase from past years. Of the 102 possible relationships, 60 were increases from what respondents viewed as normal. Specifically, 83 percent of respondents noted an increase in partial liquidations, 71 percent in bankruptcies, 59 percent in foreclosures, 77 percent in forced liquidations, and 65 percent in voluntary liquidations. In addition, a majority of respondents anticipate further increases in liquidations and bankruptcies in the next six months. The extent was regarded by some as dependent upon future Farmers Home Administration policy. If the FmHA is patient with its debtors, and funds are available to assist other financially troubled farmers, then only a small rise is expected. Otherwise, the number of farmers forced out of business could vary from substantial to slight depending on the specific area.

Clearly there are a number of financially distressed farmers scattered throughout the Sixth District. The results of this survey, however, suggest only a small proportion of the total number are in serious financial trouble. The endangered farmers vary greatly in size, location, and product. In some areas virtually no farmers were reported to be failing nor were there expected to be any, while in other areas farm business failures were mounting at a steady pace. Thus, for the District in total, the farm economy is simply enduring another year of low farm income, but in selected farming communities across the District the impact appears to be more severe.

Impact on Loan Demand

What effects have the recent years of low farm incomes had on credit demand? At the FLB there seems to be little impact. Loans outstanding have steadily increased, although loan growth has slowed during 1982. The PCA debt, on the other hand, behaves more cyclically, peaking in late summer or early fall and then declining until the next year as producers meet debt payments with harvest incomes. As of September 1982 only $2.8 billion in loans outstanding existed, comparable to the September 1980 level of $2.9 billion.

Banks have shown moderate growth in farm loans outstanding in recent years although the increase is not very significant. As of September 30, 1982, bank farm debt was $3.4 billion, which is comparable to the $3.3 billion in September 1981. The real climb in farm loans outstanding in recent years lies with the FmHA. The Sixth District shows a sizable 412 percent increase since 1977. A substantial portion reflects loans to drought-stricken farmers and the economic emergency loan program.

The Results

Though they represent only a small percentage of the total number, several hundred farmers will fail to survive the present farm recession. They either have left the business already or will leave it in the next few months. It is difficult to identify any one dominating reason for most of the failures. Low prices, a series of droughts, poor financial management, bad luck—these and other setbacks compose the scenario of failure.

The impact on agricultural production from these increasing liquidations will be limited. More marginal land will be taken out of use both as a result of liquidations and acreage reduction programs. Prime land made idle by liquidation will likely be leased or purchased by other farmers. Total cropland planted will decline because of idled marginal land and the

recognition that fence row-to-fence row planting can be a highly unprofitable practice.

The 1982 trend of planting low-cost crops and double-cropping will continue in 1983. Farmers will attempt to minimize their costs by substituting crops that can be produced for less. As a result, proportional increases in the planting of wheat, sorghum, and soybeans may occur. Winter wheat has the advantage of being a low-cost crop and one which allows two crops in one year. An expansion of such double-cropping will occur as farmers attempt to maximize earnings.

Shifting of crops and more idled land will have a negligible impact on consumers. Extremely large stocks of major grain products exist and even a shortfall in 1983 production would have limited effects. Assuming average weather and yields, supplies of all products would be plentiful. Meat supplies should increase as the year progresses due to favorable prices and lower feeding costs.

In the short run, there is every indication that lenders will have enough patience with farm debtors to allow most to weather the present crisis. Lenders realize it would benefit neither the farm community nor the creditors to force large-scale farm liquidations. The values of farm assets have declined only moderately, but a rash of farm failures could undermine values. The result would be devastating to farmers and lenders alike, with the latter failing to recover their money and the former losing their livelihood. Liquidations already are occurring at an above-normal rate and likely will continue in the immediate future.

Will 1983 Be Better?

The prospect for repaying debts appears no better in 1983 for crop farmers. To reduce debts, substantial profits must be generated and few crops seem likely to produce profit with foreseeable price levels. For the average farmer there seems little likelihood of earning profits and, for many, losses may prove more likely. The only crops that appear profitable at recent prices are tobacco, sugarcane, and peanuts. These estimates are based on average yields, however, and substantial above-average yields would improve the probability of profit. At average yield levels, however, major price rises would be needed to insure widespread industry profits.

In the long run, farmers can expect creditors to give greater attention to cash flow instead of to assets in making new loans. The timing of cash flows and the risks affecting the probability of these flows will be of greater concern. Lenders may well broaden their attention to include not only the farmer's productive efficiency but also his marketing capabilities. For farmers with below-average management skills, funds may not be as readily forthcoming as in past years. In general, credit will remain available to "good" farmers, while others may have to offer substantial evidence of their repayment capability.

For the agricultural lender, as well as the farm debtor, financial conditions create a dilemma. The farmer who is suffering from reduced income, or perhaps no income, needs additional financing to plant. Yet creditors are often faced with declining farmer equity to an extent where further credit generates a high level of risk. For the lender, the choice may become one of either lending more money and risking possible loss in the future or forcing the farmer into liquidation at a time when his assets may not cover his debts. While this example is an extreme one, the problem exists in varying degrees for many borrowers and lenders. Does the farmer who has lost money three straight years want to keep building his debts and increase the risk of losing more? Does the lender cut credit to an old customer, forcing him out of business, or does he keep extending credit when there is little hope of ever eliminating the debt?

As time passes, the Southeast's present farm financial crisis will gradually recede. The turnaround will be neither easy nor quick because of the large amount of accumulated debt to be reduced. Even with a return to favorable commodity price levels the burden of debt carried by a segment of the farm population will affect their financial health for some time.

When it is finally over, the southern farm economy will have experienced a major shakeout of marginal, ill-managed farms as well as a number of efficient operations that were afflicted by economic and physical forces too great to counter. But in the final analysis, the majority of farmers, both in the South and throughout the United States, will survive the present severe adjustments and will continue to farm.

—Gene D. Sullivan and Gene Wilson

Positioning for Interstate Banking: More Evidence from the Sixth District

Interstate banking is prohibited by federal law, but banking organizations throughout the nation are providing financial services across state lines and have been for many years. Commercial banks commonly accept demand deposits and savings deposits from consumers in other states. Many banks aggressively market large certificates of deposit, credit cards and cash management services nationwide. Some banking organizations have calling officers who solicit banking customers nationwide. Loan production offices, electronic funds transfers, and loan participations are among the wide array of other financial services provided by banking organizations on an interstate basis. This article analyzes the specific ways in which holding companies from outside the Sixth Federal Reserve District are positioning themselves in the Sixth District through the use of nonbank subsidiaries (allowed under section 4(c)8 of the Bank Holding Act).[1]

[1]An article in the September 1982 issue of this **Review** described the types of nonbank financial services offered by Sixth District bank holding companies on an interstate basis. That article focused on the type and number of nonbank subsidiary offices [4(c)8 offices] of Sixth District holding companies located in states other than the state in which the parent holding company operated.

Although banks may not establish banking offices across state lines, they may establish offices of nonbank subsidiaries capable of offering financial services similar to those provided by banks. Legally, a commercial bank is an entity that both offers demand deposits and makes commercial loans. Therefore any organization that both offers demand deposits and makes commercial loans may be declared a commercial bank and, hence, subject to the prohibition against establishing offices across state lines. By simply separating the lending and deposit functions, banking organizations may circumvent interstate restrictions and provide financial services on an interstate basis.

One way to accomplish this is through the creation or acquisition of nonbank subsidiaries by bank holding companies. Nonbank subsidiaries offer a more limited array of financial services than commercial banks and do not offer both demand deposits and commercial loans. The nonbank subsidiary would not, therefore, constitute a commercial bank and, hence, would be free to open offices on an interstate basis. This in turn allows the bank holding company to establish

Bank holding companies from outside the Sixth Federal Reserve District are using nonbank subsidiaries to operate within the District and position themselves for the advent of interstate banking. Finance and mortgage banking subsidiaries are by far their most popular means of providing interstate financial services.

Table 1. Permissible Nonbank Activities for Bank Holding Companies Under Section 4(c)8 of Regulation Y, May 1, 1982

Activities permitted by regulation	Activities permitted by order	Activities denied by the Board
1. Extensions of credit[2] Mortgage banking Finance companies: consumer, sales, and commercial Credit Cards Factoring	1. Issuance and sale of travelers checks[2,6]	1. Insurance premium funding (combined sales of mutual funds and insurance)
2. Industrial bank, Morris Plan bank, industrial loan company	2. Buying and selling gold and silver bullion and silver coin[2,4]	2. Underwriting life insurance not related to credit extension
3. Servicing loans and other extensions of credit[2]	3. Issuing money orders and general-purpose variable denominated payment instruments[1,2,4]	3. Real estate brokerage[2]
4. Trust company[2]	4. Futures commission merchant to cover gold and silver bullion and coins[1,2]	4. Land development
5. Investment or financial advising[2]	5. Underwriting certain federal, state, and municipal securities[1,2]	5. Real estate syndication
6. Full-payment leasing of personal or real property[2]	6. Check verification[1,2,4]	6. General management consulting
7. Investments in community welfare projects[2]	7. Financial advice to consumers[1,2]	7. Property management
8. Providing bookkeeping or data processing services[2]	8. Issuance of small denomination debt instruments[1]	8. Computer output microfilm services
9. Acting as insurance agent or broker primarily in connection with credit extensions[2]		9. Underwriting mortgage guaranty insurance[3]
10. Underwriting credit life, accident, and health insurance		10. Operating a savings and loan association[1,5]
11. Providing courier services[2]		11. Operating a travel agency[1,2]
12. Management consulting for unaffiliated banks[1,2]		12. Underwriting property and casualty insurance[1]
13. Sale at retail of money orders with a face value of not more than $1,000, travelers checks and savings bonds[1,2]		13. Underwriting home loan life mortgage insurance[1]
14. Performing appraisals of real estate[1]		14. Orbanco: Investment note issue with transactional characteristics
15. Audit services for unaffiliated banks[1]		
16. Issuance and sale of travelers checks[1]		
17. Management consulting to nonbank depository institutions[1]		

[1]Added to list since January 1, 1975.
[2]Activities permissible to national banks.
[3]Board orders found these activities closely related to banking but denied proposed acquisitions as part of its "go slow" policy.
[4]To be decided on case-by-case basis.
[5]Operating a thrift institution has been permitted by order in Rhode Island and New Hampshire.
[6]Subsequently permitted by regulation.

its name, its expertise and contacts in geographic areas prohibited to its banking subsidiaries. Besides the profit and risk diversification motives, the establishment of nonbank subsidiaries across state lines is a good indication that a given holding company may be more likely to move to interstate banking if or when the law permits.

Allowable Nonbank Activities

Bank holding companies must apply to the Board of Governors of the Federal Reserve System for permission to establish or acquire nonbank subsidiaries. Section 4(c)8 of the Bank Holding Company Act states the criteria the Board must apply in deciding whether to allow bank holding companies to engage in certain nonbank activities some of which are prohibited to individual banks. To date, the Board has approved 16 activities. All are activities in which banks historically have engaged, or activities complementing services normally provided by banks or in which banks clearly possess technical skills.

The Board of Governors may approve a 4(c)8 application in one of two ways. First, it may approve the activity and add it to the "laundry

list" which bank holding companies may offer. In this case, the given activity is by regulation appropriate for holding companies but an application and approval by the board to undertake the activity is still required. The second way an activity may be approved is by an order of the Board of Governors. Approval by order is on a case-by-case basis and does not declare the activity to be generally appropriate for all bank holding companies. Other proposed activities are simply denied. Table 1 lists all 4(c)8 activities permitted by regulation, permitted by order, and denied. The activities permitted by regulation and permitted by order constitute the available types of nonbank subsidiaries which bank holding companies may establish on an interstate basis.

Identifying Sixth District Subsidiaries

With the assistance of the eleven other District Federal Reserve Banks, we identified all bank holding companies with 4(c)8 subsidiaries located in the Sixth District. Although an application is required prior to a 4(c)8 subsidiary opening a new office, no consolidated records were available. Each District Federal Reserve Bank compiled a list of holding companies with interstate 4(c)8 offices and provided the office locations on a state-by-state basis. In a few instances it was necessary to contact holding companies directly to obtain the desired information. The data in this article is the best information available on 4(c)8 interstate activity, but may not be 100 percent inclusive.

In total we identified 49 bank holding companies based outside the Sixth District that had at least one nonbank subsidiary with offices within the District. These 49 holding companies controlled 102 nonbank subsidiaries with 786 offices located in the Sixth District (Table A). The 49 holding companies with interstate nonbank subsidiaries in the Sixth District tended to be relatively large; 19 are among the 25 largest bank holding companies in the nation. Chart 1 shows the regional distribution of the 49 holding companies engaged in at least one 4(c)8 activity in the Sixth District.

Not surprisingly, more than half (30) of these holding companies had home offices in the northeastern states; New York alone accounted

Chart 1. Regional Distribution of Holding Companies with Nonbank Subsidiaries in Southeast

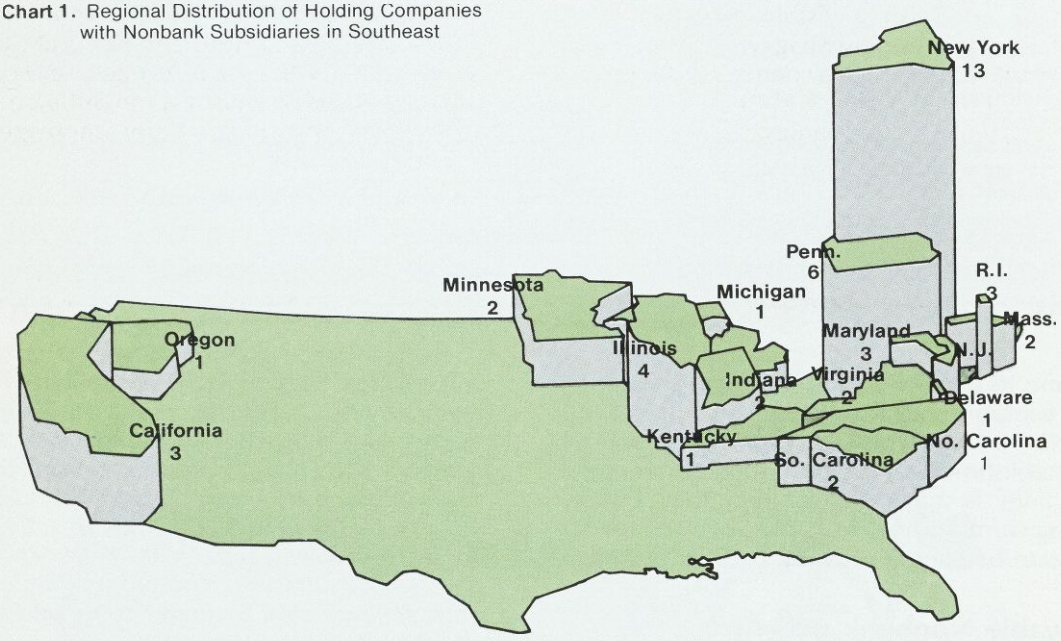


Table 2. Number of nonbank subsidiaries engaged in given types of 4(c)8 activity.

Activity	Number of Subsidiaries	No. of Offices
Mortgage Banking	26	74
Finance Company	33	664
Industrial Bank	1	1
Financial Advisor	5	6
Servicing Loans	5	6
Trust Companies	20	20
Leasing	7	10
Data Processing	1	1
Underwriting Credit Life	2	2
Management Consulting	2	2

for thirteen. Total assets of these 49 parent organizations amounted to over $526.6 billion as of December 1981, which dwarfs the total of $118 billion for all banks in the Sixth District.

Interstate Positioning

Mortgage banking firms and finance companies account for the vast majority of highly visible activities used to establish an interstate presence. Not all 4(c)8 activities allow the parent organization to establish a visible presence. Some activities, such as underwriting credit life insurance, are normally provided as a complementary service to some other 4(c) 8 activity such as mortgage banking or finance companies. Table 2 shows the total number of Sixth District nonbank subsidiaries of out-of-District holding companies for each 4(c)8 activity.

Of the activities listed in Table 2, only mortgage banking, finance companies, industrial banks and trust companies generally provide the parent organization with a visible presence. The other activities generally are provided in connection with the services offered by one of the four visible activities.

Florida and Georgia are the two most attractive areas in the Sixth District for interstate 4(c)8 activity (Table 3). A majority of the holding companies which undertake a 4(c)8 activity in Florida also undertake that same activity in Georgia. But Florida is the more attractive market (Table 4).

Finance companies and mortgage banking subsidiaries are the most popular type of 4(c)8 activity for out-of-District holding companies in the Sixth District (Table 5). In total, out-of-District holding companies control 786 offices from which they engage in at least one 4(c)8 activity. Finance company offices accounted for 84.5 percent (664) of the total and mortgage banking offices accounted for another 9.4 percent.

Of the total number of offices (786) of out-of-District nonbank subsidiaries of bank holding companies, 293 or 38 percent were located in Florida. Georgia housed another 208 offices or 26 percent of the total. Tennessee, Louisiana, and Alabama followed at some distance with 12 percent, 11 percent and 8 percent respectively.

Table 3. Number of non-Sixth District bank holding companies with nonbank subsidiaries engaged in 4(c)8 activities in the Sixth District, by state and type of activity.

4(c)8 Activity	ALA.	FLA.	GA.	LA.	MISS.	TENN.
Mortgage Company	3	15	12	1	1	2
Finance Company	11	18	21	10	7	10
Factor	1	2	2	1	0	1
Industrial Loan Company	0	1	0	0	0	0
Servicing Loans	3	13	13	3	0	2
Trust Company	0	15	1	0	0	1
Investment or financial advisor	0	9	4	0	0	0
Leasing	2	11	9	4	0	4
Data Processing	0	2	1	0	0	0
Insurance Agent	1	4	4	2	2	3
Underwriting Credit Life	7	9	10	4	4	8
Management Consulting	0	1	1	0	0	0

Table 4. Number of offices of non-Sixth District holding company subsidiaries providing a given type of 4(c)8 activity by state

4(c)8 Activity	ALA.	FLA.	GA.	LA.	MISS.	TENN.
Mortgage Company	5	48	31	7	5	3
Finance Company	63	214	184	81	37	91
Factor	1	3	3	1	0	1
Industrial Loan Company	0	1	0	0	0	0
Servicing Loans	7	72	23	11	0	4
Trust Company	0	19	1	0	0	1
Investment or financial advisor	0	15	4	0	0	0
Leasing	4	44	16	12	0	6
Data Processing	0	2	1	0	0	0
Insurance Agent	9	72	63	16	6	13
Underwriting Credit Life	56	144	146	53	26	83
Management Consulting	0	1	1	0	0	0

Mississippi housed only 37 primary offices (5 percent of the total) all of which were consumer finance companies.

Conclusion

If 4(c)8 activity is an indication, then the evidence from the Sixth District suggests that the largest bank holding companies in the nation are actively positioning for interstate banking. All but 3 of the 49 out-of-district bank holding companies with nonbank subsidiaries in the Sixth District were among the 300 largest bank holding companies in the nation. The largest portion of the holding companies with nonbank subsidiaries in the Sixth District resides in the northeastern section of the country. The Sixth District experience indicates that finance subsidiaries and mortgage banking subsidiaries are by far the most popular means of providing interstate financial services.

Florida is the most attractive target in the Sixth District for interstate expansion. Florida houses 38 percent of all offices of out-of-district holding company 4(c)8 subsidiaries. Georgia follows at a distant second with 26 percent. The results suggest that Florida should expect to be the target for many of the nation's largest bank holding companies should interstate banking be permitted. Until then, Florida will continue to attract nonbank suppliers of financial services from throughout the nation. Competition within the financial service sector in Florida will remain intense.

—David D. Whitehead

Pam Frisbee contributed valuable research assistance in the preparation of this article.

Table 5. Number of 4(c)8 offices by primary activity by state

4(c)8 Activity	ALA.	FLA.	GA.	LA.	MISS.	TENN.	Sixth District Totals
Mortgage Banking	4	44	18	7	0	1	74
Finance Companies	61	213	182	81	37	90	664
Industrial Banks	0	1	0	0	0	0	1
Financial Advisors	0	4	2	0	0	0	6
Trust Companies	0	19	0	0	0	1	20
Management Consulting	0	1	1	0	0	0	2
Servicing Loans	0	3	3	0	0	0	6
Data Processing	0	0	1	0	0	0	1
Leasing	0	6	1	1	0	2	10
Underwriting Credit Life	0	2	0	0	0	0	2
Total	65	293	208	89	37	94	786
% of Total	8	38	26	11	5	12	100%

Table A.

