

Economic Review



FEDERAL RESERVE BANK OF ATLANTA

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BANKS Will Interstate Banking Increase Competition?

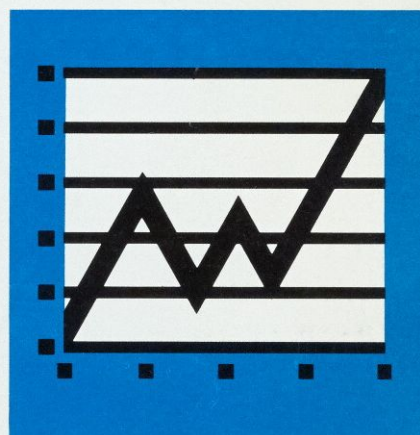
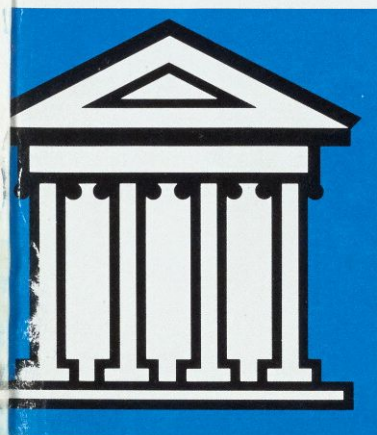
DEFICITS Exploring the Link to Monetary Growth

CONSUMERS The Do-It-Yourself Movement

PAYMENTS In-Store ATMs Gather Steam

REFORM Deposit Insurance Proposals

INTERNATIONAL Lender of Last Resort



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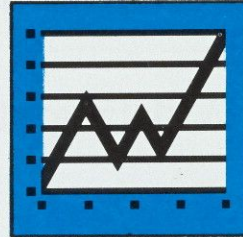
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Can Interstate Banking Increase Competitive Market Performance? An Empirical Test

A study of Florida bank holding companies suggests that geographic expansion by different banks into several markets tends to increase the degree of competition. The same type of expansion is expected if interstate banking prohibitions are removed.

The structure of the banking industry has changed significantly during the last 10 years, largely because of the acceleration of multi-bank holding company formation and acquisition activity in the 1960s. In 1956, when Congress passed the Bank Holding Company Act, it

covered 50 multibank companies.¹ Between 1956 and the mid-1960s, the pace of multi-bank holding company formations remained rather slow; the number stood at 74 in 1967.² By 1970, however, the number had expanded to 121,³ by 1976 to 308, and in 1982, the number had grown to 522. These 522 multibank holding companies held over \$821 billion in deposits and controlled 3,039 banks. Yet, most importantly, this organizational form had changed the structure of the banking industry.⁴

Most multibank holding company acquisition activity during the 1970-1983 period was of the market extension type—acquisition of banks in separate banking markets. This is the type of acquisition activity one would expect if geographic restrictions on interstate banking were removed—banks or holding companies in one

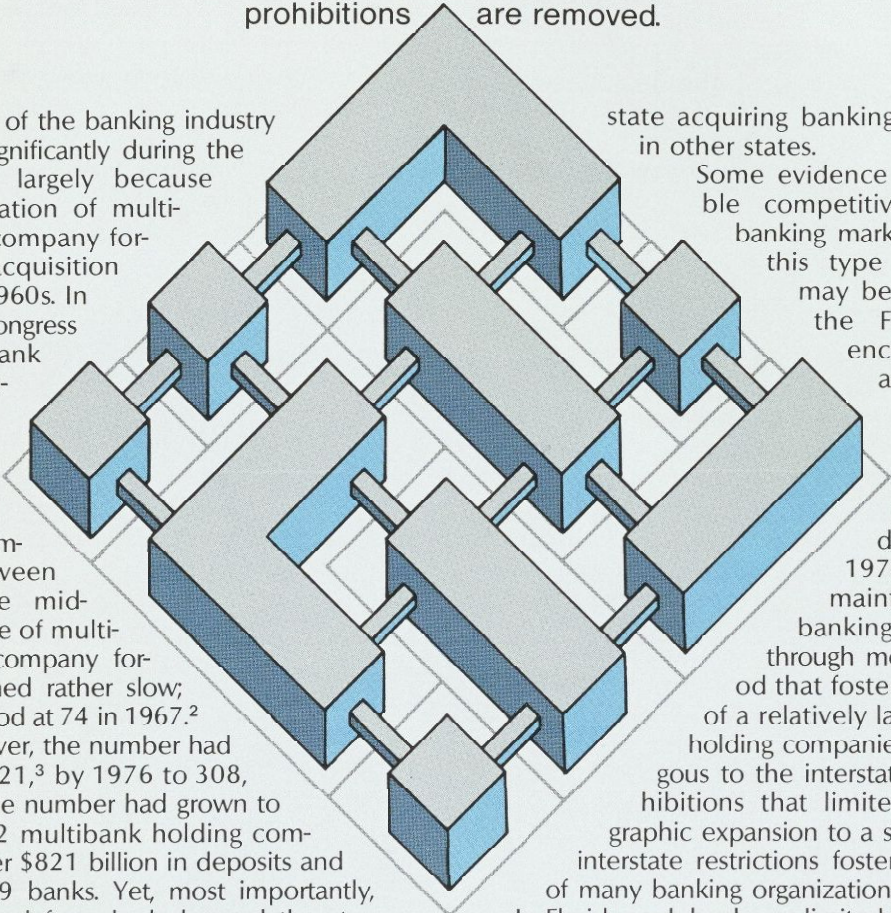
state acquiring banking organizations in other states.

Some evidence of the probable competitive impact of banking markets of allowing this type of expansion may be gleaned from the Florida experience. Florida was a hotbed of holding com-

pany activity during the 1970s. The state maintained a unique banking structure through most of this period that fostered the growth of a relatively large number of holding companies. This is analogous to the interstate banking prohibitions that limited banks' geographic expansion to a single state. The interstate restrictions fostered the growth of many banking organizations in the nation.

In Florida each bank was limited to one location but through the holding company device, a number of geographically limited banks could be tied together. Holding companies in Florida expanded largely by acquiring existing banks and because of the banking authorities and antitrust laws, their acquisitions were largely of the market extension type. The same type of expansion is expected if interstate banking prohibitions are removed.

The holding company structure allowed Florida banking organizations to expand into markets prohibited to a single bank. Repeal of the interstate banking prohibitions would have a similar effect over a larger area. Florida hold-



¹Board of Governors of the Federal Reserve System, *Federal Reserve Bulletin*, October 1958, p. 1224.

²*Ibid.*, August 1968, p. A-93.

³*Ibid.*, August 1971, p. A-98.

⁴Board of Governors of the Federal Reserve System, "Banking Holding Companies and Subsidiary Banks as of December 31, 1976."

companies found themselves competing head-to-head with similar institutions throughout the state in dispersed markets. Much the same would occur nationwide.

What can the Florida experience tell us about what the nation may experience if or when the interstate banking prohibitions are removed? If banking firms are allowed to expand into new markets and find themselves in direct competition with similar organizations in many of these markets, will the level of market competition increase or decrease? This is an important question in trying to determine whether interstate expansion will benefit the nation's economy.

The Linkage Theory

Conceptually, the theory of "linked oligopoly" has often been applied in analyzing the probable competitive impact of multimarket banking firms in the banking industry. The theory basically asserts that the more often multimarket firms come into direct contact in a number of geographically dispersed markets, the less likely these firms are to take aggressive action in any one market for fear of retaliation in other markets where they may be more vulnerable. In effect, it contends that the presence of a number of multimarket firms, competing with one another in many markets, will tend to weaken competition regardless of the degree of concentration in that local market. The evidence reported in this article tends to reject the linked oligopoly theory in the case of Florida.

The linked oligopoly theory is based on the idea that the competitive behavior of rivals is interdependent. The cooperation of the rivals is basically the result of two or more firms sharing a relatively large portion of a market. This increases the certainty that a competitive action will affect a rival directly and adversely, thus resulting in a predictable competitive reaction. In conventional forecasting models, this leads to a situation in which competition is reduced and is replaced by tacit agreements or coalitions between rival organizations. Each firm recognizes that its competitive actions will adversely affect a rival, who will react in a predictable manner.

In such situations, several alternative actions are possible. In one extreme, the rivals recognize the potential for a monopoly situation and form a coalition to cooperate rather than

compete. Alternatively, the organizations may attempt to second-guess their rivals, thus sharpening competition. Elinor Solomon recognized these two extremes and asserted that the initial degree of competition between firms in a given market may determine how they behave as they expand into other markets:

"Multiple contact by the same banking leaders within a state, in progressively more of that state's banking markets, may serve to strengthen the lines of communication between them and increase the adherence to any pre-existing group competitive standard," she said. "Or, conversely, the inter-market meshing of the same banks may heighten competitive interaction if interbank rivalry is intense to begin with."⁵

Between these two extremes, many different courses of action may result. The linked theory of oligopoly is based on the assumption that

"The holding company structure allowed Florida banking organizations to expand into markets prohibited to a single bank. Repeal of the interstate banking prohibitions would have a similar effect over a larger area."

two firms recognize the advantage of coalition and cooperation and, hence, limit their competitive actions.

In summary, the rationale for the predictable action-reaction sequence is that two firms share a relatively large portion of a given market—therefore, any competitive action that strengthens one firm's competitive position will adversely affect its rival's competitive situation.

In a multimarket situation, according to the linked theory, the same type of logic prevails. As two firms find themselves competing in a larger number of markets, they find it necessary to take into account the possibility that an aggressive competitive action in any one market may cause the rival to retaliate in some

⁵See Elinor Harris Solomon, "Bank Merger Policy and Problems: A Linkage Theory of Oligopoly," *Journal of Money, Credit, and Banking*, February 1970, pp. 323-35.

other market. The more clearly two firms recognize that their sales or deposits are originating from a common group of markets, the less likely they are to initiate aggressive competition, according to this theory. Following this to its logical conclusion, we could argue that as the number of meeting points increases among multimarket firms represented in a given market, the competition within that market will tend to weaken regardless of the market's level of concentration or other local factors.

This, then, provides the hypothesis to be tested: if the linked theory is correct, the market's competitive performance should be reduced as the number of multimarket meeting points increases. If we find empirical support for the linked theory, then we may argue that this gives some evidence that interstate banking will create less competitive markets. Through a test of this hypothesis, however, we may discover empirical support for a conclusion opposite that suggested by the linked theory—that increased links actually stimulate market competition. In such a case, the evidence would suggest that allowing banks to meet in a greater number of geographically dispersed markets may enhance competition.

Testing the Hypothesis

This hypothesis has been tested three previous times, with one study supporting the linked theory, while two others using similar models but different data sets found no support for the linked hypothesis. (See the box for a description of this literature). Much of the divergence resulted from the performance measures—the measures of a market's competitiveness—used. A second limitation is that each of the previous studies used data for a single year. The divergent findings, therefore, may have resulted from factors influencing market performance in one time period but not in another. To correct for these limitations, we developed a model based on an unambiguous market performance measure, profits. Higher market profits were associated with less competition, and lower market profits were associated with a greater degree of competition. In addition, to offset the second limitation of the previous studies, we employed a banking data base unique to the Federal Reserve Bank of Atlanta. It includes call and income report information for all banks

in the Sixth Federal Reserve District from 1969 through 1977. The base also adjusts for branches and other organizational characteristics to ensure that all competitive entities are identified in all market areas. With this data base, we were able to pool cross-section and time series data for the years 1969 through 1977, which allowed a test for the stability of the resulting coefficients.

We employed two samples, both using Florida banks only. The first sample consisted of 62 Florida markets as defined by the Atlanta Fed and used by the Board of Governors in actual merger and acquisition cases. We feel these markets are superior to those typically used in

“If the linked theory is correct, as the number of multimarket meeting points increases in a given market, the market's competitive performance is reduced.”

such studies, usually Standard Metropolitan Statistical Areas (SMSA) or counties. (Banks often use narrower market definitions. For a fuller explanation of banking market definitions, see David D. Whitehead, “Relevant Geographic Markets: How Should They Be Defined,” this **Review**, January-February 1980, pp. 20-28) We also employed a second sample consisting of markets defined as SMSAs in order to compare results with earlier studies. We calculated market statistics taking holding companies and individual banks as market participants. Data on individual banks and holding company subsidiaries were used to identify organizations, which allowed construction of the linked variables described below. Units of observation for the linked measures are banking organizations, and we aggregated these within the geographic boundaries for defined markets or SMSAs. The model tested followed the general form of those previously employed:

Market Profits = f (number of multimarket links, the level of market concentration, and market growth.)

Each variable is calculated in the following manner:

$$RRA = \frac{\text{Market Net Income}}{\text{Total Market Assets}}$$

H = Herfindahl index (the sum of the squared market shares of each bank in the market.)

G = percentage change in total deposits from a base year four years earlier

As for the link variables, uncertainty as to precisely how multimarket contacts should affect collusive or anti-collusive behavior led to the development of 10 linkage measures, designed to capture both quantitative and qualitative aspects of linkage. The calculation follows that of Whitehead (1978).

L₁ = number of links or markets in which the two largest organizations in the given market meet and compete against one another;

“In fact, our findings support the opposite behavioral assumption—that is, as the number of links between firms increases, the degree of competition between those firms increases.”

L₂ = number of links in which the two largest organizations in a given market compete where both are among the five largest organizations in these markets;

L₃ = number of links in which the two largest organizations in a given market compete where either is among the five largest organizations in these markets;

L₄ = number of links in which the two largest organizations in the given market have a combined market share that exceeds 33 percent of that market's three-organization concentration ratio;

L₅ = number of links in which the two largest organizations in a market compete where the three-organization concentration ratio exceeds 80 percent;

L₆ = number of links in which the two largest banks in a market compete where the market's total deposits exceed \$50 million;

L₇ = number of links in which the two largest organizations in a market compete where the markets are SMSAs and where both are among the top five organizations in the SMSAs.

L₈ = number of links in which any two of the five largest organizations in the market compete with each other in another market;

L₉ = the share of total deposits the two largest organizations in a market obtain from common markets—calculated as a percent of the two organizations' total statewide deposits;

L₁₀ = using the five largest organizations in the market—the actual deposits any two organizations obtain from common markets divided by the total deposits the organizations potentially could hold in common.

Note that L₇ uses SMSAs as the unit of observation. This gives us an alternative market definition to compare with the defined markets. We used a simple covariance model to test the stability of the coefficients over the five year period from 1973-1977. In addition to the theoretically inspired RRA as a performance measure, RRL (rate of return on loans, i.e. interest and fees on loans/total loans) and RPD (rate paid on deposits, i.e. interest paid on deposits/total deposits) were used following other studies. Because the interpretations of the results using RRL or RRD are not unambiguous, we do not report the results here.⁶

Test and Results

The model tested took the following form:

$$P = f(L, H, G)$$

where P is the market performance variable and the independent variables are the linked measure (L), the market Herfindahl concentration index (H), and the market growth variable (G). The model was run 10 times, changing only the linked measure used. The results of the 10 runs are reported in Table 1.

Results of the empirical test of the linked oligopoly hypothesis are reported in Table 1, and are consistent with the results reported by Rhoades (1983) and Whitehead (1978); **it found no support for the linked oligopoly hypothesis.** Table 1 reports the results of only nine runs; the tenth run is reported in Table 2 and will be treated separately. The reason is that L₇ is based on SMSAs and all other runs were based on defined markets as the unit of observation. Table 1 shows that the Herfindahl concentration

⁶See David D. Whitehead, "An Empirical Test of the Linked Oligopoly Theory: An Analysis of Florida Holding Companies," *Proceedings from a Conference on Bank Structure and Competition*, Federal Reserve Bank of Chicago, April 27-28, 1978, pp. 119-140.

Table 1: 1973-77 Pooled Defined Markets/Dependent Variable RRA

Link	Li	H	G	Constant	D ₁	D ₂	D ₃	D ₄	R ² /F
L ₁	-.0012974 (-2.5929)a	.0050338 (6.9661)a	-.0005092 (-.90012)	.0093168 (12.621)	-.0013073 (-2.6044)a	-.0035556 (-6.7447)a	-.003947 (-5.413)a	-.0026502 (-4.4769)a	.3034 20.231
L ₂	-.00031104 (-2.4426)a	.0051067 (7.1056)a	-.00045174 (-.80265)	.0092062 (12.639)	-.0013311 (-2.6081)a	-.0035434 (-6.7153)a	-.0030802 (-5.3832)a	-.0026731 (-4.4992)a	.3017 20.075
L ₃	-.00016591 (-2.4637)a	.0050572 (6.9873)a	-.00045734 (-.81234)	.0092547 (12.59)	-.0013215 (-2.6282)a	-.0035641 (-6.7504)a	-.0030897 (-5.3985)a	-.0026341 (-4.4474)a	.3020 20.096
L ₄	-.0027507 (-2.9992)a	.0049193 (6.8031)a	-.0052452 (-9.3613)	.0094176 (12.853)	-.0013287 (-2.6558)a	-.0035729 (-6.8008)a	-.0031246 (-5.482)a	-.0026706 (-4.5287)a	.3085 20.697
L ₅	-.00073591 (-1.5352)	.0053447 (7.4980)a	-.0002471 (-.44462)	.0088106 (12.552)	-.001283 (-2.5382)a	-.0035166 (-6.6274)a	-.0030294 (-5.269)a	-.0025726 (-4.3217)a	.2935 19.334
L ₆	-.00012974 (-2.5929)a	.0050338 (6.9661)a	-.0005092 (-.90012)	.0093168 (12.621)	-.0013073 (-2.6044)a	-.0035556 (-6.7447)a	-.0030947 (-5.413)a	-.0026502 (-4.4769)a	.3034 20.231
L ₈	-.000076295 (-2.7142)a	.0042946 (5.1298)a	-.0004722 (-.84259)	.0096781 (12.181)	-.0011895 (-2.3712)a	-.0034843 (-6.6243)a	-.0029803 (-5.2313)a	-.0025464 (-4.3254)a	.3049 20.363
L ₉	-.0015064 (-2.3074)b	.0051191 (7.0999)a	-.00044099 (-.78185)	.0092051 (12.520)	-.0012893 (-2.5635)a	-.0035522 (-6.722)a	-.0030813 (-5.3778)a	-.0026383 (-4.4451)a	.3003 19.943

a = Significant at 1%
 b = Significant at 2.25%
 c = Significant at 5%

Table II: Pooled 1973-77 SMSAs (only Link 7)

Dependent Variable	L7	H	G	Constant	D ₁	D ₂	D ₃	D ₄	R ² /F
RRA	-.00030044 (-.82275)	-.0045146 (-1.3219)	.0029191 (1.6409)	.007534 (4.5955)	-.0018020 (-2.2726)b	-.0037597 (-3.9226)a	-.0021668 (-1.8536)b	-.0010597 (-.82574)	.3545 7.199

a = Significant at 1%
 b = Significant at 2.25%
 c = Significant at 5%

measure is positive and statistically significant in explaining variation in the rate of return on assets or profits. This is consistent with traditional theory; as concentration increases, profits increase. In addition, Table 1 shows that, with the exception of L₅ and L₉, all the linked measures are significant at the 1 percent level and L₉ is significant at the 2.25 percent level. Only L₅ proved insignificant, but this variable relates only to very highly concentrated markets, with three-firm concentrations above 80 percent. The sign of each of the linked measures is negative, which suggests that as the number of links increases, profits are reduced, the opposite

from what is expected under the linked oligopoly hypothesis. It should be noted that the pooled cross-section and time-series data resulted in R squares of around .30—a substantial improvement over the previous single period observation.⁷ The test for validity of pooling cross-sectional and time-series data proved positive for all links except L₁₀, which confirmed the stability of the variable across time. Therefore,

⁷These results are reported and interpreted in the working paper version of this study—interested readers are encouraged to request the full study.

Banking Tests of the Theory

Corwin Edwards provided the basis for this concept in 1955, calling it "mutual forbearance."⁸ Elinor Solomon on a theoretical level applied this concept to the banking industry and called it "linked oligopoly."⁹ Arnold Heggstad and Stephen Rhoades were the first to empirically test this concept as applied to the banking industry, concluding that multimarket meetings do adversely affect the degree of competition within markets.¹⁰ Their study suffered a number of shortcomings, some of which are corrected in their second empirical test of this concept. By far the most serious shortcoming of the original study was the use of share stability as a measure of competition or "rivalry." The authors argued that the greater the variability in the market shares held by the top three firms, the greater the degree of competition. No model was developed, however, depicting share stability as even an indirect measure of competition. As a result, the rivalry measure cannot be uniquely interpreted. At one end of the scale, zero change in market share of the three largest organizations in a market could be interpreted as indicating no competition or no rivalry among these organizations. The same zero change in market share, however, could also indicate a high degree of rivalry in that each firm has been perfectly successful in meeting the competitive actions of the others, therefore having no market share change. At the other end of the scale, a large change in the shares of the three largest organizations could indicate that either the competitive actions of one firm have not been offset by the reactions of the other firms (very little rivalry) or that all firms have been competing strongly with one another, thus showing a sizable shifting in their market shares. To this extent, the rivalry measure is an inappro-

priate measure of market performance that undermines the credibility of the findings.

David Whitehead (1978) performed a second empirical test of this theory and found no evidence supporting the linked oligopoly hypothesis.¹¹ Although this study corrected the inappropriate market performance measure used by Rhoades, it too suffered from a number of theoretical problems resulting largely from no explicit formulation of a model and data from only one time period. This study, however, found no support for the linked hypothesis. In fact, in every case showing a statistically significant relationship between market links and competitive performance, the relationship was the direct opposite of that predicted by the linked hypothesis, i.e. the greater the number of links, the greater the degree of competition. Stephen Rhoades performed a third empirical test of this hypothesis in 1983, and in marked contrast to his earlier study found no support for the mutual forbearance or linked hypothesis.¹² Further, although he substantially modified his early work, he offered no definitive evaluation of the divergent results.

Given the divergent results and the importance of the question, we devised a fourth empirical test and presented the major findings in this article. The findings agree with the findings of Whitehead (1978) and Rhoades (1983), i.e. the more points of contact among firms across geographic space, the stronger the degree of competition within each of the markets where these firms compete. This study is superior to its predecessors in two important respects; a model is derived that results in an unambiguous measure of market performance, and pooled cross section and time series data are used that allow the resulting regression coefficients to be tested for stability. The results, therefore, are more robust than those of earlier studies.

⁸Corwin Edwards, "Conglomerate Bigness as a Source of Power," *Business Concentration and Price Policy*, NBER: 1955. pp. 331-59.

⁹Solomon, *op. cit.*

¹⁰Arnold A. Heggstad and Stephen A. Rhoades, "Multimarket Interdependence and Local Market Competition" *Review of Economics and Statistics* (November 1978), pp. 523-532.

¹¹Whitehead, *op. cit.*

¹²Stephen Rhoades, "The Effect of Multimarket Interdependence on Market Performance and Rivalry," (unpublished).

the evidence from Table 1 does not support the linked oligopoly hypothesis. In fact, it lends rather strong support to the proposition that multimarket links produce more, not less, competition.

We calculated one link measure (L_7) using SMSAs as the market definition in contrast to defined markets. Table 2 reports the results using L_7 in the same model. Concentration in the profits equation using SMSA definitions is insignificant, while it is highly significant in the profits equation using defined markets. This indicates that defined markets may be better

observation units than SMSAs. But most importantly, L_7 is not statistically significant. Again, this offers no support for the linked oligopoly hypothesis.

Our results indicate little or no empirical support for the linked oligopoly hypothesis, which is consistent with the findings of Whitehead (1978) and Rhoades (1983). In fact, the empirical results show a strong inverse relationship between linked measures and rate of return on assets (profits). In other words, profits decrease as links increase, which is the direct opposite of what one would expect from the linked hypothesis.

Conclusions

The empirical evidence presented **does not support** the hypothesis that market extension activities by banking organizations have reduced market competition. One apparent reason for this is that the theory is set in a framework of few firms competing in a limited number of geographic markets, while the banking industry even within states is characterized by a relatively large number of competitors increasingly capable of entering dispersed geographic markets. Couple this with the lack of scale economies found in the banking industry and it becomes clear that even relatively small competitors may be influential in given markets. This again would suggest that collusion and tacit agreements in the banking industry would be extremely difficult to initiate or maintain.

“The empirical evidence...does not support the hypothesis that market extension activities by banking organizations have reduced market competition.”

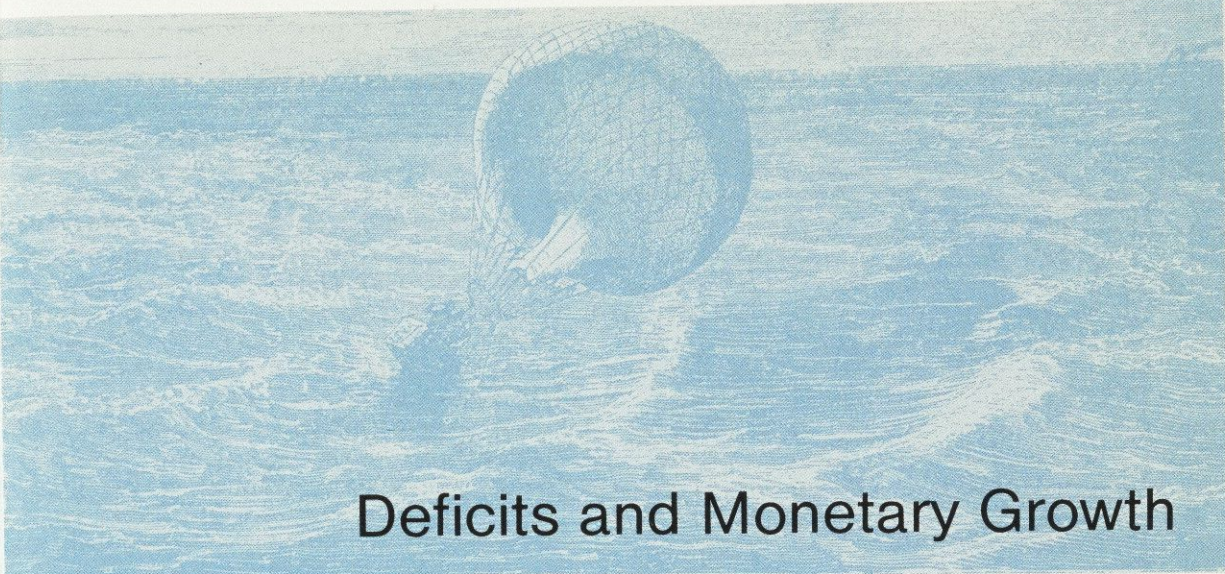
The results seem to support three major conclusions. First, on a practical level, multi-market links do affect the degree of competition within relevant geographic banking markets in Florida. Every linked measure used except two showed a statistically significant negative relationship to our measure of profits in defined markets. Second, on the theoretical level, we found no evidence that would support the linked oligopoly hypothesis unambiguously. In fact, our findings support the opposite assumption—that is, as the number of links between firms increases, the degree of competition between those firms increases.

This seems to be reasonable behavior, even on theoretical grounds, when the firms' multi-market expansion activity is constrained to a single state. This constraint limits the number of potential markets firms may enter and, hence, increases the potential that a given number of multimarket organizations may serve all markets. At the extreme, all multimarket firms may meet in all markets; therefore, all of their sales or deposits may be derived from mutual markets. Multimarket firms would then find themselves in very much the same position as in a single market: competing for a limited number of common customers. The competition in any market would then depend on the relative size distribution of all multimarket firms and not on the number of contact points.

This observation leads to our third conclusion, that, judging from the Florida experience, multi-market links between organizations tend to increase the degree of competition within relevant geographic banking markets. Given the large number of multimarket organizations in Florida and their relative size distribution, this indicates that a policy of maximizing multi-market meeting points has proved to be desirable in that state.

If geographic barriers to interstate banking are removed, links among banking organizations nationwide may increase. To the extent that our findings in Florida may be applicable across the nation, banking competition would increase. The nation is starting with a banking structure resembling that of Florida in the early 1970s—large numbers of geographically dispersed competitors. Therefore, it seems reasonable to conclude that legislative changes that increase the number of markets in which major firms compete throughout the nation are likely to increase the level of competition.

—David D. Whitehead
and Jan Luytjes



Deficits and Monetary Growth

Despite low current inflation, the historic links between federal deficits and monetary growth may have influenced last year's market expectations of future increases in inflation.

What does a \$200 billion federal deficit in 1983 and a projected near-repeat in 1984 imply for U.S. interest rates and inflation? This article will look at the Reagan administration's mid-1983 budget projections for 1983 and 1984. It will trace past and prospective deficit financing through to private savings and investment in the national income accounts and to changes in the composition of the outstanding federal debt. Our study suggests that the record of previous links between federal deficits and monetary growth may have formed the basis for market expectations in 1983 of future increases in inflation despite low current inflation.

Over the post-World War II period, a one percentage point increase in the deficit relative to GNP has been associated on the average with about a one and one half percentage point increase in monetary growth (M1). This growth in turn has been associated with about the same increase in inflation after a lag of more than two years. The administration's projected deficits of roughly 6 percent of GNP in 1983 and 1984 would, if past relationships were repeated, be associated with a 9 percent growth in both M1 and inflation. Since a 9 percent inflation rate is about twice the rate observed through most of

1983, the historical record implies that inflation could be expected to double—a forecast roughly in line with the term structure of interest rates last year. Long-term government bond rates hovered around a 12 percent annual rate, representing roughly a 3 percent real yield if inflation were to persist at 9 percent for the life of the bonds. On the other hand, three-month Treasury bills were yielding about 9 percent, representing a real yield of 4 percent given the current inflation rate of approximately 5 percent.

Expectations of monetary growth and inflation, as they have been linked historically to deficits, apparently were an important factor accounting for high long-term yields in 1983. Whether history has to be repeated depends on the willingness and ability of U.S. economic policy either to reduce deficits or to break their link to monetary growth. In other places and at other times, deficits have had but limited effects on interest rates and inflation, so there is hope that the inflationary potential of unprecedented deficits might be contained.

Real Deficits and Real Interest Rates

An article in the January 1983 *Economic Review* presented evidence that through 1981

Table 1. Inflation, Real Deficits, and Real Interest Rates (Percent)

Year	Inflation	Real Deficit		3 Month Treasury Bill Rate	
		High Employment GNP		Nominal	Real
1981	8.9	0 ^b		14.1	5.2
1982	4.4	3.2 ^b		10.7	6.3
1983	4.6 ^a	4.7 ^c		9.3 ^d	4.7
1984	5.0 ^a	3.8 ^c			

^aMid-Session Review of the 1984 Budget, Office of Management and Budget, July 25, 1983.

^bAssumes inflation was correctly anticipated.

^cCalculated based on economic assumption of a 3.0 percent growth rate in high employment real output in 1982 and 3.5 percent in 1983 and 1984.

^dJuly 1.

real federal deficits adjusted for inflation premiums in interest rates had made only a small impact on real interest rates similarly adjusted.¹ It estimated from the historical record that a one percentage point increase in the real deficit relative to high employment GNP would raise real rates roughly one percentage point.

Real Deficits and Inflation

Inflation decelerated in 1982 and into 1983 despite large federal deficits, providing evidence that large deficits need not always be inflationary. Table 1 shows that the relative real deficit rose to 3.2 percent in 1982 from zero in 1981, yet inflation fell from 8.9 percent to 4.4 percent.²

What about the future? Table 1 records actual data for 1981 and 1982 and data based on mid-1983 administration forecasts for 1983 and 1984. The projected \$200 billion deficits would raise relative real deficits, but not to an unprecedented degree. The deficit was that high briefly during the 1975 recovery period, and in World War II the deficit rose to an enormous 25 percent of GNP.

¹William G. Dewald, "Federal Deficits and Real Interest Rates: Theory and Evidence," Federal Reserve Bank of Atlanta *Economic Review* (January 1983), 20-29.

²The relative real deficit is defined as:

$$D^2 = \frac{DEF - PE(DEBT)}{YF}$$

Must Deficits Cause Inflation?

Historically, major inflationary periods often have been associated with government deficits, including every wartime experience in American history. Other examples can be found in the hyperinflations of recent years in several Latin American countries and in Israel. But these examples do not prove that inflation might not occur even if the government budget were balanced nor that inflation must accompany deficits. Inflation flared in the decades before World War I even though budgets were essentially balanced. That inflation was largely a consequence of increases in the world supply of newly mined gold.

Inflation can occur without deficits. In the 1970s both West Germany and Japan experienced much larger government budget deficits relative to their national incomes than the United States, but neither had as much inflation. Another example is The Great Depression of the 1930s, when rising deficits were accompanied by deflation. Both the deficit and deflation were accountable to a decline in national income. Thus, deficits need not cause inflation.

Structural Deficits

The situation in the United States in 1981 and 1982 had some similarities to the 1930s: decelerated monetary growth was accompanied by declining national income, excess productive capacity and disinflation, while the federal deficit rose relative to national income. Taxes fell because of the shortfall of income below its high-employment level, and part of the increase in government spending was attributable to the payment of increased unemployment compensation and other assistance related to the recession. Thus, at least some of the deficit was caused by the recession. What worries many economists today is the magnitude of the structural deficit, which would remain even after slack in the economy is absorbed and full employment restored. The structural deficit was \$33 billion in 1982. That was its highest level since the structural

DEF = National Income Accounts Deficit
 PE = Expected Inflation
 DEBT = Net Federal Debt
 YF = High Employment GNP
 The real interest rate is defined as:
 S = TBR - PE
 TBR = Three month Treasury Bill Rate

Table 2. Federal Deficits - Fiscal Years
(Billions of Dollars)

Year	Nominal ^a		Real ^b		Inflation ^c (Percent per Year)	Federal ^d Debt
	Current Services Basis	Structural	Current Services Basis	Structural		
1983	226	154	166	97	4.6	1145
1984	217	181	137	104	5.0	1339

^a Sources: Current Services Basis: Office of Management and Budget, Mid-Session Review of the 1984 Budget, July 25, 1983, p. 20. Structural Deficit: Budget of the United States Government, Fiscal Year 1984, 2-18. (1982 data cited in text is from Federal Reserve Bank of St. Louis **Monetary Trends, August 1983.**)

^b Real Deficit: = (Deficit - Inflation Rate x Federal Debt)/GNP Deflator, 1982 = 100.

^c Source: Office of Management and the Budget, Mid-Session Review of the 1984 Budget, July 25, 1983, p. 5. Fourth quarter over a year earlier.

^d Source: Ibid., p. 45. Federal Debt Outstanding Held by the Public.

deficit of more than \$28 billion in 1975, after the Ford administration had introduced a temporary tax cut at the bottom of the 1974-1975 recession. In both 1975 and 1982, inflation declined despite increased structural deficits. However, these were small compared with the projected structural deficits of over \$150 billion a year beginning in 1983 (Table 2). Even real structural deficits are calculated to be in the neighborhood of \$100 billion. Assuming the projected figures are correct, the question is whether such deficits could be financed without rekindling inflation.

Financing Deficits and the National Income Accounts

It is absolutely necessary that a federal deficit be extracted from the economy either by higher real interest rates or by unexpected inflation. A government budget deficit is financed by net saving, defined to include not only private saving less investment but also net saving by state and local governments and net foreign investment in the United States. As shown in Table 3, the \$147.0 billion federal budget deficit in calendar year 1982 was financed by a \$31.2 billion surplus of state and local governments, \$8.8 billion net investment by foreigners in the United States, and a \$107 billion excess of private saving over investment. The \$84.8 billion increase in the deficit in 1982 was financed partly by a \$16.5 billion increase in net foreign investment in the

United States, but mainly by a \$12.0 billion increase in private saving and a \$60.4 billion **decrease** in private investment. In an accounting sense, federal budget deficits must be financed either by crowding out investment or crowding in saving. Some insights with respect to the economics of financing a deficit are revealed by who buys the debt that the federal government issues.

The Net Federal Debt: What Is It?

Federal budget deficits are not reflected precisely in federal debt changes. Part of the deficit can be financed by the Federal Reserve's issuance of noninterest bearing money in exchange for federal debt instruments that are not included in the public debt. There is also a concern whether deficits reflect true changes in outstanding federal promises to pay money in the future. The official public debt does not include off-budget lending, government loan guarantees, or debt implicit in entitlement programs. Despite the ambiguity associated with defining the true federal debt position, though, the official figures are meaningful for several reasons:

- Since off-budget lending is financed by borrowing, it represents mainly financial intermediation except insofar as there is an interest rate subsidy that would be treated as an ordinary expenditure. Thus, when the government borrows to lend, its net debt is largely unaltered.

Table 3. Deficits, Savings, and Investment in the National Income Accounts

	1981	1982	1982 Change ^a	1983 ^b	1983 Change ^a
Federal Deficits	62.2	147.0	+84.8	174.7	+27.7
State and Local Government Surplus	35.3	31.2	-4.1	46.0	+14.8
Net Foreign Investment in the United States and Statistical Discrepancy	-7.7	8.8	+16.5	17.7	+8.9
Gross Private Saving					
Personal	135.3	125.4	-9.9	106.6	-18.8
Business	374.2	396.1	+21.9	431.5	+35.4
Less:	509.5	521.5	+12.0	538.1	+16.6
Gross Private Investment	474.9	414.5	-60.4	427.1	+12.6
	62.2	147.0	+84.8	174.7	+27.7

Source: **Business Conditions Digest** U.S. Dept of Commerce, BEA Sept. 1983.

^aChange from previous year.

^bBased on the first two quarters of 1983.

- Loan guarantees require government financing if implemented, but not otherwise. The guarantees doubtless have some expected value, but over the years only actual payments made under guarantees are reflected in the net debt.

- Entitlement programs entail prospective expenditures under authorized programs. So long as a program exists—unemployment compensation or Social Security payments for example—it represents a federal liability. Of course, the government is always in a position to change the entitlement.

The official public debt reflecting only actual payments and receipts is thus a reasonable measure of the federal government's outstanding debt.

The Net Federal Debt: Who Holds It?

As shown in Table 4, the public debt held privately totaled \$982.7 billion in September 1983, up \$134.3 billion over the calendar year 1982.

The debt had increased \$78.1 billion in 1981 and by nearly \$400 billion from 1970 to 1980, nearly tripling. Who held it? Banks had accumulated \$176 billion by 1983, but they actually had cut their share of total holdings to 18 percent, down from more than 27 percent in 1970. Individuals and nonfinancial corporations cut their holdings from more than 40 percent of the total in 1970 to about 20 percent in 1983.

From 1970 to 1980 the big relative increase was by foreign and international investors, whose debt holdings grew from only \$20.6 billion in 1970 to \$127.7 billion in 1980, more than a sixfold increase. Of the \$386.5 billion increase in the net federal debt from 1970 to 1980, foreign and international investors acquired \$107.1 billion, much more than investors in any other category. That pattern did not continue in 1981 and 1982, however. Hard pressed because of the worldwide recession and appreciation of the U.S. dollar, foreign and international investors took only 18 percent of public debt offering in 1982 in contrast to 21 percent from 1970 to 1980. Consequently, part of the problem in financing large federal deficits the last couple of years has

Table 4. Public Debt Securities Held by Private Investors
(Billions of Dollars)
Year End

	1970	Per- cent	1980	Per- cent	1981	Per- cent	1982	Per- cent	1983 ^C	Per- cent
Commercial Banks	62.7	27.3	116.0	18.8	109.4	15.8	131.4	15.5	176.3	17.9
Mutual Savings Banks	2.8	1.2	5.4	0.9	5.2	0.7				
Insurance Companies	7.0	3.0	20.1	3.3	19.1	2.8	39.1	4.6		
Other Companies	10.5	4.6	25.7	4.2	37.8	5.4				
Individuals										
Savings Bonds	52.1	22.7	72.5	11.8	68.0	9.8	68.3	8.1	70.6p	7.2
Other Securities	29.8	13.0	56.7	9.2	75.6	10.9	48.2	5.7	57.9p	5.9
Other Miscellaneous ^a	21.4	9.3	106.9	17.3	152.3	21.9	231.5 ^b	27.3		
State and Local Governments	23.1	10.0	78.8	12.8	85.6	12.3	113.4p	13.4		
Foreign and International	20.6	9.0	127.7	20.7	141.4	20.4	149.4	17.6	160.8p	16.4
Total	229.9	100.0	616.4	100.0	694.5	100.0	848.4	100.0	982.7	100.0

^aIncludes savings and loan associations, nonprofit institutions, corporate pension trust funds, dealers and brokers, certain government deposit accounts, and government sponsored agencies.

^bIncludes "a" plus credit unions and mutual savings banks.

^cthrough September, 1983.

p = preliminary

Source: **Federal Reserve Bulletin**, 1970 (FRB, September 1972), 1980-82 (FRB, May 1983) and **Treasury Bulletin**, 4th Quarter, Fiscal Year 1983.

been that the federal government was forced to turn increasingly to the private domestic economy to absorb federal debt issues, crowding federal securities into private portfolios. Nevertheless, comparatively high U.S. real interest rates continued to attract foreign capital in 1983 and contributed to appreciation of the dollar in terms of foreign currencies despite a large current account deficit.

Individual investors divested many of their government securities holdings in 1982 and 1983. These securities were absorbed by insurance companies and other institutional investors such as pension funds, savings and loan associations, and especially money market mutual funds (MMMFs). The latter had grown spectacularly until banks late in 1982 began issuing money market deposit accounts (MMDAs), which then increased explosively in the first half of 1983. Both MMMF and MMDA accounts proved enormously popular savings repositories, providing issuing institutions the funds to invest heavily in highly liquid short-term instruments including government securities.

That the government can finance a \$200 billion federal deficit in 1984 is a certainty. Both foreign investors and state and local governments can be expected to absorb an increasing fraction of federal debt as recovery from the economic doldrums of 1980-82 continues. Private saving too can be expected to rise along with national income and as new tax incentives encourage thrift.

Financing Deficits and Federal Reserve Open Market Operations

Table 5 records the actual budget deficit for fiscal 1982 along with estimates of its financing. Even more borrowing than the \$128 billion 1982 deficit was required because of a \$7 billion increase in the Treasury's net holdings of monetary assets in various accounts. Of the total \$135 billion borrowing requirement, \$10 billion was purchased by the Federal Reserve in the open market and accumulated in its Federal Open Market Account, which totaled \$134 billion at the end of fiscal 1982. The account also included \$10 billion in federal agency securities. The

Table 5. Budget Financing
(Billions of Dollars)
Fiscal Years

	1981 Actual	1982 Actual	1983 Actual	1984 Estimate
Deficit		-128	-208	-203
Means of Treasury Financing Other Than Borrowing from the Public ^a		-7	-5	0
Change in Federal Reserve Holdings of Federal Debt		+10	+21 ^b	+? ^c
Total Requirement for Borrowing From Others		+125	+192 ^b	+(203-?)
Treasury Debt Held by Federal Reserve	124	134	155 ^b	155+?
Others	670	795	987 ^b	1190-?

Sources: Budget of the United States Government, Fiscal Year 1984, 9-13 and Federal Reserve Bulletin, November 1983.

^aSeignorage on coins (+), Increase in Treasury Cash and Monetary Assets (-), and Increase in Treasury liabilities for checks outstanding and deposit fund balances.

^bCalculated by the author from budget figures.

^cThe question mark indicates the unknown quantity of government securities to be purchased by the Federal Reserve in fiscal 1984.

Federal Reserve's accumulation of these assets over the years has created over 80 percent of the monetary base. It consists of bank reserves on deposit with Federal Reserve Banks and currency in circulation. The monetary base in turn has been the main monetary policy factor influencing the determination of M1 money—consisting of the checking accounts and currency holdings of the public—and in turn broader monetary aggregates and total demand in the economy.

The actual fiscal 1983 deficit recorded in Table 5 is \$208 billion. But the Treasury's borrowing requirement is different because of two factors. One is the Treasury's net accumulation in its monetary accounts of \$5 billion. The other is new base money issued by the Federal Reserve in exchange for government securities of \$21 billion, which reduces the amount of securities the Treasury must sell to others. Both are elements of "fiat money"—the base money that monetary authorities issue to allow the government to spend more than it takes in taxes and sales of securities. In 1983 there was a substantially larger increase in fiat money than in 1982.

Whether the pattern is repeated again in 1984 has important consequences for inflation and, in turn, for interest rates. Table 5 shows that the projected borrowing requirement in 1984 may be about the same as in 1983.

Table 5 is paradoxical if not misleading. It indicates that the more securities the Federal Reserve buys, the smaller the Treasury's requirement for borrowing from others and thus the lower interest rates would be. That interpretation is simply wrong. It overlooks the feedback of Federal Reserve purchases of securities on monetary growth, inflation, and interest rates. The more securities the Federal Reserve buys and the more monetary growth it permits, the higher the inflation rate tends to be, at least after the estimated two years it takes markets to adjust to accelerated monetary growth. Insofar as higher inflation is reflected in inflation premiums in interest rates paid on the federal debt, the larger the deficit and the Treasury borrowing requirement will be. For a given federal deficit, it is true that the more securities the Federal Reserve buys, the less the Treasury needs to borrow from

the public. That appearance, reflected in Table 5, is deceptive because Federal Reserve securities purchases would affect inflation and interest rates and thereby increase the deficit. It would not remain unchanged—as Table 5 implies—if the Federal Reserve increased its purchases of Treasury securities.

With respect to Table 5, causality may run either from increases in Federal Reserve purchases of securities to deficits or vice versa. In the latter case a federal deficit and the prospect of rising interest rates might induce the Federal Reserve to buy securities or lend to banks to prevent short-run increases in interest rates. Such expansionary monetary policy would allow accelerated monetary growth. Whichever way causality runs, higher monetary growth would tend to be associated with higher deficits unless the Federal Reserve actively keeps variation in monetary growth independent of deficits. That is a big unanswered question about 1984.

A secondary inflationary impulse from Federal Reserve securities purchases also bears mentioning. An increase in Federal Reserve holdings of government securities can cause a disproportional increase in inflation because holders of base money reduce their demand for it when nominal interest rates increase. Reduced demand for base money would increase demand for commodities and thus augment inflation. The inflation of 1970-1980 demonstrated this relationship. Federal Reserve holdings of federal debt over the period more than doubled, increasing at a 7.67 percent annual rate. The monetary base and M1 transactions balances also more than doubled. But GNP (total demand) grew even faster at 10.26 percent a year (almost tripling), fueling inflation at an 7.31 percent annual rate despite average real output growth of 2.95 percent. Thus, inflation over this period reflected not only the large budget deficits, an associated high rate of Federal Reserve purchases of government securities and growth in monetary aggregates, but also more intensive use of money induced by higher interest rates.

Deficits and Monetary Growth: Is There An Association?

Do large budget deficits, which appear likely for years to come, need to be inflationary? The answer appears to depend critically on whether monetary growth is induced by deficits. A surprising

amount of controversy has centered on this subject.

A conventional Keynesian view is that the thrust of federal deficits resulting from counter-cyclical fiscal policy actions ought not be offset by induced interest rate changes. Hence, a facilitating increase in monetary growth appropriately accompanies a deficit.³ The conventional monetarist view is that deficits put pressure on the Federal Reserve to buy government securities to reduce the deficit's impact on interest rates.⁴ Politicians and in turn the Federal Reserve have been accused of ignoring the long-run inflationary consequences of short-run policy actions to

“Do large budget deficits...need to be inflationary? The answer appears to depend critically on whether monetary growth is induced by deficits.”

dampen interest rates.⁵ In either case, there is no necessary association between monetary growth and deficits because the Federal Reserve could always forestall monetary growth. It would not have to buy government securities. If necessary it could offset monetary growth induced by rising interest rates by selling securities or by changing required reserve ratios. At times the Federal Reserve has taken restrictive actions in the face of comparatively large deficits. It doubled required reserve ratios in 1936-1937, and it reined in monetary growth in 1974-1975 and more recently in 1981-1982 when monetary growth decelerated despite growing deficits. On occasion the Federal Reserve has also taken actions that increased monetary growth when there were deficits. The Fed took such action during and after World War II when it targeted interest rates and again in the late 1970s.

One complication that clouds the relationship between monetary growth and deficits is their divergent cyclical variation.⁶ The record shows

³See, for example, Walter W. Heller and Milton Friedman, **Monetary vs. Fiscal Policy, A Dialogue**, New York: W. W. Norton & Co., 1969.

⁴See, for example, Darrell R. Francis, “How and Why Fiscal Actions Matter to a Monetarist,” Federal Reserve Bank of St. Louis **Review** (May 1974), 4-7.

⁵James A. Buchanan and Richard E. Wagner, **Democracy in Deficit: The Political Legacy of Lord Keynes**, New York: Academic Press, 1977.

⁶William G. Dewald, “Disentangling Monetary and Fiscal Policy,” Federal Reserve Bank of San Francisco **Economic Review** (Winter 1982), 7-18.

that, throughout the post-World War I period, monetary growth as measured by M1, M2, and A (the monetary base) was most rapid during business cycle expansions, whereas the deficit was largest during contractions. Monetary growth was generally procyclical; deficits, counter-cyclical. Such divergent patterns suggest that there has been no positive association, an interpretation illustrated in the extreme when, during the onset of the Great Depression in the early 1930s, negative monetary growth accompanied rising deficits.

It is clear that there is no necessary association between deficits and monetary growth despite Keynesian and monetarist theories of such a linkage. The monetary authorities can always take contractionary actions to prevent monetary growth whatever the deficit. The question is not whether monetary growth and deficits must be related but whether they have been. In separate tests of the conventional view, Barro⁷ and Niskanen⁸ found no significant link between annual M1 growth and the deficit over the post-World War II period. But it was a fickle finding, being reversed when Hamburger and Zwick performed the exercise again just for the period since 1960 that saw, according to Buchanan and Wagner, major changes in the way macroeconomic policy is formulated.⁹ This result in turn was reversed when McMillan and Beard used revised GNP data in the calculations.¹⁰ It was reversed once again when Hamburger and Zwick again redid their work.¹¹

From this literature it certainly is not clear whether deficits and monetary growth are positively related. Nevertheless, business cycle data strongly confirm the conventional view that they have been positively associated. Judging from the experience of entire business cycles, monetary growth and deficits have been related significantly since World War II and variation in monetary growth rates from cycle to cycle have been explained at least in part by differences in deficits.

Cyclical Average Data Show That Monetary Growth Has Been Related To Deficits

It is appropriate to look at complete business cycles because the debt issued to finance a deficit during a recession remains in the market during the following expansion. Therefore, it comes into competition with private debt for a place in investors' portfolios.¹² If the federal budget were balanced regularly over a business cycle, debt issued to finance deficits during recessions should be matched by debt redemptions from surpluses during expansions, neutralizing the impact of government debt on credit markets. Just as monthly or quarterly data are averaged over years or seasonally adjusted to identify other than regular seasonal changes, data can be averaged over business cycles or cyclically adjusted to identify other than regular cyclical changes. The so-called structural federal budget deficit is an example of a cyclically adjusted series. But that statistic is subject to criticism owing to the arbitrary assumptions regarding normal levels of employment and associated real output growth and prices used to construct the series. In any case, to determine whether there has been a statistical association between monetary growth and deficits, it is sufficient to compare cyclical averages of the two.

These data show a close association between monetary growth and deficits between 1948 and 1982. Table 6 records trough to trough averages, at annual rates. Federal deficits are shown relative to nominal GNP. Monetary growth measures include M1, M2, A (the monetary base adjusted for required reserve rate changes), and F (the fiat monetary base adjusted for required reserve ratio changes). F measures the monetary base's policy-controlled contribution to growth.

Budget surpluses or small deficits persisted over the two business cycles from 1948 through 1958. The Korean War, which occurred during

⁷Robert J. Barro, "Comment from an Unreconstructed Ricardian," *Journal of Monetary Economics* (August 1978), 564-81.

⁸William A. Niskanen, "Deficits, Government Spending, and Inflation: What is the Evidence?," *Journal of Monetary Economics* (August 1978), 591-602.

⁹Michael J. Hamburger and Burton Zwick, "Deficits, Money and Inflation," *Journal of Monetary Economics* (January 1981), 141-50.

¹⁰W. Douglas McMillin and Thomas R. Beard, "Deficits, Money and Inflation," *Journal of Monetary Economics* (September 1982), 273-77.

¹¹Michael J. Hamburger and Burton Zwick, "Deficits, Money and Inflation: Reply," *Journal of Monetary Economics* (September 1982), 278-83.

¹²A link between deficits and future monetary growth is developed by Sargent, who argues that only money issued to finance deficits is inflationary, not money issued against private liabilities.

Thomas J. Sargent, "The Ends of Four Big Inflation," Federal Reserve Bank of Minneapolis Working Paper #158, December 1980.

Thomas J. Sargent and Neil Wallace, "The Real Bills Doctrine vs. the Quarterly Theory: A Reconsideration," Federal Reserve Bank of Minneapolis Staff Report 64, January 1981.

Thomas J. Sargent, "Stopping Moderate Inflation: 'The Methods of Poincare' and Thatcher," photocopy, May 1981.

Table 6. Federal Budget Deficits and Monetary Growth
(Annual Rates over Business Cycles)

Business Cycle Dates	DEF/GNP	Monetary Growth Rates		A ^a	F ^b
		M1	M2		
Trough to Trough Averages ^c					
1949:4-1954:2	-.44	3.22	3.71	2.87	8.78
1954:2-1958:2	-.05	1.18	2.45	.88	1.64
1958:2-1961:1	.63	1.85	3.06	1.16	7.19
1961:1-1970:4	.34	4.13	6.51	4.84	7.65
1970:4-1975:1	1.18	5.40	8.17	6.82	7.76
1975:1-1980:2	2.03	6.82	9.00	7.90	8.11
1980:2-1982-4	3.26	7.82	9.61	6.73	7.20
Average	.99	4.35	6.07	4.46	6.90

^a A is the monetary base adjusted for required reserve ratio changes.

^b F is the fiat monetary base adjusted for required reserve ratio changes. The fiat base is defined as Federal Reserve holdings of government securities, plus Treasury currency outstanding, less Treasury Deposits with Federal Reserve Banks, less Treasury cash holdings.

^c Comparable results are obtained with peak to peak business cycle averages.

this period, was not won but at least it was bought and paid for. Monetary growth as measured by the standard aggregates—M1, M2, and A—was a roughly 3 percent annual rate over the 1949-1954 cycle, which corresponds to the real growth rate. In the 1954-1958 cycle, monetary growth decelerated by each measure. There was essentially no inflation except for a flurry of price increases at the beginning of the war.

In the 1958-1970 period, annual budget deficits rose to average \$2 to \$3 billion over the two cycles. Though average monetary growth increased, it remained low in 1958-1961 before accelerating considerably in 1961-1970. The experience to 1970 suggested at best a weak association between monetary growth and deficits.¹³ But the variation that occurred in the next three cycles reveals a strong association. Over 1970-1974, the average deficit quadrupled and monetary growth accelerated further from rates that were already well above the real growth rate. Over 1974-1980 and 1980-1982, deficits increased

further and monetary growth accelerated in the case of M1 and remained high for the other aggregates.

Thus, the data clearly show an association between monetary growth and deficits. Regressions of monetary growth variously defined on the ratio of the deficit to GNP reveal a significant link, with a one percentage point increase in the deficit relative to GNP being associated on the average with about a 2.5 percentage point rise in the M2 and A growth rates and about a 1.5 percentage point rise in F and M1 growth rates. The observation period was a complete business cycle, from trough to trough.