Mortgage Banking	MB
Financial Company	FC
Credit Cards	CC
Factoring	F
Industrial Bank	IB
Servicing Loans	SL
Trust Company	TC
Financial Advisor	FA
Leasing	L
Investment in Community Projects	I
Data Processing	DP
Insurance Agent	IA
Underwriting Credit Life	UCL
Courier Service	CS
Management Consulting	MC
Money Orders $1,000, Travelers Checks	MO,TC
Real Estate Appraisal	REA
Audit Services	AS
Travelers Checks	TC
Check Verification	CV

	Financial Services Offered by Out-of-District Bank Holding Companies Through Nonbank Subsidiaries with Offices in the Sixth District	Number of Offices by State
California		
BankAmerica Corporation		
FinanceAmerica Corporation	FC	AL(1),FL(2),GA(1),LA(1),TN(1),MS(1)
BA Mortgage and International Realty Corporation	MB • FA • L	GA(1),FL(1)
Security Pacific Corporation		
Security Pacific Business Credit Holdings	FC	GA(1)
Security Pacific Clearing & Services Corporation	TC	TN(1)
Security Pacific Finance System, Inc.	FC • IB • SL • L • UCL	FL(15),LA(5),GA(3),TN(3)
Security Pacific Leasing Corporation	FC • SL • L	GA(1)
Security Pacific Mortgage Corporation	MB • SL • TC • UCL	GA(1)
Wells Fargo and Company		
Wells Fargo Asset Management Company	MC	GA(1)
Wells Fargo Business Credit	FC	GA(1)
Wells Fargo Corporate Services	SL	GA(1)
Delaware		
Beneficial Corporation		
Beneficial Finance Company	FC	AL(2),GA(18),FL(35),LA(16),MS(8)
Southern Industrial Savings Bank of Orlando	IB	FL(1)
Illinois		
Continental Illinois		
Continental Illinois Leasing Corporation	L	FL(2)
Continental Illinois of Florida	TC • FA	FL(1)
Republic Realty Mortgage Corporation	MB • SL • UCL	GA(1)
First Chicago Corporation		
Real Estate Research Corporation	FA	FL(1),GA(1)
Northern Trust Corporation		
Security Trust Company of Naples	TC	FL(1)
Security Trust Company of Palm Beach	TC	FL(1)
Security Trust Company of Sarasota	TC	FL(1)
Security Trust Corporation	TC	FL(1)
Walter E. Heller International Corporation		
General Capital Corporation	FC	FL(1)
Walter E. Heller and Company	FC • F • L	FL(2),AL(1),GA(1),LA(1)
Walter E. Heller and Company Southeast	FC	GA(1)
Indiana		
American Fletcher Corporation		
American Fletcher Mortgage Company	SL	FL(1)
Merchants National Corporation		
Circle Leasing Corporation	FC • L	FL(1)
Merchants National of Indiana	SL	FL(1)
Kentucky		
Citizens Fidelity Corporation		
Citizens Fidelity Leasing Corporation	L	FL(1),TN(1)
Maryland		
First Maryland Bancorp		
First Maryland Leasecorp	SL • L	LA(1)
Maryland National Corporation		
Maryland National Industrial Finance Company	FC • SL	GA(1)
Maryland National Mortgage Company	MB	FL(1)
Union Trust Bancorp		
Landmark Financial Services	MB • FC • UCL	AL(1),FL(4),MS(5),GA(12),TN(2)
Massachusetts		
First National Boston Corporation		
First of Boston Mortgage Corporation	MB • FA	FL(1)
FBC, Inc.	DP	FL(1)
FNB Financial Company	FC • F • L	GA(2),FL(1),TN(1)
FNBC Acceptance Corporation	FC • UCL	AL(5)

Note: Based on data from the District Federal Reserve Banks, except in the 11th and 12th Federal Reserve Districts, where we contacted the holding companies. This data, based on Dec. 31, 1981 figures, represents a snapshot of a constantly changing situation and is not intended as an exhaustive listing.

(continued on next page)

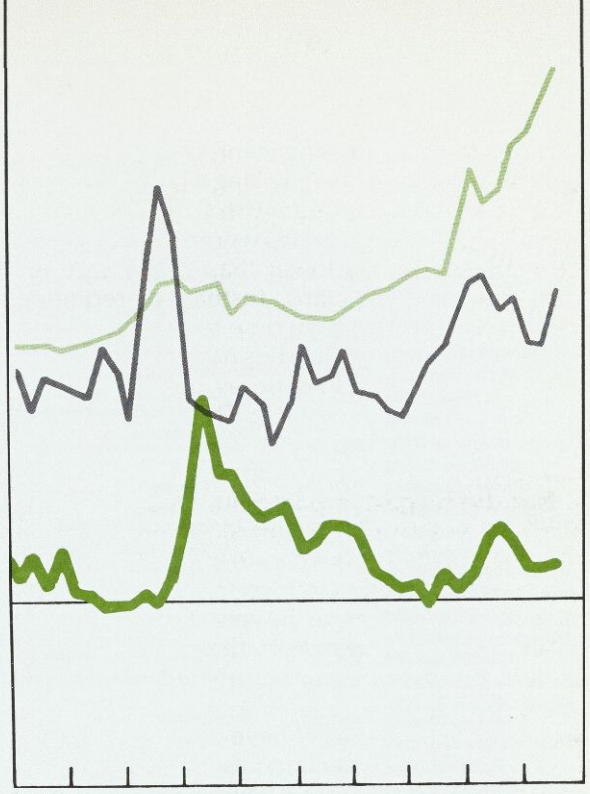
Mortgage Banking	MB
Financial Company	FC
Credit Cards	CC
Factoring	F
Industrial Bank	IB
Servicing Loans	SL
Trust Company	TC
Financial Advisor	FA
Leasing	L
Investment in Community Projects	I
Data Processing	DP
Insurance Agent	IA
Underwriting Credit Life	UCL
Courier Service	CS
Management Consulting	MC
Money Orders $1,000, Travelers Checks	MO,TC
Real Estate Appraisal	REA
Audit Services	AS
Travelers Checks	TC
Check Verification	CV

	Financial Services Offered by Out-of-District Bank Holding Companies Through Nonbank Subsidiaries with Offices in the Sixth District	Number of Offices by State
Massachusetts (continued)		
Old Colony Trust Company of Southeast Florida	TC	FL(1)
Old Colony Trust Company of Southwest Florida	TC	FL(1)
UST Corporation FCA Corporation	FA	FL(1)
Michigan		
NBD Bancorp, Inc. NBD Financial Services of Florida	MC	FL(1)
Minnesota		
First Bank System, Inc. FBS Financial Corporation	MB • L	GA(1)
FBS Mortgage Corporation	MB	FL(1)
First Trust Florida	TC	FL(1)
Northwest Bancorporation Banco Mortgage Company	MB	GA(1),FL(1)
Dial Corporation	FC • IA • UCL	LA(12),AL(9),MS(4),FL(22),GA(13),TN(5)
New Jersey		
Heritage Bancorporation Heritage Mortgage Finance Company	MB	FL(1)
Horizon Bancorp Horizon Credit Corporation	FC • SL • L	GA(1),FL(3)
New York		
Bank of New York Company, Inc. ARCS Mortgage, Inc.	MB • SL	FL(1)
Bankers Trust New York Corporation Bankers Trust Company of Florida	TC	FL(1)
BT Investment Managers, Inc.	FA	FL(1)
Barclays Bank Limited American Credit Corporation	FC • UCL	AL(14),FL(16),GA(29),LA(3),MS(13),TN(34)
Chase Manhattan Corporation Chase Commercial Corporation of New York	FC • SL • L	GA(1),FL(3)
Chase Home Mortgage Corporation of the Southeast	MB • SL • FA • IA	FL(7),GA(1)
Chase Manhattan Financial Services	MB • SL • IA • MO,TC	FL(4)
Chemical New York Corporation Chemical Business Credit Corporation	FC • SL	GA(1),FL(1)
Chemical Trust Company of Florida	TC	FL(1)
Sun America Corporation	FC • IA	TN(6),LA(4),FL(5),MS(2),GA(10)
Citicorp Citicorp Homeowners, Inc.	FC • SL • L	LA(5),AL(2),FL(13),GA(3)
Citicorp Industrial Credit, Inc.	FC • SL • L	FL(1),GA(1),AL(1)
Citicorp USA	FC • SL • I	GA(1),FL(1)
Irving Bank Corporation Irving Business Center, Inc.	FC • SL • L	GA(1)
J. P. Morgan and Compnay, Inc. Morgan Trust Company of Florida	TC	FL(1)
Lincoln First Banks, Inc. Lincoln First of Florida, Inc.	FA	FL(1)
Lincoln First Trust Company of Florida	TC	FL(1)
Manufacturers Hanover Corporation Finance One	FC • UCL	AL(17),GA(23),FL(6),LA(33),MS(4),TN(11)
Finance One Credit of Florida, Inc.	FC • UCL	FL(3)
Finance One Mortgage of Florida, Inc.	MB • SL • UCL	FL(2)
Manufacturers Hanover Leasing Corporation	FC • SL • L	TN(1),FL(1)
Manufacturers Hanover Mortgage Corporation	MB • SL	FL(2)
Marine Midland Banks, Inc. Marine Midland Trust Company of Florida	TC • FA	FL(1)

Mortgage Banking	MB
Financial Company	FC
Credit Cards	CC
Factoring	F
Industrial Bank	IB
Servicing Loans	SL
Trust Company	TC
Financial Advisor	FA
Leasing	L
Investment in Community Projects	I
Data Processing	DP
Insurance Agent	IA
Underwriting Credit Life	UCL
Courier Service	CS
Management Consulting	MC
Money Orders $1,000, Travelers Checks	MO,TC
Real Estate Appraisal	REA
Audit Services	AS
Travelers Checks	TC
Check Verification	CV

	Financial Services Offered by Out-of-District Bank Holding Companines Through Nonbank Subsidiaries with Office in the Sixth District	Number of Offices by State
New York (continued)		
Schroders Incorporated Schroder Capital Management, Inc.	FA	GA(1)
U.S. Trust Corporation U.S. Trust Company of Florida	TC	FL(1)
North Carolina		
NCNB Corporation NCNB Mortgage Corporation	MB • UCL	FL(2),GA(6)
Transouth Financial Corporation	FC • UCL • MO,TC	AL(8),FL(33),GA(3),TN(25)
Trust Company of Florida	TC	FL(1)
Oregon		
Orbanco Financial Services Corporation Ft. Wayne Mortgage Company	SL	FL(1),GA(1)
Northwest Acceptance Corporation	FC	GA(1)
Pennsylvania		
Fidelcor, Inc. Fidelcor Mortgage Corporation	MB	GA(2)
Mellon National Corporation Carruth Mortgage Corporation	MB	LA(7)
Mellon Bank N.A.	TC	FL(1)
Mellon Financial Services Corporation	FC	FL(9),LA(1)
Mellon Financial Services Corporation #1	DP	GA(1)
National City Corporation National City of Florida	TC	FL(1)
Philadelphia National Corporation Colonial Mortgage Service Company	MB • SL	FL(1)
Pittsburg National Corporation Kissell Company	SL	GA(1)
The Girard Company GTC Management, Inc.	TC	FL(1)
Rhode Island		
Fleet Financial Group Fleet Mortgage Brokers, Inc.	MB • UCL	FL(1), GA(1)
Kensington Mortgage & Finance Company	MB • FC • SL • UCL	GA(1)
Mortgages Associates, Inc.	MB • FC • SL • UCL	AL(2),FL(1)
Southern Discount Company	FC • IA • UCL	TN(2),FL(34),GA(39)
Hospital Trust Company Hospital Trust of Florida, N.A.	TC	FL(1)
Old Stone Corporation American Standard Insurance Agency	UCL	FL(1)
DAC Computer Services, Inc.	DP	FL(1)
DAC Corporation of Alabama	MB • SL	AL(2)
DAC Corporation of Florida	MB • SL	FL(13)
DAC Corporation of Georgia	MB • SL	GA(2)
Motor Life Insurance Company	UCL	FL(1)
Unicredit Corporation of Florida	FC	FL(1)
Unifinancial Corporation and Subsidiary	MB	FL(1)
South Carolina		
Southern Bancorporation World Acceptance Corporation	FC • UCL	GA(14)
The Citizens and Southern Corporation Carolina National Mortgage Investment	MB	GA(1)
Virginia		
Dominion Bankshares Corporation Dominion Bankshares Mortgage Corporation	MB • UCL	TN(1)
Virginia National Bancshares VNB Equity Corporation	MB • UCL	FL(3)

Federal Deficits and Real Interest Rates: Theory and Evidence



An analysis of real interest rates and deficits suggests that, when deficits have been adjusted for expected inflation, other influences also play a role in determining real interest rates.

Why did real interest rates rise so high in 1982? Many answers have been offered to this question, but the commonest explanation on Wall Street attributes high real rates to large current and expected federal government deficits.

New statistics presented in this article tend to argue that deficits in themselves have not been a critical factor in high real interest rates, a conclusion consistent with empirical findings reported in the August 1982 **Economic Review.**[1]

If budget deficits affect real interest rates, real deficits (the dollar deficit minus the amount attributable to inflation) would be the causal factor. However, after averaging the data for full peak-to-peak business cycles to eliminate cyclical influences, we found no strong historical associations between real interest rates and real deficits.

THEORY: Deficits, Real Interest Rates, and Aggregate Demand

When the federal government spends more than it collects in taxes, it must finance the deficit either by selling securities or issuing base money. Deficits can affect total demand, real interest rates, and inflation both directly and indirectly. An increase in government spending or a decrease in taxes both tend to increase demand for consumption and investment goods directly.

This effect is partly offset by the increased supply of government securities to finance the deficit. The increased supply tends to increase real interest rates, and private spending that is sensitive to interest rates may be crowded out. Such financial crowding out is moderated because the incentive to economize on money holdings helps finance the deficit by increasing the supply of credit. Higher real interest rates also attract foreign investment and retard foreign borrowing, which further moderate the extent of domestic crowding out.

A federal budget deficit may increase demand indirectly insofar as it is associated with an expansionary monetary policy. If the Federal Reserve buys government securities when there is a deficit, it issues "base money," which enables the private sector to increase demand for goods (the real balance effect) and the supply of money (the money multiplier effect). But even though the government is selling securities to finance a deficit, the Federal Reserve need not buy any and thus need not increase base money.

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[1]Gerald P. Dwyer, Jr. "Is Inflation a Consequence of Government Deficits," Federal Reserve Bank of Atlanta **Economic Review** (August 1982), 25-32.

Thus, deficits can increase aggregate demand directly unless private sector demands are fully crowded out by a rise in real interest rates. Deficits can increase aggregate demand indirectly to the extent that rising interest rates induce increases in the supply of base money generated by Federal Reserve open market purchases of government securities.

Errors in Inflationary Expectations and Real Interest Rates

Persistent deficits and persistent increases in base money to finance them lead to persistent increases in aggregate demand and thus to inflation and high nominal interest rates. People protect themselves from persistent inflation by incorporating their expectations in financial contracts. But if these expectations are wrong, both real output and real interest rates would be affected. If inflation turns out to be less than expected, too much of an inflation premium would have been incorporated in nominal interest rates, forcing actual real interest rates higher than normal. As a consequence, real demand and real output would be lower than normal. That is a major waste associated with errors in expectations of inflation.

Even if the expectations are satisfied, inflation in itself has consequences insofar as real resources are wasted in order to economize on base money, which costs virtually nothing to produce. Base money has a useful function as a medium of exchange. But since it pays zero nominal interest, real holdings of it would tend to fall because of high nominal interest rates associated with high inflation rates. In general, markets simply cannot adjust to incorporate inflation because the government does not inflation-proof base money and taxes; thus, even fully anticipated inflation can distort real output and real interest rates.

Deficits, Inflation Uncertainty, and the Credibility of Monetary Policy

In the real world, uncertainties generally prevent the public from anticipating correctly the inflationary consequences of an increase in a federal deficit. If inflation is underanticipated, then real interest rates fall and real output rises above natural rates. If inflation is over-anticipated, real interest rates rise and real output falls: unduly high real rates crowd out more than enough interest sensitive private spending to offset the increased spending related to the deficit.

Why might the public have anticipated incorrectly the inflation accountable to monetary growth and federal deficits in 1981 and 1982? Expectations may have been based on the historical relationship between deficits and inflation, but then, because of a change in the conduct of monetary policy, that relationship may no longer have held. Large federal deficits in wartime and in the last decade were in fact linked to accelerating monetary growth, aggregate demand, and inflation. The public might have become conditioned to expect monetary growth and inflation to accompany large federal deficits even though the experience of 1981 and 1982 demonstrated that there is no necessary association.[2] The consequence of the markets' misperception is that real interest rates and real output will deviate from their natural levels either until markets are convinced by anti-inflationary policies or until expected inflation is validated by sufficiently expansionary policies.

The substantial decline in interest rates in the last quarter of 1982 offered support for the theory that markets finally had been convinced that inflation need not accompany federal deficits.

By announcing reduced monetary growth targets in 1981 and 1982, the Federal Reserve indicated it was planning to reverse the previous pattern that had allowed accelerated monetary growth to accompany deficits. But markets remained skeptical through much of 1982,

[2]There is no necessary association between deficits and inflation. In the United States in the 1930s and in Germany and Japan in recent years, large deficits were not associated with high inflation when monetary growth was not accelerated in response to deficits. Thus, large deficits haven't always caused inflation. At the turn of the century there were world-wide inflation and substantial monetary growth due to gold discoveries. There were essentially no deficits.

thereby keeping inflationary expectations too high, real interest rates above their natural levels, and real output below its natural level. The substantial decline in interest rates in the last quarter of 1982 offered support for the theory that markets finally had been convinced that inflation need not accompany federal deficits.

Real Deficits and Real Interest Rates

Related to crowding out is the issue of deflating the federal deficit for expected inflation. This is important but is often overlooked in commentary about the effect of prospective budget deficits in crowding out private spending.

Assume that the inflation rate is 10 percent, the nominal interest rate on the federal debt is 13 percent, the outstanding federal debt is $1,000 billion, and the deficit $100 billion. By implication the real interest rate is 3 percent—the 13 percent nominal rate less the 10 percent inflation rate. If inflation were zero, the interest cost of the debt would be $30 billion. But given 10 percent inflation and a 13 percent nominal interest rate, interest on the debt is $130 billion. In this example, the $100 billion deficit is entirely accountable to the inflation premium. The real deficit is zero because the 10 percent increase in the federal debt matches the inflation rate, so the real value of the federal debt remains unchanged.

We can approach the real deficit from the other side of the market. Consider a holder of a $10,000 federal security that pays $1,300 a year in interest. Since inflation is 10 percent, $1,000 of the interest return is compensation for depreciation in the nominal value of the security due to inflation. Only $300 is real interest. To maintain the real value of his or her holdings, the investor would have to reinvest the $1,000 of inflation-induced interest in federal securities. For all holders of federal securities to maintain the real value of their holdings in this example, they would need to buy an additional $100 billion, an amount precisely equal to the deficit. Thus, there is no financial crowding out of private spending accountable to the $100 billion deficit because the **real** deficit was zero. Only real deficits can crowd out private spending.

Through much of 1982, nominal interest rates may have included an excessively large inflation premium. But even an excessive inflation premium is self-financing as long as holders of federal securities reinvest interest accountable to the inflation premium in federal securities. Thus, real deficits crowd out private spending because of rising interest rates or inflation; but private spending is not crowded out by deficits that result from federal interest payments accountable to inflation premiums in nominal interest rates.[3]

Crowding Out or Crowding In?

Government-issued bonds that bear no default risk are in that respect like government-issued (base) money.[4] However, bonds are not base money: they are not used to make payments or to satisfy bank reserve requirements.

The issue of deflating the federal deficit for expected inflation . . . is often overlooked in commentary about the effect of prospective budget deficits in crowding out private spending.

The implication that government bonds are to some extent like money affects the degree to which government deficits crowd out private spending.[5] If government bonds are closer substitutes for money than for real capital, an increased supply of bonds to finance a government deficit functions partly as an increase in

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[3]The necessity to adjust the federal debt account for inflation premiums in interest payments on the government debt is exposited in Adrian Throop's "Inflation Premiums, Budget Deficits," Federal Reserve Bank of San Francisco **Weekly Letter**, March 14, 1980 and "Gauging Fiscal Policy: II," Federal Reserve Bank of San Francisco **Weekly Letter**, January 16, 1981 and formulated analytically in Robert J.Barro, "On the Determination of the Public Debt," **Journal of Political Economy**, Vol. 87, No. 5, Pt. 1 (October 1979), 940-71.

[4]James Tobin. "An Essay on Principles of Debt Management," **Fiscal and Debt Management Policies,** Commission on Money and Credit. Englewood Cliffs, NJ: Prentice-Hall, Inc., 1963.

[5]Martin Feldstein. "Fiscal Policies, Inflation, and Capital Formation," **American Economic Review** (September 1980), 636-50. Benjamin M. Friedman, "Crowding Out or Crowding In? Economic Consequences of Financing Government Deficits," **Brookings Papers on Economic Activity** (1978), 593-654. V. Vance Roley. "The Financing of Federal Deficits: An Analysis of Crowding Out," Federal Reserve Bank of Kansas City **Economic Review** (July-August 1981), 16-29.

money. Rather than crowding out private spending, it raises wealth and commodity demands, "crowding in" private spending. On the other hand, if government securities are closer substitutes for real capital than for money, an increased supply of bonds to finance a deficit would crowd out private investment and thus moderate the increase in commodity demands and the price level. Clearly there is no straight forward theoretical hypothesis about the influence of deficits on aggregate demand and the price level.

Savings and Investment and Real Interest Rates

The conventional wisdom is that deficits raise real interest rates. The question is, how much? The effect of real deficits on real interest rates would be moderated depending on the responsiveness of private saving and investment to interest rates. Suppose, as Frank Knight believed,[6] that the full-employment real rate of interest is determined by the productivity of investment which is considered to depend purely on technical factors in producing investment or consumption goods and to be independent of investment. The analysis applies to a situation where inflationary expectations are satisfied so that neither real output nor real interest rates deviate from natural levels. If the real interest rate is determined solely by the productivity of investment, an increase in the government deficit would cause investment to fall by a matching amount. There would be full crowding out without an increase in real interest rates. Private investment demand is assumed to be so hypersensitive to interest rates that it gives way to any other change in demand and thus acts as a residual fully absorbing a federal deficit or a shift in demand from any other source.

The conventional view as espoused by Irving Fisher[7] is that both saving and investment influence the determination of real interest rates. Accordingly, a deficit can be financed partly by increased private saving and partly by decreased private investment. Within this Fisherian credit market, if saving were perfectly elastic with respect to the real interest rates a deficit would not crowd out any investment but would be matched fully by increased saving, thus crowding out consumption spending. However, if investment and saving are not hypersensitive to interest rates, the implication is that a deficit would increase the natural real interest rate. It would increase more, the less interest sensitive are the demand for investment and supply of saving in the economy. Thus, the more real crowding out there is in response to a deficit, the less real interest rates would have to increase.

EVIDENCE
Real Interest Rates and Real Deficits

We would expect that if real interest rates are affected by budget deficits at all, they would be affected by real deficits (see Box). A real interest rate is a nominal interest rate less expected inflation.[8] The real deficit is the dollar deficit less the amount attributable to inflation premiums in financing government debt.[9] Theoretically, we would expect real interest rates to vary with changes in investment opportunities and saving propensities and the real government deficit after accounting for inflationary expectations. A higher real deficit would be like an increase in the demand for investment or a reduction in the supply of saving in raising real interest rates.

How much are real interest rates affected by real deficits? We can estimate the relationship between particular real interest rates and the real deficit.[10] Since there is cyclical variation in all of

(continued on p. 26)

[6]Frank H. Knight. "Interest, " **Ethics of Competition**. New York: The Macmillan Co., 1930.
[7]Irving Fisher. **Theory of Interest**. New York: The Macmillan Co., 1930.

[8]Strictly speaking a real interest rate represents the real return on an investment. If PE is the expected annual inflation rate then the expected level of prices a year hence is expected to be 1 + PE. Consider a $1 bond that promises to return (1 + N) in a year, the real value of which is (1 + N)/(1 + PE) per dollar invested. Thus 1 + R = (1 + N)/(1 + PE) where R is the real rate of interest. The real rate R is approximated by subtracting the expected inflation rate from the nominal interest rate. R ≐ N − PE.

[9]Government Spending − Taxes = Nominal Deficit. Real Deficit = (Nominal Deficit − PE (Government Debt))/GNP Deflator. The real deficit is the change in the government debt in real terms.

[10]$R - PE = \text{Constant} + f\left(\frac{DEF - PE(DEBT)}{YF}\right)$

R = Moody's Aaa Corporate Bond Rate or 3-month Treasury Bill Rate
PE = Expected Inflation
DEF = Federal Deficit
DEBT = Federal Net Debt (Public Debt less holdings of Federal Agencies and Federal Reserve Banks)
YF = Nominal High Employment GNP

This real deficit measure is comparable with the alternative measure discussed in James R. Barth and Stephen O. Morrell, "A Primer on Budget Deficits," Federal Reserve Bank of Atlanta **Economic Review** (August 1982), 6-17. Almost identical results were obtained when the deficit was divided by nominal GNP or by the nominal value of the real GNP trend or when the deficit was also adjusted for changes in the depreciation of fiat money.

Table 1. Underlying Causes of Inflation (1953 - 1980)

	Average (Percent)	Estimated Weight	Contribution to Average Inflation (Percent)
Trend Spending Growth	1	2.426	2.4
M1 Monetary Growth	4.3	1.039	4.5
High Employment Government Spending Growth	7.69	−0.0003	0.0
Exports Growth	10.56	0.024	0.3
Spending Growth	7.24	1.000	7.2
High Employment Output Growth	3.33	−1.000	−3.3
Import Price Inflation	4.74	0.027	.1
High Employment Output Growth Adjusted for Import Price Deflation			−3.2
Demand Pressure (Level)[a]	1.59	0.034	.1
Inflation			4.1

[a]Demand pressure is defined as the difference between the level of estimated real demand and high employment output, both in logarithms. The level and growth rate of high employment output were adjusted to incorporate effects of factors estimated to offset inflation autonomously, such as import prices. About four-fifths of the variation in inflation was accountable to these underlying factors.

Note: Mary Byrd Nance, a research associate at the Federal Reserve Bank of San Francisco, assisted in making these calculations.

Monetary Growth and Inflationary Expectations

Since real interest is defined as a nominal interest rate less expected inflation, the latter is an important element in the analysis of factors determining real rates. This section discusses the calculation of expected inflation used in empirical tests reported later in the article.

The GNP deflator represents the general price level of all goods and services included in the Gross National Product—total consumption, investment, government, and net foreign spending on U.S. goods and services. Inflation, defined here as the rate of change in the level of this price index, results from growth in aggregate demand—that is, spending relative to growth in aggregate supply, or high employment real output. Over the period 1953-1980 as recorded in Table 1, high employment real output growth averaged 3.3 percent a year. Spending growth averaged 7.2 percent a year. Thus the difference between spending growth and high employment real output growth accounts for a 3.9 percent average inflation rate over 1953-80, nearly all of the actual 4.1 percent average inflation.

The remainder stems from two factors. The first is demand pressure, which varies substantially over the business cycle, contributing to cyclical increases and decreases in the inflation rate, but only 0.1 percent to average inflation. The second is import price inflation which, though important in 1974-75 and again in 1979-80, contributed only 0.1 percent to average inflation over 1953-1980.

What mainly accounted for average inflation and for accelerating inflation in the 1970s was spending growth, attributed (to a dominating extent statistically) to M1 (cash and checking account deposits) growth. This attribution is based on an estimated association between spending growth and four explanatory factors: trend spending growth, which accounted for an annual increase in spending of 2.4 percent; M1 growth, for 4.5 percent; and exports growth, for 0.3 percent.[12] Only about half of the variation in spending growth is explained by these factors. Nevertheless, M1 growth is the single most important, identifiable, and controllable factor that affects spending growth. A 1 percent change in M1 growth changes spending growth by an average of approximately 1 percent.

The evidence clearly shows that variation in nominal spending growth, not real growth, is the major factor explaining inflation. Real growth declined from about 4 percent in the 1960s to about 3 percent in the 1970s and early 1980s. Thus it accounted for only about one percentage point of recent inflation. The balance, about 9 percent in 1980, is accountable to demand growth and it in turn is systematically related to M1 growth.

Having established the historical link between monetary growth and inflation, we may hypothesize that people would use such information in formulating inflationary expectations. A footnote shows the form of an estimated quarterly GNP growth equation for 1963-1981.[13] An equation was estimated for the sample period 1953-1962 which was then used to "forecast" GNP growth in 1963 based on observed values of the specified underlying determinants of GNP growth. Forecasted GNP growth less high employment GNP growth represents a sustainable inflation rate if expectations are correct. But because of costs of getting information about individual markets and costs of adjusting prices, it takes time for a change in sustainable inflation to affect actual inflation. To capture the dynamics of this adjustment, actual inflation was estimated as a function of current and lagged values of sustainable inflation.

Current inflation was also specified to be affected by import price inflation. Expected inflation in 1963 then was taken as the forecasted inflation based on the observed relationship between inflation and the underlying relationship estimate for 1953-1962 and given values of the explanatory variables in 1963.[14] This procedure was repeated for 1964 based on the record of 1953-63 and so on through to 1981. The expected inflation rates so calculated are shown alongside actual inflation in Table 2. Inflation expectations by this measure were too low on the average but by only 0.1 percentage

Table 2. Inflation and Expected Inflation, Quarterly, 1963 - 81

Year/ Quar.	P	PE	Error	RMSE	Year/ Quar.	P	PE	Error	RMSE
1963: 1	.463	.953	−.489		1973: 1	1.350	1.485	−.135	
2	.070	.455	−.385		2	1.705	1.441	.264	
3	.280	.688	−.408		3	1.658	1.793	−.135	
4	.709	.561	.148	.380	4	2.064	1.673	.391	.255
1964: 1	.263	.476	−.213		1974: 1	1.770	1.275	.495	
2	.290	.302	−.012		2	2.438	2.048	.390	
3	.550	.476	.074		3	2.553	2.935	−.383	
4	.260	.475	−.215	.156	4	2.824	2.563	.261	.391
1965: 1	.830	.297	.533		1975: 1	2.543	1.471	1.07	
2	.487	.446	.041		2	1.256	1.338	−.082	
3	.578	.459	.120		3	1.771	1.278	.493	
4	.535	.410	.125	.281	4	1.803	1.258	.544	.651
1966: 1	.996	.475	.521		1976: 1	.898	1.503	−.606	
2	1.143	.683	.460		2	.904	1.399	−.495	
3	.534	.495	.039		3	1.198	1.116	.083	
4	.982	.460	.522	.435	4	1.563	1.149	.215	.408
1967: 1	.641	.680	−.039		1977: 1	1.393	1.810	−.417	
2	.357	.626	−.268		2	1.648	1.534	.114	
3	.951	.625	.326		3	1.316	1.590	−.274	
4	1.066	.727	.340	.272	4	1.523	1.739	−.216	.278
1968: 1	1.265	.794	.471		1978: 1	1.404	1.494	−.090	
2	1.213	.690	.523		2	2.521	1.455	1.07	
3	.849	1.098	−.249		3	1.860	1.351	.509	
4	1.379	.924	.455	.437	4	2.330	1.303	1.03	.784
1969: 1	1.160	1.145	.015		1979: 1	2.025	1.481	.544	
2	1.321	.998	.324		2	1.885	1.663	.222	
3	1.602	1.156	.445		3	1.881	1.773	.108	
4	1.283	1.145	.138	.284	4	1.954	1.940	.014	.299
1970: 1	1.423	.950	.473		1980: 1	2.220	2.236	−.015	
2	1.304	1.157	.147		2	2.338	2.277	.060	
3	.788	1.034	−.246		3	2.201	2.038	.163	
4	1.342	.567	−.775	.476	4	2.551	2.139	.412	.224
1971: 1	1.462	1.210	.251		1981: 1	2.328	1.843	.485	
2	1.368	1.228	.140		2	1.540	1.808	−.268	
3	.853	1.072	−.219		3	2.354	2.192	.162	.334
4	.897	1.476	−.579	.341					
1972: 1	1.356	1.635	−.278		Average Error 1963-81				.088
2	.707	1.358	−.651						
3	.831	1.576	−.745						
4	1.279	1.517	−.238	.528					

RMSE=Root mean square error. P=GNP Deflator. PE=Expected inflation.

Note: Yoen-Seung Chung, an Ohio State University economics graduate student, provided research assistance in making these calculations.

points annually. It is clear that inflationary bursts such as those recorded in 1974-75 and 1978-80 were not fully anticipated, nor were the rare disinflationary periods such as 1976. The procedure errs substantially in the last half of 1971 through early 1973 when wage-price controls were in effect. Nevertheless, over 70 percent of the variation in inflation was explained by the factors used to calculate expected inflation. A one percentage point increase in expected inflation was on the average associated with a 0.99 percent increase in actual inflation.

[12]William G. Dewald, "How Fast Does Inflation Adjust to Its Underlying Determinants?" Federal Reserve Bank of San Francisco, **Proceedings of Fifth West Coast Academic/Federal Reserve Economic Research Seminar**, December 1981, 221-239.

[13]$Y = \text{constant} + \sum_{i=0}^{3} m_i M_{t-i} + \sum_{i=0}^{3} g_i G_{t-i} + e_0 E_t$

where Y = GNP
M = M1
G = High Employment Federal Government Spending
E = Exports.

All variables are logarithmic first differences and are interpreted as percent changes. The equation fit the entire data set well and also several preliminary years, and was thus used uniformly for each year.

[14]$P = \text{constant} + \sum_{i=1}^{16} p_i (YE\text{-}XF)_{t-i} + \sum_{i=0}^{4} w_i W_{t-i}$

P = GNP Deflator
YE = Forecasted Y (level)
XF = High Employment Real Output (level)
W = Import Price Index
P and W are logarithmic first differences.

Table 3. Cycle Average Real Interest Rates and Deficits 1953:Q3 - 1981:Q3 (Percent)

Peak to Peak Cycles	Real Interest Rates				Real Deficits		
	Long Term[a]		Short Term[b]				
	Expected[c]	Actual	Expected[c]	Actual	D1[d]	D2[e]	D1A[f]
1953:Q3–1957:Q3	1.012	0.788	−0.128	−0.319	−0.342	−0.380	−0.363
1957:Q3–1960:Q2	2.064	2.187	0.829	1.112	0.363	0.332	0.375
1960:Q2–1969:Q4	2.695	2.369	1.622	1.226	0.145	0.110	0.125
1969:Q4 1973:Q4	2.266	2.417	0.294	0.361	0.815	0.732	0.824
1973:Q4–1980:Q1	2.243	1.381	0.502	−0.320	1.487	1.396	1.428
1980:Q1–1981:Q3	4.527	3.648	4.736	4.008	1.320	1.220	1.253

[a]Moody's Aaa Corporate Bond Rate.

[b]90 Day Treasury Bill Rate.

[c]Real rates defined as nominal rates less expected inflation as calculated from William G. Dewald, "How Fast Does Inflation Adjust to Its Underlying Determinants?," Federal Reserve Bank of San Francisco Fall Academic Conference 1981. Expected inflation was projected forward one quarter in calculating real short term rates and indefinitely in calculating real long term rates.

[d]D1 – adjusts the nominal deficit for potential output growth and expected inflation which is presumed to depreciate the real value of government debt.

[e]D2 – further adjusts the deficit for expected depreciation in the value of fiat money issued by the government.

[f]D1A – uses actual inflation in the calculation of D1.

$$D1 = \frac{DEF - PE(DEBT)}{YF} \qquad D2 = \frac{DEF - PE\,(DEBT + FIAT)}{YF}$$

DEF = National Income Accounts Deficit

PE = Expected inflation

DEBT = Federal Public Debt less holdings of Federal Reserve Banks and Agencies.

YF = High Employment GNP

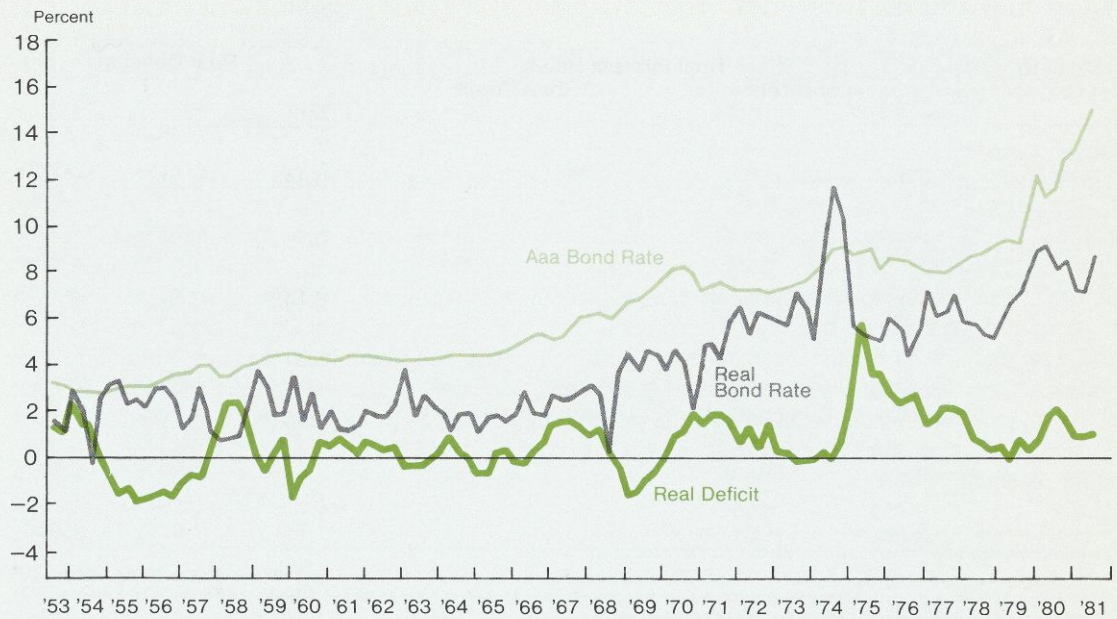
FIAT = Federal Reserve Holdings of U.S. Government Securities plus Treasury Currency Outstanding less Treasury Cash Holdings less Treasury Deposits with Federal Reserve Banks.

these variables, data were averaged for full peak-to-peak business cycles to wash out cyclical influences. With these data the focus is on longer term fundamentals rather than the shorter term business cycle pattern. Cycle averages of both long and short-term real interest rates and real deficits relative to high employment GNP appear in Table 3. Chart 1 shows the Aaa bond rate, the corresponding real rate based on calculated expected inflation and the real deficit quarterly 1953-1980.[11]

These data show **no strong association between real interest rates and real deficits as measured.** Real interest rates in the first quarter of 1980 through the third quarter of 1981 were very high relative to earlier periods, but the real deficit was about the same as in the preceding cycle. The largest relative real deficit over the sample period was in the second quarter of 1975 when the Ford administration's tax rebate occurred at a time when inflationary expectations were still reflecting inflation of the previous year. Except for the most recent cycle, when the long term real interest rate averaged 4.5 percent, it hovered generally in the 2 to 3 percent range. The short-term real rate was much more variable but was also comparatively low until it rose to 4.7 percent in the most recent cycle. The relative real deficit was less than one-third of 1 percent through the 1960s, then jumped to 0.8 percent in the early 1970s and further to 1.4 in the remainder of the

[11]Expected inflation for 1952-1962 was simply estimated for that period from the equation in footnote 14.

Chart 1. Real Interest Rates and Real Deficits



1970s and early 1980s. This evidence tends to refute the conventional wisdom that attributes the high level of real interest rates in 1982 to deficits. The comparatively high real deficit over 1973:IV-1980:I was not accompanied by comparatively high real interest rates.

Regression results using either the cycle-average data or quarterly data, further show little association between real interest rates and real deficits.

These data show no strong historical association between real interest rates and real deficits.

Using quarterly data, we estimated a statistically significant but small effect of real deficits (D) on long-term (L) but not short-term (S) real interest rates (see Table 4). These results must be questioned. Not only does the relationship not hold for the short-term real rate, but also it may be biased by cyclical movements in the variables. The effect of the business cycle can be averaged out of the data. Using such cyclical average data as reported in Table 5, we estimated a positive relationship for both the long and short-term real rates, but the relationship was insignificant for the short rate and only marginally significant for the long rate. If real rates and the deficit are defined after the fact based on actual inflation, the real deficit is estimated not to affect either long or short rates significantly. It is somewhat reassuring that a percentage increase in the real deficit relative to GNP was estimated to have nearly the same one percentage point effect on both long and short-term real rates. One might nevertheless question the results because they are not very robust with respect to small changes in the sample period and in the definitions of the variables. Furthermore, only a fraction of the variation in real interest rates can be explained, suggesting that the results are biased because of variables left out of the analysis.

In any event, these empirical results indicate that a one percentage point increase in the

Table 4. Quarterly Real Interest Rates and Deficits
1953:Q3 - 1981:Q3

	Constant	Lagged Dependent Variable	D1	D2	D1A	$\bar{R}^2$ (SE)	F (DW)
Long Term Rate L	0.831 (4.27)	0.612 (8.12)	0.184 (2.31)			0.433 (1.076)	43.753 (1.890)
	0.842 (4.34)	0.610 (8.10)		0.192 (2.41)		0.435 (1.074)	44.144 (1.885)
	1.068 (4.99)	0.374 (4.35)			0.360 (3.44)	0.251 (1.450)	19.798 (1.975)
Short Term Rate S	0.389 (2.62)	0.758 (11.40)	−0.182[a] (−1.96)			0.543 (1.303)	67.630 (1.978)
	0.382 (2.61)	0.759 (11.43)		−0.188[a] (−2.02)		0.544 (1.301)	67.902 (1.977)
	0.430 (2.49)	0.558 (6.65)			−0.200[a] (−1.75)	0.284 (1.625)	23.186 (2.055)

[a]These theoretically "wrong" signs result from deficits tending to rise during recessions when short term interest rates fall. Long term interest rates generally show much less cyclical variability than short rates, but in both cases the cycle average data are considered to be a more reliable reflection of the link between deficits and real interest rates.

Note: Roger Lagunoff, an Ohio State University student, assisted in making these calculations.

Table 5. Cycle Average Real Interest Rates and Deficits
1953:Q3 - 1981: Q3a

	Constant	D1	D2	D1A	$\bar{R}^2$ (SE)	F (DW)
Long Term Rate L	1.809 (3.19)	1.043 (1.66)			0.259 (0.994)	2.752 (2.197)
	1.852 (3.36)		1.084 (1.65)		0.257 (0.995)	2.730 (2.204)
	1.721 (3.14)			0.677 (1.08)	0.032 (0.965)	1.165 (2.387)
Short Term Rate S	0.587 (0.58)	1.145 (1.02)			0.009 (1.771)	1.044 (2.025)
	0.635 (0.65)		1.187 (1.02)		0.006 (1.773)	1.032 (2.026)
	0.533 (0.55)			0.789 (0.71)	−0.109 (1.698)	0.510 (2.091)

[a]There were 6 complete peak to peak cycles 1953-1981 and thus 6 observations used to calculate these regressions. If the 1980:Q1-1981:Q3 observation is deleted, there is uniformly no significant association between real rates and deficits for any of the definitions.

relative real deficit would increase real interest rates by one percentage point. When the relative real deficit is about 1 to 1.5 percent as in 1981-1982, it could account for only about 1 to 1.5 percentage points of the real rates.