Projected \$200 billion deficits in 1983 and 1984 represent 5 to 6 percent of GNP. Judging from past links of M1 growth to deficits, an 8 or 9 percent M1 growth rate and an 8 or 9 percent inflation rate could be expected if the velocity of M1 increases at 3 percent a year and so does real growth. That is far more inflation than the 5 percent experienced in 1983. Yet inflation has tended to lag behind monetary growth by two years or longer on average since the end of World War II. An earlier article¹⁴ estimated how long it had taken for changes in monetary growth to be reflected in inflation over the 1953-1980 period. These results can be used to interpret how long it would have taken inflation to accelerate to 9 percent if the Federal Reserve had allowed M1 to grow at such a rate during the estimation period. Assuming that the economic structure has not changed and that the Federal Reserve allowed M1 growth at 9 percent—about in line with the past relationship of M1 growth to a budget deficit of 5 or 6 percent of GNP—the GNP deflator would increase from 5 percent in 1983 to more than 7 percent in 1984. It would grow to more than 8 percent in 1985, 8½ percent in 1986, and 9 percent in 1987—perhaps even more if associated increases in nominal interest rates raised trend growth in the velocity of money.

As noted, a 9 percent M1 growth rate may not in fact be associated with a 9 percent inflation rate if the estimates are in error. Nevertheless, it is interesting that term high-grade corporate

¹³See, for example, Scott E. Hein, "Deficits and Inflation," Federal Reserve Bank of St. Louis *Review* (March 1981), 3-10 and Michael W. Keran and Christopher T. Babb, "An Explanation of Federal Reserve Actions (1933-68)," Federal Reserve Bank of St. Louis *Review* (July 1969), 7-20.

¹⁴William G. Dewald, "How Fast Does Inflation Adjust to Its Underlying Determinants?," Proceedings of the Fifth West Coast Academic/Federal Reserve Economic Research Seminar, Federal Reserve Bank of San Francisco (December 1981), 221-39.

bond rates rose to about 13 percent in the last half of 1983. This rate would represent a 4 percent real yield if the expected inflation rate were 9 percent. Government bond rates rose to about 12 percent, which translates into a real yield of 3 percent if the underlying inflation rate is 9 percent. The historic linkage between deficits, monetary growth, and inflation apparently goes a long way in explaining nominal interest rates in 1983 because of the expected inflation implicit in large budget deficits and monetary growth.

“The historic linkage between deficits, monetary growth and inflation apparently goes a long way in explaining nominal interest rates in 1983 because of the expected inflation implicit in large budget deficits and monetary growth.”

Conclusion: Monetary Growth Has Been Related to Budget Deficits

The conventional view is that large government deficits put pressure on interest rates, inducing the Federal Reserve to buy government securities and thereby to stimulate monetary growth. Monetary growth and deficits have in fact been related in the post-World War II period, with comparatively high rates in the 1970s and early 1980s. But, except for those years, there was no close association between deficits and growth in the fiat monetary base. That suggests the financial system was allowed to monetize government deficits by raising noncontrolled sources of the monetary base or the monetary base multipliers.

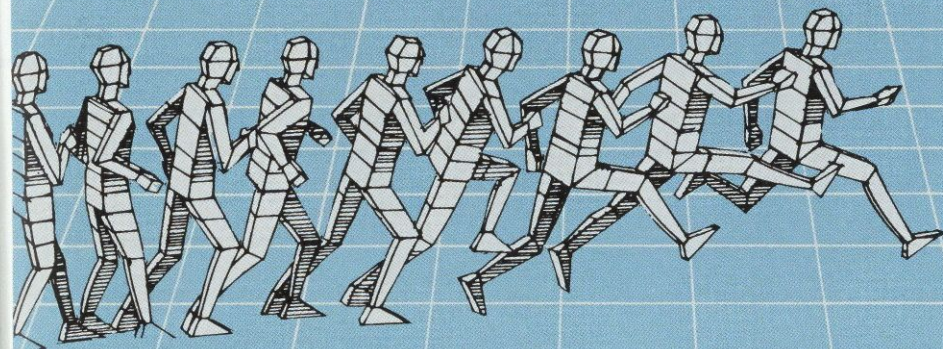
This does not exonerate the monetary authorities from responsibility for inflationary and cyclically destabilizing monetary growth induced by budget deficits. It only makes clear that they were in fact unwilling to prevent the monetary growth that accompanied federal budget deficits after World War II and particularly since 1970. And it gives credence to the widespread view that large federal deficits now and in the near future will be accompanied by accelerated monetary growth and inflation if the monetary authorities react as they have in the past.

Past relationships of real deficits to real interest rates suggest that \$200 billion deficits in 1983 and again in 1984 would be associated with a real deficit of about 4 percent of high employment GNP and real Treasury bill rates of 5 percent. The past relationships of deficits to M1 growth—and monetary growth in turn to inflation—suggest that the 1983 and 1984 deficits would be associated with 8 or 9 percent M1 growth and 8 or 9 percent inflation. If that inflation were fully anticipated, the nominal Treasury bill rate would rise to 13 or 14 percent. Monetary policy reactions are not the same for every cycle, so these figures offer only the roughest of norms from the past to compare with what is happening presently. For 1983, the \$200 billion deficit was in fact associated with a 4 to 5 percent real Treasury bill rate, a 10 to 11 percent M1 growth rate, and only 5 percent inflation in the GNP deflator. For 1984, we can only guess. Yet past relationships provide some clues to explain why there were high nominal yields and high inflation expectations in 1983 in the face of low inflation.

—William G. Dewald*

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The Do-It-Yourself Movement: An Element of the Shadow Economy

Do-it-yourselfers, who participate, to a degree, in the shadow economy, account for billions of dollars in retail trade every year. Demographic and economic trends suggest that the movement will continue to expand.

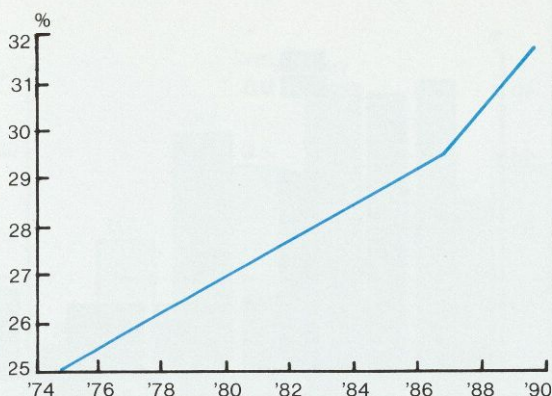
Most of us are familiar with the so called shadow economy, its constituent parts and its alleged effects on national monetary and fiscal policy. The popular press has focused on the size of the illegal drug business or how much income otherwise law-obeying citizens conceal from the IRS. But whenever an individual chooses to work on a project himself rather than hiring a professional, he also participates in the shadow economy. And even though the do-it-yourself movement may lack the media appeal of some elements of the shadow economy, it represents big business in the United States, with an estimated \$34.1 billion worth of annual retail trade in 1982, including 35 percent of the home and auto repair markets.

Motivations for doing-it-yourself span a wide range, including saving money to finance other

leisure activities, saving time, sidestepping costly and time-consuming government regulations, and just plain enjoyment.

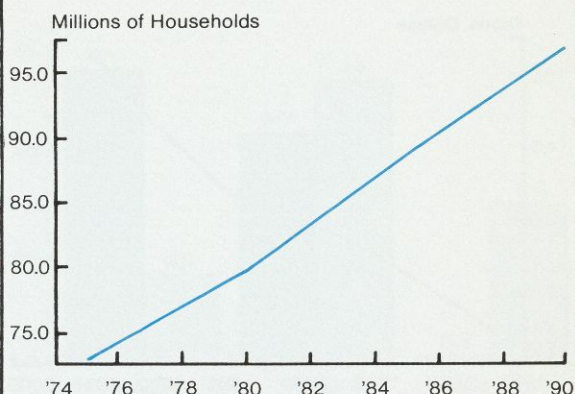
Another motivation may be tax avoidance, a motivation that the movement shares with other elements of the shadow economy. The do-it-yourself movement falls into this category because the value added by self-help tasks escapes taxation. If a handyman (or woman) builds a table, the final product is worth more than the cost of the materials that went into it, but its builder pays no tax on the additional value. The builder avoids this tax without breaking any law. If the table were purchased, on the other hand, the buyer would pay the seller for the cost of materials, labor and an increment for value added. The value added in that case would be taxed to the workers as income tax

Chart 1. 25 to 44 Year Age Group as a Percent of the U.S. Population



Source: Conference Board, "Guide to Consumer Markets"

Chart 2. Number of U.S. Households by Year



Source: Conference Board "Guide to Consumer Markets"

and to their company as income and inventory taxes.

The Scope of the Movement

The do-it-yourself (or DIY) movement is large and expanding. The Do-It-Yourself Research Institute reported that as many as 85 percent of U.S. households did some DIY work in 1981. These efforts are forecast to generate \$46 billion in retail sales by 1985 for the necessary tools and supplies. DIY appears to cut across all distinctions of age, sex, income, education, geography and labor groupings.

The demographic makeup of the American population has been changing in a way that may boost the movement's growth through the end of this century. Surveys have shown that men and women in the 25 to 44 age group are the most active "DIYers." This age group's proportion of the population has expanded from 25.2 percent in 1975 to 27.9 percent in 1980, a remarkable growth over only five years. And demographers predict that it will continue to expand into the 1990s, quickening its growth rate beginning around 1985 (Chart 1). The expansion of this age group promises to facilitate expansion of the DIY industry.

The growing number of such households and disposable income available to them have certainly spurred DIY activity. Households are the focus of such efforts because these groups own houses and several automobiles more often than do individuals who live alone. And houses and autos receive a disproportionate share of the effort expended. The number of households is expected to grow from about 83 million in 1982 to roughly 98 million by 1990, or by about 18 percent (Chart 2).² The growing number of households will have more disposable income available for projects. The Conference Board expects household disposable income expressed in 1972 dollars to rise from about \$13,000 per household in 1982 to over \$15,000 by 1995 (Chart 3).

The raw materials of the DIY movement—the people, households and associated disposable incomes—have all expanded rapidly since the mid-1960s. They will most likely continue to expand into the 1990s. But as with all components of the shadow economy, the movement's total effect on the U.S. economy cannot be measured directly. The only point at which the DIY effort touches the officially monitored economy is at the retail outlet where DIYers must buy materials to use in their work. Predicasts

¹Do-It-Yourself Markets: Home & Auto, Predicasts Inc., 1981, from a compilation of ideas and sources on DIY published in 1983 by **Mechanix Illustrated**.

²**Guide to Consumer Markets**, Conference Board, from a compilation of ideas and sources on DIY published in 1983 by **Mechanix Illustrated**.

Chart 3. Disposable Income Per Household in 1972 Dollars

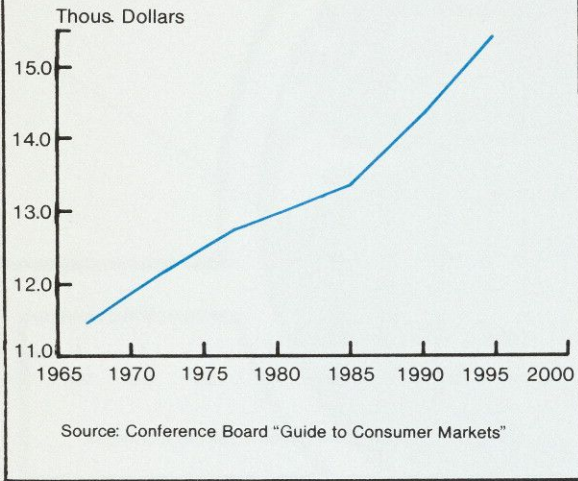
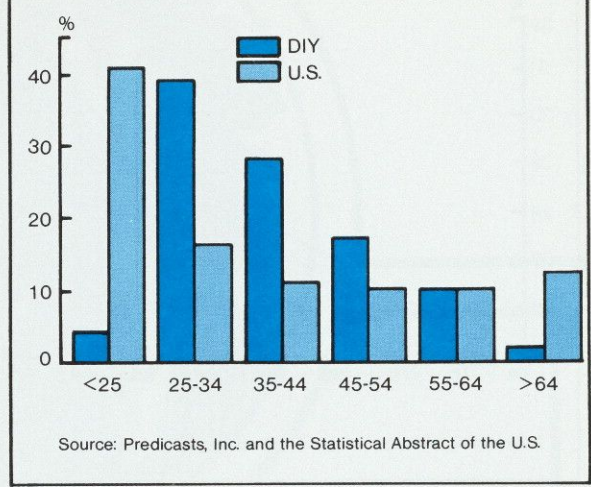


Chart 4. DIY and U.S. Age Profiles



Inc., an industrial market research firm, compiled data showing that the value of sales to the DIY retail market grew over 500 percent from 1967 to 1980, and would exceed \$98 billion by 1995. But these figures do not include a significant dollar amount of value added by DIY effort. Using estimates developed for the home building industry, we derived a total value added attributable to DIY repair and fix-up work of \$5.1 billion in 1982.³ Thus in that year alone, DIY contributed \$39.2 billion to the national economy, only \$34.1 billion of which was counted in GNP.⁴

The DIY Profile

American DIYers stand apart from the rest of the population because of a distinctive set of demographic and psychological characteristics. Their age distribution is skewed toward youth, although almost 30 percent of those polled are 45 or older (Chart 4).⁵ It is logical that 84 percent of home DIYers are in the 25 to 54 age bracket because those are the prime years for child rearing families. Those with families are likely to own homes and to engage in home maintenance and fix-up. The surprisingly small

proportion (12 percent) of home DIYers over age 55 is explained partially by the tendency of people to sell their houses after children have been raised and the breadwinner has retired. Those who out of economic necessity did their own home repair and fix-up work when younger, often have the income in later years to hire others to do the work. Older home-owners are also sometimes physically unable to do some tasks themselves. The tiny 4 percent of home DIYers younger than 25 reflects the facts that fewer in this age group can qualify for a home mortgage and that those at lower incomes are less likely to do their own work.

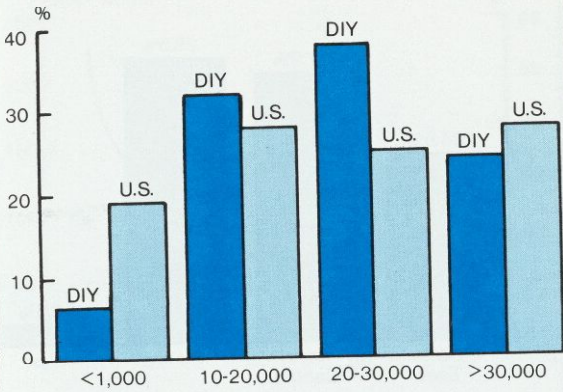
Men make up the largest component of the American DIY population: 68 percent of home DIYers and 91 percent of auto DIYers.⁶ Women make up 32 percent and 9 percent of these groups, respectively.

The income profile of home DIYers is heavily weighted toward those who can qualify for home mortgages (Chart 5). In contrast to the home group, the profile of auto DIYers is weighted more toward lower income categories.⁷ This means, first, that more DIYers earning \$10,000 a year or less can afford cars than can afford houses. And, also, in the \$30,000 and

³Builder, January 1983, p. 42.
⁴Estimates of value added in the residential construction industry range from 7 percent to 30 percent in "normal times." We used 15 percent as our estimate of how much DIY work adds to the value of the materials involved. This is probably on the conservative side.

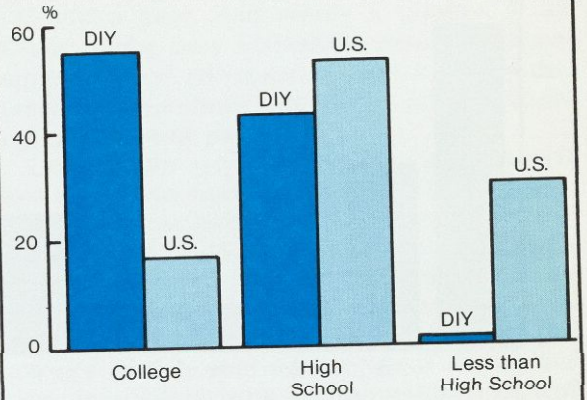
⁵Do-It-Yourself Markets: Home & Auto, 1981, from a compilation of ideas and sources on DIY published by Mechanix Illustrated in 1983.
⁶Ibid.

Chart 5. Income Profiles of Home DIYers and the Total U.S. Population



Source: Predicasts, Inc. and the Statistical Abstract of the U.S.

Chart 6. DIY and U.S. Education Profiles



Source: Predicasts, Inc. and the Statistical Abstract of the U.S.

above income group, people tend to show more interest in working on their own houses than on their cars. In 1982, the average DIYer had a household income of \$21,600, while non-DIYers had incomes of \$15,500, 28 percent less on average.

The education level of DIYers is skewed heavily toward those who have attended college, with a smaller proportion having finished only high school and the smallest proportion having left high school (Chart 6).⁸ More DIYers who attended college tackle their own household projects than auto-related projects. And of those who did not finish high school, more do their own auto-related projects than household projects.

The "typical" do-it-yourselfer, then, is a male homeowner, between 25 and 54, who has attended college and earns in excess of \$20,000 per year. According to the *Yankelovitch Monitor*,⁹ he does his own work on his car and home primarily because he enjoys it (Chart 7).

DIY in the South

Although DIY activity represents a large and growing segment of the national economy, it

seems to be more important in the South than in any other region. *Building Supply News* conducted a survey in 1982 to determine whether DIY effort differed by region (Chart 8).¹⁰ A sample of those who had done work on their homes showed that the South had the most such projects, followed by the North Central states, the Northeast and then the West. The strength of DIY effort in the South could be influenced by the region's mild weather or the migration of people and commerce to the Sunbelt over the last few years. Morry Robinson, editor of *Building Supply News*, suggests that southerners have maintained more of the frontier spirit of self reliance, which has been muted in the more urban areas of the country. The West counted the fewest DIY projects, predictably, because it has fewer homes than the other regions.

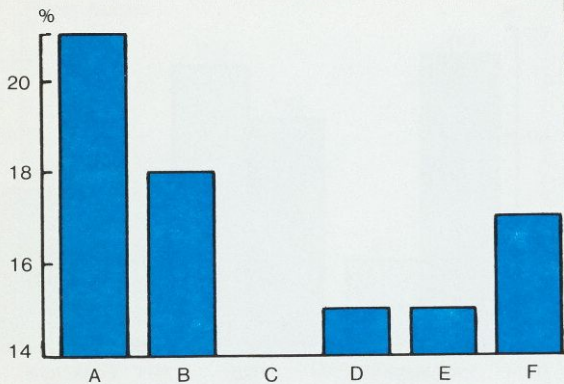
The South's population has moved strongly over the last decade toward the characteristics identified with DIY activity. The 25-44 year age group, which takes in 67 percent of all DIYers in the national survey, grew by 4 percent in the South from 1970 to 1980. The income group most strongly associated with DIY effort expanded from 34 percent of the population in

⁷Ibid.
⁸Ibid.

⁹*Yankelovitch Monitor*, Yankelovitch, Skelly and White Inc., marketing, social and public opinion research. From a compilation of sources and ideas on DIY published in 1983 by *Mechanix Illustrated*.

¹⁰*Building Supply News*, Morry Robinson, from a compilation of sources and ideas on DIY published in 1983 by *Mechanix Illustrated*.

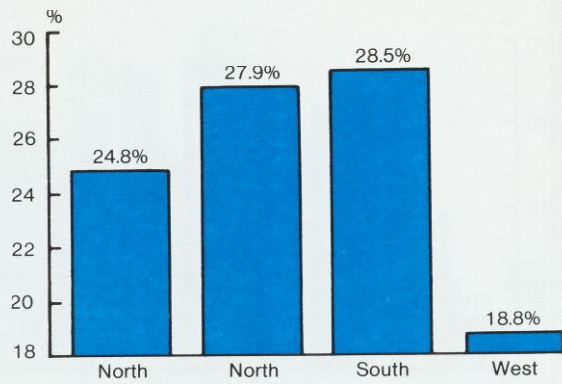
Chart 7. Reasons for DIY Enthusiasm



- A. Enjoyment
- B. Economic-don't have the money to pay to have it done
- C. Preference-prefer to spend the money on other things
- D. Easiest-most expedient way to get things done
- E. NonDIYers-prefer having others do work for them
- F. Other-cannot DIY due to poor health, advanced age or lack of free time

Source: Yankelovitch Monitor

Chart 8. Percent Home DIY Projects by Region



Source: Building Supply News, M.R. Robinson, 1982

the South in 1970 to 45 percent in 1980. The segment of the southern population with a high school diploma or better grew from 34 percent in 1970 to 45 percent by 1980. College graduates, active in the movement, grew from 10 percent to 14 percent of the southern population over the last decade.

What's Behind the Movement?

Probably the most intuitively straightforward reason for doing a job yourself rather than buying a product or service in the marketplace is to save money. Fully 32 percent of DIYers give this as a reason for their activity. People have learned that they can change the oil in their cars for a third of what a service station would charge, and that hiring someone to do a simple home improvement chore like adding laundry room shelves might be 10 times more costly than doing it themselves. Doing it yourself appeals to a sense of thrift and for some it is the only way they can afford to get a job done.

However, whether a task actually saves money depends on income, tax bracket, the cost of

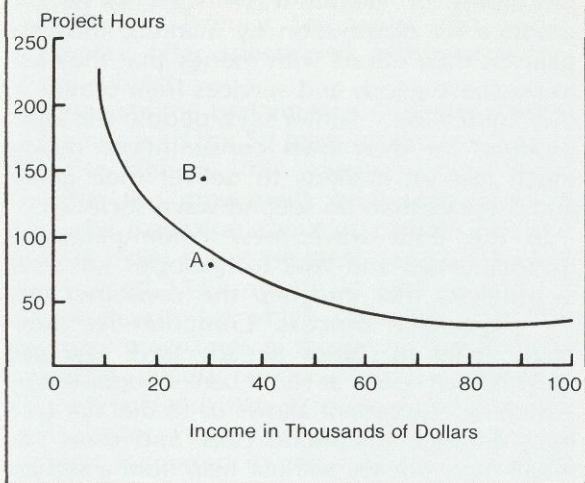
the particular job and how long it will take. A mill worker might find it economical to paint his house rather than hiring a painter, but a heart surgeon would not. While, few people could calculate precisely whether it is economical for them to do a particular job themselves, most have an implicit feel for the trade-off.

The average income tax rate is probably of more concern than the marginal tax rate to people trying to decide whether to do a project themselves or to hire someone else. Because the federal income tax tables now cover incomes of up to \$50,000, many, if not most, use the tables instead of the tax rate schedules to calculate their taxes. Ninety-three percent of DIYers have incomes of less than \$40,000.¹¹ When using the tax tables, one is only aware of the total tax due relative to taxable income. The tax rate schedules, on the other hand, show the marginal tax rates.

Chart 9 illustrates the process one might go through in deciding whether to undertake a project or to have the work done professionally. The horizontal axis shows income and the vertical axis the number of hours it would take to finish. The curve indicates a series of project time points for which the individual at each income, \$10,000, \$30,000, \$50,000, etc., is indifferent as to whether he should do the

¹¹Do-It-Yourself Markets: Home & Auto, 1981, from a compilation of ideas and sources on DIY published in 1983 by **Mechanix Illustrated**.

Chart 9. DIY vs. Pay-to-Have-it-Done Decision Curve



project himself or have it done professionally. In his mind the dollars and cents cost would be exactly the same either way. For an individual earning of \$30,000 a year, point A, below the curve, coincides with a project which he would recognize as monetarily beneficial to do himself. Given his income and average tax rate, he would spend more hours earning the money to have the job done professionally than it would take to do it himself. Still at the \$30,000 income level, point B, above the curve, coincides with a project the individual would contract to have done professionally, if he bases the decision strictly on the value of his time. This project of about 150 hours would take more time to handle personally than the time required to earn the money to have it done professionally.

If people were guided strictly by dollars and cents in deciding whether to undertake a project or pay to have it done for them, those at low incomes would do most of their own repair work and the more prosperous would hire most of it out. But this is not the case. The DIY income profile is well represented by high income groups. The Yankelovitch survey tells us that many of the high earners do their own work, not for the savings, but for the satisfaction and enjoyment it gives them. Over the whole spectrum of incomes, nonmonetary factors motivate many self-help chores.

DIY work can be viewed as substituting one's own labor time for the more expensive labor of

a professional. However the data fail to support this explanation. The paradox is that do-it-yourselfers are skewed toward higher, not lower, incomes. Over 50 percent earn in excess of \$20,000 a year, and nearly a quarter of all DIYers make over \$30,000 a year. The heavy representation of relatively high incomes disputes the hypothesis that DIYers act principally out of economic need.

One certain requisite for the handyman is free time away from a regular job. Lacking this, a person must hire someone to do all of the projects that might otherwise be done himself. Several indicators tell us that the American worker, on average, enjoys more time away from his or her job than ever before. The amount of time and money spent during this time are evident from the tremendous growth of leisure industries over the last 20 years. This time apparently is also being used for repair and fix-up jobs.

The average American worker is putting in a shorter work week today than workers 20 years ago. The average work week has declined from 37.1 to 34.8 hours, a reduction of just over 15 workdays over a year's time.¹² And the labor market participation rate has been declining for men under the age of 50.¹³ Men have dropped out of the official work force and make their living from sources not accounted for in official statistics. The official unemployment rate has hovered between 5 percent to 10 percent of the work force for the last decade. Virtually all of this jobless group's time is free, although their lack of discretionary income restricts the amount of self-help activity they can afford to undertake.

Government regulation also prompts some people to do work themselves rather than paying for a license or having their work inspected. For instance, virtually every municipality requires a building permit before residential construction work above a certain value can begin. The permits raise revenue, alert the building inspector to check the house for code compliance, and alert the tax assessor to increase the house's valuation after the work is done. Failure to buy a permit is certainly illegal, but a homeowner planning a small, inexpensive job

¹² *Survey of Current Business*, U. S. Department of Commerce, Bureau of Economic Analysis, June 1983.

¹³ *Handbook of Labor Statistics* U. S. Department of Labor, Bureau of Labor Statistics.

may consider it worth the risk. The homeowner may fear that the building inspector and tax assessor will cause him to do extra, unnecessary work to comply with the building code or may arbitrarily raise the tax valuation on his home. With these considerations in mind, he may decide to do the work because licensed tradesmen may refuse to jeopardize their standing by working on an unlicensed project, no matter how small.

Sometimes the market cannot deliver the quantity, quality and timing of services that an individual wants and the job requires. Doing the job personally is sometimes the only way to satisfy all the requirements. In Chart 7 referenced earlier, the *Yankelovitch Monitor* reports that about 15 percent of DIYers responding said they did their own work because it was expedient. Often, the market is less responsive to the homeowner than he can be to himself.

Tax avoidance motivates some DIY work. Workers with flexible schedules may choose to work extra hours to cover the cost of having a project done for them. However, they pay tax on this additional income. Because the tax increases the hours of work required to take home a given amount of money, workers may find that they can save time by doing a project themselves rather than working more hours to earn the money to have it done professionally.

Finally, in this age of self-help, anything that increases a person's self-reliance, or gives the appearance of doing so, is fashionable. Do-it-yourself psychology, the emphasis on physical fitness and home gardening are a few examples. From this general mind-set, doing repair and fix-up work must appear very attractive. In addition, being a handyman adds to the personal control one exercises over his time and resources. Such personal initiative offers a positive, although sometimes token, response to some of the problems modern Americans complain about: inflation, high interest rates, high taxes, government regulations and so forth.

The Prosumer

In his book, *The Third Wave*, Alvin Toffler describes DIY as part of a worldwide socio-economic evolution. He coined the word "prosumer" to describe those who produce for their own consumption, a definition that includes DIYers. Toffler calls the economic structure of primitive agricultural societies the "first wave."