CONCLUSION

To what then can we attribute real rates of 6 percent and higher as in 1981 and 1982? It seems reasonable to attribute high real rates to much higher and particularly much more variable inflationary expectations than normal. When market participants' expectations are changed, as they apparently were in August, real interest rates come down. Second, high real rates may be attributed to uncertainty about future inflation. To the extent that monetary growth is an important factor behind inflation and high nominal interest rates, then uncertainty about future monetary growth, whether or not related to deficits, is an important factor behind inflation uncertainty. Third, high real rates may be explained in terms of a variety of other credit market factors, such as the subsidy of credit demand by favorable tax treatment of interest costs, increased credit demand from foreign borrowings, and the supply of credit being limited because of a spend-now-pay-later attitude by not only government and business but also consumers. These and other factors offer a more promising explanation of high real interest rates than budget deficits, which have been found to account for very little of recent high real interest rates.

—William G. Dewald

*Dewald is professor of economics at Ohio State University and editor of the **Journal of Money, Credit and Banking**. This material was presented to an Atlanta Fed research seminar in the fall of 1982.

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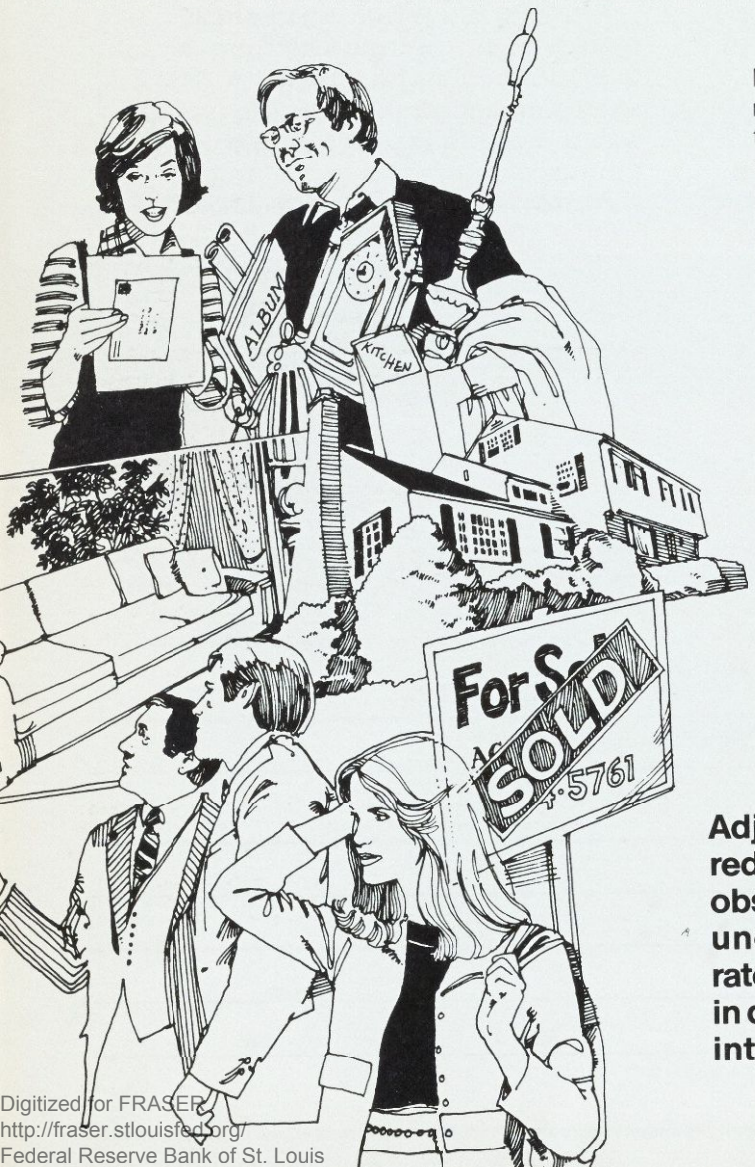
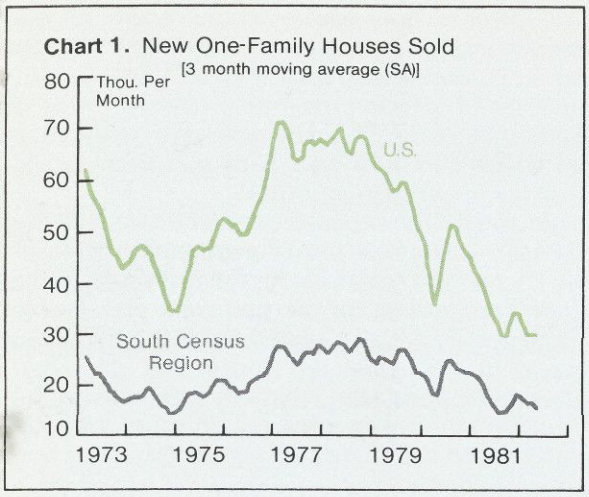
The Adjustable Mortgage Loan: Benefits to the Consumer and to the Housing Industry

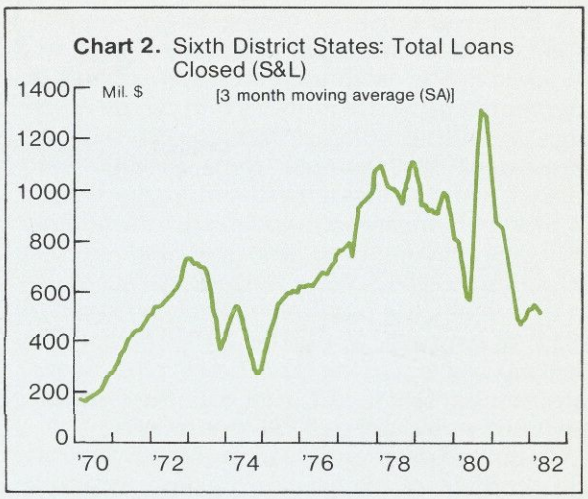


In the Southeast as well as the nation, sales of new single-family homes were extremely weak for the most of 1981 and 1982 (Chart 1). In fact, monthly sales for the U.S. were near a 10-year low before recovery began in the fall of 1982. The South (defined as the South Census Region) fared only slightly better—last July's sales levels (SA) were only about 14 percent above the bottom in 1974. Last fall's decline in mortgage rates did bring about a spurt in activity, but sales still remain well below levels of 1978-79. Figures for total loans closed by S&Ls reflect much the same—lending during most of 1981 and 1982 was extremely weak.

Though lending activity has improved slightly, October lending levels in the Sixth Federal Reserve District states (and in the nation) were running at only about 40 percent and 50 percent of their respective 1980 peaks (Chart 2). The reasons for the reduced lending activity are complex, but two important causes were the inability of potential home-buyers to qualify for mortgages with historically high mortgage rates and the unwillingness of those who could afford the

Adjustable mortgage loan programs are reducing worries about two of the largest obstacles facing potential home buyers: uncertainty about whether mortgage rates will continue to fall and the difficulty in qualifying for mortgage loans in today's interest rate environment.





payments to get locked in on mortgages with such high rates. Even in late 1982, the home market—though improved—was still feeling the effects of these two factors. The primary concern of the housing industry in such times should boil down to: How can the consumer be enticed and be made able to make home purchases? A partial solution may lie in the relatively new adjustable mortgage loan (AML) programs initially designed to aid the lenders by lessening interest rate risk in an inflationary environment.

Lending institutions are adopting AMLs in order to lower their risk of losses on mortgage loans attributable to changing interest rates—with the result that more mortgage money is supplied or made available during periods of rate instability. Lenders will make loans only if returns on loans offer a profitable margin above the interest costs paid to depositors. The AMLs can help thrifts maintain the necessary margin above cost to make loanable funds available. AMLs also can help some home buyers who do not or cannot enter the housing market because either they are (1) waiting for lower mortgage rates and/or (2) cannot afford high monthly interest and amortization charges.

The basic AML program can attract consumers who are waiting for lower interest rates—even though these buyers can afford the payments for available fixed rate mortgages—because they believe their payments will fall when mortgage rates come down. The graduated payment adjustable mortgage loan (GPAML) can help certain qualifying buyers enter the market with low starting monthly payments who could not qualify at currently high fixed rates or standard AML rates. Both types of plans can play critical roles in enticing and qualifying more buyers into the housing market. On the other hand, these adjustable mortgage loans carry risks not faced by the American home buyer since before the 1930s.[1]

The Adjustable Mortgage Loan. The AML differs from a fixed rate loan in that the interest rate charged is not predetermined over the life of the loan—the rate varies according to an index of one of various possible interest rates or "costs of funds" for S&Ls.[2] The monthly payments can go up or down depending on whether the index goes up or down. Of course, this sounds risky—fortunately, the borrower can count on certain protective guidelines for AMLs which are set by the Federal Home Loan Bank Board (FHLBB) for federal S&Ls. These guidelines are very flexible—AML plans can vary considerably from thrift to thrift. The FHLBB allows for AML options in which interest rate adjustments can be accommodated through changes in payment, principal outstanding, the length of the loan, or any combination of the above.

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[1]Before the 1930s, all mortgages were, in essence, short-term rollover loans. The borrower had to be prepared to handle higher monthly payments should the interest rate on the "new" loan increase. Lenders risked having to lend at lower rates.

[2]Institutions other than S&Ls—national banks and mortgage companies, for example—offer "adjustable" mortgages in the "generic" sense. In turn, other regulators besides the FHLBB enter the picture. For federally insured S&Ls, the FHLBB is the primary regulator.

A borrower's risk of having larger monthly interest and amortization payments should not be taken lightly. With unlimited adjustments or payments, changes in monthly bills can be rather large when the mortgage rate goes through an adjustment. For example, for a $70,000 loan balance with 25 years left in the mortgage term, a 14 percent mortgage rate would require a monthly mortgage payment on principal and interest amounting to $843. Were the interest rate to rise to 16 percent, the required monthly payment of $951 per month would be $108 (almost 13 percent) higher. On the other hand, if the interest rate should fall to 12 percent, the monthly payment would fall to $737 per month.[3]

Graduated payment AMLs attempt to alleviate the problem of inadequate income for credit requirements by changing both the monthly payment and credit rules. Let's look at a 17 percent, $70,000, 30 year loan. First, the borrower's monthly payments are below the amount actually incurred from the accrual interest rate.[4] Though the actual interest cost is based on a 17 percent rate, the monthly payment is based on a lower payment rate—for example, a 14 percent interest rate. Instead of $998 in principal and interest in payments in the first year, the buyer pays $843 toward the interest costs plus the actual amount due on taxes and insurance. Monthly P&I payments are reduced by $155. However, the borrower still owes the lender the $155 difference between the accrual rate and the payment rate which is added to the loan balance each month and which in turn accrues interest debt.[5]

How do GPAMLs help buyers qualify for credit? GPAML guidelines qualify the purchaser as if the mortgage rate really were the payment rate. In the above example, the home buyer could qualify with $45,000 in family income (assuming that a .25 payment-to-income ratio is the only credit requirement). If lenders were willing to accept a payment-to-income ratio higher than .25, lower income earners could qualify for the same loan. For example, at a .33 ratio, a $34,000 family income would qualify for a GPAML (based on the 14 percent payment rate) whereas a $40,000 income would be needed to qualify at a 17 percent interest rate. Similar analogies hold true for lower loan amounts.

Borrowers are exposed to several risks with the GPAML. Payments must "graduate" (increase) by 7.5 percent each year for the first three or five years, depending on the particular plan (Table 1). Some GPAMs allow extension of the graduated payment period. At the end of the graduated payment period, the payment rate goes to the "market" rate—the most recent index rate, together with the margin as stipulated in the borrower's contract.

During the graduated payment period, the loan balance is increasing rather than declining as would be the case with a fixed rate mortgage. At the end of the graduated payment period, a larger loan balance must be financed and monthly payments will jump unless index interest rates have fallen. Finally, the GPAML carries the same risk as "standard" AMLs—interest rate increases can cause monthly payments to go up (though the payment rate is guaranteed during each step of the graduation period).

Although these risks are substantial, the GPAML offers a young family with good potential for income growth a method of getting into the housing market without waiting until either interest rates drop or their income level rises.

Shopping for AMLs in the Southeast: What are the Options and Trade-Offs?

By now, many potential home buyers may have developed the impression that the thrifts are allowed a great degree of flexibility in writing adjustable mortgage loan plans. Can any qualified customer actually walk into the nearest savings and loan institution and request a custom designed AML? What kinds of choices will the borrower actually have in terms of choosing AML options?

The Impact of the Secondary Mortgage Market on Plans Offered. The truth is that currently S&Ls offer only eleven basic AML plans. A considerable number of other plans exist but they are primarily minor variations of eleven basic AML plans.

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[3]Large rate changes are **not** likely to occur overnight. Furthermore, changes in income and income tax considerations can alleviate some increase in interest rate payments.

[4]The accrual interest rate is the rate by which interest debt is determined—regardless of how much the monthly payment runs. The payment interest rate is the reduced rate used to determine the initial payments under a GPAML.

[5]Since the $843 payment each month during the first year does not pay all interest costs (no principal is paid yet), the loan balance increases each month. Consequently, the difference between monthly payments and accrued interest debt will increase until the payment rate is at least equal to the accrual rate.

Table 1. FNMA Graduated Payment Adjustable Mortgage Loans for Conventional First Home Mortgages

	Plan 2 GPAML	Plan 4 GPAML	Plan 6 GPAML
Payment Graduation	7½ % per year	7½ % per year	7½ % per year
Graduated Payment Period	3 years	3 years	5 years
Graduated Period Extensions	None	Borrower may elect 7½ % limit on payment increases in years 4-6.	Borrower may elect 7½ % limit on payment increases in years 6-10.
Initial Payment Rate/Amount	Based on maximum allowable spread between mortgage interest rate and payment rate as follows:	Based on mortgage interest rate. Payment factor tables are published by FNMA.	Based on mortgage interest rate. Payment factor tables are published by FNMA.

LTV[1]	Maximum Spread
Above 90-95%	2.5%
Above 80-90%	3.0%
Below 80%	3.5%

Subject to minimum initial payment rate quoted by FNMA.

[1]Loan-to-value ratio.

Source: FNMA Program Announcement, Number 21, March 18, 1982. Of the FNMA plans, only plans 2, 4, and 6 offer GP options (and some "specially negotiated" plans).

Options available to the borrower generally must come packaged together as one of these eleven. But who designs these plans, why are eleven basic plans offered, and just what features do these plans offer?

In today's savings and loan industry, thrifts are concerned with being able to maintain an adequate level of loanable funds. In order to increase liquidity, thrifts often sell loans in their portfolio to institutional investors. Money from sales of loans held is made available to new borrowers. In effect, thrifts have become more and more merely the originators of loans—and usually servicers of loans—and do not keep the loans in their portfolio. This selling of loans in the secondary mortgage market (the home buyer and the S&L, bank, or mortgage company are part of the primary mortgage market) reduces interest rate risks for the original lender (thrifts) and makes more money available for home loans as money from investors filters through the secondary market back to the savings and loan associations.

These "filters" are the agencies that set standard rules for the secondary market. In the United States, the Federal Home Loan Mortgage Corporation (FHLMC) and the Federal National Mortgage Association (FNMA)—commonly referred to as Freddie Mac and Fannie Mae as derived from the agencies' acronyms—are the principal institutions that buy mortgages in the secondary market for investors. These agencies "pool" mortgages by their various characteristics from S&Ls and other lending institutions and buy them for investors.

In order to pool mortgages (and to maintain an investment quality in these mortgage pools) FHLMC and FNMA set guidelines for purchase of mortgages from S&Ls. Included in these guidelines for AMLs are minimum yield (interest rate) requirements, available options for AMLs (within guidelines set by the Federal Home Loan Bank Board), down payment and credit worthiness requirements of the home buyer and other stipulations. FNMA offers eight basic programs

Table 2. FNMA[1] and FHLMC[2] Standard Adjustable Rate Mortgage Plans

Plan	Interest Rate Index[3]	Interest Rate Adjustment Period	Payment Adjustment Period	Maximum Interest Rate Adjustment	Maximum Payment Adjustment
FNMA					
1	6 month T-bills	6 months	6 months	—	±7½ % each 6 months
2	6 month T-bills	6 months	3 years	—	—
3	1-year Treasury Security	1 year	1 year	—	±7½ % each year
4	3-year Treasury Security	2½ years	2½ years	—	±18¾ % each 2½ years
5	3-year Treasury Security	2½ years	2½ years	±5% each 2½ years	—
6	5-year Treasury Security	5 years	5 years	—	—
7	FHLBB Series of closed loans	1 year	1 year	—	—
8	FHLBB Series of closed loans	1 year	1 year	±2% each year	—
FHLMC					
1	FHLBB Series of closed loans	1 year	1 year	—	—
2	FHLBB Series of closed loans	1 year	1 year	±2% each year	—

[1]FNMA Summaries, May 1982.

[2]ARM PILOT, Adjustable Rate Mortgage Pilot Purchase Program, Federal Home Loan Mortgage Corporation, 1982. One might note that FHLMC's Plans 1 and 2 are basically the same as FNMA's Plans 7 and 8. However, thrifts may not necessarily sell to both in the secondary market. There also exists the possiblity that margins between the two may vary as well as other features.

[3]Treasury indexes are based upon the weekly average yield.

for AMLs plus three graduated payment AMLs whereas Freddie Mac offers only two standard programs. Table 2 outlines the main features of each of these ten plans. Although, FHLMC's two plans are basically the same as FNMA's Plans 7 and 8, the required yields may differ as well as other technical features. However, from a buyer's view, there are only eleven basic AML options (including the three graduated payment AMLs of Fannie Mae based on Plans 2, 4, and 6).

Within FHLBB guidelines, thrifts have much room for designing their own AML loan packages. However, most S&Ls individually offer only one or two different plans.[6] Shopping for various "options" usually must occur among different institutions rather than within a single association. Thrifts are allowed varying degrees of flexibility in terms of: (1) choosing the interest rate index, (2) setting the frequency of interest rate adjustments, (3) setting the frequency of payment adjustments (which may not always necessarily

[6]See Kathleen M. Auda and B. Frank King, "Adjustable Rate Mortgages: Southeastern S&Ls Interested but Cautious," **Economic Review**, Federal Reserve Bank of Atlanta, July 1982, pp. 24-29. For the current study, the survey sample is two less as a result of mergers.

coincide with interest rate adjustments), (4) limiting percentage changes on interest rate adjustments, (5) limiting percentage changes on payment rate adjustments, (6) allowing negative amortization, (7) limiting negative amortization (if allowed) to a specific percentage of original loan balance, and (8) allowing a change in the term of the loan (if there is negative amortization). Negative amortization is the addition of debt to the original loan balance as a result of monthly payments being less than the actual interest due. The borrower's debt increases during periods of negative amortization but at a rate lower than if no interest payment at all is made. Of course, thrifts, with the home owner, also set the original term of the loan, the initial interest rate, and specific loan-to-price ratios. The AML programs are designed to fit needs of both the lender and borrower. But how do specific "options" work to meet the borrower's need?

Lower Cost Mortgage Rates Versus Reduced Risk. The lending and borrowing of money—particularly over long periods of time—involves risk which must be compensated. The higher the lender's risk, the higher is the charge (interest rate) by the lender to make the loan. Even adjustable mortgage loans are not exempt from this very basic economic fact of life. But how does the compensation of risk affect the borrower's decision about AML options?

When thrifts set the initial interest rate for the borrower under AML plans, two factors must be considered: (1) the index chosen in the AML plan and (2) the margin "required" by the thrift in order to cover lending expenses (including profit). Many S&Ls try to match the source of funds to the index used in adjustable mortgage loans—if 30 percent of a thrift's AMLs use the six-month Treasury bill rate as an index, then approximately 30 percent of the thrift's loanable funds should come from deposits with a six-month maturity. To cover expenses other than the cost of funds (including borrower default), thrifts must charge an interest rate higher than that paid to obtain the funds from depositors. This "extra" interest cost is the margin added to the index rate. This margin is also needed since the timing of changes in payments does not exactly coincide with the timing of changes in the cost of funds as reflected in the index rate. The S&Ls' cost of funds might go up six months before the extra cost can be passed on to the borrower—the margin helps cover this risk as well as other expenses.

Borrowers would like to maintain both low cost (interest rate) and low risk (chance of interest or payment rate increases). Since trade-offs do exist, which options tend to lower the borrower's interest costs and which, the borrower's risk? First, we look at how interest costs can be kept to a minimum for the home-buyer. As a general rule, any constraint on the lender's ability to pass on the cost of funds will tend to increase the margin between the index interest rate and the accrual interest rate. (The accrual interest rate is the actual interest rate by which the borrower's interest cost is incurred.) If the lender feels that the percentage change in the interest rate will be limited to such an extent that the increase in the cost of funds occasionally exceeds the maximum change allowed for payments, then the lender must charge more interest during periods when the change in the cost of funds is not so large (as reflected in the indexes). Lender interest costs not recovered during periods when caps effectively limit changes in payment increases must be made up by charging a higher overall margin. Limiting percentage changes on either interest rates or payment rate adjustments typically results in a higher margin.

The FHLBB has approved several indexes for use in AML programs: (1) the national cost of funds, (2) the national average closing mortgage rate, (3) the FHLMC (Freddie Mac) weekly auction rate, (4) the six-month Treasury bill rate, (5) the one-year Treasury bill rate, (6) the three-year Treasury note rate, and (7) the five year Treasury note rate. Determination of which index might afford the lowest interest cost (over the life of the loan) for the borrower is difficult to determine. Neither the index nor the margin alone can be used as an indicator of lowest interest cost. Interest cost is determined by the "yield"—the index rate with the margin added—on a mortgage plan.