In these societies each person (or family) grows food and constructs the necessities of life for personal use. These are the archetypal prosumers. In "second-wave" societies people produce for distribution by markets; they are paid for their efforts with money that they use to purchase goods and services from others. In the "third wave," Toffler says, people will again produce for their own consumption, relying much less on markets to deliver their goods and services than do second-wave societies.

In the third wave, new communications, microprocessor and laser technologies will serve as catalysts that integrate the consumer into the production process. Computer-like automatic teller machines already have replaced most human tellers at some banks. Sophisticated switching equipment allows us to dial our own long distance telephone calls, and users can install most phones without help from a serviceman. Some cars now have light emitting diode (LED) displays that spell out for the driver the source of various service problems. Each of these examples illustrates a case in which the end consumer of a service—banking, telephone communication and auto repair—through new technology is moved a little closer to the actual production of the service.

Toffler explains the convergence of consumer and producer in the "third wave" by citing what he calls the law of relative inefficiency.¹⁴ According to this argument, as the cost of goods declines relative to the cost of handicraft or other non-automated services, the services become more expensive and people substitute their own time instead. DIY appears to be one type of substitution resulting from this phenomenon.

Support Industries

The do-it-yourself movement manifests itself in four well-known areas: specialized publications, special television and radio programming, special courses given at community colleges, high schools and tech schools, and self-help retail stores. It is part of a greater movement in America toward putting newly emerging technologies to work in everyday lives.

Doing something ourselves, whether it be planting a garden or fixing a car, requires a

¹⁴Alvin Toffler, *The Third Wave*, (New York: Bantam, 1981), p. 273.

detailed knowledge of the technology involved. After word of mouth, books and magazines provide the cheapest and most accessible sources for this information. Such magazines as *New Shelter*, *Popular Mechanics* and *Family Handyman* offer specialized articles focusing on the subject.

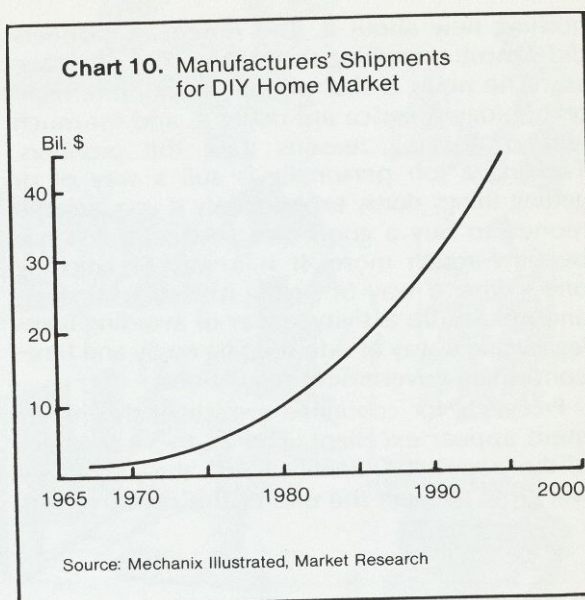
Comparing the performance of several related magazines with the 50 mass market magazines with the highest 1981 revenues gives some clues to the movement itself. According to *Folio*, the magazine about magazines, the DIY category (*Folio* calls it the men's service category) experienced \$133 million in sales in 1981,¹⁵ the latest year for which *Folio* has compiled data. The magazines in this group are: *Popular Mechanics*, *Popular Science*, *Mechanix Illustrated*, *The Family Handyman*, *Popular Electronics* and *New Shelter*. From 1979 to 1981 this market segment increased its share of *Folio's* top 50 circulation magazines from 3.5 percent to 3.8 percent, while the total circulation of those 50 fell by 2.2 percent. The market for how-to-do-it type magazines clearly has been expanding.

The demand for self-help technology has found another outlet in radio and television shows offering "how-to" advice on just about any topic. Public television has been particularly responsive to this demand through such programs as "This Old House," explaining methods of renovating old homes; "The Woodwright's Shop," offering woodworking know-how for those who like to use antique tools and methods, and "Crockett's Victory Garden," offering general home gardening advice. At least one specialized retail chain store sponsors radio advertisements that give hints on how to perform chores quickly and cheaply.

The third widely available source of technical information is the new and expanding area of one-shot courses offered by community colleges and technical schools. The courses usually are narrow in scope and are often taught by a practitioner in the field, such as a plumber, auto mechanic or nurseryman. The courses usually offer no degree credit. Examples are courses on woodworking, auto mechanics, landscaping and increasing home energy efficiency.

The DIY retail outlet is the most visible manifestation of the activity going on in America, today. Automobile parts stores are everywhere.

¹⁵ *Folio*, September 1982, p. 238.



And home improvement outlets have sprung up close to the suburban home owners with whom they do business. A study by *Mechanix Illustrated* published in *Folio* magazine reports that the dollar value of manufacturers' shipments for this home market (see Chart 10) rose by 470 percent from 1967 to 1980 and is forecast to go up 145 percent from 1985 to 1995.¹⁶ The slower upcoming growth rate is premised on less rapid inflation and a slower rate of household formation through 1995. Manufacturers' shipments for 1982 are estimated to be \$12.7 billion.

The retail value of sales by home center stores was \$25.3 billion in 1981, up 58 percent over 1977. The largest 100 home center companies experienced an 11.7 percent increase in sales to handymen in 1982 over 1981; and the top 25 upped their sales 12.3 percent. Of course, home center stores sell to contractors too. But of the top 100, 76 percent of sales were to householders, and 79 percent for the top 25.¹⁷

Conclusion

One observer of the do-it-yourself movement remarked recently that there is absolutely

¹⁶ *Ibid.*, p. 236.

¹⁷ *National Home Center News*, 1982, from a compilation of ideas and sources on DIY published in 1983 by *Mechanix Illustrated*.

nothing new about it. The American pioneers did almost everything themselves, out of necessity. The news is that people in modern, high-technology America are doing it, and for much less compelling reasons than the pioneers. Tackling a job personally is still a way of or getting things done, expeditiously if you lack the money to buy a good or a service, but it has become much more. It is a way of enjoying one's time, a way of saving money to finance another leisure activity, a way of avoiding taxes legally and a way of sidestepping costly and time-consuming government regulations.

Prospects for continued growth of the movement appear excellent. The 25-to-54 segment of the population identified with the movement will grow through the end of this century. And,

although the original impetus came on the demand side from those doing their own work, the businesses manufacturing and retailing material and tools have jumped on the band wagon and are pushing the concept for all it is worth.

In the end, the cultural or psychological bases for handling a task personally may have the most to do with the trend's persistence. The reason most commonly given by handymen is enjoyment. If this is the case, and if Americans on average are gaining more free time away from their jobs as government data suggest, then DIY may be in the early stages of even more rapid growth to come.

—Joel R. Parker

In-Store ATMs: Steppingstone to POS



An Atlanta Fed survey found that 66 percent of major grocery and convenience stores have installed or plan to install automated teller machines. Retailers say the ATMs attract customers, reduce bad check problems and, perhaps most importantly, prepare consumers for point-of-sale terminals and debit cards.

Recently, many American consumers have entered their local supermarket to discover an automated teller machine (ATM) installed in the front of the store. ATMs located off bank premises appear to be spreading throughout shopping malls, supermarkets and convenience stores across the nation. In fact, the Florida Interchange Group—the forerunner of Florida's HONOR network—estimated that by 1986, half of Florida's predicted 3,500 ATMs will be located off-premise.¹ Certainly, as indicated by substantial transaction volumes, consumers find these ATMs convenient. Beyond increased customer convenience, however, other far-reaching implications may be drawn from the

installation of shared off-premise ATMs. They represent a significant step in the gradual displacement of paper checks.

In order to probe this subject more deeply, the Federal Reserve Bank of Atlanta surveyed 35 of the largest grocery and convenience store chains in the Southeast. The results clearly demonstrate that southeastern grocery and convenience stores are moving aggressively to offer banking services to their customers. The survey found that 66 percent of major grocery and convenience store operators either already have ATMs or have definite plans to install automatic teller machines on their premises. They feel that this initiative promises distinct advantages in attracting customers, reducing problems with bad checks, and expanding their range of customer services. Furthermore,

¹"Igniting an EFT Revolution in Florida," *Bank Network News*, Vol. 1 (February 8, 1983), p. 2.

most of these organizations view the ATM as a steppingstone to the point-of-sale cash register terminal and the debit card.

Thus the survey confirms another evolutionary step in the displacement of paper checks by electronic substitutes.² Once customers accepted the ATM as a cash-acquisition device at their bank or other depository institution, banks began to place their proprietary ATMs in other locations, such as shopping centers and airports. Another significant step involves the shift from proprietary to shared ATM networks, through which account-holders at one depository institution can utilize the ATMs of other institutions. With the formation of shared networks—currently well under way—banks can multiply the convenience offered by their plastic ATM cards without having to purchase additional ATMs. Typically, special service corporations established by the participating institutions³ administer the shared networks.

“To the customer, it is only a small step from using a plastic card to acquire cash and then groceries to using the plastic card to purchase groceries directly.”

Grocery and convenience stores, meanwhile, had been watching and waiting for a large base of ATM customers to develop. As long as ATMs were only accessible by a few people, or as long as a grocer's (proprietary) ATM could only be used by customers of a single financial institution, installation was not justified on anything other than an experimental basis. As the ATM-cash dispenser became widely accepted, however, concurrent with the evolution of shared ATM networks at the local level, grocers could install ATMs with the expectation that a significant proportion of their customers would benefit. The survey described here indicates that grocers are indeed taking advantage of the new opportunity.

The installation of in-store ATMs is significant beyond the spread of ATM cash dispensers. ATMs in retail locations provide an evolutionary steppingstone or “transition product” between cash acquisition and debit card purchases. To the customer, it is only a small step from using a plastic card to acquire cash and then groceries, in today's case, to using the plastic card to purchase groceries directly. From a technical standpoint, the ATM is transformed into a point-of-sale terminal, the ATM card becomes a debit card, and the shared ATM network becomes a shared debit card network. Yet market testing indicates that such a transition will appear to be relatively minor in the eyes of the consumer.

Grocers and convenience store operators recognize this connection, our survey indicates. Thus the ATMs in grocery and convenience stores may be paving the way to widespread penetration and acceptance of debit cards, which in turn will become more prevalent in other retail establishments such as gas stations and department stores.⁴ Potentially, debit cards will displace a large number of personal checks, because almost three times as many checks are written for retail purchases as are written for cash acquisition.⁵

Why are grocery and convenience stores so important in this evolution? Grocers cash a tremendous number of checks; in many cases check value exceeds gross sales. They need a quicker and cheaper means of negotiating such payments and of eliminating bad checks. Convenience stores are more concerned with eliminating currency in cash registers, thereby discouraging robberies. Both types of stores provide a large number of widely dispersed sites open for long hours. Furthermore, customer traffic is already established and regular. The great majority of their customers are local, with payments drawn against local financial institutions. Because of this combination of characteristics, grocery and convenience stores provide a good “testing ground” for retail point-of-sale transactions.

²For a more comprehensive description of this evolution, see “Displacing the Check,” this *Review*, August 1983. See also “Payments in the Financial Services Industry of the 1980s” this *Review*, December 1982, especially quotes by Peter Merrill that “the financial services industry is now shifting into a second phase involving shared delivery systems.”

³See “Shared ATM Networks: The Nation and the Southeast,” this *Review*, December 1982.

⁴The check displacement forecasts for debit cards embodied in “Displacing the Check” are somewhat more aggressive than that of some other observers because of the expected impact from retailers (p. 18-24, 41-42).

⁵“Displacing the Check,” Table 4, p. 32.

Table 1. Stores in Some Stage of ATM Installation

	<u>Hours of Operation</u>	<u>Transaction Types Handled</u>
<u>SUPERMARKETS</u>		
<u>ATMs Already Installed</u>		
Bruno's Inc., Alabama	24 Hours	Full-Line ¹
Food Giant, Georgia	24 Hours/Store	Full-Line/plus Traveler's Checks
Jitney Jungle, Mississippi	24 Hours/Store	Full-Line
Kroger-Atlanta Division	Store Hours	Full-Line
Kroger-Nashville Division	Store Hours	Full-Line
Publix, Florida	24 Hours	Full-Line
The Red Food Stores, Tennessee	24 Hours/Stores	Full-Line
Sunflower Stores, Mississippi	24 Hours/Stores	Full-Line
Winn-Dixie, Florida	Store Hours	Full-Line
<u>Finalized Installations</u>		
Albertson's, Florida	24 Hours	Cash Withdrawals
Grand Union, Florida, Georgia	24 Hours/Store	Full-Line
Pantry Pride, Florida	24 Hours/Store	Full-Line
<u>Definite Plans to Install; Lack Final Commitment</u>		
Bi-Lo Inc., South Carolina	Store Hours	Cash Withdrawals
National Supermarkets, Louisiana	Undecided	Undecided
Schwegman Giant Stores, Louisiana	Store Hours	Cash Withdrawals
<u>Vague Installation Plans</u>		
Dixieland Food Stores, Alabama	Probably Store Hours	Cash Withdrawals
Food Town Stores, North Carolina	Undecided	Undecided
Harris-Teeter Supermarkets, North Carolina	Store Hours	Full-Line
Sub-Total: 17 or 63% of 27 Supermarket Chains Surveyed		
<u>CONVENIENCE STORES</u>		
<u>ATMs Already Installed</u>		
Fast Fare Inc., North Carolina	24 Hours	Full-Line
Munford Inc., Georgia	24 Hours	Full-Line
The Pantry Inc., North Carolina	24 Hours	Full-Line
<u>Finalized Installation Plans</u>		
Little General Stores, Florida	24 Hours/Store	Cash Withdrawals; Barnett Bank Deposits Only
Shop & Go Inc., Florida	24 Hours/Store	Full-Line Except Deposits
Sunshine Jr. Stores, Florida	24 Hours	Full-Line
<u>Pilot in Texas</u>		
National Convenience Stores, (Shop-N-Go), Georgia ²	24 Hours	Full-Line Except Deposits; Cash Advances on Credit Cards
<u>Pilot in Philadelphia</u>		
Southland Corporation (7-11 Stores), Louisiana ²	Store Hours/ Usually 24	Full-Line Except Deposits
Sub-Total: 6 or 75% of 8 Convenience Store Chains surveyed		
TOTAL: 23 or 66% of 35 SURVEY PARTICIPANTS		

¹Full-Line: Deposits, withdrawals, balance inquiries, transfers between accounts.

²These two convenience store chains are not included in survey totals because they have not commenced ATM installation in their southeastern stores.

Survey Results

Our survey, which was conducted in August, included eight southeastern states—Alabama, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina, and Tennessee. The thirty-five corporations included in the sample were culled from a list of the 200 largest supermarket and convenience chains in the nation. Under the assumption that the largest stores usually serve as industry leaders—in general they are the first to implement innovations—the survey is reflective of electronic banking activity occurring in southeastern grocery and convenience chains.

Twenty-three of the thirty-five chains questioned either have ATMs in their stores or plan to install them within two years. Eleven stores have already installed ATMs; six stores have signed contracts to do so within the next six months. Three stores definitely plan to install ATMs but lack final commitments. Three other chains intend to install ATMs within the next two years but plans remain somewhat vague at the moment. Furthermore, of the eleven stores without ATM installation plans, one is conducting an extremely preliminary investigation of the topic. Also, two firms are national chains with ATM pilot programs in other parts of the country. Quite conceivably, ATM installation in their southeastern stores could follow successful pilots.

After ascertaining the number of supermarkets and convenience stores installing ATMs, we compared various operational details. Of the ATMs currently operating, all are accessible twenty-four hours a day, as will be those ATMs currently being installed under contract. ATMs tend to be located in stores open twenty-four hours a day; this maximizes convenience for customers.

All of the presently functioning in-store ATMs offer a full-line of transactions—deposits, cash withdrawals, transfers between accounts, and balance inquiries. In addition, the American Express Money Stop ATMs located in seven Atlanta Food Giant supermarkets dispense traveler's checks. Of the stores still in the planning stages, however, four indicated that the machines will be for cash dispensing only. Apparently, some banks involved feel that it would not be economical to collect deposits from such widely scattered locations.

While most of the supermarkets and convenience chains intend to install only one ATM per store, the number of ATM locations varies widely. Two distinct patterns of installation emerge. First, there are those grocery and convenience store chains in which a single bank installs from one to ten ATMs. Without exception, the bank owns these machines. Since only that particular bank's customers may access the machine, it is a proprietary network; no one except those possessing the bank's proprietary card may make transactions.

In contrast, seven chains are installing ATMs on a much wider scale, with anywhere from fifty to over one-hundred included in the plans. These ATMs will be part of large regional networks comprised of many banks. Indeed, the shared networks represent a large cardholder base that makes massive implementation of ATMs economically feasible. Thus a dichotomy exists between plans to install a few ATMs

“Twenty three of the thirty five chains questioned either have ATMs in their stores or plan to install them within two years.”

under a single bank's proprietary network and the placing of many ATMs participating in a shared network of regional banks. The situation in Florida serves as an excellent example of the latter alternative.

Florida's HONOR network became operational on September 30, 1983. Representing approximately \$50 billion in deposits, 120 financial institutions comprise the HONOR network. The combined total of 3.6 million ATM access cards issued by the network approximates 75 percent of Florida's card-holding base. Network members will have access to 407 off-premise machines, 125 of which belong to the Publix Teller Network.⁶ Beginning next June, Honor network members will share on-premise ATMs, creating a totally shared electronic environment in Florida. In December 1983, two of Georgia's

⁶“Florida's Honor: Racing to Grab the Network Lead,” *Bank Network News*, Vol. 2 (September 24, 1983), p. 7.

Table 2. Number of ATMs and Type of Network

	<u>Number</u>	<u>Network</u>	<u>Do You View This As a Steppingstone To Point-of-Sale?</u>
<u>Supermarkets</u>			
Albertson's, Florida	7	Shared	Yes
Bi-Lo, Inc., South Carolina	Around 60	Shared	Yes
Bruno's Inc., Alabama	2	Proprietary	Uncertain
Dixieland Food Stores, Alabama		Shared	Yes
Food Giant, Georgia	7	Shared	No
Food Town Stores Inc., North Carolina	Undecided	Undecided	Yes
Grand Union, Georgia & Florida	Around 50	Shared	Yes
Harris-Teeter Supermarkets Inc., North Carolina	1 - 10	Undecided	Yes
Jitney Jungle, Mississippi	1	Proprietary	Yes
Kroger-Atlanta Division	3	Proprietary	
Kroger-Nashville Division	6	Proprietary	Yes
National Supermarkets, Louisiana	3	Proprietary	Uncertain
Pantry Pride Inc., Florida	50 - 60	Shared	Yes
Publix, Florida	100 - 500	Shared	Yes
Schwegman Giant Super Stores, Louisiana	11	Undecided	No
Sunflower Stores, Inc., Mississippi	2	Proprietary	No
The Red Food Stores Inc., Tennessee	97	Shared	Yes
<u>Convenience Stores</u>			
Fast Fare Inc., North Carolina	2	Proprietary	Uncertain
Little General Stores, Florida	20	Shared	Yes
Munford, Inc., Georgia	1	Proprietary	No
¹ National Convenience Stores (Stop-N-Go), Georgia	81	Shared	No
Shop & Go Inc., Florida	20	Shared	Yes
¹ Southland Corporation (7-11 Stores), Louisiana	200	Shared	Yes
Sunshine Jr. Stores, Inc., Florida	1	Proprietary	Yes
The Pantry Inc., North Carolina	1	Proprietary	Yes

¹These two convenience store chains are not included in survey totals because they have not commenced ATM installation in their southeastern stores.

Table 3. Motives Underlying ATM Installation

	Supermarkets ¹	Convenience Stores ²	Total ³
Increase Customer Convenience	13 (48%)	7 (87%)	20 (87%)
Increase Customer Traffic	1 (4%)	6 (48%)	7 (30%)
Reduce Check Processing Costs	11 (41%)	1 (1%)	12 (52%)
Reduce Check Volume	8 (30%)	1 (1%)	9 (39%)
Reduce Bad Checks	7 (26%)	—	7 (30%)
Reduce Cash Security Problems	2 (7%)	—	2 (9%)
Reduce Labor Involved	1 (4%)	—	1 (4%)

¹Percentage of the 17 supermarket chains pursuing ATM installation.

²Percentage of the 8 convenience store chains pursuing ATM installation.

³Percentage of the 23 stores with plans for ATM installation.

largest financial institutions announced plans to establish a similar network, and invited other Georgia financial institutions to participate as charter members.

In Atlanta, Kroger is involved in a pilot with Heritage Bank. Within the past year, Heritage Bank has established branch banks in three of Kroger's stores. These branch locations serve as full-service banks, offering everything from loans to checking accounts. Generally branch banks are viewed as "temporary and inadequate either because they are too labor intensive and inefficient or they serve a limited customer base."⁷ Yet Bob Hodge, vice-president of Kroger's Atlanta division, reports that: "The customers seem to be very pleased with the additional service. I presume Heritage is doing enough business to justify labor and costs of putting banks in."⁸ It is too early to reach any definitive conclusions about the feasibility of branch banks; however, installing ATMs accessible by all members of a shared network seemingly constitutes a more viable alternative.

Customer Convenience

Of greater interest than details of location and operation are the objectives behind installing

these in-store ATMs. For the most part, the Floridians immediately responded that they acted in self-defense. In announcing its intentions to establish the Publix Teller network in 1981, Publix supermarkets initiated a mad scramble to install in-store ATMs. Thus many Florida stores plunged into the pursuit of in-store electronic banking in an effort to remain competitive.

Although competitive pressure rushed Florida's stores into installing ATMs, real benefits must accrue from these systems in order to justify such interest. In questioning the supermarkets and convenience store operators, we found they resoundingly answered that their major goal was to provide customer convenience.

The grocery industry is traditionally sensitive to the needs of the consumer. Emphasizing the importance of the customer, the manager of financial services at Kroger explains "...our highly competitive business is driven exclusively by the consumer. That is unbelievably critical."⁹ Twenty of the survey participants listed customer convenience as their primary, overriding concern. As Mike Ware of Little General Stores, a Florida convenience chain, states, "We view the ATM as a convenience item and we're in the business of selling convenience."¹⁰ With the slim profit

⁷Craig Gieler: How Kroger Wants POS to Work," *Bank Network News*, Vol. 1 (January 25, 1983), p. 4.

⁸Bob Hodge, vice president, Atlanta division, Kroger Co., telephone interview, August 26, 1983.

⁹Craig Gieler: How Kroger Wants POS to Work," *Bank Network News*, Vol. 1 (January 25, 1983), p. 4.

margins characteristic of the grocery industry, retailers seize upon any means of offering additional customer convenience and gaining a competitive edge.

Hand-in-hand with the notion of added customer convenience is the desire to increase customer traffic in the stores. Retailers hope that customers, after entering the store to obtain cash, will purchase a few items. John Polizzi of Florida's Shop-N-Go stores expounds on this: "One of the long-term objectives is to increase average transaction size by being a source of cash for the customer."¹¹ Seven other survey participants indicated that they expect that easier access to funds will spark impulse buying and strengthen sales.

Because customer convenience is the primary motivation behind installing in-store ATMs, supermarkets and convenience stores insist on a shared network of regional banks before adopting a course of widespread installation. For instance, Carl Schauss of Mississippi's Jitney Jungle Stores of America, comments that his

"Retailers hope that customers, after entering the store to obtain cash, will purchase a few items."

corporation has "no specific plans to install more ATMs (currently it has one in-store ATM) but a definite inclination to make plans in that direction except for the single bank mode existing in Mississippi. Without a shared network, ATMs are simply not feasible."¹² For electronic banking services to heighten convenience significantly, the ATMs must be available to a substantial portion of those in the region possessing ATM access cards.

The topic of regional networks leads to another pertinent issue, namely that of the region involved. Several of the participants claimed that they were not interested in installing ATMs because of the rural nature of their business.

¹⁰Mike Ware, vice-president of finance, Little General Stores, telephone interview, August 23, 1983.

¹¹John Polizzi, Shop & Go Inc., telephone interview, August 24, 1983.

¹²Carl Schauss, executive vice president of finance, Jitney Jungle Stores of America, telephone interview, August 26, 1983.

Retailers cited four main reasons why in-store ATMs are not feasible in small towns and rural areas. First of all, many of the local banks do not have ATMs. Obviously, on-premise ATMs must exist before off-premise ones spread.

Even in small towns possessing ATMs, transaction volume sufficient to justify installing in-store ATMs cannot be generated. A Piggly-Wiggly Southern spokesman explains:

We're basically operating in small towns. We've had proposals (to install ATMs) but as a matter of company policy turned them down because of: (1) customer acceptance—customer contact is a major part of our business. ATMs are too impersonal; (2) not enough transaction volume; (3) minimal bad check losses due to the local nature of the business.¹³

Other chains serving small town and rural communities also cited low anticipated customer acceptance as deterring ATM installation. Even where customer acceptance is not a problem, Bob Hughes of North Carolina's The Pantry Inc. points out that "our type of market area—mostly rural areas—cannot generate enough transactions to make ATMs profitable."¹⁴ In-store ATMs prove much more feasible in areas supporting denser populations; in more crowded areas ATMs truly do boost customer convenience.

Because increased customer convenience seems to be the pivotal issue in successful off-premise ATM installation programs, marketing assumes an important role. According to a recent Synergistics Research Corporation study of off-premise ATMs, 39 percent of the participants expressed a desire to access ATMs at supermarkets.¹⁵ If this is the case—if a demand for in-store ATMs already exists—then proper marketing should ensure the success of in-store ATMs. Mike Ware describes the marketing plan of Florida's Little General Stores as "installing ATMs at key traffic arteries with high volumes... at areas with a high concentration of apartments and condominiums and no areas with a predominance of older people. Older people are not concerned with convenience; there is more of a difference in age than income

¹³Larry Olsen, vice-president and treasurer, Piggly-Wiggly, Southern Inc. telephone interview, August 22, 1983.

¹⁴Bob Hughes, vice-president of finance, The Pantry Inc., telephone interview, August 19, 1983.

¹⁵"Study Shows Consumers Prefer Shopping Malls for Off-Premise ATMs," *Bank Letter*, Vol. 7 (May 16, 1983), p. 7.

as far as targeting ATM installation."¹⁶ Others indicated plans to install in higher income areas. All plan to install ATMs at the stores with the highest volume of traffic.

For those businesses with only one or two bank-owned ATMs, the bank involved assumes responsibility for locational "on-the-spot" advertising. Most supermarkets and convenience stores embarking on major ATM installation plans intend to share advertising responsibilities with the network or bank owning the machines. In Florida, for example, both the HONOR system and Winn-Dixie will advertise. In addition, Barnett Bank and NCR will help advertise for those stores joining their switch. Thus retailers, bankers, and other network participants derive mutual benefits from each other's marketing campaigns.

Reduced Check Processing Volume and Costs

While customer convenience undoubtedly serves as the chief reason for installing off-premise ATMs, most grocery and convenience store chains hope reduced check processing volume and costs will result as a by-product. Indeed, this is a topic of pressing concern among retailers. A spokesman for Warehouse Groceries Management in Alabama says, "as far as checks are concerned, something has got to happen because it's a burden and a costly one."¹⁷ Twelve survey participants listed reducing the costs of check processing/cashing as a very important objective in ATM installation; nine cited the necessity of decreasing the huge check processing volume (which greatly complicates turning checks into collected funds).

Besides accepting checks for purchases, retailers also serve in a cash dispensing capacity after bank hours. For the most part, convenience stores do not accept checks. The majority of the grocers surveyed, on the other hand, bewailed the extent to which they act as surrogate banks in cashing checks. Twelve claimed to cash many more checks than the local banks.