The difficulty in determining which index is "best" lies in the fact that the difference between various index interest rates—for example, the one-year Treasury security and the three-year Treasury security interest rate—changes during the different phases of the business cycle. During the peaks of business cycles, shorter term rates have even exceeded longer term rates, as was the case with one-year versus three-year Treasury securities during 1973-74 and 1978-79. "Normally," short-term rates are lower. In order to choose the "cheapest" cost index, the borrower should know the average expected—or as a substitute,

the historical—difference between the various index rates that one has as options. The consumer should then compare these differences with respective required margins. Were the average rate for one index to be one percentage point lower than another and if the first index has a margin less than one percentage point higher, then this index is a better buy in terms of historical interest cost comparisons. The average interest rate of the first index plus its margin is less than the average index rate of the second plus its own margin.

This type of analysis is somewhat difficult—changing expectations about interest rates as well as the length of time one plans to hold a mortgage can affect the analysis. In particular, if one plans to sell one's house after only two or three years, then one should consider index rate differences for only the periods of the business cycle reflecting the upcoming two or three years (if the next two or three years appear to be "expansionary," then compare interest rate differences only for expansionary years).

Avoidance of negative amortization clauses also reduces the risk of the lender. Otherwise, thrifts risk making, in effect, unplanned loans to the borrower. If there is no option of negative amortization, the interest spread should be lower than otherwise.

In short, to keep long-run interest costs to a minimum under AML plans, the borrower should compare long-run average differences in index rates with respective required margins, allow no caps on the percentage changes in either the interest rate or payment rate, and opt for no negative amortization clauses. As with standard fixed rate mortgage plans, a relatively shorter loan term and a lower loan-to-price ratio encourage lower interest costs.

Reducing Interest Rate Risk for the Borrower

For some home buyers, getting the lowest costs of funds is the prime concern. However, for other home buyers, maintaining a relatively stable payment level may be more important. This is particularly the case with first-time buyers and low-to-moderate income families. Even though new fixed rate mortgages (at modest interest rates and even at higher rates) are becoming less available, consumers still want some degree of stability in the level of monthly payments. Many possible features for AML plans are available to reduce the risk of changes (especially upward) in monthly payments. The two most important options for limiting changes in monthly payments are caps on the percentage change for the interst rate per adjustment period and for the life of the loan. Limits on interest rate changes have been up to 5 percent per period and the same for the life of the loan (when caps are offered). One word of warning for those desiring interest rate caps in an AML program: Caps on downward changes are almost always written into the contract on the same percentage terms as caps on upward changes. The borrower gains security against upward interest rate increases but loses potential gains from interest rate declines.

One other way to lessen payment risk is to limit percentage changes in the payment level. There is an important difference between limiting changes in payment rates and limiting changes in interest rates. It is possible that changes in payment rates may be capped whereas changes in the interest rates are not. In such cases, should an increase in the interest rate be so large that the resulting payment increase exceeds the maximum allowed, then negative amortization occurs. The difference between the monthly interest and principal owed under the higher rate and the capped monthly payment is added to the loan balance. The immediate risk of default is lessened but equity can be reduced or the loan balance can increase. Future monthly payments may be adjusted upward in order to amortize a higher loan balance (of course, there is the possibility that lower interest rates in the future could again reduce monthly payments).

If payment changes are restricted more than interest rate changes, then negative amortization is one of the methods of making up the difference between debt accrued and the actual monthly payment. Another method of making up this difference is for the term of the loan to be extended. The FHLBB does allow the term of the loan to be extended if negative amortization occurs. Ten years is usually the maximum extension (40 years is the maximum term allowed by FHLBB guidelines). Negative amortization and extension of term can be combined options in the same AML program.

Some relatively "minor" options can be used to reduce payment fluctuations for the borrower.

Table 3. Types of AML Plans Offered by Surveyed S&Ls for Conventional First Home Mortgages

AML Plans Offered	Number of Associations Offering	Percentage of All AML Plans Offered
FHLMC, uncapped	18	21.1
FHLMC, capped	9	10.6
FNMA 1	1	1.2
FNMA 2	4	4.7
FNMA 2a	3	3.5
FNMA 3	2	2.4
FNMA 4	3	3.5
FNMA 4a	2	2.4
FNMA 5	1	1.2
FNMA 6	7	8.2
FNMA 6a	7	8.2
FNMA 7	7	8.2
FNMA 8	2	2.4
Specially negotiated	14	16.5
Not designed for secondary market	5	5.9
Total plans offered by surveyed S&Ls	85	100.0

To help maintain payment stability, the chosen AML could use a relatively long-term instrument as an index and have long time periods between payment and interest rate adjustments. These features plus those mentioned above can provide a greater measure of payment stability (however less than under fixed rate mortgages). However, the consumer must be aware that as payments become upwardly inflexible so do payments become restricted in falling. Furthermore, the transfer of interest rate risk back to the lender will increase the cost of funds to some degree (however more stable payments may be).

Plans Offered by S&Ls in the Southeast

In order to see what plan packages are available in the Southeast, the Regional Research Team of the Federal Reserve Bank of Atlanta conducted a telephone survey of 56 S&Ls located thoughout Alabama, Florida, Georgia, Louisiana, Mississippi, and Tennessee. The sample was identical to that used in an earlier study by the Atlanta Bank during March. This follow-up survey aimed specifically to determine the impact of FNMA and FHLMC on AML plan offerings. This study also determined whether or not AMLs were becoming more acceptable to the thrifts in the Southeast.

Of the 54 surveyed thrifts, 43 (80%) offered at least one AML plan. As shown in Table 3, the AML plan offered most frequently is the Freddie Mac "uncapped" AML plan, followed by their "capped" AML and then Fannie Mae's Plan 6, 6a, and 7. The other plans set by FNMA and FHLMC are less frequently offered by S&Ls.

S&Ls that offer AMLs are tending to shy away from two features that best attract customers to AMLs. Only 44 percent of the S&Ls surveyed offer AML plans with caps on the percentage increase in either the interest rate adjustment or payment adjustment. Also, only 26 percent of the thrifts gave borrowers a choice of a graduated payment AML. Of the thrifts offering AMLs, 16 percent were lending with both capped AML programs and GPAMLs. Almost half of the thrifts offered borrowers no choice of either capped or graduated payment AMLs.

The primary choices offered by S&Ls to borrowers are different indexes for the mortgage rates and some choice in the time between payment adjustments. For consumers who probably cannot foresee which index—for example, the FHLBB series on closed loans in FHLMC's uncapped AML versus the five-year Treasury security rate in FNMA's Plan 6—will provide lower overall interest cost during the life of the loan, a choice between index instruments is not much choice. However, consumers do like to be able to guarantee the constancy of payments for differing lengths of time—for example, a five-year adjustment period instead of a one-year adjustment period. Also, since consumers do like the idea of not taking all of the interest rate risk, AMLs might become more popular should more AML plans offered by S&Ls be based on FNMA's Plans 1, 3, 5, and 8 and FHLMC's capped AML plan. These plans limit some risk by placing caps on possible interest rate or payment increases.

In fairness to the lender's perspective, thrifts have been somewhat reluctant to offer AML plans which limit payment adjustments because the negative amortization increases risk as the borrower's loan balance increases. Thrifts have avoided offering AMLs with interest caps because these caps reduce the lending institution's ability to increase revenue during periods when costs of funds increases. Likewise, graduated payment AMLs are not frequently made available to borrowers because of the extra risk and because the

negative amortization places an immediate three- to five-year drain on a thrift's cash flow.

What kind of diversity can the home buyer find in AML plans? Based on our survey, the options available are a lot more restricted than is implied in the initial guidelines set by the Federal Home Loan Bank Board. The secondary market has limited options considerably to eleven basic plans. Furthermore, thrifts find many of these to be unattractive from the lender's viewpoint and often do not offer but a limited number of choices in AML plans. In fact, in the Federal Reserve Bank of Atlanta's survey, 67 percent of S&Ls using AMLs offered only one AML plan; 23 percent offered either two or three; and only 9 percent of these thrifts offered four or more different AML plans.

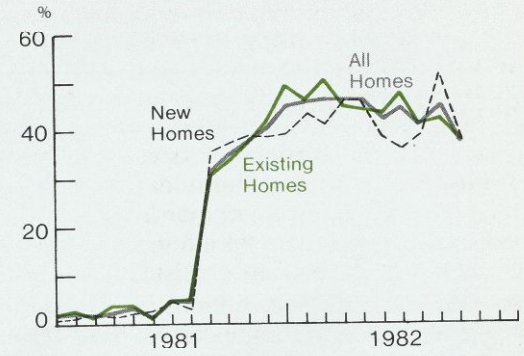
Obviously, for the home buyer to have much choice, shopping must be done among S&Ls—not just at one thrift. Should a consumer desire a combination of features not found in any of FHLMC's or FNMA's standard plans, there is a possibility that some associations offer "specially negotiated" AML programs such that either Fannie Mae or Freddie Mac agree to buy mortgages using special AML features. FNMA reports that a large percent of their purchases involve specially negotiated plans. However, these plans are usually combinations of standard AML plans or typically have minor changes such as lower initial payments for GPAMLs or slightly larger interest or payment caps.

AMLs: Increasing Use by Thrifts

How large a role will AMLs play in housing in the near future? Chart 3 indicates the growing importance of AMLs in fully amortized loans from S&Ls over the last year and a half. AMLs as a percentage of fully amortized loans by S&Ls have grown constantly since the middle of 1981. (The large jump from August to September 1981 resulted from clarification of AML guidelines by the FHLBB, FHLMC, and FNMA. The importance of the secondary market is seen in the fact that thrifts waited for clarification of AML guidelines by these secondary market institutions.) Over 45 percent of all new loans in the FHLBB's estimate of fully amortized loans were AMLs.

Thrifts in the Southeast are experiencing a wide degree of acceptance of adjustable loans. However, our survey indicates that most thrifts desire to shift toward even greater use of AMLs.

Chart 3. Adjustable Rate Mortgages as a Percentage of Estimated Fully Amortized New Loans by S&Ls in the United States



Source: Federal Home Loan Bank Board Washington, D.C.

Of those offering AMLs, 70 percent preferred to "push" AMLs, 21 percent preferred to promote fixed rate or other mortgages, and 9 percent had no preference. Already many S&Ls in the Southeast are making more extensive use of AMLs. Almost two-thirds of these thrifts surveyed had new loans, since 1982, that were more than 25 percent AMLs: 51 percent of these thrifts had over half of their 1982 home mortgage closings in AML programs and 42 percent had over three-fourths of their new home loans as AMLs.

The AML's Impact on Housing Recovery

Two of the largest obstacles facing potential home buyers are the uncertainty about how rapidly the current relatively high mortgage rates will fall and the difficulty in qualifying for mortgage loans in today's interest rate environment. The AML and the GPAML reduce the impact of these difficulties. Our survey demonstrated that these plans already have had a significant impact on the housing market. Some financially knowledgeable high income earners could afford a high interest rate but refuse to get locked in to relatively high fixed rate mortgages for 20 to 30 years. With the belief that interest rates will decline significantly in the future, these home buyers have been willing to pay high rates now, knowing that they will automatically take advantage of lower rates as the indexes decline for AML interest rates.

With the recent decline in interest rates, some of the S&Ls have been willing to help buyers qualify for a mortgage loan with GPAMLs. Buyers qualify as if the market rates were as much as 6 or 7 percentage points lower than is the case for fixed rate or AML plans. Instead of requiring borrowers to have the income to pay on a 15 to 17 percent mortgage, lenders have written AMLs with initial payments based as if the mortgage rate were 10 to 12 percent. Thrifts and buyers expect incomes to rise and hope interest rates will decline to keep payments "low."

But the biggest impact from AMLs and GPAMLs may be yet to come. Loan officers freely admit that many would-be buyers are wary of adjustable plans. These buyers believe that interest rates can only go up. Some buyers are truly "from Missouri"— everyone tells them that interest rates have to fall sometime soon, but they won't believe it until they see it. Throughout the Southeast, loan officials have stated that after interest rates have declined for several months, many home buyers will be willing to jump on the AML bandwagon.

A Temporary Shift from AMLs? Toward the end of the Atlanta Bank's survey some loan officers felt that the secondary mortgage market was shifting preference toward fixed rate mortgages. Investors were willing to buy mortgages with relatively high fixed interest rates. Investors apparently believed that interest rates had peaked. Furthermore, since the secondary market was making commitments to buy these mortgages, it apparently believed that the medium-term (7-10 years)[7] inflation and interest rates were under control; otherwise, investors risk lending at rates less than inflation. These investors preferred to lock in at relatively high interest rates rather than buy AMLs which would have lower yields as interest rates possibly declined even futher. Data from the FHLBB suggest that such a shift actually began in June 1982.[8] The drop in FHA/VA rates late in 1982 also contributed to this shift.

The key question in terms of the future of AMLs is: At what interest rate level will investors no longer risk lending with long-term fixed rates? Will investors get "queasy stomachs" in the 12-13 percent range for 30-year fixed rate mortgages? In the 10-11 percent range? Or perhaps even lower? The concern of many loan officers is that the thrifts should never again get "stuck" with low-yielding fixed rate mortgages during periods of inflation and high interest rates for funds. Most loan officers feel that investors will feel the same way once they finish taking advantage of what they hope are peaked mortgage rates and return to purchasing larger amounts of AML mortgage pools. Once the mortgage interest rates decline to the level at which investors can no longer "stomach" long-term fixed mortgages, AMLs will possibly become more deeply embedded in the psychology of the mortgage market and housing industry.

—Gene D. Sullivan
and R. Mark Rogers

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[7]The average life of a mortgage is in the 7-10 year range, since many home buyers sell their homes and pay off old mortgages in the process of buying "new" homes.

[8]The downward shift in the percentage of AMLs may be partially caused by the implementation of state and local bond issues for improving the housing market. Most of these programs offered below-market fixed-rate mortgages.

How Should Bank Holding Companies Be Regulated?

Proposals to restructure bank holding company regulation by focusing more on banking subsidiaries than on the company as a whole are likely to increase regulation. If banking organizations are to remain an important force in financial markets, measures must be taken to put them on an equal competitive footing with less regulated firms.

The question of how bank holding companies should be regulated and supervised is both timely and important. It has been elevated to a high profile by recent proposals to restructure bank holding company regulation.[1] The analytic cornerstone of many proposals is a belief that it is both feasible and practical to separate bank holding companies into regulated and unregulated components and, most critically, to insulate the former from risk-taking in the rest of the organization. Thus, BHCs would be divided into two segments: a regulated portion consisting of banking subsidiaries and an unregulated component consisting of nonbanking subsidiaries. Financial transactions between regulated and unregulated segments of the holding company would be restricted. Such restrictions, proponents argue, would all but eliminate the need for federal oversight and supervision of the holding company's unregulated elements.

Such an approach to bank holding company regulation is bound to be self-defeating. Moreover, the long-run consequence would be to increase regulation when we should be attempting to reduce regulatory burdens and give banking organizations the flexibility to adjust to changing economic conditions. This article first will review briefly how regulation affects bank holding companies and how they have responded to regulatory constraints. It then will investigate how bank holding companies have organized their activities operationally to determine whether subsidiaries are truly separable into independent segments as proponents have suggested. Finally, it will explore the implications of this analysis for structuring effective BHC supervisory and regulatory policies.

The Impact of Regulation on Banking Organizations

The key to evaluating alternative bank regulatory policies is understanding how banks are affected by regulation. Since banking regulation imposes costs and limits profit-making alternatives, Edward Kane (1981) and others have argued convincingly that such regulation provides powerful financial incentives for banks to innovate to avoid as many regulatory costs as they can. In particular, banks were induced to form holding companies because of their advantages in regulatory avoidance. Bank holding companies thus may be viewed as just another financial innovation to avoid regulation. A number of factors support this conclusion.

During the 1970s, increased competition for funds with the open market and with less-regulated institutions, coupled with binding rate ceilings, left banks less flexible than their competitors in adjusting to changing market conditions. The need to meet this competition, to maintain market share and to operate profitably during periods of rising rates provided great incentives for banks to seek a less regulated environment. Thus many banks adopted the bank holding company form to avoid constraining regulations. For example, by engaging in certain funding and loan operations in a holding company or in a nonbank subsidiary, rather than in a subsidiary bank, a management could

[1] The Treasury recently sponsored legislation that would have broadened BHC's ability to offer investment banking and related services. Lawrence (1982) has offered a plan to liberalize substantially BHC activities.

escape deposit rate ceilings and reserve requirements. Moreover, multibank holding companies provided a convenient substitute for branches in states with restrictive branching laws. Clearly, the ability to expand through nonbanking subsidiaries and thereby to avoid both New York state branching prohibitions and federal restrictions on interstate banking and product diversification was the principal reason Citicorp formed a one-bank holding company in 1968.

There are also powerful tax incentives for expansion-minded firms to form BHCs. They include not only the ability to repay BHC parent acquisition debt with tax-deductible dividends from subsidiary banks, but also the favorable treatment of income earned abroad by properly organized subsidiaries. BHCs can avoid certain local city and state taxes as well. Finally, through a device called double leverage, BHCs have been able to leverage themselves beyond what the regulators would have permitted to a bank itself. This has resulted in part from the fact that no capital adequacy standards had been formally put forward for BHCs until December 1981.

Past BHC Regulatory and Supervisory Policies

Interestingly, early BHC regulatory and supervisory policy reinforced and unintentionally encouraged the conduct of certain activities in other parts of the company rather than within bank subsidiaries. For example, following the 1970 Amendments to the Bank Holding Company Act of 1956, regulatory policy in fact was designed to compartmentalize BHCs into two segments. Those were a regulated component consisting of the federally insured bank subsidiaries and a less regulated component consisting of the parent holding company and its nonbanking subsidiaries. The objective was to isolate and protect banks from risk taking and abuse and thus limit deposit insurance risks flowing from the rest of the organization, which was permitted to operate in a relatively unsupervised manner.

At the same time, parent BHCs were expected to be "sources of strength" to their bank affiliates. There was an attempt to permit any benefits from bank holding company affiliation to be passed downstream to bank subsidiaries. Hence, double leveraging was permitted, since the financing capabilities of the parent were presumably being relied upon to inject equity into subsidiary banks. As long as bank affiliates were effectively isolated by laws and regulations, such as Section 23A of the Federal Reserve Act, it was believed that the corporate veil would not be pierced in the event of bankruptcy or other legal action—and that no harm would befall subsidiary banks.[2,3]

Such a policy might be appropriate if it were truly possible to isolate BHC bank subsidiaries from the rest of the organization.[4] Separation would clearly be feasible if a holding company functioned as a mutual fund, a passive investor exercising no management, operational or financial influence over independently operated firms. Even a casual inspection of how bank holding companies typically operate, however, suggests that virtually none operates as a passive investor.

Available research supports the view that BHCs tend to operate more as integrated firms. The parent company dictates key aspects of its bank subsidiaries' operations, such as organizational structure, financial and managerial philosophy, as well as specific functions, such as funds management, correspondent relationships, asset and liability management, capitalization and budgets.[5]

Moreover, BHC nonbanking subsidiaries appear to be even more integrated and tightly controlled than bank subsidiaries. Murray (1978) cites a number of reasons for this integration. In addition to the regulatory avoidance incentives discussed above, he notes that certain technological changes, such as computers and electronic accounting, have permitted some activities to be centralized to take advantage of operational efficiencies. He also emphasizes that the 1973 recession exposed weaknesses in many BHC subsidiaries and heightened the need to exercise more control over costs, risk taking

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[2]Section 23A is a nonsymmetrical statute designed to prevent abuse of bank subsidiaries; it is not designed to prevent banks from abusing their nonbanking affiliates. For a discussion of 23A and reform proposals, see Rose and Talley (1978).

[3]See Chase (1971) for a discussion of this view of BHC regulation and the issue of whether the corporate veil provides adequate protection.

[4]Here the emphasis is on economic isolation and not legal isolation in the event of bankruptcy or other legal actions, for it will be argued later that it is the economic realities of how institutions actually operate and are perceived in the market that are important for shaping regulatory policy.

[5]For a detailed review of this literature see Rose (1978). More recent research by Whalen (1982 a, b) also confirms this view of BHC control.

and internal operating policies. Finally, he cites the acceleration of new legislation such as the Community Reinvestment Act, The Truth-in-Lending Act, the Electronic Funds Transfer Act, FIRA and additional reporting requirements. They have imposed important compliance requirements with stiff penalties, in the form of fines and vulnerability to class action suits, if they are not met. These problems could best be controlled and coordinated by BHCs through centralized operations.

What is the lesson to be learned from the regulatory experience of the 1970s? When the activities of BHC parents, affiliates and other subsidiaries are either strongly influenced or determined by centralized policies and are supported by even an implicit association with subsidiary banks, it becomes increasingly difficult—if not impossible—to isolate affiliated banks from risk taking in the rest of the organization. Moreover, the fact that most of our largest bank holding companies are dominated by their banking subsidiaries, both in resources and management, makes this implicit association especially strong in the eyes of the market.[6]

Furthermore, the 1973-74 recession clearly demonstrated that BHCs will draw on the resources of the entire organization, including subsidiary banks, to avoid the failure of an important affiliate or subsidiary. The failure of Hamilton Bankshares makes this point in the extreme and indicates that under certain circumstances, 23A-type restrictions, without effective monitoring and enforcement, are of little practical value.[7] The failure of Beverly Hills Bancorp provides a graphic example of the problems the public can have in separating the risk exposure of bank subsidiaries from the rest of the organization.