In truth, it is acknowledged in the grocery industry that the value of checks cashed in many stores or chains exceeds the total annual sales. Seventy percent of all checks written at

the retail level are written to food retailers.¹⁸ In 1981, supermarkets averaged 2,786 checks per week, leading to a total of 4.2 billion checks that year. Furthermore, while the number of checks that grocery stores cash is rising, the average purchase size is decreasing.¹⁹

Consequently, check processing costs are impacting retailers quite dramatically. Estimated check handling costs in 1981 averaged 45 cents. Thus a store typically spent \$1,250 per week on check cashing. Since the average store nets \$150,000 each week, checking costs approximated 0.83 percent of sales. For close to a decade, supermarkets' net margins have been about one percent. Check processing costs, therefore, nearly equal the supermarkets' net margins.²⁰

It is very evident why retailers want to reduce the volume of checks cashed. Not only have retailers had to pay for the labor and processing costs involved, they also have to pay a fee for each check deposited. As the astronomical and somewhat inequitably distributed costs of check

"In 1981, supermarkets averaged 2,786 checks per week...Estimated check handling costs in 1981 averaged 45 cents."

processing continue to rise, there is a "new mood of retailers who insist that the checking burden has become so great that a new payments process at the supermarket is in order."²¹ And in-store ATMs comprise one step along the way to this goal.

In fact, supermarket ATMs represent somewhat of a role reversal between banks and retailers. Instead of stores absorbing processing costs and paying the bank deposit fees, the bank pays the store a rental fee for the space in which the ATM is located. Grocery and convenience stores receive rental fees; the owner of the ATM and the operator of the switch split

¹⁸Craig Gieler: How Kroger Wants POS to Work," **Bank Network News**, Vol. 1 (January 25, 1983), p. 4.

¹⁹Grocery Check Volume Soars, Reports FMI" **Bank Network News**, Vol. 1 (June 21, 1982), p. 1, 3.

²⁰*Ibid.*

²¹Craig Gieler: How Kroger Wants POS to Work," **Bank Network News**, Vol. 1 (January 25, 1983), p. 4.

¹⁶Mike Ware, Little General Stores.

¹⁷Roger Dryer, executive vice-president, Warehouse Groceries Management, telephone interview, August 22, 1983.

the transaction fee. Often, the transaction fees are volume-related; that is, the fee per transaction depends upon the amount of monthly transaction volume. For instance, in Florida's HONOR network, if there are fewer than 500,000 transactions per month, a withdrawal costs 61 cents. 40 cents will go to the ATM owner; the switch itself will receive 21 cents. Withdrawals cost only 55 cents if more than 1.5 million monthly transactions occur. Balance inquiries and transfers between accounts cost 20 cents less.²² The bank of the customer whose account was debited pays these fees; it may in turn pass the charge on to the customer. But the retailer does not pay anyone.

Furthermore, if the supermarket or convenience store owns the machines, it will receive the transaction fees and begin to generate profits. Publix Supermarkets in Florida, however, is the only chain in the survey to own its own ATMs. For the most part, the retailers are content to let the banks or third party networks own the ATMs. Yet if the banks or networks do not provide sufficient customer coverage, stores will purchase their own machines. For instance, in Mississippi, where the banks have thus far not collaborated, Carl Schauss of Jitney Jungle Stores says "owning our own machines is a major possibility if the banks don't get with it (network formation) themselves."²³ Apparently, ATM ownership is not critical to the retailer unless inadequate network coverage exists.

Although reducing the check volume is a hoped for by-product of in-store ATMs, chains stated that they doubt the number of checks cashed will decrease. Joe Letvelter of Pantry-Pride sums up this attitude: "we don't feel that ATMs will reduce check cashing... From talking to NCR and Publix(in Florida), the check volume doesn't decrease... the costs associated with check processing remain the same."²⁴ Certainly this is contrary to the expected results. It is too soon to determine accurately what effects in-store ATMs actually have on check volume. Yet even if they have zero impact on the number of checks cashed, they will still be of value in preventing bad check losses.

Seven of the survey participants listed reduction of bad checks as an objective behind

installing ATMs. Convenience stores experience minimal bad check losses because they cash few checks. Grocery stores, however, experience enormous bad check losses. Given this fact, it is somewhat surprising that only nine companies reported any type of electronic check verification systems.

Several other potential benefits were mentioned in association with in-store ATMs. Two of those surveyed cited increased security of cash as a result of decreased cash exposure. Convenience stores in particular have a problem with hold-ups. And one participant felt that in-store ATMs would reduce the labor required for check cashing and processing.

A Steppingstone to POS

Thus, increased customer convenience is the primary motive for installing in-store ATMs. Stores hope that a reduced check volume will produce various benefits. These, however, are only the short-term objectives. In the long run, installing in-store ATMs may be an intermediate step in a changing retail payment mechanism. In-store automated teller machines represent one stage in the transition to electronic point-of-sale (POS) registers.

Ultimately, most retailers hope to have POS registers that electronically debit the customer's bank account at the check-out station. When asked if they viewed in-store ATMs as a steppingstone to POS, seventeen of the survey participants responded yes. Some, such as Harry Wade of Winn-Dixie, even implied that ATMs were being installed solely as an intermediary step: "ATMs are being installed as a training ground to get customers to use debit cards. They (ATMs) are a necessary evil."²⁵ Others said that ATMs "give us definitive experience in cash-free types of transactions."²⁶ John Polizzi of Shop-N-Go Inc. sums up the general attitude:

ATMs are going to work in certain locations but won't have the impact that POS will.

Ultimately POS will do away with check cashing. ATMs are simply another service we offer our customers.²⁷

Obviously, strong support exists for the eventual implementation of POS registers.

²²Strada, "Converting FIG's Promise Into Power," **Bank Network News**, Vol. 1 (May 11, 1983), p. 5

²³Carl Schauss, Jitney Jungle Stores.

²⁴Joe Letvelter, cash manager, Pantry Pride Inc., telephone interview, August 23, 1983.

²⁵Harry Wade, director of work methods, Winn-Dixie, telephone interview, August 22, 1983.

²⁶Ray Ayers, vice-president of real estate, Grand Union Company, telephone interview, August 22, 1983.

²⁷John Polizzi, Shop & Go Inc.

List of Stores Surveyed

Alabama

1. Bruno's Inc., Birmingham
2. Warehouse Groceries Management - Gadsden
3. Dixieland Food Stores - Geneva
4. Delchamps, Inc. - Mobile

Florida

5. Winn-Dixie - Jacksonville
6. Publix - Lakeland
7. Pantry Pride Inc. - Fort Lauderdale
- * 8. Shop & Go, Inc. - Mango
- * 9. Little General Stores - Tampa
- * 10. Sunshine Jr. Stores Inc. - Panama City
11. Albertson's - Orlando (Southco Division Headquarters)

Georgia

12. Great Atlanta & Pacific Tea Co. - National Headquarters in Montvale, New Jersey
13. Food Giant/Big Apple Supermarkets - Atlanta
- * 15. Munford, Inc. - Atlanta
- * 16. National Convenience Stores (Stop-n-Go) - Decatur (National Headquarters In Houston)
17. Grand Union Company (Colonial and Big Star Food Stores - Decatur)
18. Kroger - Atlanta Division

*Indicates convenience store chains.

The two different divisions of Kroger are counted as one company, leading to a total of 35 survey participants.

Louisiana

19. Schwegman Giant Super Stores - New Orleans
- * 20. Southland Corporation, Midsouth Division - Baton Rouge
21. National Team Company (National Supermarkets) - Harahan (National Headquarters in Rosemont, IL)

Mississippi

22. Jitney Jungle Stores of America - Jackson
23. Sunflower Stores Inc. - Indianola

North Carolina

24. Food Town Stores, Inc. - Salisbury
25. Harris-Teeter Supermarkets Inc. - Charlotte
- * 26. The Pantry Inc. - Sanford
27. Ingle's Market, Inc. - Swannanoa
28. Lowe's Food Stores - Wilkesboro
- * 30. Fast Fare, Inc. - Henderson

South Carolina

31. Bi-Lo Inc. - Mauldin
32. Community Cash Stores, Inc. - Spartanburg

Tennessee

33. The Red Food Stores, Inc. - Chattanooga
34. Malone & Hyde, Inc. - Memphis
35. The White Stores, Inc. - Knoxville
36. Kroger Company - Nashville

While most retailers concede that a transition to POS is inevitable—indeed, they welcome such a transition—few have made any concrete moves in that direction. In fact, out of 35 surveyed, only three have any definite plans regarding POS. Seven claimed to have vague plans.

Naturally, the same benefits resulting from reduced check volume after in-store ATM installation will also accrue from POS registers. For

instance, one supermarket chain in Texas found that it could "save one-sixth of labor costs at check-out due to the time saved by direct-debit transaction."²⁸ And, without a doubt, this is the most effective way to prevent check fraud or bad check losses. Even more important are the savings in check handling costs.

²⁸"Texas POS Rekindles a Fiery Network Feud," **Bank Network News**, Vol. 2 (June 25, 1983), p. 4

Currently established POS systems charge transaction fees averaging 20 cents. The supermarkets and convenience stores do not have any transaction costs but must pay for installation and maintenance. (It should be noted that whereas most in-store ATMs are bank or network owned, almost all stores plan to purchase their own POS registers.) According to a 1980 survey, the handling cost of a retail cash transaction is 45 cents.²⁹ Thus POS is proving to be more economical than cash.

The advantages to retailers of POS systems are obvious. But we must not forget that the grocery industry is consumer-driven. POS will be implemented if and only if the consumer finds it beneficial. Therefore, the quicker check-out times of POS registers may be a decisive factor in its favor.

According to a 1983 Food Marketing Institute survey, 39 percent of consumers place greatest priority on a quick check-out. Low prices rank second.³⁰ A typical POS transaction takes ten to fifteen seconds, cash transactions require 27 seconds, and checks require even longer. Thus POS registers transact payment with maximal speed. At Dahl's, an Iowa supermarket that pioneered the use of POS registers, the added convenience alone converted 10-15 percent of check writers to POS without any promotion or financial incentives. This 10-15 percent compensated for installation costs.³¹ Thus consumers face a trade-off between increased convenience or relinquished check float. Evidence suggests that a substantial portion of consumers will opt for quicker check-outs. Those unwilling to give up float will have to be lured with economic incentives and proper marketing strategies.

Conclusion

In the foreseeable future, the implementation of electronic point-of-sale registers will transform the retail payment mechanism. Numerous grocery stores are installing electronic scanning equipment at the check-out station, thus greatly facilitating the conversion to electronic POS registers. In addition, the ongoing formation of shared regional bank-card networks is creating

the 75 percent saturation of the debit card-holding market believed essential for an economical POS system. Extensive local networks, in conjunction with increasing consumer awareness of electronic payment systems, are paving the way for electronic point-of-sale. Thus, the current installation of in-store ATMs—in furthering the development of an electronic infrastructure and in familiarizing customers with automated banking services—is a key factor in the upcoming transition.

We found a definite trend toward the installation of in-store ATMs in supermarket and convenience store chains in the Southeast. The primary motivation lies in increasing customer convenience, which retailers hope will increase customer traffic through their stores. Consequently, grocery stores are beginning to insist that local banks cooperate in forming regional networks; only in this manner will a given store's ATM be available to a sufficient quantity of consumers to increase convenience significantly.

As long as the banks prove fairly cooperative in establishing these shared networks, the supermarkets and convenience stores should have

“Evidence suggests that a substantial portion of consumers will opt for quicker check-outs. Those unwilling to give up float will have to be lured with economic incentives and proper marketing strategies.”

little inclination to own the ATMs or to operate the electronic switch. Their concern appears not to be with controlling the payment system, but rather with modernizing traditional payment mechanisms.

Indeed, the traditional retail payment system has become a burden. Supermarket chains spend exorbitant sums on check processing costs; the sheer volume of checks supermarkets process renders the system inefficient. Across the board, grocery industry management agrees on the necessity of reducing the check volume.

Many of the survey participants hope that customers will obtain cash from in-store ATMs, cutting down on the number of checks written both for groceries and for cash at courtesy

²⁹“Cost of a Cash Transaction Put at 45 Cents,” EFT Report, Vol. 6 (January 3, 1983), p. 5.

³⁰“Do Shoppers Want POS? FMI Study Gives Clue,” *Bank Network News*, Vol. 2 (June 25, 1983), p. 5.

³¹“Why Iowa's POS Test Remains in a Pilot Mode,” *Bank Network News*, Vol. 1 (February 8, 1983), p. 6.

desks. However, even if the ATMs do not substantially reduce the volume of checks, they acclimate the consumer to the idea of electronically debiting his checking account at the grocery store. In the future, debiting accounts by an electronic POS register may not seem such a sudden, drastic change.

Hence, in-store ATMs, while generating benefits in and of themselves, ultimately derive their greatest value as a steppingstone to POS. Electronic POS registers will dramatically reduce the volume and costs of check processing. POS also is an effective way of minimizing bad check losses. In addition, electronic POS registers greatly speed up the check-out process, which seems to be the most critical factor in improving customer convenience. Thus, electronic POS holds multiple benefits for retailers and consumers.

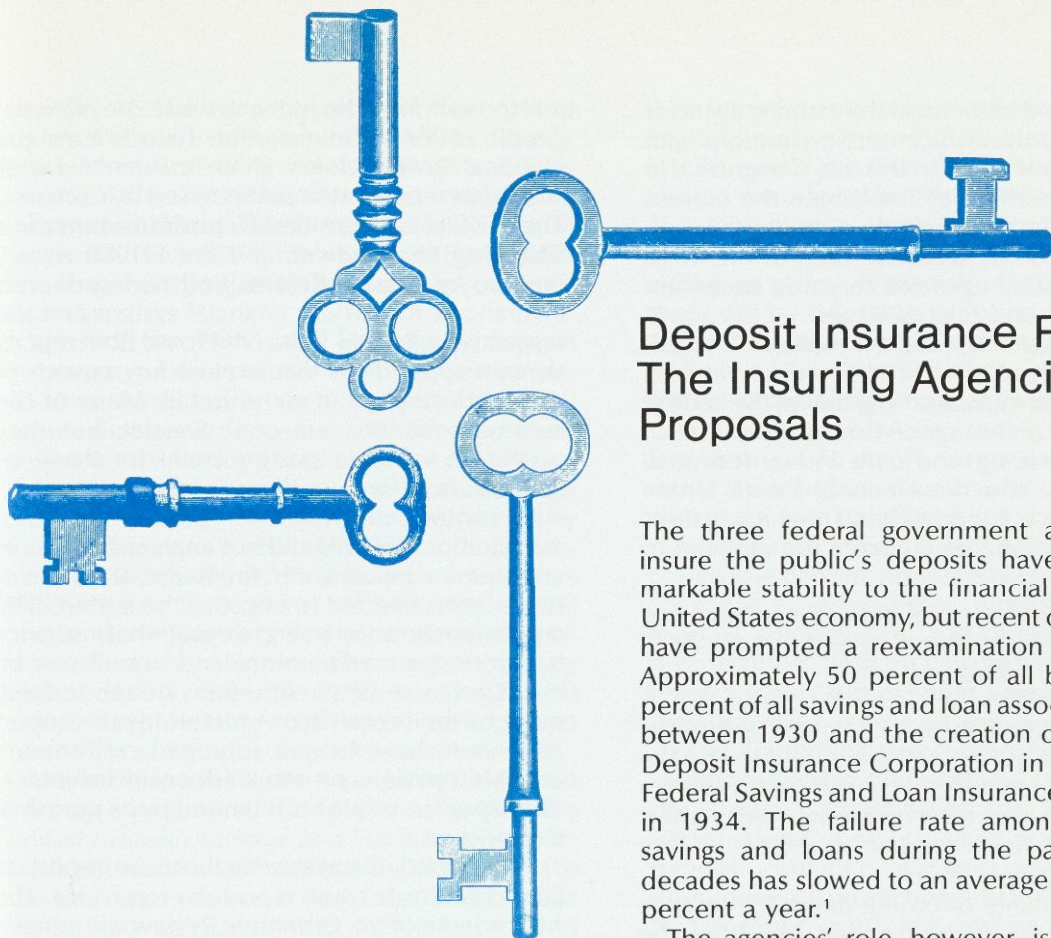
Indeed, many retailers eagerly welcome the appearance of electronic POS systems. As Leo Conlan of South Carolina's Bi-Lo Stores emphasizes, "banks and retailers want to encourage consumers to quit using checks... It is about time it (POS) is coming to this part of the country."³² Some legal matters remain to be clarified, but for the most part, POS technology has been refined and seems about to come of age.

The spreading electronic infrastructure, accompanied by the formation of large regional networks, provides the backdrop for the coming of electronic retail payments. The grocery industry—experiencing acute problems with check processing—will undoubtedly be the first to make the transition to electronic POS, just as it has been the first to implement wide-scale ATM installation. Other retailers will convert more slowly.

Generally, the size of the retail business is directly proportional to the volume of checks cashed, which in turn directly relates to the need to convert to POS. In other words, larger retail businesses, such as major department stores, will likely find it advantageous to convert to electronic POS terminals as fast as possible. Small specialty stores, on the other hand, may never experience any problems with the existing check-collection system. Thus, the rate at which the transition to electronic POS occurs will vary greatly. Yet, the burden of check processing on some retailers has become so great that a new retail payment mechanism seems to be in order. Electronic point-of-sale appears to be the most likely candidate; indeed, the growing popularity of in-store ATMs indicates that the transition may already be underway.

—Helen Stacey
and William N. Cox

³²Leo Conlan, Financial Vice President, Bi-Lo Inc., telephone interview, August 19, 1983.



Deposit Insurance Reform: The Insuring Agencies' Proposals

The three federal government agencies that insure the public's deposits have brought remarkable stability to the financial sector of the United States economy, but recent developments have prompted a reexamination of their role. Approximately 50 percent of all banks and 25 percent of all savings and loan associations failed between 1930 and the creation of the Federal Deposit Insurance Corporation in 1933 and the Federal Savings and Loan Insurance Corporation in 1934. The failure rate among banks and savings and loans during the past couple of decades has slowed to an average of less than 1 percent a year.¹

The agencies' role, however, is being called into question by changes in the economic environment and by changes in the financial services industry. The dramatic rise in market interest rates in the 1970s and early 1980s left many S&Ls with a negative net worth. The deregulation of interest rates on deposits and increasing pressure from uninsured competitors have forced insured institutions to become more aggressive. One inevitable result of this increased competition is a growing failure rate among insured institutions and increased concern over their safety. Furthermore, some banks are demanding freedom to expand into new nonbank ventures that some believe are far riskier than traditional banking activities.

In response to changes in the financial services industry, Congress passed the Garn-St Germain Depository Institutions Act of 1982. Among its many provisions, this act authorized insured institutions to offer a money market deposit account with no legal restrictions on the rate of

Responding to a congressional mandate, three regulatory agencies recently proposed reforms in the way public deposits are insured. The agencies, whose proposals ranged over such topics as variable rate deposit insurance, increased use of private insurance, disclosure of supervisory actions, and consolidation of the insuring agencies, occasionally agreed with each other.

¹Supervisory assisted mergers of troubled institutions are included with actual bankruptcies in this definition of failure.

interest paid and authorized the insuring agencies to offer net worth certificates to institutions with weak capital positions. In this act, Congress also recognized the need to reevaluate the current system of deposit insurance. Congress began this reevaluation by directing each of the three deposit insurance agencies to study seven important points and related issues.

The three agencies are the Federal Deposit Insurance Corporation (FDIC), which insures commercial and mutual savings banks; the Federal Savings and Loan Insurance Corporation (FSLIC), which insures savings and loans and some mutual savings banks, and the National Credit Union Share Insurance Fund (NCUSIF), which insures credit unions. Congress directed the agencies to study:

1. the current system of deposit insurance and its impact on the structure and operations of depository institutions;
2. the feasibility of allowing depositors to purchase additional insurance covering deposits in excess of the general limit provided by law and the capabilities of the private insurance system, either directly or through reinsurance, to provide risk coverage in excess of the general statutory limit;
3. the feasibility of basing deposit insurance premiums on the risk posed by either the insured institution or by its category or size rather than on the present flat rate system;
4. the impact of expanding coverage of insured deposits on the operations of the insurance funds, including the possibility of increased or undue risk to the funds;
5. the feasibility of revising the deposit insurance system to provide even greater protection for smaller depositors while fostering a greater degree of discipline with respect to large depositors;
6. the adequacy of existing public disclosure regarding the condition and business practices of insured depository institutions to assess changes that may be needed to assure public disclosure;
7. the feasibility of consolidating the three insurance funds; and
8. related issues.

The agencies took two different approaches to the congressional directive. The Federal Deposit Insurance Corporation and the Federal Home Loan Bank Board (which runs the Federal Savings and Loan Insurance Corporation) took a broad

interpretation of the request, while the National Credit Union Administration (which runs the National Credit Union Share Insurance Fund) limited its report to the points raised by Congress. The FDIC report, entitled **Deposit Insurance in a Changing Environment**, and the FHLBB report, entitled **Agenda For Reform**, both review deposit insurance's role in our financial system and the respective agencies' ideas on reform. Both reports contain appendices that explore key aspects of deposit insurance in some detail. Many of the recommendations are controversial, but they provide a valuable starting point for those interested in reforming deposit insurance.

In contrast, the National Credit Union Administration (NCUA) did not analyze the role of credit union insurance in the financial system or the reforms needed to improve the system. The report appears to be trying to detail what insurance has done for credit unions and how it can be modified to serve credit unions better. Indeed, most of the research conducted for this report appears to have been a survey of credit union officials' opinions on share (deposit) insurance. The report's usefulness is limited by its parochial perspective.

This article will summarize the more important aspects of these three reports by topic area. The March issue of the **Economic Review** will contain a critique of the reports and some alternative reform proposals.

Goals of Deposit Insurance

The first step in reevaluating deposit insurance is determining why we need such protection. The FDIC, FHLBB and NCUA discuss a variety of reasons for providing insurance to the institutions they insure.

First, the agencies say deposit insurance protects the financial system and the U.S. economy from the harms of bank failure. They note that failure can have serious consequences because banks are an essential element in the payment system and because of the potential for a sharp contraction in the money supply if the public were to "stampede" from deposits to cash. The FHLBB provides an interesting analysis of why deposit insurance is needed to protect the financial system. It notes that the wave of bank failures in the 1930s could have been prevented if the Federal Reserve had provided adequate

liquidity to the banking system.² The FHLBB argues that the experience of the 1930s demonstrates the failure of "a system with discretion as its critical element." Thus, it implicitly argues that the United States needs deposit insurance to protect the financial system because the deposit insurance authorities lack discretion during a financial crisis.

Second, the FDIC and FHLBB say deposit insurance protects small, unsophisticated depositors from losing their money. The FDIC argues that small depositors are "in effect compelled to use banking facilities," yet they "have little ability to protect themselves against the risk of a bank's closing." A third reason mentioned by the two agencies is that deposit insurance protects small institutions. That is, some depositors believe large institutions are safer than small ones and, without deposit insurance, some small institutions would be forced to merge with larger institutions. Neither the FDIC nor the FHLBB argues that protecting small banks is an important reason for continuing deposit insurance.

While these justifications are given for deposit insurance in general, the FHLBB notes that the primary reason savings and loans received deposit insurance was to maintain a flow of funds to the mortgage market. It notes that S&Ls, unlike banks, did not fail in the 1930s because of liquidity problems, but rather because of defaults on their mortgage loans. The FSLIC was created to reestablish public confidence in S&Ls so they could continue to make mortgage loans. The report says thrift institutions currently face large risks if they try to use short-term deposits to fund long term fixed rate mortgages, given the volatile interest rates of the past few years. Thus, the FSLIC concedes that S&Ls will have to reduce

their role in the mortgage market and will have to begin operating more like traditional banks. The FHLBB points out that this change in roles will reduce the original justification for insuring S&Ls. The report notes, however, that if thrifts "become an integral part of the transactions or exchange process" then the reason for insuring them will be the same as for insuring banks.

The NCUA discusses the origin of share insurance and its benefits for credit unions in its first section, "Impact of Insurance on Credit Unions."³ The NCUA says that "Congress didn't feel that (credit union) insurance was needed, rather it wanted to reward credit unions for a job well done and provide parity in insurance with other financial institutions."⁴ Also, several credit unions said deposit insurance helps in competition for funds, is inexpensive, requires a minimum level of competence, and reduces sponsoring organizations' hesitancy in creating a new credit union.⁵ It also allows credit unions to engage in new activities secure in the knowledge "that should something unforeseen happen, the big insurance fund in Washington, D.C. will come to the rescue," according to the North Carolina Credit Union League. One reason cited for deposit insurance at banks and S&Ls is the desirability of protecting small depositors. The NCUA report implicitly calls into question the applicability of this rationale to credit unions, observing that their members rarely lost money prior to the creation of deposit insurance.⁶

The Need for Reform

The FDIC and the FHLBB describe the need for reform similarly. The two agencies say deposit insurance significantly reduces the financial markets' incentive to discipline banks because almost all depositors recover their money if an insured institution fails. The risk of loss facing creditors in most businesses is carried by the insuring agencies for insured depository institutions. The insuring agencies say they could try to limit their risk in one of two ways: through regulation of bank activities and competition, or through risk-related

² Many of the banks that failed in the early 1930s failed because they were illiquid even though they were solvent. That is, many banks failed when depositors tried to withdraw more money than the bank had on hand. Banks did not (and still do not) have sufficient cash to instantly redeem all their deposits because many of the deposits are invested in relatively illiquid loans. Banks make the assumption that their customers will not need most of their money on any given day and that new deposits will largely offset withdrawals. This assumption is a reasonable one during ordinary times, but it is not valid if depositors think that the bank will fail. If depositors fear such a failure (even if the fear is not justified) then they will withdraw their money because that eliminates all risk of loss if the bank should fail. If enough deposits are withdrawn, then the bank will run out of cash and it will fail. The Federal Reserve System could have prevented these solvent but illiquid banks from failing by making a short term loan to the bank to cover depositors' withdrawals. The banks could then have repaid the Fed's loan when depositors see that the bank will not fail and they redeposit their money in the bank. Many banks did fail in the 1930s because at that time the Federal Reserve did not believe it had a duty to preserve banks' liquidity.

³ In the Table of Contents the report sections are given short titles, but in the body of the paper the relevant part of the congressional directive is quoted.

⁴ The NCUA was created in 1971, unlike both the FDIC and FSLIC, which were created during the Depression.

⁵ Pages 1-20 through 1-21.

⁶ Pages 1-10 through 1-11.

deposit insurance premiums. The agencies historically have relied on regulation to control bank risk, charging only one rate for deposit insurance regardless of individual banks' riskiness.

The FDIC and FHLBB note that recent deregulatory measures have weakened their ability to influence insured institutions' risk and that many proposed measures would further weaken their influence. If deposit insurance is not reformed, these agencies could face substantial losses. Thus, they conclude that deposit insurance must be reformed to give insured institutions more of an incentive to limit their risk. The two agencies suggest that the private sector be given more incentive to influence insured institutions' risk or that the agencies start charging risk-related insurance premiums or both.

The NCUA report contends that credit unions were run more prudently prior to the creation of federal share insurance in 1971 and that strong credit unions were more willing to help their weaker cousins. It quotes industry officials as saying that many credit unions now feel the NCUA will take responsibility for any mistakes they make.⁷ The report urges that some way should be found to make credit unions more responsible while maintaining the benefits they receive from federal share insurance.

Desirability of Risk-Related Insurance Premiums

The congressional directive asked the agencies to look at the feasibility of basing insurance premiums on the institutions' risk, or their category or size. Most of the discussion is focused on risk-based premiums. The FDIC thinks risk-based premiums are desirable because they are more equitable, but the agency doubts that they can fully replace regulation and market discipline. The FHLBB also supports risk-based premiums and argues that they can be used to influence some types of risk while regulation controls other types of risk. The NCUA is opposed to risk-related premiums primarily because it believes they would increase the government's role in the financial sector.

⁷This part of the NCUA report reinforces the FDIC and FHLBB position that the current deposit insurance system encourages insured institutions to take on more risk.

The FDIC says that the "ideal system" in which premiums are closely tied to the institution's risk is not feasible. It finds little empirical evidence demonstrating the need for a comprehensive risk-based insurance system and says a system based on the FDIC's perceptions of risk is undesirable because the agency is the only source of insurance for banks. The FDIC supports risk-based insurance premiums only as a means of providing equity to banks that are not excessively risky, and it does not want such premiums to be the primary influence on bank risk positions.

The FHLBB argues that the risk premium structure need not be ideal to reduce insured institutions' risk. It notes that regulation can control risks that are not priced. The FHLBB also argues that, where feasible, influencing risks through insurance premiums rather than regulation is desirable because regulation establishes an arbitrary cutoff for risk-taking and because supervisory sanctions tend to be imposed after the fact.

The NCUA briefly discusses the advantages of basing insurance premiums on risk but then proceeds to argue against it. The NCUA acknowledges that some believe risk rating is more equitable and that it will reduce risk taking. But it cites arguments against deposit insurance by those in the credit union industry who say risk rating could provoke runs on credit unions and could hurt already ailing credit unions. They also say the risk rating might not be fair, that any rating would have to include an analysis of the strength of the credit union's sponsor and that such rating would increase government influence in the financial sector.⁸

Implementing Risk-Related Premiums

All three agencies' reports include some discussion of how they would implement risk-related premiums. The FDIC provides a fairly specific blueprint of how it might set up a premium structure. The FHLBB discusses the general principles that should be used in setting up risk-related premiums, but provides few details on

⁸The NCUA highlights the last argument, that risk rating would increase government influence in the financial sector, in effect arguing that it demonstrates a fundamental flaw in risk based premiums. What this argument ignores, however, is that the current system has a dramatic but perverse effect on the activities of insured institutions, including credit unions. A more persuasive argument is that risk rating would have a worse effect on the private sector than do risk independent premiums.

the system it would prefer. While the NCUA is opposed to such premiums, it includes a proposal that is in effect a risk-based insurance plan (albeit with only a single, crude measure of risk).

The FDIC's proposal is based on the insurance rebates it pays annually to insured banks. The agency currently gives banks an assessment credit at the end of each year, usually equal to 60 percent of the difference between each bank's gross assessment and its operating expenses and insurance losses. The FDIC says it would assign each bank to one of three risk categories: normal risk, high risk and very high risk. Banks in the normal risk category would receive a full assessment credit, banks in the high risk would receive 50 percent of the credit, and those in the very high risk category would receive no credit. The FDIC expects that the "vast majority" of banks would fall into the normal category.

The FDIC would look at several criteria in assigning banks to the risk categories. One is the bank's capital. The FDIC recognizes that capital adequacy depends on each bank's risk position, but it acknowledges that it cannot measure risk precisely. The FDIC favors a 5 percent capital standard but will, at least initially, use a 3 percent standard.⁹ That is, any bank that does not have capital equal to at least 3 percent of its assets will automatically be placed in the highest risk category. This standard would apply only to deposit insurance and probably would be raised to 5 percent in a few years according to the FDIC.

Another category the FDIC will consider is credit risk. The FDIC proposes to use classified assets (substandard loans plus 0.5 times doubtful loans) for this standard.¹⁰ If classified assets exceed 70 percent of a bank's capital, then its credit risk is considered unacceptably high. The FDIC admits that this standard is judgmental and that the 70 percent standard may be changed based on ongoing research. (See, for example, the special issue on commerial bank surveillance, this **Review**, November 1983.)

A third type of risk that the FDIC will evaluate is interest rate risk. The agency is considering computing the effect of a 250 basis point change in interest rates on a bank's cumulative earnings for each of four periods: three month risk, six-month risk, one-year risk and five-year risk. If such change in interest rates would decrease the present value of assets in excess of 20 percent of capital over a year or less time horizon and in excess of 50 percent of capital over the five year horizon, then the bank is deemed to have unacceptably high interest rate risk. The FDIC admits that many thrifts would fail this test. The agency notes, however, that it probably would take a couple of years to implement this risk-based insurance program, and expresses hope that many thrifts would reduce their interest rate risk by then. The FDIC also would like to base the ratings on moral hazard risk and liquidity risk but doubts that this is currently feasible.

The FDIC also looks at the relationship between bank size and risk and concludes that, "On balance, it is not clear that smaller banks with established track records are significantly

"The two agencies say deposit insurance significantly reduces the financial markets' incentive to discipline banks because almost all depositors recover their money if an insured institution fails."

riskier than large banks, and relating premiums to the size of the bank does not seem appropriate." (See the special issue on economies of scale in banking, this **Review**, November 1982.) The FDIC does note, however, that more conservative standards should be applied to new banks and banks with unproven management.

The FDIC is insistent that Uniform Interagency Bank Rating System ratings (commonly known as CAMEL ratings—measuring capital adequacy, asset quality, management, earnings, and liquidity), based on examiners' review of a bank, should not be used for risk-rating banks. The FDIC notes that such a use of the CAMEL ratings would cause bankers to be more guarded about their problems. If bankers become less open, the FDIC says, the examination process would have to be expanded significantly. The agency also

⁹The FDIC acknowledges that some people do not agree that banks should have 5 percent capital, and that a number of large banks are operating at lower capital levels.

¹⁰Bank examiners review each bank's asset portfolio as a part of their examination. As a part of this review, the examiners place weak loans into one of three categories: loss, doubtful, and substandard. The FDIC presumes that all loss loans and 50 percent of doubtful loans will be charged to loan losses. The FDIC proposes to include the remaining weak loans in its evaluation of a bank's asset quality.

notes that the current CAMEL ratings are influenced heavily by subjective factors. If the ratings were used to determine risk-based premiums, banks would challenge them, eventually forcing the agencies to use a system based only on statistics. Such a change would reduce the reliability of the rating. The FDIC further argues that some banks are assigned new CAMEL ratings only during on-site examinations, and that a three-year gap may occur between such examinations.¹¹

The FHLBB's "ideal structure" for risk-related premiums would meet several criteria: the prices charged should reflect the risk to the FDIC, the premiums should be based on the institution's capital position, and the premium structure should be easy for managers to understand and should minimize the need for non-price regulation. The Bank Board's report discusses two general ways of evaluating risks: overall risk indicators and individual risk measures. The FHLBB evaluates several specific methods in both categories, but it makes no detailed recommendations such as those contained in the FDIC report. One overall risk indicator rejected by the FHLBB is examination ratings, which it describes as subjective and sometimes simply wrong.¹² It rejects a second overall risk indicator, one based on a financial ratio, because models are ad hoc and because ratios both reflect the past and predict the future. The FHLBB would prefer that the indicator only predicted the future. Another possible indicator would be past due loans and security losses, but the Bank Board questions this measure because it also reflects past problems. A fourth indicator considered is the past level and volatility of earnings. The report suggests that this measure could be used if it were correlated with market-determined default risk premiums and the incidence of default at savings and loans.¹³ The last indicator considered by the FHLBB is the interest-rate risk premium on uninsured liabilities. It rejects this measure because many institutions

lack significant uninsured liabilities, because the procedures used to handle failed S&Ls often provide 100 percent de facto insurance, and because of problems in separating risk, marketability and regional influences on the interest rate paid.

The FHLBB thinks three types of risk should be evaluated in setting market-based risk premiums: interest rate risk, credit risk and management risk. It draws no conclusions as to how the FSLIC would measure any of these risks in a risk-based insurance premium program, but explores a couple of possibilities for interest and credit rate risk. The report discusses the use of duration and maturity gap analysis to measure interest-rate risk. It argues that duration offers a better measure of an institution's risk, but that maturity gap analysis is more familiar to S&Ls.¹⁴

The report suggests that the credit risk on a savings and loan's asset portfolio could be measured by the risk premium on its assets or by historic loan losses, but it finds fault with both. It says the true risk premium on loans cannot be measured because there is no secondary market for loans. Also, historic loan losses do not determine the size of the premium to be charged for current credit risk. The FHLBB also says that the diversification of the institution's portfolio is important but it is uncertain how to measure diversification. Management risk is seen as an important factor in the riskiness of an institution, but is characterized as almost impossible to measure. The report also notes that if examiners try to measure management risk they will have to second guess each institution's management, which would run counter to the purpose of deregulation.

The NCUA may be opposed to risk-based premiums, but it does find merit in being able to tier its premiums to the size of a deposit. The agency notes that most credit union accounts are small, under \$50,000, but that a few institutions have sought larger accounts aggressively by paying high interest rates. The NCUA believes that many credit unions seeking larger accounts are acquiring assets that have high returns and high risks to meet interest payments on the large accounts. The NCUA would like to be able to tier

¹¹The third argument can be made, however, against the FDIC's use of classified assets. The FDIC gets around the problem by annual loan inspections.

¹²The FHLBB noted one major oversight on the part of the FSLIC examiners in the past: they missed the interest rate risk at savings and loans.

¹³The FHLBB's consideration of this indicator is hard to understand given that they have rejected two other indicators on the grounds that the indicators reflected the past and not the future. Financial ratios and past due loans both provide at least some indication of the future health of an institution. Empirical estimates of the level and volatility of earnings can only reflect historical results.

¹⁴Duration is a measure of the effective term to maturity of an asset or liability. The duration measure discussed in the study has some flaws that are not discussed in the study, but it is still superior to the gap analysis discussed by the FHLBB. See Cooper (1) for a discussion of some of duration's limitations.

its pricing system based on account size so aggressive credit unions would pay higher risk premiums.

Reducing Deposit Insurance Coverage

Deposits at insured institutions legally are insured up to \$100,000, but both the FDIC and FSLIC note that their current method of handling failures often provides 100 percent insurance to all depositors. The agencies usually use the purchase and assumption method for handling failed institutions. That method involves a merger between the failed institution and a healthy one, with the acquiring institution assuming **all** the failed one's deposits. This minimizes the insuring agencies' cash outflow and disruption in the failed institution's community. The problem is that depositors with over \$100,000 do not feel their funds are at risk, so they do not monitor the depository institutions' risk. Obviously, there can be no private sector discipline over bank risk taking unless depositors believe their funds are in danger. The FDIC, FHLBB and NCUA support measures to increase the risk borne by depositors.¹⁵

The FDIC suggests one of two changes to make uninsured depositors share in the risk of failure. One of these changes, called modified payout, would involve immediate full payment of insured accounts and an advance to remaining claimants equal to the estimated recoveries. This procedure could be implemented even if the FDIC arranged a merger between the failed institution and a healthy one, with the healthy institution assuming only the insured accounts and the FDIC's advance to other creditors.¹⁶ The FDIC says that while congressional action may facilitate the modified payout method, the agency has the authority to follow this approach on its own.

The FDIC also considers a variation on the modified payout approach, which it calls coinsurance. Coinsurance would work like modified

payout except that uninsured depositors might be guaranteed 75 percent of their uninsured deposits, for example, when the institution failed. The remaining 25 percent and the claims of all other creditors would be satisfied as the failed bank's assets were liquidated. Both modified payout and coinsurance would place uninsured parties' funds at risk and give them a reason for monitoring insured institutions' risk position. If depositors thought a given insured institution was more risky than another, they could demand a higher risk premium or withdraw their money. Either action would discourage the institution's managers from taking excessive risks. The FDIC argues that the coinsurance scheme would have the advantage of reduced uncertainty and possible controversy associated with the estimated recoveries. Coinsurance also would guarantee uninsured depositors a high proportion of their funds, which would lessen the incentive for bank runs.

William M. Isaac, the Chairman of the FDIC, announced in December 1983 that the FDIC would soon start using the modified payout method of handling bank failures (**The American Banker**, Dec. 7, 1983). He said that the FDIC would begin by using the modified payout to handle small bank failures but that the method would be extended to large banks if it proved feasible. If the modified payout method is not feasible, then Isaac said that the FDIC would consider urging Congress to impose minimum capital standards with subordinated debt eligible to meet a portion of the standards.

The FDIC notes two counterarguments: these proposals would not place many private depositors at risk, but to the extent they do these proposals create an incentive for bank runs. The report argues that since smaller institutions already have a high proportion of their deposits in insured accounts, these proposals could influence their behavior only modestly. Intermediate and regional banks could reduce their uninsured deposits substantially by relying on brokers who break large deposits into \$100,000 packages and deposit these packages in separate banks. Finally, the FDIC says that some argue that "until a multibillion dollar institution is actually closed, the possibility would have limited credibility so that the effect of implementing the proposal might actually be to increase the advantage of the very large bank." If many depositors do feel they have significant deposits at risk, however, they may withdraw their funds from banks with

¹⁵All three agencies also mentioned the possibility of increasing the level of government insurance but none of the three supported such an increase. The FDIC believes such an increase would be a bad step unless it could price coverage to cover each institution's risk. The FDIC does not believe such pricing is possible as is noted above. The NCUA flatly rejects an increase in the limits.

¹⁶If a bank failed and was acquired by another bank, under this proposal the acquiring bank would acquire all of the insured deposits of the failed bank. The acquiring bank would also assume some uninsured liabilities, with the amount assumed by the acquirer dependent on the amount the FDIC expects to collect when it liquidates the failed bank.

even relatively modest problems. These depositors may believe that they have little to gain and a lot to lose by sticking with a problem institution. The FDIC does not dispute that these proposals would place few depositors at risk, but it does deny that the proposals would lead to bank runs. The FDIC also warns that the private market and banks could overreact to these measures and banks could become overly conservative.

The FHLBB discusses the prospects of increasing market discipline through reduced coverage and then details some methods for increasing market discipline. It generally is negative toward reducing the amount insured per depositor. The FHLBB says such a cut would encourage the use of brokered funds, could cause losses for investors, and could increase incentives for runs on institutions believed to be in financial difficulty. Such

“The FDIC...concludes that ‘On balance, it is not clear that smaller banks with established track records are significantly riskier than large banks, and relating premiums to the size of the bank does not seem appropriate.’”

a cut in coverage, according to the FHLBB, would probably reduce deposits at S&Ls since most depositors do not like to make uninsured deposits at thrifts.¹⁷

The FHLBB report discusses a variety of ways of cutting effective deposit insurance, but makes no specific recommendation. The simplest of these proposals is to do nothing, allowing inflation and increased wealth to increase the average size of deposits and the number of uninsured depositors. The FHLBB also discusses proposals similar to the FDIC's modified payout and coinsurance proposals. Another proposal would cover demand deposits in full but limit insurance coverage on time deposits. This proposal recognizes that demand deposits can be withdrawn anytime without loss, but that time deposits can have significant early withdrawal penalties. Thus, holders of time deposits are less likely to withdraw their funds at the first sign of trouble.

The NCUA endorses the creation of a deductible in share insurance. That is, every credit union member's first share at least should be uninsured to make members take on some proportion of the risk. The NCUA notes that, except for a few corporate credit unions, the average credit union account is less than \$50,000. Thus, attempts to impose greater risks on large depositors may not work for most credit unions. The NCUA does not advocate any change at this time in the insurance structure for corporate credit unions.

Private Deposit Insurance

Another way of bringing more private sector discipline to insured depository institutions is to substitute private insurance for public insurance. Opinions of this option depend on what each agency thinks its responsibilities are and who it insures. The FDIC insures many banks with assets in excess of \$1 billion and feels a responsibility to protect the health of the nation's financial system. This agency doubts that private firms have the capacity to insure larger banks, and does not see how they could protect the financial system. The typical credit union insured by the NCUA is small, by contrast, and the agency feels no responsibility to protect the financial system. Furthermore, over 3,000 credit unions already are insured by parties other than the federal government. The NCUA supports these alternative insurance schemes and believes that federal credit unions should have the option of substituting one of them for federal insurance. The FHLBB supports private deposit insurance but doubts that it can replace federal insurance completely.

The FDIC argues that neither bank self insurance nor private insurance companies offer an adequate substitute for government insurance. The FDIC argues that self insurance is inadequate because it could create a "domino effect" in times of financial distress. The FDIC argues that private insurance companies are inadequate because they lack the financial capacity to insure banks. The FDIC notes that the aggregate capital of all domestic property and liability insurers is approximately \$68 billion and that most have legal limitations of 10 percent on exposure to a single event.¹⁸ Furthermore, if all factors are

¹⁷This last point can be considered a disadvantage, an advantage or irrelevant in analyzing a reduction, depending on one's perspective.

¹⁸The FDIC says in a footnote that it limits its analysis to domestic insurance companies because most foreign insurers either can not or do not underwrite financial guarantees.

taken into consideration, the most domestic private insurance would insure any one institution for would be \$1 billion to \$2 billion.¹⁹ The FDIC then notes that "two relatively large New York City based commercial banks **each** hold more than \$15 billion in uninsured domestic deposits." It further argues that "numerous small institutions" also have uninsured deposit levels that would appear to exceed the total capacity of the domestic insurance industry.

The FDIC also points out that private insurance companies maintain the right to accept or reject applicants and insist on the right to cancel insurance without giving a cause. The FDIC believes that rejection or cancellation of insurance would be destabilizing in the banking industry. Other problems with private insurance are discussed by the FDIC. It notes that the federal government has better access to the necessary data, that a private insurer would have to be relatively large to insure a regionally diversified group of banks, that private insurance companies invest in less liquid and more risky assets than the FDIC, and that private insurance may not handle failures as quickly as the federal government. The FDIC concludes by saying in effect that it has no objection to private insurance for uninsured accounts, but that it does not support a major government commitment to the development of private sector insurance.

The FHLBB says a complete substitution of private for public insurance is impractical but that some substitution would be beneficial. The FHLBB believes that private insurance could produce several benefits: private regulation would substitute for public regulation to some extent, the pricing of private insurance would eliminate the perverse incentives in the current risk-independent pricing system, and substituting private for public insurance would improve economic efficiency and reduce the drain on federal assets when institutions fail. Its report contends that private insurance can cover three of the four hazards faced by banks: the risk of robbery and fraud by outsiders, the risk of misappropriation by insiders and the risk of management failure. The only risk private firms could not cover is a failure of national macroeconomic policies.

The FHLBB discusses both the broad outline of a combined private and public insurance system and some operational problems that such a system might encounter. The agency suggests that the federal government could guarantee accounts up to a certain level and could also promise to step in to limit private losses in the case of a macroeconomic policy failure. Private insurance companies would cover deposits in excess of the federal guarantee subject to a limitation on their losses in the event of a national catastrophe.

Several operational problems could occur in a mixed system, according to the FHLBB. One problem would be establishing rules to protect the agencies' discretion on closing institutions while protecting private insurers from suffering large losses on insolvent institutions that are not promptly closed. Another problem is the regulation of private insurers. The FHLBB says that insurance could be offered by existing insurance companies or through new mutual insurance agencies set up by insured institutions. In either case some sort of regulation would be required but the FHLBB would prefer that such regulation closely parallel regulation of existing insurance companies. The FHLBB notes a potential problem of adverse selection for both the insurers and the insured. The problem is that institutions may wish to be insured only during times of economic trouble, while insurance companies may be willing to offer insurance only during times of prosperity. The report says that the insurers' problem may be avoided by requiring federally insured institutions to seek private insurance. The problems of the insured firms could be resolved while giving private insurers the right to cancel insurance but requiring the insuring firms to remain at risk during a specified cancellation period.

Other Means of Increasing Private Sector Discipline

Both the FDIC and the FSLIC suggest ways that private sector discipline could be increased without reducing deposit insurance coverage or relying on private insurance. Insured institutions could use more subordinated debt, for instance. The FDIC talks about the use of subordinated debt in the context of revised capital standards. The agency maintains that subordinated debt is not a substitute for equity capital because debt cannot absorb losses in a going concern. The

¹⁹The other factors taken into consideration are domestic private reinsurance corporations and self-imposed maximum exposure limitations of private insurance corporations.

FDIC is interested, however, in requiring greater use of subordinated debt because it can absorb the agency's losses when a bank fails. The FDIC does not say it will use subordinated debt at this time, but it does say the idea "appears to warrant consideration in addition to, or in lieu of, the risk-sharing proposals considered above."²⁰

In addition to discussing increased use of subordinated notes by savings and loans, the FHLBB also discusses the need for S&L owners to exert greater controls. Three private groups have an incentive to monitor a thrift's risk behavior: the institution's creditors, its owners and its managers. In mutual organizations ownership is too diffuse to exercise effective control, and the owners have no incentive to monitor the organization's risk position because they will not necessarily lose anything if it fails.²¹ Also, stock organizations can offer their managers stock options, which may reduce the incentive for taking risks because these options ultimately depend on the S&L's long-run value. The FHLBB concludes by arguing that S&Ls will be subject to greater market discipline if they are converted from mutual to stock organizations.

Financial Disclosure

Assuring adequate financial disclosure to the public is essential in generating more private sector discipline over insured institutions. All three agencies acknowledge the importance of financial disclosure, but they seem generally satisfied with the current system of disclosure. Furthermore, the FDIC and NCUA believe the primary responsibility for adequate disclosure rests with individual institutions. (For a further discussion of disclosure issues, see the special issue on commercial bank surveillance, this **Review**, November 1983.)

The FDIC says that financial disclosure enhances market discipline and helps protect depositors and other customers from bank failure. The FDIC then notes that reporting information can be a costly burden to a bank, particularly if it is required to disclose information it would not otherwise gather for management's use. The FDIC notes that with \$100,000 insurance coverage,

the general public has no need to examine a bank's financial condition. It says some supposedly sophisticated users, like smaller corporations and governmental units, do not use currently available data. The FDIC believes that any disclosure should be geared to the needs of those who will use the information. Addressing concerns that financial disclosure might cause the public to overreact and trigger bank panics, the FDIC asserts that disclosure is better for well run banks than an environment of rumors and half-truths.

The FDIC presents results of discussions with sophisticated bank customers who are using currently available data. These customers suggested that banks should disclose more consistent

"The FDIC, FHLBB and NCUA support measures to increase the risk borne by depositors."

data on loan quality and complained about the length of time between the end of the reporting period and the time the bank's reports are disclosed to the public.

The FDIC believes that the reports of examination of banks conducted by bank supervisors should remain confidential, but that the results of administrative actions taken should be disclosed in the **Federal Register**. It notes that, while adequate disclosure to the public is desirable, the FDIC and its sister bank regulatory agencies lack the authority to mandate such disclosure.²² Furthermore, the FDIC says it will not seek such power because it believes that providing adequate disclosure is the banks' responsibility.

The FHLBB's discussion of disclosure argues that insured depositors do not need to know a bank's financial condition because they will not use the information. The report also notes that "uninsured" depositors will not examine the financial condition of an insured institution if they believe they are receiving de facto insurance. The report acknowledges that financial disclosure

²⁰The reference to proposals considered above is an apparent reference to the modified payout and coinsurance proposals previously discussed in this paper.

²¹The owners of mutual organizations are their depositors.

²²The other agencies are the Office of the Comptroller of the Currency and the Federal Reserve System. The three agencies do have the power to gather information needed for their supervisory functions and any effect they have on bank disclosure is a result of this power.

can weaken some marginal institutions by causing the public to withdraw deposits. Yet it argues that disclosure to the uninsured will strengthen the entire system by discouraging excessive risk taking. The report says that disclosure to an institution's shareholders can result in greater market discipline if the shareholders are risk averse, but notes that such discipline cannot exist at mutual organizations. The FHLBB says that, in general, any information needed to seek risk-based insurance premiums should be disclosed to the public. It is reluctant to disclose results of government examinations and administrative actions because it believes the market should form its own opinion of an institution's health, and fears disclosure of government opinions might have an undue effect.

The NCUA notes that federally-chartered credit unions must disclose a balance sheet, a year-to-date income and expense statement and a summary of delinquent loan amounts on a monthly basis, while other insured institutions need report only on a quarterly or semi-annual basis. The report also notes that credit union members serve on boards of directors and other committees. The NCUA believes the primary responsibility for adequate disclosure must rest with individual credit unions and their members. The only change contemplated by the NCUA is the development of a peer rating system that will allow individual credit unions to see how they stack up against others.

Adequacy of the Insurance Funds

Along with considering how to control bank risk exposure, the reports also deal with a couple of administrative issues: the adequacy of individual insurance funds, and consolidation of the different agencies that insure and regulate insured financial institutions. The congressional directive asked the insuring agencies only to review the risks to them of an increase in deposit insurance, but all three agencies also analyzed the adequacy of their funds given their existing exposure.

The FDIC believes its fund is adequate. The FHLBB does not express an opinion on its fund's adequacy, but it does discuss several ways of eliminating any "perceived inadequacy." The NCUA believes its fund should be expanded, and it proposes a specific plan for doing so.

There is no scientific basis for establishing an appropriate fund size according to the FDIC. The

ratio of the fund to insured deposits understates the fund's adequacy because the FDIC typically arranges for a healthy bank to acquire the deposits of its failed banks. In another sense, however, insured deposits are an incomplete measure of the funds receiving de facto insurance since most failures are handled through purchase and assumption. Thus, an increase in the de jure coverage may not affect the fund's adequacy. The FDIC also notes that it can limit its losses by closing a bank before its economic worth becomes substantially negative. Historically, the FDIC has experienced losses equal to 4 percent of failed banks' assets (9 percent after consideration of foregone interest) but it expects future losses to run 9 to 10 percent of such assets. The FDIC rebates over 50 percent of its net assessment income before the credit so that, should economic times change, the FDIC could increase its resources without dipping into the fund.

The fund's liquidity is also important. The FDIC minimizes its initial cash flow through the use of purchase and assumption handling of failed banks and through promises of future cash outlays to the purchasers of failed banks. It also has relied on the discount window at Federal Reserve Banks for liquidity prior to failure, especially in the Franklin National case.

Most of the FDIC's recommended changes in this area are technical changes in the base used for calculating deposit insurance premiums. One major change suggested is that the FDIC's ability to borrow in an emergency from the Treasury be raised from the current \$3 billion to whatever amount the FDIC chairman and the Secretary of the Treasury agree upon. The other significant recommendation is that the insurance of foreign banks' U.S. branches be reconsidered. The FDIC is not in a position to assess the overall condition of these banking organizations and doubts that it could prevent the removal of assets from these branches in times of political difficulty. Furthermore, the FDIC says its recommendations for variable rate deposit insurance and its attempts to obtain adequate disclosure should be applied to the entire banking organization to be effective.

The FHLBB notes that even though the cost of assistance grew dramatically in 1981 and 1982, the FSLIC fund increased in size. The FHLBB runs two simulations to examine the adequacy of its fund for 1983 and 1984. The unfavorable scenario assumes the Treasury bills yielded 13.5 percent and that the prime rate is 17.25 percent during 1983 and 1984. Given these assumptions, 1,290

savings and loans with assets of approximately \$284 billion would fail. The FHLBB notes that its fund is inadequate to handle this even if the FSLIC's losses were a small fraction of the assets of the failed banks. The other scenario follows Office of Management and Budget (OMB) forecasts of 9 percent Treasury bill rates and a prime rate of 11.75 percent. Under this scenario the savings and loan industry as a whole would return to profitability in the second quarter of 1983, and fewer than 200 S&Ls, with assets of less than \$40 billion, would fail. The FHLBB says it has the resources to handle expected failures under the OMB assumptions.²³

The FHLBB notes that FSLIC losses can be minimized if an institution is closed when its economic net worth reaches zero. However, the current accounting system does not provide an estimate of the institution's net worth, only an estimate of its historic value. While the FHLBB would like current value accounting data to help it determine when to close an institution, it does not necessarily believe that institutions should automatically be closed when their net worth falls to zero. The report argues that "many S&Ls with negative net worth can be expected to be profitable in the future, on the basis of yields and costs currently prevailing in the market, given their existing location, organization and management."²⁴ It notes that if every S&L with negative worth were closed then "nearly all" would have been closed in the last few years.