Perhaps the clearest illustration, however, is provided by the problems with bank-sponsored and advised real estate investment trusts, or REITs. As these REITs began to experience difficulties, BHCs provided loans and revolving credit in an attempt to avoid bankruptcy.[8] BHCs were moved to risk substantial losses to protect and support sponsored and advised REITs to which they were not linked by an ownership or affiliate relationship. Therefore, it is even more likely they would be induced to stand behind more closely associated subsidiaries that encountered trouble.[9,10]

The conclusion is that when BHCs operate as integrated firms, rather than as a collection of truly independent companies sharing only a common mutual fund type owner, regulatory policies designed to force compartmentalization are likely to be self-defeating in the long run. The very attempt to isolate its more heavily regulated subsidiary banks from the rest of the holding company only encourages the organization to circumvent banking regulations by spinning more and more activities out of the bank subsidiaries into less heavily regulated segments of the organization. This conclusion follows logically because an integrated firm seeks to maximize total profits of the organization, not necessarily the profits of individual subsidiaries. Therefore, it matters little to the BHC where a particular function is conducted within the organization as long as it contributes to total profits.

Regulatory policies designed to force compartmentalization are likely to have two long-run consequences. First, the regulated components, especially subsidiary banks, will shrink as activities are shifted to less regulated segments. Second, operational and other interdependencies within the firm are likely to increase, particularly if customer relationships are served by coordinating the products offered by different subsidiaries. The shifting of banking services into other segments of the BHC entity may reshuffle functionally related or customer related activities into separate divisions and therefore require new coordination. Because of these structural changes, the entire holding company is likely to become more integrated with respect to risk taking.

This shifting of activities to nonbanking subsidiaries poses special public policy problems when a parent company or its nonbank affiliates issues uninsured liabilities that are close substitutes or the insured liabilities of subsidiary banks. As a

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[6] In the aggregate, BHC nonbanking assets account for about 5 percent of bank holding company resources.

[7] See Sinkey (1979).

[8] The situation with respect to bank sponsored REITs is discussed in Sinkey (1979).

[9] McConnell and Marcias (1975) indicated that "...the extent to which some bank holding companies have already gone to aid their REITs is far beyond the normal bounds of the traditional conservative American banking industry."

[10] This is not to suggest that the banks' actions in the case of the REITs were inappropriate or irrational. In fact, banking industry support probably prevented the financial collapse of the REIT industry which might have been even more costly to the public and to confidence in financial markets. The point is simply to emphasize how the economic incentives tend to operate.

greater proportion of financial liabilities shifts from insured to uninsured status, the stabilizing benefits of deposit insurance may be lost unless the government chooses to extend guarantees to such claims. This, in fact, appears to be what has been done, at least in the handling of larger troubled or failed banking organizations.[11] With this extension of implicit guarantees, however, also goes the legitimate concern by bank regulators and the FDIC for monitoring and limiting undue risk taking in nonbank segments of a holding company.

To date, regulators have responded predictably to the shifting of certain funding and other activities to nonbank components and to the realization that it is impossible to isolate a bank subsidiary from what goes on in the rest of an organization. In particular, they have begun to extend bank-type supervision to parent BHCs and their nonbanking subsidiaries. In fact, supervision of BHCs' nonbank subsidiaries and inspection of BHCs themselves was almost nonexistent before the banking problem of 1973-74.[12] However, in reaction to such cases as Hamilton Bankshares and the REITs, a formal inspection program was initiated recognizing the interdependency of bank and nonbank subs. From almost zero in 1974, the Federal Reserve's cost of BHC examinations and inspections climbed to nearly $2.5 million in 1977 and to $5.8 million by 1981.

In addition, regulation and reporting was expanded on a selective basis to formerly unregulated segments of bank holding companies. The objective was both to monitor and limit risk taking and to facilitate monetary control. The application of Regulations D and Q to BHC commercial paper and short-term debt and the newly revised and more comprehensive approach to BHC examinations are clear examples.

Implications for Future BHC Regulation

This analysis leads to several general conclusions that have important implications for the structure of future BHC regulation and supervision. First, regulation imposes costs and stimulates financial innovation which, in turn, leads to further regulation. Second, to the extent that such regulation also reduces profits and creates a competitive disadvantage, unconstrained institutions will continue to grow at the expense of regulated firms. Third, heavily regulated firms tend to have less flexibility for adapting to changing economic conditions than less regulated firms. The plight of thrift institutions illustrates how vulnerable heavily regulated firms may become during periods of economic distress.

Fourth, if banking organizations are to remain an important force in financial markets, then measures must be taken to put them on an equal competitive footing with less regulated firms. This means that unnecessary and costly regulations, such as Regulation Q, have to be eliminated and some expansion of permissible powers may be in order. In addition, steps must be taken to reduce the costs associated with necessary regulations. For example, some way must be found both to pay interest on all transaction accounts and to reduce the costs of reserve requirements, such as the payment of interest on required reserves.

Fifth, attempts to regulate firms operating under a single objective function by dividing them into regulated and unregulated segments will shift activities into the nonregulated portions of the organizations whenever a regulation becomes a binding and costly constraint. The implication is that it is not practical, or possible, to segment risk taking or to separate the financial health of parts of the organization from the whole. Thus, it is also unrealistic to act as if the parent would permit significant subsidiaries to fail. The only way to isolate subsidiaries would be to impose regulations to make them totally independent, except for the parent's passive ownership of shares. The problem with such a policy, however, is that it would negate the basic rationale for establishing a holding company to take advantage of any beneficial synergistic or other relationships that might result from conglomeration.

So long as it is public policy to minimize the likelihood of financial crisis by insuring deposit-type liabilities, then we must minimize inducements to shift funds from insured to uninsured status. Moreover, the need to monitor and control the insurer's risk exposure suggests that any changes in powers should take place within the insured entity.

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[11] The most notable exception to this was the payout of Penn Square Bank, N.A. in which uninsured liability holders were not covered by FDIC guarantees.

[12] See, for example, Rose and Rutz (1981) for a discussion of supervisory policies toward nonbanking subsidiaries.

Policy Alternatives

From these general conclusions it is possible to draw some specific inferences for BHC supervision and regulation. Two alternative sets of regulatory policies could achieve the longer run goals of safety and soundness. These policies, when combined with the broader objectives of eliminating unnecessary regulations, and with the payment of interest on reserves, could be responsive to the competitive pressures affecting banking organizations.

The **first alternative** would be to reorient regulatory and supervisory policy away from primary emphasis on subsidiary banks and to focus on the consolidated BHC as the single decision-making entity. Taking this policy to its logical conclusion, there would be no need to be concerned, for safety and soundness reasons, with the financial relationships among subsidiaries or with maintaining their independence. Under this alternative the holding company organization could be regulated, examined and supervised analogous to a branch system, with the structure of the parent and its subsidiaries simply representing ways for the firm to organize its internal accounting and control procedures. If regulated in this manner, BHCs could evolve—in a deregulated environment—into the functional equivalent of banks.

For the purposes of monetary control, a BHC could be treated as a single entity with its consolidated liabilities subject to the same limits and reserve requirements as banks. This policy approach would also avoid the problems of attempting to trace the sources and uses of intrafirm transactions to determine their regulatory status. It would also eliminate the need to innovate different types of intra-institutional fund transfers and investments to avoid reserve requirement-related constraints and would reduce associated reporting burdens.

This single entity approach also would obviate the need for regulations instituted to force separation or to limit transactions among subsidiaries. For example, Section 23A of the Federal Reserve Act could be dropped, as could regulations, supervisory conventions, rules, and reporting requirements pertaining to intercompany transfers of funds and tax liabilities. Moreover, reporting burdens for supervisory purposes could be drastically reduced since only consolidated-entity data would need to be collected.

A principal argument raised against this single-entity approach is that it would require an extension of bank-type regulation to the nonbanking activities of BHCs. This might place the organization at a competitive disadvantage to the extent that it competed with nonregulated firms. It should be remembered, however, that with only a couple of minor exceptions, BHC nonbanking activities are really banking activities that could legally be conducted within a bank. Therefore, the single entity approach would not really be extending regulations but simply preventing the organization from avoiding regulation by use of the BHC form. But the valid point remains that regulated firms are at a competitive disadvantage relative to less regulated firms. Therefore the long-run goal should be to limit the extent that BHCs are constrained by regulation, to eliminate the regulatory incentives for nonbank firms to enter financial markets and to provide banking organizations with the flexibility to meet changing economic conditions.

Despite the potential appeal of this approach, it faces substantial transitional and legal problems. For example, although subsidiaries might be operated as part of a single entity, they remain legally separate in that the minority shareholders and debt holders may have claims on their resources. Ownership of assets and settlement of claims might greatly complicate the resolution of failures. Also state and local regulatory and tax policies might conflict with federal regulatory policy. There could also be a need to reevaluate federal policy towards insurance of BHC liabilities. Despite these problems, the single-entity regulatory policy could provide guidance to needed legislative and regulatory changes that ultimately would allow a parent BHC all the powers permitted to its subsidiaries.

The trend in BHC supervision already seems to be evolving in the direction of treating a BHC as a consolidated entity. The Federal Reserve recently has instituted a BHC surveillance and computer-based monitoring system that focuses almost exclusively on the holding company as a consolidated organization. The chairman of the FDIC and a past Comptroller of the Currency have argued that, because of the interrelated nature of the holding company and its subsidiaries, it is impossible for them to assess the riskiness and financial condition of the nonmember and national bank subsidiaries of BHCs without information on the entire organization.

How could we avoid some of the problems—especially the legal problems—that might be associated with consolidation and regulation of BHCs as single entities? A **second alternative** policy is to provide the necessary inducements for a BHC to consolidate its operations into a single bank subsidiary, regulated as a single firm. The principal areas affected for most of the nation's BHCs could be the financing and operations of nonbanking subsidiaries, especially those extending across state lines. The simplest way to accomplish this would be to provide banks with all the powers of their nonbank subsidiaries. This approach would sharpen the controversy concerning interstate banking. It would, however, have several advantages.

First, as mentioned previously, the nonbanking activities involved are—with only minor exceptions—really banking activities that banks are able to engage in directly. Thus, consolidation would not disrupt the financial operation of a bank or the traditional concept of what banking really is. Furthermore, nonbanking activities account for only a small proportion of banking organizations' resources (about 5 percent in the aggregate). Therefore, consolidation would be technically feasible, in most cases, without disrupting the organizational structure or portfolio composition of the resulting bank.

Second, inducing consolidation for the most part would involve removing or reducing regulation. In most instances BHC activities, especially financing activities, could likely be accomplished more efficiently within a bank subsidiary except that Regulation Q and other constraints make it uneconomical to do so. Third, reduced regulation has the beneficial side effect of increasing banking organizations' flexibility to meet the competition of nonbanking firms and to adjust to the stress of economic cycles. Fourth, relaxation of regulation would tend to break down the barriers that provide incentives for nonregulated firms to offer financial services. Fifth, consolidation of a BHC into a bank subsidiary simplifies and reduces the burden of supervision since only a single entity would need to be examined. This would eliminate, or reduce substantially, the regulatory jurisdictional problems that presently exist because several banking agencies may have authority over parts of existing holding companies.

And finally, consolidation would focus public debate on the proper scope of banking functions, both in terms of permissible activities and also with respect to the McFadden Act, Douglas Amendment, and Glass-Steagall.

—Robert A. Eisenbeis

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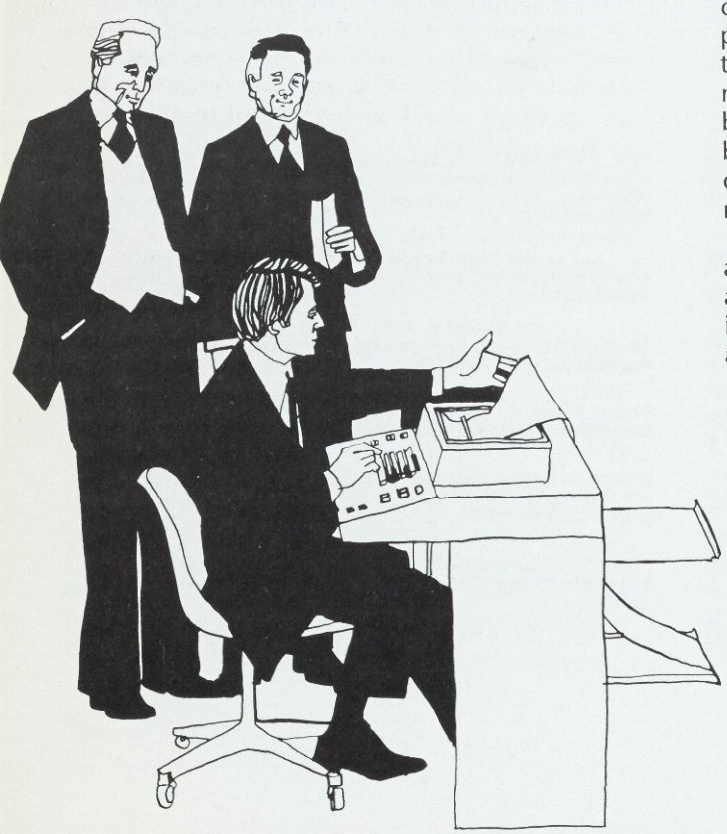
Small Businesses and the Cash Management Culture

The widespread adoption of cash management techniques by small businesses may mean the gradual disappearance of low cost business deposits for banks. But the same development offers banks a unique opportunity for fee-income.



Small companies are on the verge of becoming participants in American business' cash management culture.

In essence, cash management treats cash as an income producing asset, investing idle balances and managing cash flow to maximize funds available for investment. It requires up-to-the-minute knowledge of a firm's financial position, access to information about investment alternatives, and a way to execute investment decisions quickly. Long dominated by large firms with sophisticated internal business systems, this cash management culture now is spreading to smaller firms (between $500,000 and $10 million in annual sales). Major decreases in the prices of microcomputers over the last five years, combined with the vast increase in computing power of the chip, have brought automated internal business systems well within small corporations' budgets. Furthermore, reduced prices have stimulated an infrastructure of small computers and terminals that can be part of a vast and sophisticated corporate electronic network of the future.

The spread of cash management and development of the electronic infrastructure represent a challenge and an opportunity for banks. The challenge arises because low-cost deposits are disappearing with the spread of cash management. The opportunity lies in the possibility of generating fee income through the delivery of cash management services such as balance reporting. Delivered primarily through the telephone, these services have begun to find increasing numbers of small business users. More small businesses are acquiring data-processing capabilities and expertise, and many are likely to demand increasingly efficient terminal-based cash management services as their sophistication grows.

Recent developmental research projects have analyzed the spread of cash management and assessed the strategic implications of these trends in a deregulated environment.[1] The data provide answers to the following questions:

- What special financial features characterize small businesses, and how are they changing?
- To what degree have small computers and terminals penetrated these companies?
- How do small companies use these devices?
- What financial services, if any, are being conducted through terminals and small computers?
- What is the outlook for the future?

Small Business Market Profile

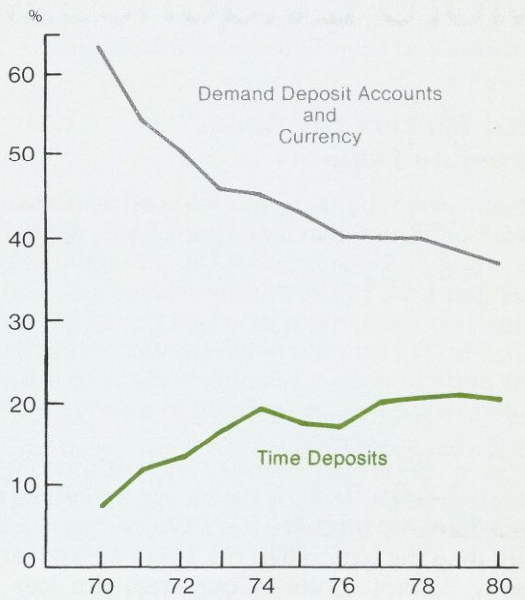
Small businesses represent a sizeable market for bank services. According to Small Business Administration estimates, more than 13 million small businesses operate in the United States, including over 10 million nonfarm businesses. The small business sector constitutes over 99 percent of all businesses. In contrast, only about 1,000 firms report annual sales of $100 million or more, and only 50,000 have sales between $10 million and $100 million.

In addition to sheer numbers, small businesses are important because of their relatively large holdings of checking balances and currency. Robert Morris Associates' 1980 **Annual Statement Studies** provide a measure of business checking balances. The **Studies** present information about averages for 118 industries that reported data across sales categories from $250,000 to $50 million. In 81 of the 118 industries, the smallest reported sales category ($250,000 - $1 million) had the highest proportion of total assets in the form of checking balances and currency.

The Cash Management Culture's Impact on Corporate Deposits

If small businesses have relatively high bank balances, they form part of a business climate in which corporate bank balances have eroded sharply on a percentage basis. The Federal Reserve Board's **Flow of Funds** tables show that currency and demand deposits dropped from approximately 63 percent of total liquid assets of nonfinancial corporations in 1970 to below 40 percent in 1980. Where have these balances gone? As Chart 1 shows, they have gone primarily into time deposits. In 1970, time deposits accounted for about 8 percent of total liquid assets of nonfinancial corporations. They have jumped two-and-a-half times over the last decade and now represent about 20 percent of total liquid assets, and even that offsets only about half the loss of checking deposits. Investment in commercial paper and repurchase agreements also has increased significantly.

Chart 1. Liquid Asset Trends of Non-Financial Corporations



Source: Federal Reserve **Flow-of-Funds** Tables

Finally, corporate deposits have been flowing out of commercial banks and into money market funds. Because the **Flow of Funds** tables classify money market funds as household assets, the tables do not clearly reflect corporate use of money-market funds. Some small businesses may be included in the data, however, because they may participate in money-market funds via proprietors or partners' "personal" accounts. Money market fund balances that could be distinctly attributed to corporations stood at $18.4 billion at the close of 1981, according to Investment Company Institute figures.

The movement of funds from demand deposits into interest-bearing asset accounts reflects the

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[1] The research efforts, conducted by Synergistics Research Corporation of Atlanta, included the following:

- A survey of 100 corporations between $1 million and $125 million in annual sales. This January 1982 survey focused on interest in automated investment services. Half the companies interviewed were between $1 million and $10 million in annual sales.
- Telephone interviews conducted in January 1982 with 25 decision leaders in bank corporate and trust departments and independent investment companies on the subject of automated investment services and money market funds.
- Three focus groups conducted inJune 1982 with 26 small business executives and professionals. All companies had annual sales between $500,000and $10 million. Groups included both users and non-users of computers. This research attempted to assess the business opportunities in the delivery of financial, accounting, communication, and other services through terminals and personal computers.
- A telephone survey of 400 corporations between $1 million and $125 million in annual sales conducted in June 1982. Half the companies sampled were firms below $10 million in annual sales. This survey examined mini-computer use and purchase plans.
- A thorough review of secondary sources, included Federal Reserve **Flow of Funds** statistics, Dun & Bradstreet data and Robert Morris Associates' **Statement Studies.**

spread of cash management over the last decade as large firms increasingly have sought market yields on their idle cash. There is every reason to believe that this culture soon will spread to small businesses, strongly affecting both their business methods and their financial relationships.

What Bankers Say About Corporate Deposits

Twenty-two bankers interviewed in January 1982 confirmed that corporate bank deposits are eroding. Seventeen of the 22 spoke of a recent erosion; 16 cited money market funds as a cause. The five bankers who said there had been no loss or that they did not know were from bank trust departments. It is unlikely that these trust bankers were heavily engaged in balance monitoring on the corporate side.

Loss of deposits to money market funds appeared to be particularly significant, according to some bankers interviewed. "We've been hurt more than the national trend. There are so many money market funds in our area, the loss is greater," said one Northeast trust banker. Another Northeast bank executive noted that the deposit loss has altered the way some banks conduct their business. "We've lost corporate DDA (demand deposit accounts) and savings balances in the last year. We have to do more campaigns to increase balances, more asset/liability management. We purchase more outside funds," he stated.

These bankers were extremely interested in offering automated investment services to forestall further balance erosion. In automated investment services, banks automatically sweep depositors' excess balances into a money market fund or other investment vehicle. Paradoxically, bankers fear that offering automated investment services on high yielding accounts will erode corporate deposit balances still further, with major consequences. A Midwest corporate banker expressed the opinion that "Excess balances will drop. The average cost of funds to the bank will increase." One Southeast corporate banker stated flatly, "The impact will be severe." And another stated, "It (automated investment services) will have a very large effect—even greater than money-market funds."

Now that Congress has passed the Depository Institutions Act of 1982 authorizing banks to offer an account competitively equivalent to money market funds, much of the bankers' enthusiasm for automated investment services may switch to these accounts. Nevertheless, a potential problem remains. Money market deposit accounts (MMDA) may help banks retain some balances that might have been lost to money market funds. However, the cost of funds can still increase. Low-cost deposits may continue to erode as firms shift funds from checking accounts to the higher-yielding MMDA.

Erosion of Small Business Deposits

Where is the deposit erosion likely to be most severe? Bankers see it being particularly severe in the lower end of the corporate market. "Initially it will be the lower end of the corporate market—$1 million to $50 million in annual sales," is the opinion of one Midwest corporate banker. A Southeast banker explained more fully, "Large corporations already do it (transfer funds from checking accounts to high interest bearing investment vehicles) themselves. (Firms with) less than $50 million (in annual sales) will be most affected." And a western corporate banker agreed that erosion will occur primarily in small business balances. "The major impact will be in firms under $20 million," he said. "Firms over $20 million are already monitoring their balances."