The FHLBB report presents nine different ways any "perceived inadequacy" in the fund could be eliminated, and focuses on the disadvantages of two reforms: increased regulation and decreased FSLIC coverage. The report also says that while the FSLIC could be made more adequate if the fund used futures to hedge interest rate changes, individual S&Ls are in a better position to hedge. The agency lists five other reforms, several of which are recommended

elsewhere in its report. The five measures are: increased capital adequacy for savings and loans, improved information on S&Ls' economic value, greater flexibility in the procedures for handling failed institutions, risk-sensitive premiums, and increased premium levels. The ninth proposal, that the fund reduce the maturity of its assets, has already been implemented and the report suggests that the fund continue that reduction.

The NCUA notes that, while the FDIC and FSLIC received an initial capital contribution from the federal government, the NCUA was formed with no initial capital. When the NCUA was formed, it was hoped that low losses and the fund's income would expand it to one percent of credit union shares. This, in fact, has not happened and the fund has decreased in each of the last three years. The NCUA recommends that "in consultation with the industry, credit unions be given the chance to capitalize their fund with a one time assessment of insured shares of one percent."

Agency Consolidation

The three agencies all assume that any consolidation would leave the FDIC as the surviving agency. Not too surprisingly, the FDIC likes this idea, while the FSLIC and NCUA are less enthusiastic.

The FDIC suggests that the FSLIC be merged into the FDIC but that the NCUA and its fund be left as is, "at least at this time." The FDIC argues that both insurance funds operate in a similar manner, have similar duties, and have "direct examination and supervisory authority or a close and continuous link to those agencies with primary supervisory responsibility." The report argues that removing certain differences in the way the funds levy insurance premiums would be an advantage of merging the funds. According to the FDIC, the banking industry and S&L industry are becoming more and more alike, and merging the funds would create a less confusing framework for the public. It says that deposit insurance reforms, such as greater risk sharing by large depositors, should be implemented for both types of institutions. Another advantage claimed for merging the funds is that both will be strengthened through the diversification of their risks. The FDIC notes that most S&L problems are attributable to changes in interest rates, not to significant loan losses. Banks, on the other hand,

²³The OMB projections have been reasonably accurate to date. Both the Treasury Bill and prime rates are slightly below OMB projections in November 1983.

²⁴The report does not say whether it is referring to S&Ls with negative book net worth or negative economic net worth. If the report is referring to S&Ls with negative book value then the FHLBB may have a good point. Savings and loans that have a negative book value but that will earn profits based on existing market conditions probably have positive economic net worth. An S&L with positive economic net worth should not be closed. If the report is referring to S&Ls with negative economic net worth then the FHLBB argument is weak. Failing to close these savings and loans in effect allows them to gamble on recovery with government money. If the S&L does not become profitable, then the government absorbs all of the economic losses.

have significant loan losses but relatively little exposure to interest rate risk.²⁵ According to the agency, the combined fund would be larger and less likely to call for direct government subsidization. It also notes that Citicorp has acquired Fidelity Federal Savings and Loan of San Francisco and that the current "fractionalized" supervisory system is inefficient for dealing with organizations that include both banks and thrifts.

The FDIC reviews several arguments against merging the funds but concludes that none of them is valid.²⁶ One argument against combining the funds is that it would conflict with other public policies. The FDIC counters that the only objective of an insuring agency should be a stable financial system, and that other governmental entities can be created to promote specific causes. The FDIC denies that merging the funds would result in a loss of industry orientation by arguing that the industries are rapidly becoming more alike. It also notes the argument that combining the funds would be unfair to banks, who would in effect be asked to subsidize S&Ls. According to the agency, the merger could be phased in to coincide with the development of a risk-related premium insurance scheme in which strong institutions would not be asked to subsidize weak institutions.²⁷ The last argument the FDIC disputes is that the merger could weaken public confidence in the deposit insurance system, countering that such a merger would strengthen deposit insurance and result in a less confusing and disruptive insurance system.

The FDIC argues for reform of the bank supervisory framework and says it is the agency that should survive any agency consolidation. Among the FDIC's arguments are that it is the largest and strongest fund, and that it already insures most of the institutions and deposits that would be insured after a merger. Under the current supervisory framework, the states and the Office of the Comptroller of the Currency (OCC) charter banks, while the states, the FDIC, the OCC and the Federal Reserve System all examine and supervise banks. The FDIC would like to allow the states

and a new federal agency to charter and supervise banks and thrifts, while the FDIC took over all federal responsibility for examinations and for handling problem situations. The FDIC proposal would remove the Federal Reserve System from bank supervision and regulation, but would allow one member of the FDIC board to come from the Board of Governors of the Federal Reserve System. The FDIC notes that the Board of Governors believes that the System needs some supervisory power over large banks and bank holding companies to conduct an effective monetary policy. The FDIC responds that this argument is not persuasive and that some observers believe there is a serious potential for conflict between bank supervision and the conduct of monetary policy.²⁸

The FHLBB addresses the issue of consolidating the funds at several points in its report and the tone of its recommendations is slightly different

"The three agencies all assume that any consolidation would leave the FDIC as the surviving agency. Not too surprisingly, the FDIC likes this idea, while the FSLIC and NCUA are less enthusiastic."

in each section.²⁹ In the section entitled "Bank Board Agenda for Reform: Recommendations of the Federal Home Loan Bank Board" the FHLBB appears to be rejecting a merger of the insurance funds. The report argues that the greatest regulatory costs are those that stem from inefficiencies it causes in the market place and that administrative costs arising from regulatory duplication are small. The FHLBB believes that its current structure, which combines many of the functions that are in the three different bank regulatory agencies, is "highly effective" for addressing the broad implications of regulatory action and for implementing regulatory reform.

The discussion, entitled "Framing the Issues" expands on the advantages of having one agency,

²⁵The FDIC does not discuss the covariance between these two risks.

²⁶The report does not cite any of the sources for these arguments against merging the funds.

²⁷This argument may be valid under some risk-related premium plans, but not under the plan suggested by the FDIC. The FDIC's plan is based on the return on assessment income in excess of expenses. If the FDIC has higher expenses as a result of thrift losses, then the size of the assessment credit would be cut, which will reduce the credit received by strong institutions.

²⁸The FDIC does not cite any specific arguments on this issue nor does it cite the sources that convinced the FDIC that the Federal Reserve does not need supervisory powers to effectively conduct monetary policy.

²⁹The FHLBB report was written while Mr. Richard T. Pratt was its Chairman. Mr. Edwin J. Gray has subsequently become Chairman and he is unambiguously opposed to consolidating the insurance funds. See "Keep Agencies Separate—Gray" in the **National Thrift News** (5).

such as the FHLBB, perform the regulation, examination, supervision, insurance and provision of liquidity functions for its member institutions. The Bank Board also noted that substantial differences will continue to exist for many years between S&Ls, banks and credit unions. Thus any fund mergers would remove little duplication between the agencies (and would save little money). This section concludes that any consolidation "should not be initiated without first rationalizing the functions of the financial regulators."³⁰

In Section VI, "Rethinking Regulatory Structure," the agency discusses arguments against consolidating the FDIC and FSLIC, but it also contains some analysis that seems to favor consolidation. The FHLBB notes that conflicts can arise between fostering competition and promoting soundness for financial institutions. The report takes the position that it is easier for one agency to achieve the public's desired tradeoff than it is for two agencies with conflicting goals. This section of the report also minimizes the potential for agency consolidation to reduce administrative costs of deposit insurance.

Section VI makes several arguments that seem to favor consolidation. One concerns the potential problems of competing regulatory agencies. The FHLBB points out that some favor "competition" between the regulators, while others condemn this as "competition in laxity." It concludes that having different agencies regulate the same types of financial institutions results in undesirable "ambiguity in the execution of government policy." The FHLBB also notes that consolidation of the insuring agencies will become increasingly desirable as banks and thrifts come to be owned by one parent company. A third argument that appears to favor consolidation is that the issues of agency consolidation have been extensively debated and are ripe for immediate action. Section VI devotes almost 20 pages to discussing the reports of numerous reform groups that have analyzed the financial regulatory structure extensively. It concludes that a decision on reorganizing the system "must" be made now on the basis of available evidence. It then goes on to argue that weaknesses in the existing regulatory scheme will increase and its advantages will fade in importance as deregulation continues.³¹ Given

this last argument one might expect the report to conclude that the bank regulatory agencies and the FSLIC should be merged promptly. Instead, it argues that the financial regulators' functions should be rationalized before the insurance funds are consolidated. The report then says that any reorganization need not be "radical or immediate" because "transition issues loom large."

The NCUA flatly rejects a merger of the insuring funds. The agency argues that such a merger would "create a concentration of enormous economic consequence and political power" and would force "homogenization" of the insured institutions. The NCUA argues that substantial differences between banks, thrifts and credit unions justify different insurers. Furthermore, the NCUA believes that deregulation will reward differences in institutions and not uniformity. According to the agency, credit unions pay for the cost of the insurance fund and therefore should be entitled to weigh any cost savings against the disadvantages of merging the funds. A poll of federal credit unions found that 69 percent of the credit unions do not support consolidation of the insurance funds. The NCUA also claims that credit unions' unique needs would get lost in an agency geared to serve primarily banks and thrifts.

Summary

Congress recognized that even though deposit insurance has provided some valuable benefits to the United States, the role of deposit insurance in a deregulated financial system should be reviewed. The Garn-St Germain Act asked the FDIC, FHLBB, and the NCUA to review deposit insurance and report back with their recommendations. All three government deposit insurance agencies believe that deposit insurance still performs a valuable function, but each argues that some reforms in deposit insurance are desirable.

The FDIC favors several different reforms. It supports variable rate deposit insurance provided by the government to introduce equity across banks to the deposit insurance premium schedule, but it does not expect its proposal to affect bank risk exposure significantly. The FDIC also favors a reduction in the de facto deposit insurance given large depositors to increased their incentives to

³⁰Page 48 of the FHLBB report.

³¹Page 341 of the report.

monitor insured institutions' risks. The FDIC would like to disclose supervisory actions taken against individual banks. The agency also believes it should have full responsibility for examining and insuring all banks and thrifts.

The FHLBB supports variable rate deposit insurance and the use of private insurance to encourage thrifts to reduce risk exposure. It also believes thrifts should have more capital and that their owners and directors should take a more active role in controlling their institution's risk exposure. The FHLBB favors rationalizing the bank regulatory agencies before the insurance funds are consolidated.

The NCUA believes credit unions' risk could be reduced if those that attract large accounts (over \$50,000) would pay more for their insurance and if the first share of every member were not insured. The NCUA would give federal credit unions the option of substituting private for public insurance. It favors a one time one percent assessment of credit union shares to increase capitalization of the NCUA's fund. The NCUA is opposed to consolidating its insurance fund with those of the other two insuring agencies.

—Larry D. Wall

BIBLIOGRAPHY

1. Cooper, Ian. "Asset Changing Interest Rates and Duration," **Journal of Financial and Quantitative Analysis**, (December 1977) pp. 701-723.
2. **Deposit Insurance in a Changing Environment**. A study submitted to Congress by the Federal Deposit Insurance Corporation, Washington, D.C.
3. **Agenda for Reform: A Report on Deposit Insurance to the Congress from the Federal Home Loan Bank Board**. Washington, D.C. (March 1983).
4. **Credit Union Share Issuance: A Report to the Congress**. Prepared by the National Credit Union Administration, Washington, D.C. (April 1983) 1983.
5. "Keep Agencies Separate—Gray." **National Thrift News**, (November 21, 1983) pages 1 and 10.

“Financial Crises” and the Role of the Lender of Last Resort

The world now appears to be recovering from one of its most severe recessions in 50 years. Prospects for significant and sustainable real output growth for the industrialized nations of the West have substantially improved, though reductions in unemployment rates are expected to lag behind the increased production.

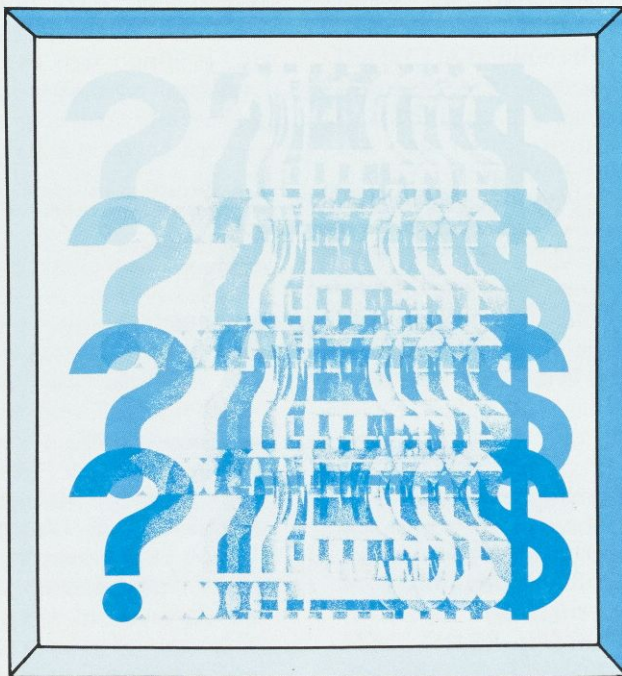
Economic growth in the industrialized countries is particularly important to the less-developed countries. In some of them, heavy debt burdens are imposing severe financial pressure. Such growth would promote export earnings of less-developed countries (LDCs) and, consequently, work to improve the income-generating capacity of these countries. Many investments were undertaken in these countries with the belief that continued commodity price inflation would generate steadily rising export earnings. During the recession in the industrialized countries, however, slumping commodity prices prevented some LDCs from generating anticipated foreign exchange revenue from exports to cover imports and meet debt payments. Since much of the debt carries floating

interest rates, rising real interest rates in the industrialized countries further aggravated the balance of payments problems of the less-developed countries. Consequently, commodity price stabilization (world commodity prices have ceased their two-year descent), growth of real income in the industrialized countries and lower real interest rates in the industrialized countries are necessary to reduce the swollen current-account deficits of these less-developed countries. Ultimately, only these circumstances will enable the less-developed countries to better manage their debt burden.

Until these developments take place, however, the immediate problem of how to deal with the existing debt remains. Mexico, Argentina, and Brazil have already rescheduled some of their debt repayments, while many other countries are

doing the same.¹ While most analysts agree that these countries' debt problems may have an

¹Even the East European countries of Poland and Romania, whose loans were assumed to be guaranteed by the Soviet Union, have postponed some debt repayments.



Stable monetary policies and reliable domestic lenders of last resort provide considerable protection against liquidity crises. But does the world also need an international lender of last resort?

impact on the industrialized nations, opinions vary widely as to the role of a lender of the last resort in easing this burden. The role of the International Monetary Fund (IMF) in particular is scrutinized in this light. Some analysts consider that even rescheduling efforts may be insufficient to prevent massive loan defaults, and therefore they advocate increased financial assistance by the IMF.²

Without such assistance, some proponents argue, an international financial crisis might ensue. Debt-ridden LDCs might be forced to default, sending shock waves throughout industrialized countries as large commercial banks write off the defaulted loans, making the banks technically insolvent. If their fears were realized, shareholders and uninsured depositors would face the prospect of sizable losses. Because of the potential threat posed by the current debt problems of less-developed countries, industrialized nations are seeking solutions to help ease the burden of indebted countries while keeping their own banks solvent.

Other analysts, however, dispute this rationale for assisting debt-ridden countries. While they agree that some countries may default on their obligations if further financial assistance is not forthcoming, they contend that this is natural in free market lending relations—some loans do indeed turn sour. That is why lenders are rewarded for assuming risk in free capital markets. Providing financial assistance to less-developed countries constitutes support to the large lending banks, they argue. Increased assistance would make existing private loans more secure, as well as provide greater latitude to the less-developed countries in dealing with their balance of payments difficulties. According to this view, foreign defaults should not pose serious threats to the U.S. economy because one role of the Federal Reserve (as the U.S. “lender of last resort”) is to prevent external shocks from disrupting the domestic financial system.

This article will analyze the nature of financial crises, their relationship to central bank policy, and the lender of last resort function of the central bank as well as the role of the IMF. The emphasis is less on the current international debt

situation than on the general problem of financial crises and the role of lenders of last resort in curtailing their destructive effects on the domestic economy. The question is important because intervention is likely to change the way future international financial transactions are conducted and will establish precedents for government involvement in future crises.

The article is organized as follows: The next section briefly describes the nature of domestic financial crises. The relationship of domestic to international financial crises is then delineated, followed by an analysis of the role of the domestic

“Industrialized nations are seeking solutions to help ease the burden of indebted countries while keeping their own banks solvent.”

lender of last resort. Finally, we present some alternative views regarding an international lender of last resort.

What Causes Domestic Financial Crises?

The reason financial crises can develop out of stable economic circumstances is found in the nature of portfolio investment itself. Investors base portfolio decisions on expectations of future earnings. Because potential earnings will be determined by future events that can be predicted only with varying degrees of uncertainty, there is an element of risk inherent in all investment decisions.

In allocating wealth, a rational investor will compare the relative expected returns on various assets, incorporating perceptions of the assets’ relative susceptibility to decreases in value. The riskier the asset, the greater he will expect its return to be to compensate for the additional risk. Perceptions of potential risk versus potential return of any given asset are based on expectations of future events that will affect that asset’s value. Changes in potential returns on assets versus their potential risks will induce the investor to alter the portfolio of assets he wishes to hold. Concern about both expected return and risk necessarily implies attention to future events, such as possible government actions, which

²Also involved in the efforts to provide additional financial assistance to the Third World countries are the World Bank, the Swiss-based Bank for International Settlements, individual central banks, and some large and already involved private commercial banks.

might affect the return relative to the risk of those assets. A rational individual will then alter portfolio decisions based on his expectations of future events. Of course, expectations are based on incomplete and costly information and thus are not always correct. Individual **perceptions** of risk therefore become an important determinant of future financial events.

Historically, most domestic financial crises have occurred when investors shifted asset preferences due to a perceived increase in risk. Such a shift has normally taken the form of a preference for lower risk, higher quality, more liquid assets such as cash (legal tender), gold, or high quality deposits. Bank runs have occurred when many depositors attempted to withdraw their funds from a commercial bank simultaneously because they feared that the bank might be unable to honor their deposits. When individuals have anticipated that this might be the case, they have tried to convert their deposits into currency. Given fractional reserve banking, however, commercial banks could not honor all such requests immediately because only a small portion of their assets is in the form of currency; the remaining portion is in (longer-maturity) loans and securities.³ Banks scrambling to sell off loans and securities to obtain the currency demanded by depositors often were forced to sell such assets at a substantial loss. When these losses were big enough to cause insolvency, some banks were forced to close their doors.

If the banks had been mismanaged, closure might have been appropriate. A widespread run, however, has forced even well-managed banks into ruin. In other words, a bank's assets might have exceeded its liabilities, but yet it might have been unable to convert all of its deposit liabilities into currency on demand. Bank runs thus have created liquidity problems too enormous for even well-managed banks to handle successfully. Again, this may have been because individuals decided that the risk of not being able to convert \$1 in deposits into \$1 in currency on demand had increased sufficiently for them to attempt to make the conversion immediately. Thus, when individuals have believed banks have limited capability to honor their commitments, they

have attempted to be first to remove their deposits.⁴

Thus, in a world of uncertainty, individuals base investment decisions on expected returns versus perceived risk. As perceptions of risk relative to expected returns change, individuals modify asset holdings accordingly, perhaps abruptly and substantially. A financial crisis or bank run may result from such behavior, but the behavior itself is not irrational. It is the natural consequence of making decisions under conditions of uncertainty, that is, with less than complete and perfect information.

A rational individual action, however, may affect the behavior of others. In the 1930s, individual bank runs helped to trigger a chain

“A financial crisis is the natural consequence of making decisions under conditions of uncertainty, that is, with less than complete and perfect information.”

reaction of bank closings throughout the economy. Such a reaction has several important results. First, the intermediation function of bringing together savers and investors may be severely hampered, resulting in higher real interest rates and/or credit rationing and thus less overall investment.⁵ Second, the attempted conversion of demand deposits into currency, given a fractional reserve banking system, may result in a sharp contraction of the money supply.⁶ Finally, during periods of bank runs and consequent bank failures, transactors sometimes refuse to accept checks, causing a breakdown of the payments system. This breakdown causes financial loss and disruption to businesses and individuals not directly related to the

⁴An important attraction of currency relative to demand deposits is that it alone is legal tender, making it the most liquid of all assets. Also, it may readily be exchanged abroad for purchases of goods or foreign currency.

⁵For a recent and informative analysis of the importance of this particular factor, see Ben S. Bernanke, “Nonmonetary Effects of the Financial Crisis in the Propagation of the Great Depression,” *American Economic Review*, June 1983, pp. 257-276.

⁶See, among others, Barry L. Anderson and James L. Butkiewicz, “Money, Spending, and the Great Depression,” *Southern Economic Journal*, October 1980, pp. 388-403.

³Actually, banks today hold reserves in cash or on deposit at Federal Reserve Banks. The reserves or deposits at Federal Reserve Banks, however, can be exchanged for currency at any time.

affected institutions,⁷ providing a rationale for government involvement as the lender of last resort.

What Is the Relationship between International and Domestic Financial Crises?

Financial crises are not exclusively domestic in nature; current international financial problems pervade newspapers and business and economics literature. Frequently this literature contains references to an "international lender of last resort."⁸ To assess the validity of these

"After all, one country's balance of payments deficit is another country's balance of payments surplus."

proposals, it is important to examine the function of the lender of last resort. First, however, a brief description of international financial crises and their relationship to domestic financial crises is in order.

Not all interpretations of the term "international financial crisis" coincide. An extreme hypothetical example of an international crisis is one in which, given widespread fractional reserve banking, increased world demand for international reserves under a fixed exchange rate reduces the supply of world money, causing a severe liquidity crisis and associated bank failures, as in the domestic case. Such a monetary

contraction and financial breakdown would severely disrupt trade and the domestic economy.

More frequently, however, the term "international financial crisis" is applied to balance of payments (or exchange rate) adjustments. Yet such adjustments are part of the equilibration process between countries and, as such, do not in themselves qualify as an "international crisis." After all, one country's balance of payments deficit (or exchange rate depreciation) is another country's balance of payments surplus (or exchange rate appreciation). This is particularly true on a limited basis; even severe balance of payments problems in small countries do not constitute "an international crisis."

Currently, the phrase "international financial crisis" is loosely associated with the large debt burdens of several less-developed countries. Concern that these countries may default on their debt obligations, many of which are owed to large U. S. commercial banks, is widespread. If default were to occur, these banks would incur immediate losses on these loans and could face the prospect of insolvency. Since federal deposit insurance covers only about 62 percent of all deposits, with the deposits at the large banks most heavily exposed, depositors also are concerned.⁹ In addition, federal deposit insurance guarantees deposits only up to \$100,000 per account, aggravating large depositors' concerns about the solvency of their banks, and increasing the perception of risk on deposits relative to returns.¹⁰ One way to avoid such a crisis in confidence, some observers contend, is to provide "extraordinary" financial assistance quickly to the affected less-developed countries.

Others question the necessity of extra assistance, even temporarily. This group contends that loan defaults and a few bank failures may even be desirable.¹¹ These analysts recognize

⁷See, for example, O.M.W. Sprague, *History of Crises Under the National Banking System*, 1910, p. 75; and Vera Smith, *The Rationale of Central Banking*, p. 155.

⁸See, for example, Charles P. Kindleberger, *Manias, Panics, and Crashes*, Basic Books, N.Y. 1978, Chapter 10, pp. 182-209; D.E. Moggridge, "Financial Crises and Lenders of Last Resort: Policy in the Crises of 1920 and 1929," *Journal of European History*, Volume 10, No. 1 Spring 1981; Franklin Edwards, "Financial Institutions and Regulations in the 21st Century: After the Crash," Mimeograph, Columbia University (1980); and Jack Guttentag and Richard Herring, "The Lender-of-Last-Resort Function in an International Context," *Essays in International Finance*, No. 151, May 1983, International Finance Section, Princeton University.

⁹Commercial banks have many deposit accounts that are not insured in full, with uninsured deposits accounting for about 38 percent of total bank deposits. Further, commercial banks have a sizable amount of nondeposit liabilities that are not insured." See *Agenda for Reform*, Federal Home Loan Bank Board, Washington, D.C., March 1983, p. 92.

¹⁰This is especially true since Penn Square National Bank was permitted to fail in 1982. Prior to this, the general practice of the FDIC was to arrange mergers or liquidations so that no depositor lost any funds. In effect, all deposits were guaranteed. There is currently greater uncertainty about the status of deposits. Interestingly, interest rates paid on large CDs now vary across banks, reflecting concern about the shaky foreign loans made by some banks. As of this writing, however, risk spreads have narrowed substantially since the summer of 1982.

¹¹See, for example, A. Dale Tussing, "The Case for Bank Failures," *Journal of Law and Economics* 1965, Volume X; and Thomas Mayer, "Should Large Banks Be Allowed to Fail?" *Journal of Financial and Quantitative Analysis*, November 1975.

that the risks of international lending may exceed the risks associated with domestic lending because (a) the costs of acquiring information on borrowers are higher, (b) borrowers may have trouble converting local currencies into loan transaction currencies, (c) there is international political uncertainty, and (d) there is exposure to foreign exchange risk.¹² These factors need to be incorporated in commercial bank loan evaluation and risk assessment procedures. Since banks are rewarded for successful lending ventures, according to this point of view, they must accept responsibility for bad lending decisions as well.

Since these analysts are less likely to consider the current situation an "international financial crisis," they do not consider these problems threats to international financial stability. They, therefore, are skeptical of the need for an international lender of last resort. In evaluating these alternative arguments regarding assistance, a discussion of the role of the lender of last resort becomes especially pertinent.

The Role of the Domestic Lender of Last Resort

The call for a domestic lender of last resort arises because of two institutional characteristics, namely, fractional reserve banking and the government monopoly of legal tender issuance.¹³ As discussed earlier, fractional reserve banking implies that banks do not keep enough currency to meet all depositor demands simultaneously. Government monopoly of legal tender issuance prevents banks and others from creating currency to satisfy these demands. The role of the lender of last resort was established to guarantee banks' ability to meet currency demand, thus precluding a panic-induced collapse of the banking system. By ensuring banks' ability to meet depositor demands, the lender of last resort can help prevent (a) the disruption of

financial intermediation, (b) disruptions of the payments system, and (c) contractions of the money stock, all which may occur in times of financial panic.

Some analysts argue that a domestic lender of last resort is unnecessary because federal deposit insurance removes the incentives for bank runs.¹⁴ Insured depositors feel confident that no matter how badly managed a bank is, they will eventually receive their deposits. Minor runs on financial institutions sometimes do occur, such as the run on the Abilene National Bank in 1982, but these episodes pale in comparison to those experienced during the 1930s. As noted earlier, however, *de jure* federal deposit insurance currently insures only about 62 percent of all deposits. Furthermore, the Federal Deposit Insurance Corporation pricing

"The role of the lender of last resort was established to guarantee banks' ability to meet currency demands."

scheme may be altered in the near future to shift some of the risk burden back to large depositors. Finally, in the event of widespread bank failures that deplete the funds of federal deposit insurance, a lender of last resort must ultimately function as a backup for federal deposit insurance itself.

In the early 1900s, prior to the establishment of the Federal Reserve, some of the functions of a lender of last resort were supplied by private institutions. Currency substitutes (script) clearing house certificates, and "bank holidays" were mechanisms for dealing with financial crises.¹⁵ If a bank run began to develop, many banks would refuse to convert deposits into currency on demand. Sometimes banks declared a "bank holiday," closing for business. This

¹²See Jack Guttentag and Richard Hering, "The Lender of Last Resort Function in an International Context," *Essays in International Finance*, No. 151, May 1983, p. 2.