Thus, there are indications that the desire to obtain market yields on surplus funds is penetrating small corporations as well as large ones. This desire is likely to prompt increased interest by small corporations in cash management and investment services. At the same time, it presents a major challenge to commercial banks that have relied on non-interest bearing corporate balances to fund loans. How should they compensate themselves for the loss of these balances? Charging fees on cash management services appears to offer a possible solution.

Financial Practices of Small Businesses: Is There a Market for Fee Based Services?

The Synergistics survey of 100 middle-market and small businesses reveals some interesting facts about the spread of the cash management culture to small firms (see Table 1).

It indicates that small firms are as likely as large firms to invest in money market funds and

Table 1. Comparisons of Non-Financial Corporations by Annual Sales

	$1-$10 Million	$10-$25 Million	$25-$125 Million
	%	%	%
Short-Term Investments			
Invests in money-market fund	37.5	29.2	32.0
Invests in money-market instrument	60.0	62.5	60.0
Use of Financial Services			
Collection/concentration service	10.0	41.7	64.0
Delays mailing to extend float	20.0	33.3	28.0
Funds disbursement account at last moment	27.5	25.0	32.0
Does not attempt to extend disbursement float	35.0	20.8	28.0
Internal			
Has one operating unit	52.5	50.0	16.0
Has below 100 employees	75.0	54.1	4.0
Has terminal communicating with financial institution	12.5	8.3	20.0
Respondent has personal money-market fund	60.0	54.2	48.0
Over 10,000 checks per year	25.0	25.0	72.0

money market instruments. While these figures do not reveal investment amounts, they provide indirect evidence that balance erosion has spread to very small firms. If small firms are as likely to make short-term investments as larger firms, they probably are as likely to try to reduce idle balances in their checking accounts.

Between one-third and one-half of the surveyed firms say they are interested in using, or already use, a service that automatically invests newly collected funds or permits check writing against invested funds. This positive attitude is likely to apply to money market deposit accounts as well.

Given the high proportion of small businesses and middle-market firms that invest, plus the positive attitudes toward new investment in high-yielding account services, corporate balances likely will continue to erode. The major question is whether corporate demand for high yields on idle balances can be converted into a demand for fee-bearing cash management services that will recompense the offering institution for its increased cost of funds. The survey suggests that the small business market for cash management services is virtually untapped. Such services as lock boxes and concentration services have gained popularity among middle-market corporations. The smaller the corporation, however, the less likely it is to use these services. On the disbursement side, firms in the $1 million-$10 million sales category are the least likely to delay mailing checks to extend float and the most likely to take no action to extend disbursement float.

Given small corporations' interest in investment, why have smaller firms been slow to use cash management services that increase the time that funds are available for investment? Many existing cash management services are designed to enhance the cash flow of firms with multiple units and multiple bank accounts. Concentration services, for example, pool funds from multiple sources. Balance reporting services can provide detailed information on multiple bank accounts. As Table 1 shows, small firms are three times as likely as large firms to have only one operating unit. They have significantly less need for detailed balance information and funds concentration than larger firms. Thus small firms do not have the complicated cash flow that might stimulate interest in using available services that enhance control over cash flow.

A second reason for the limited penetration of cash management services among small firms appears to be the firms' investment practices. While many small and large firms make short-term investments, the two groups have different

levels of activity. None of the small firms (below $10 million in annual sales) invest in money-market instruments on a daily basis, compared to 40 percent of the large firms (over $25 million). Thus, because of the relative infrequency of their investments, small firms may have less demand than large firms for services that increase balances available for investment on a daily basis.

The high minimum amounts on bank short-term investments may have contributed to this situation. Small business, with lower volumes of cash flow, may take longer than large firms to amass minimum amounts required by bank certificates of deposit and repurchase agreements. While money market funds usually have far lower minimum investment requirements, small firms may not yet have altered the investment patterns they developed for bank instruments to take advantage of the funds' lower balance requirements.

Small Business Use of Microcomputers: An Opportunity for Banks?

Small businesses use terminals to communicate with their financial institutions only half as much as large firms. One firm in five with sales between $25 million and $125 million per year has such a terminal, while only one in 10 with sales below $10 million does so.

Although financial terminals are less popular among small businesses than among middle-market corporations, small firms are increasing their use of microcomputers. Our survey of 400 small and middle-market firms reveals that one in seven firms in the $1 million - $5 million sales category, and one in five in the $5 million - $10 million category, purchased micro-computers (costing $1,500-$7,000) in the last year. Of the firms that did not purchase micro-computers, one quarter are considering doing so in the coming year. Thus, although small businesses usually lack the complex cash flow and investment sophistication of large firms, they are installing the computers necessary to receive complex balance and investment information and to initiate transactions.

As these computers go into place, the challenge to financial institutions is to educate the firms about the machines' cash management and investment capabilities. Such services represent an opportunity for banks to earn fee income. Some banks may be reluctant to offer cash management services to small businesses because they fear further demand balance erosion. However, since this erosion is likely to continue anyway, banks would be wise to offer fee-based services in the small business market.

Current Small Business Applications of Computers

If small businesses are not buying micro-computers explicitly for cash management purposes, why are they buying? Our small business and professional focus group studies show that the primary reason for purchasing computers is to perform internal business functions.

This research solicited opinions of three groups:

- **Small business non-users of computers.** The participants were screened to ensure they had primary responsibility for, or primary knowledge of, their company's financial matters. All companies had annual sales between $500,000 and $10 million.
- **Professionals who were non-users of computers.** The participants included medical professionals, attorneys and accountants, both solo and group practitioners.
- **Small business computer users.** The participants were screened to ensure that they were the primary user of the computer; all had annual sales between $500,000 and $10 million.

Among small business computer users, the primary reason for buying computers is to process accounts receivable, accounts payable, inventory control and sales analysis. Users are at least somewhat satisfied with the way their computers perform these functions and generally agree that their computers are worth the cost. Non-users overwhelmingly perform these functions manually, although some firms use service bureaus and accounting firms for the functions. When non-users are asked to describe potential computer applications they have investigated, they cite the same internal functions currently performed by computer in the user group. Here the emphasis on accounts receivable is even more pronounced.

An examination of the problems small businesses and professionals identify in running their operations reveals the motivations of current and potential computer users. Small business non-users express the greatest concern with inventory control and monitoring price fluctuations.

By contrast, the major concerns of professionals are in the area of accounts receivable or billing. Attorneys and accountants both mention serious problems with billing. Although service bureaus can perform billing, they often cannot bill a client at mid-month. If work is completed and a client wants to know his charges, a service bureau may not be able to tell them.

Doctors identify a related billing problem. Family practitioners develop long-term patient relationships and, hence, have relatively little difficulty collecting bills. Specialists, however, may see patients only once and are less able to bring pressure on a patient who refuses to pay. Computer billing practices can enable the specialist to generate a bill for a patient during an office visit and thus permit the specialist to ask for payment at the close of the visit.

Accessing Off-Site Computers for Banking or Financial Services

Regardless of focus group members' interest in using small computers to perform internal business functions, there currently appears to be little interest in using computers for external transactions. This hesitance seems to stem from fears concerning the security of the firm's data. Will a firm's data be mixed with data from another firm? Who else will have access to the company's information? Unfamiliarity with the features and the value of cash management services may also help explain the lack of interest.

The small business focus group members who expressed a desire to conduct financial transactions via a terminal either have complicated cash flows or they have experience in using a computer to conduct personal financial business. A small business non-user interested in terminal-based financial services described the complexity of his operation:

> "We have nine stores in nine different locations in eight different cities in five different states. In our corporate location, we have 20 checkbooks and we run a deposit account for every story and the deposit checkbook is kept at corporate headquarters. Our receipts, which are deposited in the bank accounts of different stores, are then—through the telephone—relayed several times a week to headquarters; checks are cut there and deposited in a corporate account to pay bills. We've looked into having a bank that would handle that cash concentration for us. We would like to speed those transfers so we can take advantage—in a quicker fashion—of that money."

A small business computer user who manages his personal finances on a home terminal expressed interest in conducting his business finances in a similar manner. This executive uses his personal computer to reconcile 13 checking and savings accounts, record stock transactions for tax purposes, and calculate the daily value of his investment portfolio. In contrast, most other computer users in the focus group were content to let their banker or broker handle their personal and business finances.

Compared to the small business executives in the focus groups, professionals expressed greater interest in using a computer to conduct financial transactions, as the following quotations indicate:

> "I'd love to get the information about my bank accounts over a terminal right now, and ultimately make transactions."
>
> "For us, a terminal service would be attractive because we have two offices and deal with different banks. Just to cut down on some of the physical time of actually sending staff people to the bank would be very helpful."

A Potential Target Market Segment

The research suggested that the service sector is a market segment that may be receptive to banking services delivered via computer. A survey of 100 small and middle-market firms found service firms the most likely to have office terminals through which they receive information from or communicate with financial institutions. One in five service firms has such a terminal compared to one in six manufacturers and one in 10 wholesalers and retailers.

It is possible that service firms' receptivity to terminal-based financial services is related to familiarity with the benefits of micro-computers gained through experience. Service firms seem to have the lead in computer experience. Our survey of 400 middle-market and small firms shows that service firms are most likely to have purchased a microcomputer in the last year. Twenty percent of service firms have made such purchases in the last year, compared to approximately 15 percent of manufacturing

and retail firms and 5 percent of wholesale firms. Not only are service firms more likely to have purchased microcomputers in the last year, they are also more likely to have purchased many such units. Among microcomputer users, 60 percent of service firms, 19 percent of wholesalers, 11 percent of retailers and 8 percent of manufacturers have purchased three or more units.

The figures do not explain the service industry's orientation toward computers. One may speculate that service firms, not burdened by heavy capital investment requirements, have a strong incentive to increase productivity. Perhaps the incentive to increase the productivity of their cash balances through electronic cash management services is equally strong. The data suggest that significant microcomputer use by small businesses and interest in putting idle cash balances to work are creating a receptive market for bank cash management services; the sophistication of service companies suggests they may be ideal targets for such services.

Prospects for the Future

Small businesses' use of terminal-based services seems likely to evolve as computer expertise grows and as banks increase their promotion of services targeted to these firms. Even more rapid growth may take place as a result of electronic transactions and deregulation.

Transaction Services. The importance of transaction services reflects the emphasis small businesses place on micro-computers to process internal business functions like accounts receivable and accounts payable. If financial institutions can offer cash management services that tie into internal accounting systems, they should attract a significant group of small business prospects. The logical service to offer is one that ties business-to-business payments into the corporations' purchasing and billing functions. Several current experiments may lead to the development of such services.

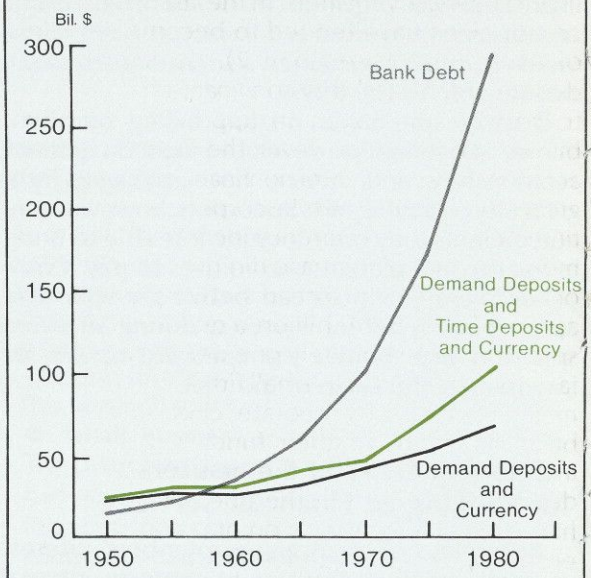
An American National Standards Institute (ANSI) Committee is drafting interindustry standards for purchase order and invoice data. The committee is also considering ways to integrate payment transactions into purchase order and invoice standards.

At the same time, the National Automated Clearing House Association (NACHA) is studying use of the Automated Clearinghouse (ACH) for business-to-business payments. NACHA is developing formats for transmission of invoice information and payments.

These efforts represent a crucial step in developing the infrastructure for nationwide electronic purchasing, billing and payment networks.

Deregulation. The deregulation now occurring in the financial industry may encourage the growth of terminal-based services among small businesses. The Depository Institutions Act of 1982 is taking financial institutions close to paying market interest rates on transaction balances. The low initial deposit for the money market deposit accounts ($2,500) makes market yields on idle balances available to companies with extremely low checking account balances. When small companies discover they can achieve these yields on a substantial portion of these idle balances conveniently, then interest in managing their cash to maximize yield may increase. The rewards of cash management should become far more apparent. Hence, their interest in terminal-based cash management services also should increase.

Chart 2. Bank Debt and Deposits of Non-Financial Corporations



Source: Federal Reserve **Flow of Funds** Tables

Implications. The spread of terminal-based cash management services to small businesses and the advent of the new money market deposit account are likely to have major implications for financial service providers. In the last two decades, corporations have tended to become net users of bank funds (see Chart 2). During the past decade, indebtedness by non-financial corporations to banks skyrocketed to approximately $300 billion. In contrast, however, the demand deposit accounts and currency of nonfinancial corporations grew only slightly. While corporate held DDA, time deposits, and currency increased somewhat more, the rate of increase did not approach that of bank debt. The spread between the two is approximately $200 billion, a quadrupling of the spread of approximately one decade ago. Banks face twin dilemmas as small firms, one of the last major sources of corporate checking account balances, mobilize their funds either through investments or use of the new money market deposit accounts. On the one hand, they may have to rely increasingly on other sectors of the economy to fund their lending to corporations. On the other hand, they will find their costs of funds rising dramatically as small firms move balances from checking accounts to high-yielding money market deposit accounts.

As a result of these phenomena, commercial banks will face increasing pressures on their profitability over the coming years. They should find fee-based services an increasingly attractive way to compensate for eroded balances. Offering terminal-based cash management and investment services to small businesses represents one such way.

Conclusion

The spread of the cash management culture to small businesses is likely to have major implications for the financial world. Stimulated by increased terminal use for internal accounting functions and by the increased availability of market yields as a result of deregulation, small businesses are likely to become significant users of cash management services over the coming decade.

Because small businesses have less complex cash flows than many of the large firms for which cash management services were designed, providers face the challenge of scaling these services to small business needs. These needs are particularly evident in small business internal accounting practices and investment practices, and service firms represent the prospect group with the greatest awareness of these needs. Because of the expanding infrastructure of small business computers, financial institutions enjoy major opportunities for product development, and it will be unfortunate if they fail to take advantage of those opportunities because of concern over balance erosion.

—Jean H. Crooks, William O. Adcock and Genie M. Driskill

Jean Crooks and Genie Driskill are vice-presidents and William Adcock is chairman of Synergistics Research Corporation, Atlanta, Ga. This research was presented at a seminar at the Atlanta Fed in the fall of 1982.

$ millions	NOV 1982	OCT 1982	NOV 1981	ANN. % CHG.		NOV 1982	OCT 1982	NOV 1981	ANN. % CHG.
UNITED STATES									
Commercial Bank Deposits	1,191,153	1,186,892	1,070,782	+11	Savings & Loans				
Demand	302,055	301,655	294,713	+ 2	Total Deposits	540,092	539,981	514,893	+ 5
NOW	65,042	63,409	48,136	+35	NOW	12,408	12,082	7,698	+61
Savings	154,001	152,852	146,611	+ 5	Savings	95,627	94,942	91,366	+ 5
Time	703,077	703,648	610,316	+15	Time	433,533	434,435	416,323	+ 4
Credit Union Deposits	51,681	51,302	39,443	+31		SEP	AUG	SEP	
Share Drafts	3,856	3,673	2,437	+58	Mortgages Outstanding	486,831	500,783	509,544	- 4
Savings & Time	43,290	43,450	34,800	+24	Mortgage Commitments	17,184	16,870	15,935	+ 8
SOUTHEAST									
Commercial Bank Deposits	127,243	126,388	114,881	+11	Savings & Loans				
Demand	34,118	34,478	33,987	+ 0	Total Deposits	79,549	79,668	75,660	+ 5
NOW	8,439	8,193	6,121	+38	NOW	1,993	1,953	1,151	+73
Savings	15,153	14,969	14,550	+ 4	Savings	12,062	12,002	11,657	+ 3
Time	72,541	72,262	63,782	+14	Time	65,762	65,944	62,811	+ 5
Credit Union Deposits	4,927	4,840	3,962	+24		SEP	AUG	SEP	
Share Drafts	360	348	264	+36	Mortgages Outstanding	68,467	69,418	74,384	- 8
Savings & Time	4,156	4,086	3,455	+20	Mortgage Commitments	2,876	3,093	3,473	-17
ALABAMA									
Commercial Bank Deposits	14,047	14,004	13,209	+ 6	Savings & Loans				
Demand	3,537	3,602	3,491	+ 1	Total Deposits	4,530	4,573	4,364	+
NOW	736	715	547	+35	NOW	106	104	61	+7
Savings	1,611	1,585	1,536	+ 5	Savings	569	563	561	+
Time	8,623	8,633	8,092	+ 7	Time	3,908	3,926	3,768	+
Credit Union Deposits	874	855	704	+24		SEP	AUG	SEP	
Share Drafts	70	68	53	+32	Mortgages Outstanding	3,786	3,917	4,013	-
Savings & Time	728	711	638	+14	Mortgage Commitments	47	44	71	-3
FLORIDA									
Commercial Bank Deposits	41,459	41,218	37,506	+11	Savings & Loans				
Demand	11,793	12,096	11,978	- 2	Total Deposits	48,108	48,132	45,802	+ 5
NOW	3,686	3,568	2,647	+39	NOW	1,335	1,320	803	+6
Savings	6,420	6,336	6,245	+ 3	Savings	8,065	8,037	7,836	+ 3
Time	20,431	20,304	17,575	+16	Time	38,758	38,794	37,012	+ 5
Credit Union Deposits	2,206	2,167	1,792	+23		SEP	AUG	SEP	
Share Drafts	193	187	146	+32	Mortgages Outstanding	40,230	40,928	45,373	-1
Savings & Time	1,719	1,686	1,426	+21	Mortgage Commitments	2,231	2,410	3,004	-2
GEORGIA									
Commercial Bank Deposits	18,052	17,840	15,943	+13	Savings & Loans				
Demand	6,283	6,187	5,999	+ 5	Total Deposits	9,915	9,957	9,642	+ 3
NOW	1,230	1,197	911	+35	NOW	240	230	122	+9
Savings	1,705	1,680	1,582	+ 8	Savings	1,209	1,200	1,163	+
Time	9,728	9,680	8,505	+14	Time	8,570	8,648	8,383	+
Credit Union Deposits	906	887	726	+25		SEP	AUG	SEP	
Share Drafts	39	36	22	+77	Mortgages Outstanding	8,928	9,028	9,457	-
Savings & Time	814	803	688	+18	Mortgage Commitments	183	180	137	+3
LOUISIANA									
Commercial Bank Deposits	23,096	22,870	20,728	+11	Savings & Loans				
Demand	5,890	5,883	5,999	- 2	Total Deposits	8,033	7,978	7,376	+ 9
NOW	1,144	1,112	824	+39	NOW	127	124	69	+84
Savings	2,469	2,464	2,353	+ 5	Savings	1,268	1,263	1,178	+ 8
Time	14,068	13,961	12,175	+16	Time	6,665	6,620	6,158	+ 8
Credit Union Deposits	164	161	97	+69		SEP	AUG	SEP	
Share Drafts	11	11	7	+57	Mortgages Outstanding	7,391	7,360	7,107	+ 4
Savings & Time	155	152	90	+72	Mortgage Commitments	256	307	184	+39
MISSISSIPPI									
Commercial Bank Deposits	10,544	10,437	9,527	+11	Savings & Loans				
Demand	2,311	2,347	2,358	- 2	Total Deposits	2,420	2,485	2,390	+ 1
NOW	609	591	451	+35	NOW	63	60	31	+103
Savings	763	744	724	+ 5	Savings	241	236	232	+ 4
Time	7,066	6,991	6,278	+13	Time	2,138	2,210	2,138	0
Credit Union Deposits	N.A.	N.A.	N.A.			SEP	AUG	SEP	
Share Drafts	N.A.	N.A.	N.A.		Mortgages Outstanding	2,143	2,166	2,210	- 3
Savings & Time	N.A.	N.A.	N.A.		Mortgage Commitments	19	19	23	-17
TENNESSEE									
Commercial Bank Deposits	20,045	20,019	17,968	+12	Savings & Loans				
Demand	4,304	4,363	4,162	+ 3	Total Deposits	6,543	6,543	6,086	+ 8
NOW	1,034	1,010	741	+40	NOW	122	115	65	+88
Savings	2,185	2,160	2,110	+ 4	Savings	710	703	687	+ 3
Time	12,625	12,693	11,157	+13	Time	5,723	5,746	5,352	+ 7
Credit Union Deposits	777	770	643	+21		SEP	AUG	SEP	
Share Drafts	47	46	36	+31	Mortgages Outstanding	5,989	6,019	6,224	- 4
Savings & Time	740	734	613	+21	Mortgage Commitments	140	133	53	+164

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

EMPLOYMENT

	OCT 1982	SEPT 1982	OCT 1981	ANN. % CHG.		OCT 1982	SEPT 1982	OCT 1981	ANN. % CHG.
UNITED STATES									
Civilian Labor Force - thous.	110,767	110,546	109,244	+ 1	Nonfarm Employment- thous.	89,582	89,446	91,884	- 3
Total Employed - thous.	99,825	99,851	101,028	- 1	Manufacturing	18,518	18,803	20,271	- 9
Total Unemployed - thous.	10,942	10,695	8,261	+32	Construction	4,095	4,110	4,340	- 6
Unemployment Rate - % SA	10.4	10.1	8.0		Trade	20,520	20,561	20,731	- 1
Insured Unemployment - thous.	N.A.	N.A.	N.A.		Government	15,802	15,328	16,000	- 1
Insured Unempl. Rate - %	N.A.	N.A.	N.A.		Services	19,164	19,114	18,824	+ 2
Mfg. Avg. Wkly. Hours	38.8	38.9	39.7	- 2	Fin., Ins., & Real Est.	5,351	5,370	5,314	+ 1
Mfg. Avg. Wkly. Earn. - $	332	334	324	+ 2	Trans. Com. & Pub. Util.	5,067	5,077	5,208	- 3
SOUTHEAST									
Civilian Labor Force - thous.	14,542	14,452	14,020	+ 4	Nonfarm Employment- thous.	11,346	11,305	11,509	- 1
Total Employed - thous.	13,034	13,018	12,900	+ 1	Manufacturing	2,135	2,150	2,300	- 7
Total Unemployed - thous.	1,507	1,434	1,120	+35	Construction	661	665	734	-10
Unemployment Rate - % SA	10.5	9.9	8.1		Trade	2,683	2,670	2,662	+ 1
Insured Unemployment - thous.	N.A.	N.A.	N.A.		Government	2,129	2,097	2,160	- 1
Insured Unempl. Rate - %	N.A.	N.A.	N.A.		Services	2,254	2,239	2,166	+ 4
Mfg. Avg. Wkly. Hours	39.7	39.1	40.1	- 1	Fin., Ins., & Real Est.	639	637	635	+ 1
Mfg. Avg. Wkly. Earn. - $	294	290	282	+ 4	Trans. Com. & Pub. Util.	693	691	699	- 1
ALABAMA									
Civilian Labor Force - thous.	1,723	1,695	1,686	+ 2	Nonfarm Employment- thous.	1,315	1,313	1,355	- 3
Total Employed - thous.	1,465	1,449	1,510	- 3	Manufacturing	328	333	361	- 9
Total Unemployed - thous.	258	246	176	+47	Construction	64	63	66	- 3
Unemployment Rate - % SA	15.7	15.0	11.5		Trade	271	272	274	- 1
Insured Unemployment - thous.	N.A.	N.A.	N.A.		Government	294	289	293	+ 0
Insured Unempl. Rate - %	N.A.	N.A.	N.A.		Services	216	214	214	+ 1
Mfg. Avg. Wkly. Hours	40.1	39.6	40.1	0	Fin., Ins., & Real Est.	59	59	59	0
Mfg. Avg. Wkly. Earn. - $	290	285	285	+ 2	Trans. Com. & Pub. Util.	68	67	72	- 6
FLORIDA									
Civilian Labor Force - thous.	4,989	4,937	4,625	+ 8	Nonfarm Employment- thous.	3,757	3,726	3,731	+ 1
Total Employed - thous.	4,530	4,531	4,261	+ 6	Manufacturing	445	445	469	- 5
Total Unemployed - thous.	459	406	364	+26	Construction	247	251	287	-14
Unemployment Rate - % SA	8.7	7.5	7.3		Trade	1,021	1,006	978	+ 4
Insured Unemployment - thous.	N.A.	N.A.	N.A.		Government	602	595	614	- 2
Insured Unempl. Rate - %	N.A.	N.A.	N.A.		Services	922	912	870	+ 6
Mfg. Avg. Wkly. Hours	39.7	39.1	40.4	- 2	Fin., Ins., & Real Est.	279	277	275	+ 1
Mfg. Avg. Wkly. Earn. - $	285	281	270	+ 6	Trans. Com. & Pub. Util.	231	231	227	+ 2
GEORGIA									
Civilian Labor Force - thous.	2,683	2,679	2,627	+ 2	Nonfarm Employment- thous.	2,158	2,150	2,192	- 2
Total Employed - thous.	2,474	2,477	2,458	+ 1	Manufacturing	492	494	521	- 6
Total Unemployed - thous.	209	203	169	+24	Construction	97	98	102	- 5
Unemployment Rate - % SA	7.9	7.7	6.5		Trade	497	495	505	- 2
Insured Unemployment - thous.	N.A.	N.A.	N.A.		Government	440	429	436	+ 1
Insured Unempl. Rate - %	N.A.	N.A.	N.A.		Services	369	368	362	+ 2
Mfg. Avg. Wkly. Hours	39.9	39.3	39.8	+ 0	Fin., Ins., & Real Est.	116	116	114	+ 2
Mfg. Avg. Wkly. Earn. - $	272	266	263	+ 3	Trans. Com. & Pub. Util.	140	141	144	- 3
LOUISIANA									
Civilian Labor Force - thous.	1,914	1,926	1,890	+ 1	Nonfarm Employment- thous.	1,614	1,611	1,649	- 2
Total Employed - thous.	1,705	1,711	1,738	- 2	Manufacturing	197	197	214	- 8
Total Unemployed - thous.	208	214	152	+37	Construction	131	131	157	-17
Unemployment Rate - % SA	11.3	11.5	8.2		Trade	369	370	368	+ 0
Insured Unemployment - thous.	N.A.	N.A.	N.A		Government	315	311	326	- 3
Insured Unempl. Rate - %	N.A.	N.A.	N.A.		Services	298	299	285	+ 5
Mfg. Avg. Wkly. Hours	40.0	39.2	41.7	- 4	Fin., Ins., & Real Est.	76	76	76	0
Mfg. Avg. Wkly. Earn. - $	377	379	359	+ 5	Trans. Com. & Pub. Util.	130	130	128	+ 2
MISSISSIPPI									
Civilian Labor Force - thous.	1,065	1,065	1,062	+ 0	Nonfarm Employment- thous.	796	796	826	- 4
Total Employed - thous.	935	935	981	- 5	Manufacturing	202	205	223	- 9
Total Unemployed - thous.	130	130	81	+60	Construction	40	40	42	- 5
Unemployment Rate - % SA	13.3	13.0	8.0		Trade	163	163	163	0
Insured Unemployment - thous.	N.A.	N.A.	N.A.		Government	184	182	187	- 2
Insured Unempl. Rate - %	N.A	N.A.	N.A.		Services	122	120	122	0
Mfg. Avg. Wkly. Hours	39.6	38.6	39.4	+ 1	Fin., Ins., & Real Est.	33	33	33	0
Mfg. Avg. Wkly. Earn. - $	256	249	241	+ 6	Trans. Com. & Pub. Util.	41	40	42	- 2
TENNESSEE									
Civilian Labor Force - thous.	2,168	2,150	2,130	+ 2	Nonfarm Employment- thous.	1,706	1,709	1,756	- 3
Total Employed - thous.	1,925	1,915	1,952	- 1	Manufacturing	471	476	512	- 8
Total Unemployed - thous.	243	235	178	+37	Construction	82	82	80	+ 3
Unemployment Rate - % SA	11.8	11.5	9.2		Trade	362	364	374	- 3
Insured Unemployment - thous.	N.A.	N.A.	N.A.		Government	294	291	304	- 3
Insured Unempl. Rate - %	N.A	N.A.	N.A.		Services	327	326	313	+ 4
Mfg. Avg. Wkly. Hours	39.2	39.0	39.9	- 2	Fin., Ins., & Real Est.	76	76	78	- 3
Mfg. Avg. Wkly. Earn. - $	281	283	272	+ 3	Trans. Com. & Pub. Util.	83	82	86	- 3

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

CONSTRUCTION

	OCT 1982	SEPT 1982	OCT 1981	ANN % CHG		OCT 1982	SEPT 1982	OCT 1981	ANN % CHG
12-month Cumulative Rate									
UNITED STATES									
Nonresidential Building Permits - $ Mil.					Residential Building Permits				
Total Nonresidential	45,545	46,253	52,748	-14	Value - $ Mil.	36,804	35,673	42,858	-14
Industrial Bldgs.	5,302	5,550	7,237	-27	Residential Permits - Thous.				
Offices	12,215	12,545	14,817	-18	Single-family units	493.3	473.6	602.2	-18
Stores	5,205	5,382	6,538	-20	Multi-family units	417.3	403.2	439.0	- 5
Hospitals	1,760	1,742	1,433	+23	Total Building Permits				
Schools	807	794	760	+ 6	Value - $ Mil.	82,349	81,926	95,606	-14
SOUTHEAST									
Nonresidential Building Permits - $ Mil.					Residential Building Permits				
Total Nonresidential	6,204	6,186	7,483	-17	Value - $ Mil.	6,693	6,482	8,894	-25
Industrial Bldgs.	713	736	754	- 5	Residential Permits - Thous.				
Offices	1,344	1,323	1,404	- 4	Single-family units	100.5	96.4	129.6	-22
Stores	955	996	1,131	-16	Multi-family units	83.4	80.6	112.2	-26
Hospitals	269	235	281	- 4	Total Building Permits				
Schools	82	82	80	+ 3	Value - $ Mil.	12,897	12,668	16,387	-21
ALABAMA									
Nonresidential Building Permits - $ Mil.					Residential Building Permits				
Total Nonresidential	389	402	424	- 8	Value - $ Mil.	229	214	355	-35
Industrial Bldgs.	82	88	43	+91	Residential Permits - Thous.				
Offices	54	54	57	- 5	Single-family units	4.4	4.0	6.3	-30
Stores	64	64	68	- 6	Multi-family units	4.2	3.7	7.3	-42
Hospitals	25	26	24	+ 4	Total Building Permits				
Schools	8	9	5	+60	Value - $ Mil.	618	616	779	-21
FLORIDA									
Nonresidential Building Permits - $ Mil.					Residential Building Permits				
Total Nonresidential	3,090	3,068	4,236	-27	Value - $ Mil.	4,015	3,947	6,246	-36
Industrial Bldgs.	359	365	381	- 6	Residential Permits - Thous.				
Offices	650	641	617	+ 5	Single-family units	52.0	50.5	78.5	-34
Stores	506	524	640	-21	Multi-family units	50.3	49.5	81.0	-38
Hospitals	130	101	143	- 9	Total Building Permits				
Schools	19	17	22	-14	Value - $ Mil.	7,105	7,015	10,482	-32
GEORGIA									
Nonresidential Building Permits - $ Mil.					Residential Building Permits				
Total Nonresidential	983	996	1,067	- 8	Value - $ Mil.	1,243	1,168	1,055	+18
Industrial Bldgs.	145	150	180	-19	Residential Permits - Thous.				
Offices	220	223	271	-19	Single-family units	23.8	22.4	22.1	+ 8
Stores	89	100	129	-31	Multi-family units	12.0	11.0	8.3	+45
Hospitals	27	23	21	+29	Total Building Permits				
Schools	18	19	26	-31	Value - $ Mil.	2,227	2,163	2,122	+ 5
LOUISIANA									
Nonresidential Building Permits - $ Mil.					Residential Building Permits				
Total Nonresidential	925	878	923	+ 0	Value - $ Mil.	619	604	619	0
Industrial Bldgs.	80	85	70	+14	Residential Permits - Thous.				
Offices	297	258	311	- 5	Single-family units	10.3	9.8	10.5	- 2
Stores	150	158	134	+12	Multi-family units	8.1	8.1	8.4	- 4
Hospitals	28	28	70	-60	Total Building Permits				
Schools	24	25	18	+33	Value - $ Mil.	1,544	1,483	1,542	+ 0
MISSISSIPPI									
Nonresidential Building Permits - $ Mil.					Residential Building Permits				
Total Nonresidential	150	167	188	-20	Value - $ Mil.	162	154	195	-17
Industrial Bldgs.	13	13	18	-28	Residential Permits - Thous.				
Offices	17	43	44	-61	Single-family units	3.3	3.1	3.8	-13
Stores	33	38	39	-15	Multi-family units	2.1	2.1	2.7	-22
Hospitals	5	2	10	-50	Total Building Permits				
Schools	3	1	1	+200	Value - $ Mil.	312	321	383	-19
TENNESSEE									
Nonresidential Building Permits - $ Mil.					Residential Building Permits				
Total Nonresidential	666	674	645	+ 3	Value - $ Mil.	425	395	424	+ 0
Industrial Bldgs.	35	36	63	-44	Residential Permits - Thous.				
Offices	106	104	105	+ 1	Single-family units	6.9	6.6	8.5	-18
Stores	114	111	120	- 5	Multi-family units	6.8	6.2	4.3	+58
Hospitals	43	46	14	+207	Total Building Permits				
Schools	10	10	8	+25	Value - $ Mil.	1,091	1,069	1,079	+ 1

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

GENERAL

	LATEST DATA	CURR. PERIOD	PREV. PERIOD	YEAR AGO	ANN. % CHG.
UNITED STATES					
Personal Income ($bil. - SAAR)	2Q	2,541.5	2,518.6	2,370.9	+ 7
Taxable Sales - $bil.		N.A.	N.A.	N.A.	
Plane Pass. Arr. 000's		N.A.	N.A.	N.A.	
Petroleum Prod. (thous.)	NOV	8,637.5	8,657.5	8,613.3	+ 0
Consumer Price Index 1967=100	NOV	293.6	294.1	280.7	+ 5
Kilowatt Hours - mils.	JUL	183.6	168.7	195.0	- 6
SOUTHEAST					
Personal Income ($bil. - SAAR)	2Q	301.8	295.3	280.5	+ 8
Taxable Sales - $ bil.		N.A.	N.A.	N.A.	
Plane Pass. Arr. 000's	SEP	3,268.7	4,100.7	3,407.1	- 4
Petroleum Prod. (thous.)	NOV	1,384.5	1,384.5	1,412.0	- 2
Consumer Price Index 1967=100		N.A.	N.A.	N.A.	
Kilowatt Hours - mils.	JUL	33.8	28.9	33.6	+ 1
ALABAMA					
Personal Income ($bil. - SAAR)	2Q	33.6	32.7	31.7	+ 6
Taxable Sales - $ bil.	SEP	21.7	21.1	20.9	+ 4
Plane Pass. Arr. 000's	SEP	96.1	107.3	99.9	- 4
Petroleum Prod. (thous.)	NOV	53.0	54.0	60.0	-12
Consumer Price Index 1967=100		N.A.	N.A.	N.A.	
Kilowatt Hours - mils.	JUL	4.7	3.8	4.7	0
FLORIDA					
Personal Income ($bil. - SAAR)	2Q	111.3	109.0	102.1	+ 9
Taxable Sales - $ bil.	NOV	66.6	66.6	66.3	+ 0
Plane Pass. Arr. 000's	SEP	1,474.2	2,019.5	1,430.2	+ 3
Petroleum Prod. (thous.)	NOV	68.0	72.0	93.0	-27
Consumer Price Index - Miami Nov. 1977 = 100		**NOV** 156.8	**SEP** 156.1	**NOV** 153.6	+ 2
Kilowatt Hours - mils.	JUL	9.2	8.0	9.2	0
GEORGIA					
Personal Income ($bil. - SAAR)	2Q	52.5	51.1	49.2	+ 7
Taxable Sales - $ bil.	2Q	37.2	34.5	33.9	+ 9
Plane Pass. Arr. 000's	SEP	1,294.0	1,510.9	1,458.9	-11
Petroleum Prod. (thous.)		N.A.	N.A.	N.A.	
Consumer Price Index - Atlanta 1967 = 100		**OCT** 297.8	**AUG** 295.6	**OCT** 281.5	+ 6
Kilowatt Hours - mils.	JUL	5.2	4.7	5.1	+ 2
LOUISIANA					
Personal Income ($bil. - SAAR)	2Q	43.7	42.9	40.4	+ 8
Taxable Sales - $ bil.		N.A.	N.A.	N.A.	
Plane Pass. Arr. 000's	SEP	234.5	272.9	250.1	- 6
Petroleum Prod. (thous.)	NOV	1,172.5	1,166.0	1,165.0	+ 1
Consumer Price Index 1967 = 100		N.A.	N.A.	N.A.	
Kilowatt Hours - mils.	JUL	5.9	5.1	5.6	+ 5
MISSISSIPPI					
Personal Income ($bil. - SAAR)	2Q	19.7	19.3	18.5	+ 6
Taxable Sales - $ bil.		N.A.	N.A.	N.A.	
Plane Pass. Arr. 000's	SEP	29.1	32.5	32.1	- 9
Petroleum Prod. (thous.)	NOV	91.0	92.5	94.0	- 3
Consumer Price Index 1967 = 100		N.A.	N.A.	N.A.	
Kilowatt Hours - mils.	JUL	2.4	2.0	2.4	0
TENNESSEE					
Personal Income ($bil. - SAAR)	2Q	41.0	40.3	38.6	+ 6
Taxable Sales - $ bil.	NOV	27.4	25.6	25.2	+ 9
Plane Pass. Arr. 000's	SEP	140.8	157.5	135.9	+ 4
Petroleum Prod. (thous.)		N.A.	N.A.	N.A.	
Consumer Price Index 1967 = 100		N.A.	N.A.	N.A.	
Kilowatt Hours - mils.	JUL	6.4	5.3	6.6	- 3

	NOV 1982	OCT (R) 1982	NOV 1981	ANN. % CHG.
UNITED STATES				
Agriculture				
Prices Rec'd by Farmers Index (1967=100)	129.0	128.0	130.0	- 1
Broiler Placements (thous.)	75,271	73,277	72,411	+ 4
Calf Prices ($ per cwt.)	58.10	58.30	59.40	- 2
Broiler Prices (¢ per lb.)	24.5	25.1	25.4	- 4
Soybean Prices ($ per bu.)	5.39	5.07	6.03	-11
Broiler Feed Cost ($ per ton)	198	203	213	- 7
SOUTHEAST				
Agriculture				
Prices Rec'd by Farmers Index (1967=100)	113.5	119.8	114.5	- 1
Broiler Placements (thous.)	28,231	28,012	26,628	+ 6
Calf Prices ($ per cwt.)	53.35	53.19	54.80	- 3
Broiler Prices (¢ per lb.)	23.9	24.2	24.2	- 1
Soybean Prices ($ per bu.)	5.44	5.20	6.13	-11
Broiler Feed Cost ($ per ton)	185	196	205	-10
ALABAMA				
Agriculture				
Farm Cash Receipts - $ mil. (Dates: AUG, AUG)	1,167	-	1,190	- 2
Broiler Placements (thous.)	9,406	9,257	8,500	+11
Calf Prices ($ per cwt.)	52.80	52.80	54.40	- 3
Broiler Prices (¢ per lb.)	23.5	24.0	23.5	0
Soybean Prices ($ per bu.)	5.43	5.02	6.03	-10
Broiler Feed Cost ($ per ton)	192	215	215	-11
FLORIDA				
Agriculture				
Farm Cash Receipts - $ mil. (Dates: AUG, AUG)	3,145	-	2,861	+10
Broiler Placements (thous.)	1,852	1,702	1,819	+ 2
Calf Prices ($ per cwt.)	55.10	54.90	55.90	- 1
Broiler Prices (¢ per lb.)	24.0	27.0	24.0	0
Soybean Prices ($ per bu.)	5.43	5.02	6.03	-10
Broiler Feed Cost ($ per ton)	210	205	215	- 2
GEORGIA				
Agriculture				
Farm Cash Receipts - $ mil. (Dates: AUG, AUG)	1,785	-	1,780	+ 0
Broiler Placements (thous.)	11,307	11,412	11,208	+ 1
Calf Prices ($ per cwt.)	49.80	49.40	51.70	- 4
Broiler Prices (¢ per lb.)	23.0	23.0	23.5	- 2
Soybean Prices ($ per bu.)	5.42	5.13	6.06	-11
Broiler Feed Cost ($ per ton)	181	184	200	-10
LOUISIANA				
Agriculture				
Farm Cash Receipts - $ mil. (Dates: AUG, AUG)	700	-	772	- 9
Broiler Placements (thous.)	N.A.	N.A.	N.A.	
Calf Prices ($ per cwt.)	56.00	55.20	55.60	+ 1
Broiler Prices (¢ per lb.)	25.0	25.5	26.5	- 6
Soybean Prices ($ per bu.)	5.52	5.29	6.23	-11
Broiler Feed Cost ($ per ton)	245	245	260	- 6
MISSISSIPPI				
Agriculture				
Farm Cash Receipts - $ mil. (Dates: AUG, AUG)	1,008	-	1,032	- 2
Broiler Placements (thous.)	5,666	5,640	5,102	+11
Calf Prices ($ per cwt.)	56.50	55.70	57.90	- 2
Broiler Prices (¢ per lb.)	26.0	25.5	26.5	- 2
Soybean Prices ($ per bu.)	5.45	5.30	6.20	-12
Broiler Feed Cost ($ per ton)	161	180	185	-13
TENNESSEE				
Agriculture				
Farm Cash Receipts - $ mil. (Dates: AUG, AUG)	911	-	871	+ 5
Broiler Placements (thous.)	N.A.	N.A.	N.A.	
Calf Prices ($ per cwt.)	50.10	51.00	52.90	- 5
Broiler Prices (¢ per lb.)	23.5	23.5	22.0	+ 7
Soybean Prices ($ per bu.)	5.33	5.14	6.05	-12
Broiler Feed Cost ($ per ton)	170	171	187	- 9

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.

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