¹³100 percent reserve banking would eliminate bank runs. The fact that other banks cannot issue legal tender means that only the issuer of legal tender can meet an abnormal increase in the demand for legal tender. Moreover, because of the government (central bank) monopoly of legal tender issuance, the central bank naturally becomes the central store of bank reserves, the ultimate source of domestic liquidity, and, consequently, the "bankers' bank."

¹⁴For an extremely insightful analysis of the relationship between deposit insurance and bank runs, see Douglas W. Diamond and Philip H. Dybvig, "Bank Runs, Deposit Insurance, and Liquidity," *Journal of Political Economy*, June 1983, pp. 401-419.

¹⁵See, for example, Milton Friedman and Anna Schwartz, *A Monetary History of the United States* (Princeton, Princeton University Press, 1963).

enabled banks to avoid selling off massive amounts of assets at reduced prices, thereby avoiding large losses and possible insolvency. The lender of last resort was created to provide sufficient emergency liquidity in times of massive deposit withdrawals to keep the banking system open. Because the lender of last resort guarantees deposit-to-currency convertibility, individuals have confidence that they can *always* convert their deposits into currency on demand, and therefore do not "run" to withdraw deposits when a bank might appear in danger of insolvency. Even after the institution of federal deposit insurance, the ultimate deposit protection rested with the Federal Reserve Bank in its role as lender of last resort.

Having the power to issue legal tender implies that central banks never exhaust their (domestic)

"In 1971, the Board of Governors affirmed its commitment to assist the financial system, but not individual banks."

financial liquidity and are therefore able to lend when other institutions are illiquid. Because the lender of last resort is concerned with the health of the overall domestic economy, it should assume this role only when bank insolvency problems threaten the economy; the classical position is that it should *not* act in the interest of a particular bank or banks.¹⁶ The effective exercise of this liquidity responsibility will prevent a rapid, widespread call-in of loans and a dramatic fall (or collapse) of asset prices. Thus, by supporting the market in liquidity emergencies, the lender of last resort ensures that banks will not be forced to sell liquid assets at losses that might otherwise result in insolvency and its consequent adverse effects.

Ostensibly, the market will handle individual bank crises. In a competitive financial system,

if a bank is fundamentally solvent but temporarily illiquid, others can profit by lending to it. If a particular bank is insolvent, however, its real resources are released to flow into more productive uses. Neither the case of a solvent nor of an insolvent bank involves the lender of last resort. In 1971, the Board of Governors of the Federal Reserve System affirmed its commitment to assist the financial system, but not *individual* banks. A special report reappraising the discount mechanism stated:

"The (Federal Reserve) System should not act to prevent losses and impairment of capital of particular financial institutions. If pressures develop against and impair the profitability of institutions whose operations have become unstable, inappropriate to changing economic conditions, or competitively disadvantaged in the marketplace, it is not the Federal Reserve's responsibility to use its broad monetary powers in a bail-out operation... The System should intervene in its capacity as lender of last resort only when liquidity pressures threaten to engulf whole classes of financial institutions whose structures are sound and whose operational impairment would be seriously disruptive to the economy."¹⁷

Moreover, the function of the lender of last resort is not to prevent shocks that frequently affect the financial system or to stabilize the business cycle but rather to minimize the secondary repercussions of those shocks. In essence, the purpose is to maintain confidence in the financial system so that there will be no need to exercise the lender of last resort function.

One of the most important functions of the lender of last resort is to assure the market that support will be forthcoming if needed. Credible assurance of the central bank's willingness to act in a crisis relieves uncertainty and stabilizes expectations that might otherwise generate depositor panics.¹⁸ To prevent excessive risk-taking by banks confident of assistance, however, the lender of last resort must be certain to specify that in financial crises assistance will be available to the market, not to particular banks.

¹⁶See Thomas M. Humphrey, "The Classical Concept of the Lender of Last Resort," *Economic Review*, Federal Reserve Bank of Richmond, January/February 1975.

¹⁷Steering Committee, "Report of a System Committee," **Reappraisal of the Federal Reserve Discount Mechanism**, Board of Governors of the Federal Reserve System, Volume 1, August 1971, p.19.

¹⁸See Humphrey, *op. cit.*

How the Domestic Lender of Last Resort Operates

There are two main ways the lender of last resort supplies liquidity. The most familiar way is to lend funds through the discount window to commercial banks and other institutions if conditions so warrant and if sufficient sound collateral is available. The lender of last resort must be careful, however, to ensure that loans assist institutions coping with liquidity problems, not solvency problems. The rate of interest or discount rate charged on such loans should be a penalty rate high enough to ensure that other market sources of funds have been exhausted and that banks borrow from the Federal Reserve only as a "last resort." In the words of Walter Bagehot in 1873: "Lend freely at a high rate." When the lender of last resort function was developed, discount lending was the primary monetary policy tool and thus was also the primary tool for making last resort loans. Today, many economists still view discount window lending as the only mechanism by which the lender of last resort can provide liquidity.

The second, more efficient, but lesser known way that the lender of last resort can provide liquidity to the market is by engaging in open market operations. By purchasing government securities in the marketplace, the Federal Reserve injects reserves into the marketplace, almost immediately increasing the reserves available to all institutions but without allocating them among particular users. Federal Reserve open market purchases provide a market for individuals, firms, and financial institutions selling securities to meet their currency demands. With open market purchases to stabilize the stock of bank deposits, bank runs should not develop since depositors know that the banking system will not have to sell off its assets at a capital loss. The discount window and open market operations are the means by which the Fed provides liquidity in crisis periods to ensure that banks can readily convert assets into cash to meet currency drains. Consequently, both methods prevent bank runs and the problems associated with such runs.

Provision of liquidity during a crisis via open market purchases is consistent with and a crucial element of longer-run monetary control. Prompt and vigorous lender of last resort action will stop panics long before the money supply

strays far off course. The "lender of last resort" function is essentially a very short-run function of a central bank that is activated only during temporary periods of emergency; the "monetary control" function of a central bank is a continuous and longer-run function. The lender of last resort acts to prevent sudden decreases (shocks) in the money stock, and thus works to reinforce stable monetary control. Thus, monetary control and last resort lending are complementary, not conflicting.

A Role for an International Lender of Last Resort?

Traditionally, discussions of the lender of last resort have related almost entirely to the domestic economy with little regard for international concerns. Current international financial problems, however, have elicited calls to extend the lender of last resort function to the international realm. Indeed, several economists

"The discount window and open market purchases are the means by which the Fed provides liquidity in crisis periods to ensure that banks can readily convert assets into cash to meet currency drains."

contend that the IMF is already assuming this role.¹⁹ Several proposals have been made to create an international lending entity.²⁰

While the concept of a *domestic* lender of last resort is well established, the role of a similar *international* lender remains unclear. Localized international liquidity problems related to balance of payments (or exchange rate) adjustments are common but do not require intervention of a last resort lender. Balance of payments adjustments are inherent elements of a country's trade equilibrating process and do not necessarily relate to banking crises. Moreover, when one country loses, another must gain. These

¹⁹See, for example, James W. Dean and Ian H. Giddy, "Averting International Banking Crises," Monograph 1981-1, New York University, The Monograph Series in Finance and Economics, 1981.

²⁰See, for example, Charles Kindleberger, *op. cit.*; and Franklin Edwards, *op. cit.*

adjustments, then, pertain only to particular countries, and therefore do not merit the intervention of an international lender of last resort.

As on the domestic level, the need for an international lender of last resort arises in part from fractional reserve banking and governments' exclusive control of legal tender issuance. While no government issues international legal tender, there are international mediums of exchange, particularly when exchange rates are fixed. Many less-developed countries peg their currencies to key currencies such as the dollar. The role of an international lender of last resort would be to prevent severe disruptions (especially monetary contractions) of the world monetary system. Under a fixed exchange rate regime, a financial crisis may result from an increase in the perceived risk of a country's currency relative to its value. If foreign depositors simultaneously attempt to withdraw their money, denominated in an international medium of exchange, from the country's banks, a run on

"In its current form, however, the IMF cannot function as a lender of last resort, as it cannot create money or international reserves."

the central bank's international reserves may result. If this central bank wishes to maintain a fixed exchange rate, it may ultimately have to borrow an international medium of exchange from other central banks or from an international lender of last resort. Under these particular circumstances an international lender of last resort may have a valid role.²¹

If the central bank cannot borrow in an international medium of exchange, it may go off the fixed exchange rate system and allow its currency to depreciate. In the domestic market, banks are always expected to redeem their liabilities at par. In the international arena, however, a country can depreciate its currency instead of

maintaining a fixed exchange value with an international medium of exchange. The ability to allow currency to fluctuate to accommodate crises provides LDCs with a remedy not available to the domestic market. This difference between domestic and international currency standards suggests that a lender of last resort may be less necessary in the international than in the domestic context.²²

By these standards, current international debt problems do not require the assistance of an international lender of last resort. Current data indicate that world money and reserves continue to increase at moderate rates.²³ Developed-country banks are liquid and able to continue lending, implying that no serious general liquidity crisis exists.²⁴

In spite of the lack of a general liquidity crisis, some analysts nevertheless contend that an international lender of last resort is essential.²⁵ To function as a lender of last resort, however, an international organization must have authority to create money, i.e., provide unlimited liquidity on demand. Unlike other institutions, for example, a domestic lender of last resort never faces illiquidity or insolvency since it is the ultimate source of legal tender or currency. An

²¹See, for example, Hawtrey, *op. cit.*, p. 228; Aliber, *op. cit.*, p. 27; and D. E. Moggridge, "Financial Crises and Lender of Last Resort; Policy in the Crises of 1920 and 1929," *Journal of European History*, Volume 10, No. 1, Spring 1981, p. 50. The above scenario describes a situation in which demand increases for the conversion of deposits into international media of exchange. The current international debt situation is quite different. There is another important difference between domestic and international financial crises. Since the volume of international debt is often contracted in terms of a foreign currency, exchange rate movements add risk to international debt not associated with the domestic counterpart. Exchange rate risk translates into risk of governmental policy. That is, with debt denominated in domestic currency, governmental policy makers can prevent or forestall default by inflation or taxation. When debt is denominated in foreign currency, however, this option is closed. The servicing of foreign debt requires conversion of domestic money into foreign money at exchange rates that reflect governmental policies. Policies to prevent default, such as taxation or inflation, will merely raise the cost of conversions into foreign currency. See Karl Brunner, et al., "The International Debt Problem, Insolvency and Illiquidity: A Policy Proposal," Statement prepared by the Ad Hoc Committee on International Debt and U.S. Financial Policies, Distributed by The Center for Research in Government Policy and Business Graduate School of Management, University of Rochester, January 14, 1983, p. 6. Furthermore, actions to prevent exchange rates from adjusting to reflect these governmental policies will alter individuals' expectations of future developments and thus their current portfolio decisions, which will only exacerbate the situation, especially as the debt burden rises and the sustainability of the existing policies weakens.

²³International Financial Statistics, supplement No. 5, **Supplement on Money** and latest data in *International Financial Statistics*, November 1983.

²⁴This is not to say that no problem exists. As some point out, in attempting to deal with their debt burden, many developing countries are cutting back on their imports. This, of course, adversely affects the exports of the U.S. and other industrialized countries. However, bigger IMF quotas cannot be justified on the grounds of a general liquidity crisis.

²⁵See, for example, Edwards, *op. cit.* (1980).

²¹See Ralph Hawtrey, *The Art of Central Banking*, p. 228 and Robert Aliber, "Bagehot, the Lender of Last Resort, and the International Financial System," unpublished manuscript, p. 26.

international lender of last resort likewise would have to be the ultimate source of international reserves. For if an international lender of last resort had to borrow the funds it lent, it would not be the *last resort*.²⁶ Additionally, an international lender of last resort must be able to make loans to solvent, credible borrowers who otherwise could not borrow money in the marketplace during a general liquidity crisis. Such "last resort" lending might occur during a liquidity crisis and likely could manifest itself in increased demand for (international transactions money.

Many who advocate an international lender of last resort contend that the IMF currently performs this role and should expand its responsibility.²⁷ Some authors argue that the IMF is in possession of substantial unused financial resources, the power to raise additional funds, a large unpledged gold stock, and the power to issue Special Drawing Rights (SDRs) representing "a formidable package of 'last resort' financial resources and powers."²⁸

The IMF was created to promote world trade and assist member countries with short-term balance of payments deficits through extensions of *short-term* loans. Because the IMF lends to some countries that cannot get enough loans in the marketplace, it may superficially resemble a lender of last resort. In its current form, however, the IMF cannot function as a lender of last resort, as it cannot create money or international reserves. Instead, the IMF must depend on limited contributions from member countries for funds to lend. Once the IMF reaches this quota, its funds are exhausted; it cannot create either world currency or the currencies of its members.²⁹ Since the ability to create money is the chief feature distinguishing a lender of last resort, the IMF does not qualify fully for that role.

In spite of the fact that the IMF is not a true lender of last resort, support has been obtained

for increasing IMF quotas to avert an international crisis in confidence. The IMF recently has been providing further financial assistance to selected debt-burdened countries on the condition that the recipient countries implement agreed-upon austerity measures. These measures include reducing government budget deficits and slowing monetary growth to lower inflation and to reduce nominal interest rates, which in turn should increase debtor countries' exports and decrease their imports, thereby improving their balance of payment positions. U. S. commercial banks, among others, also are agreeing to make additional loans, continue existing loans and reschedule repayments on outstanding loans.

A crucial question is whether IMF actions, which ultimately are funded by the U. S. and other member countries, represent support for

"Some analysts contend that an international lender of last resort is essential."

large U. S. and international commercial banks. Clearly, U. S. banks, which had implicitly accepted the risks of foreign lending, benefit at least temporarily from such financial assistance. Their actual losses and potential insolvency problems are postponed, if not eliminated, provided no defaults are legally declared.³⁰ Currently, the IMF makes loans to countries suffering liquidity problems, in part because private lenders have assessed these countries to be too risky to increase lending to them. As discussed, the purpose of a lender of last resort is to provide liquidity to prevent the default of well-managed and otherwise sound institutions. Making loans to high-risk debtor countries does not fit that definition.

²⁶Dean and Giddy, p. 41. See also R. G. Hawtrey, *The Art of Central Banking*, p. 274.

²⁷See, for example, Dean and Giddy (1981), p. 33.

²⁸Weintraub, Robert, pp. 43-44.

²⁹The IMF may borrow from any source and in the currency of any member country, but it must first obtain the consent of the government of the member country in whose currency it proposes to borrow. Thus far it has borrowed limited funds from member countries but never from the markets. In January 1982, the IMF's Executive Board confirmed that quotas should continue to be the main source of funds. See Group of Thirty, *The International Monetary Fund and the Private Markets*, New York 1983, p. 2.

³⁰A loan is not legally in default until the lender declares that the borrower has failed to honor the terms of the loan. Also, banks carry loans at book, not market, value. However, the FDIC may close a bank based upon a comparison of the market value of assets to insured deposits. There is currently a move to disclose more information about a bank's balance sheet so that depositors may more fully discern the risk attached to dealing with any particular bank.

Some Concluding Thoughts

Under current circumstances, then, no additional powers need be given to the IMF to enable it to assume the role of an international lender of last resort for the global banking system. No "world liquidity crisis" has emerged. Even should such a crisis occur, it could be alleviated by the national monetary authorities of the industrialized countries acting as lenders of last resort for domestic commercial banks and their foreign subsidiaries and by pursuing stable, predictable, non-inflationary and thus credible monetary policies.³¹ Central banks must have well-established and recognized policies to avoid allowing bank failures to affect their national money supplies. In sum, stable monetary policies and reliable domestic lenders of last resort provide adequate defense against liquidity crises. Thus the mechanism is already

established for preventing international debt problems from triggering a domestic financial crisis.

So long as these policies are pursued consistently, one does not need to be concerned about the financial system's vulnerability to a monetary collapse.

Still, the severity of the current international debt situation highlights the need for a thorough assessment of the IMF's role in an increasingly interdependent world economy and of the financial resources required to support that role. The issue certainly is a complex one. Making temporary short-term loans to ease pressure during time-consuming loan rescheduling negotiations indeed may be a valid role for central banks and international agencies. An assessment of the IMF's role remains crucial even though the recent debate over our nation's IMF funding has ended, with Congress authorizing the increase that everyone hopes can help resolve the debt problem.

—James R. Barth
and Robert E. Keleher

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³¹There is currently some ambiguity about who legally bears the lender of last resort responsibility for a subsidiary of a foreign bank. However, "most U.S. loans through the Eurocurrency market are handled through London branches of U.S. banks, not subsidiaries." Even so, "subsidiaries do play a significant role in some cases, such as subsidiaries of German banks operating in Luxembourg." Despite this loophole in lender of last resort coverage, "the events of 1982-83 illustrate a willingness of central banks to work together in crisis, suggesting that, if necessary, they could agree on the division of lender of last resort responsibility for currently ambiguous cases." See William R. Cline, *International Debt and the Stability of the World Economy*, Institute for International Economics, September 1983, pp. 103-105.

BIBLIOGRAPHY

- Agenda for Reform.** Federal Home Loan Bank Board, Washington, D.C., March 1983.
- Aliber, Robert. "Bagehot, The Lender of Last Resort, and The International Financial System," unpublished manuscript (no date).
- Anderson, Barry L. and James L. Butkiewicz. "Money, Spending, and the Great Depression," *Southern Economic Journal*, October 1980.
- Bagehot, Walter. **Lombard Street** (1873), Arno Press, New York, 1978.
- Barth, James R. and Joseph Pelzman. "International Debt: Conflict and Resolution," International Debt Series Monograph No. 3, Dept. of Economics, George Mason University, January 1984.
- Bernanke, Ben S. "Nonmonetary Effects of the Financial Crisis in the Propagation of the Great Depression," *American Economic Review*, June 1983.
- Brunner, Karl, et al. "The International Debt Problem, Insolvency and Illiquidity: A Policy Proposal," Statement prepared by the Ad Hoc Committee on International Debt and U. S. Financial Policies, Distributed by The Center for Research in Government Policy and Business, Graduate School of Management, University of Rochester, January 14, 1983.
- Dean, James W. and Ian H. Giddy. **Averting International Banking Crises**, Monograph 1981-1, New York University, The Monograph Series in Finance and Economics, 1981.
- Diamond, Douglas W. and Philip H. Dybvig. "Bank Runs, Deposit Insurance, and Liquidity," *Journal of Political Economy*, June 1983.
- Edwards, Franklin. "Financial Institutions and Regulations in the 21st Century: After the Crash," Mimeograph, Columbia University, 1980.
- Friedman, Milton and Anna Schwartz. **A Monetary History of the United States**, Princeton University Press, Princeton, New Jersey, 1963.
- Group of Thirty. **The International Monetary Fund and the Private Markets**, New York, 1983, p. 2.
- Guttentag, Jack and Richard Herring. **The Lender of Last Resort Function in an International Context**, Essays in International Finance, No. 151, May 1983, International Finance Section, Princeton University.
- Hawtrey, Ralph. **The Art of Central Banking**, Frank Cass and Co. Ltd., London, 1962.
- Humphrey, Thomas M. "The Classical Concept of the Lender of Last Resort," *Economic Review*, Federal Reserve Bank of Richmond, January/ February 1975.
- Kindleberger, Charles P. **Manias, Panics, and Crashes**, Basic Books, New York, 1978.
- Mayer, Thomas. "Should Large Banks Be Allowed to Fail?," *Journal of Financial and Quantitative Analysis*, November 1975.
- Moggridge, D. E. "Financial Crises and Lenders of Last Resort: Policy in the Crises of 1920 and 1929," *Journal of European History*, Volume 10, No. 1, Spring 1981.
- Smith, Vera. **The Rationale of Central Banking**, London, P. S. King & Son Ltd., Westminster, 1936.
- Sprague, O. M. W. **History of Crises Under the National Banking System**, Washington, D. C., U. S. Government Printing Office, 1910.
- Steering Committee. "Report of a System Committee," **Reappraisal of the Federal Reserve Discount Mechanism**, Board of Governors of the Federal Reserve System, Volume 1, August 1971.
- Tussig, A. Dale. "The Case for Bank Failure," *Journal of Law and Economics*, Volume X, October 1967.
- Weintraub, Robert E. **International Debt: Crisis and Challenge**, Department of Economics, George Mason University, Fairfax, Virginia, April 1983.



FINANCE

STATISTICAL SUPPLEMENT

\$ millions	NOV	OCT	NOV	ANN.		NOV	OCT	NOV	ANN.
	1983	1983	1982	% CHG.		1983	1983	1982	% CHG.
UNITED STATES									
Commercial Bank Deposits	1,298,909	1,296,169	1,191,183	+ 9	Savings & Loans**				
Demand	298,864	307,622	302,058	- 1	Total Deposits	586,027	611,947	540,063	+ 9
NOW	82,970	82,865	65,046	+ 28	NOW	17,785	17,927	12,403	+ 43
Savings	344,646	346,078	153,992	+124	Savings	163,094	179,418	95,622	+ 71
Time	603,985	596,651	703,288	- 14	Time	424,395	417,960	433,517	- 2
Credit Union Deposits	60,557	60,902	51,741	+ 17	SEPT	472,267	472,701	485,125	- 3
Share Drafts	5,412	5,461	3,859	+ 40	AUG	31,827	32,013	17,176	+ 85
Savings & Time	49,834	50,054	43,340	+ 15	SEPT				
SOUTHEAST									
Commercial Bank Deposits	146,684	146,524	127,260	+ 15	Savings & Loans				
Demand	34,474	35,595	34,120	+ 1	Total Deposits	N.A.	N.A.	N.A.	
NOW	10,641	10,598	8,439	+ 26	NOW	N.A.	N.A.	N.A.	
Savings	38,619	38,247	15,153	+155	Savings	N.A.	N.A.	N.A.	
Time	66,159	65,946	72,541	- 9	Time	N.A.	N.A.	N.A.	
Credit Union Deposits	5,933	5,946	4,927	+ 20	SEPT	67,455	66,728	68,393	- 2
Share Drafts	474	483	360	+ 32	AUG	5,142	5,007	2,894	+ 77
Savings & Time	5,066	5,063	4,157	+ 22	SEPT				
ALABAMA									
Commercial Bank Deposits	15,388	15,333	14,057	+ 9	Savings & Loans**				
Demand	3,642	3,734	3,537	+ 3	Total Deposits	5,144	5,158	4,530	+ 14
NOW	966	957	736	+ 31	NOW	141	146	106	+ 33
Savings	3,160	3,141	1,611	+ 96	Savings	864	875	569	+ 52
Time	8,054	8,066	8,623	- 7	Time	4,186	4,182	3,908	+ 7
Credit Union Deposits	911	914	874	+ 4	SEPT	3,712	3,704	3,787	- 2
Share Drafts	84	87	70	+ 20	AUG	272	257	46	+491
Savings & Time	783	780	729	+ 7	SEPT				
FLORIDA									
Commercial Bank Deposits	51,416	51,173	41,464	+ 24	Savings & Loans**				
Demand	11,951	12,418	11,793	+ 1	Total Deposits	53,379	53,070	48,108	+ 11
NOW	4,395	4,405	3,686	+ 19	NOW	2,029	2,033	1,335	+ 52
Savings	17,882	17,598	6,420	+179	Savings	15,337	15,647	8,065	+ 90
Time	18,041	17,864	20,431	- 12	Time	36,406	35,725	38,758	- 6
Credit Union Deposits	2,604	2,602	2,206	+ 18	SEPT	39,988	39,386	40,204	- 1
Share Drafts	240	242	193	+ 24	AUG	3,468	3,329	2,313	+ 49
Savings & Time	2,067	2,057	1,719	+ 20	SEPT				
GEORGIA									
Commercial Bank Deposits	21,347	21,372	18,054	+ 18	Savings & Loans				
Demand	6,732	6,959	6,285	+ 7	Total Deposits	N.A.	N.A.	N.A.	
NOW	1,461	1,426	1,230	+ 19	NOW	N.A.	N.A.	N.A.	
Savings	4,815	4,770	1,705	+182	Savings	N.A.	N.A.	N.A.	
Time	9,382	9,330	9,728	- 4	Time	N.A.	N.A.	N.A.	
Credit Union Deposits	1,334	1,352	906	+ 47	SEPT	8,212	8,156	8,881	- 8
Share Drafts	68	72	39	+ 74	AUG	503	533	188	+167
Savings & Time	1,191	1,203	814	+ 46	SEPT				
LOUISIANA									
Commercial Bank Deposits	24,868	24,903	23,096	+ 8	Savings & Loans**				
Demand	5,661	5,734	5,890	- 4	Total Deposits	8,929	8,883	8,033	+ 11
NOW	1,383	1,373	1,144	+ 21	NOW	190	190	127	+ 50
Savings	5,361	5,317	2,469	+117	Savings	2,408	2,403	1,268	+ 90
Time	12,967	13,007	14,068	- 8	Time	6,407	6,374	6,665	- 4
Credit Union Deposits	201	199	164	+ 23	SEPT	7,730	7,723	7,386	+ 4
Share Drafts	23	23	11	+109	AUG	620	623	198	+213
Savings & Time	194	194	155	+ 25	SEPT				
MISSISSIPPI									
Commercial Bank Deposits	11,529	11,484	10,544	+ 9	Savings & Loans**				
Demand	2,287	2,398	2,311	- 1	Total Deposits	2,527	2,543	2,420	+ 4
NOW	777	785	609	+ 28	NOW	92	92	63	+ 46
Savings	2,440	2,420	763	+220	Savings	499	506	241	+107
Time	6,279	6,233	7,066	- 11	Time	1,960	1,976	2,138	- 8
Credit Union Deposits	*	*	*		SEPT	2,051	2,020	2,144	- 5
Share Drafts	*	*	*		AUG	57	55	19	+200
Savings & Time	*	*	*		SEPT				
TENNESSEE									
Commercial Bank Deposits	22,136	22,259	20,045	+ 10	Savings & Loans**				
Demand	4,201	4,352	4,304	- 2	Total Deposits	7,333	7,303	6,543	+ 12
NOW	1,659	1,652	1,034	+ 60	NOW	213	210	122	+ 75
Savings	4,961	5,001	2,185	+127	Savings	1,526	1,545	710	+115
Time	11,436	11,446	12,625	- 9	Time	5,636	5,603	5,723	- 2
Credit Union Deposits	883	879	777	+ 14	SEPT	5,762	5,739	5,992	- 4
Share Drafts	59	59	47	+ 26	AUG	222	210	130	+ 70
Savings & Time	831	829	740	+ 12	SEPT				

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

* = fewer than four institutions reporting.
 ** = S&L deposits subject to revisions due to reporting changes.
 N.A. = not available at this time.

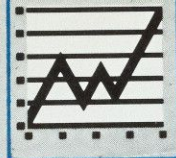


CONSTRUCTION

	OCT 1983	SEPT 1983	OCT 1982	ANN % CHG		OCT 1983	SEPT 1983	OCT 1982	ANN % CHG
12-month Cumulative Rate									
UNITED STATES									
Nonresidential Building Permits - \$ Mil.					Residential Building Permits Value - \$ Mil.	65,165	63,233	36,804	+ 77
Total Nonresidential	50,568	49,130	45,545	+ 11	Residential Permits - Thous.				
Industrial Bldgs.	5,640	5,300	5,302	+ 6	Single-family units	870.2	850.8	493.3	+ 76
Offices	12,568	12,197	12,215	+ 3	Multi-family units	674.2	653.3	417.1	+ 62
Stores	6,717	6,468	5,205	+ 29	Total Building Permits Value - \$ Mil.	115,733	112,363	82,349	+ 41
Hospitals	2,062	1,903	1,760	+ 17					
Schools	878	886	807	+ 9					
SOUTHEAST									
Nonresidential Building Permits - \$ Mil.					Residential Building Permits Value - \$ Mil.	11,920	11,549	6,693	+ 78
Total Nonresidential	7,845	7,679	6,204	+ 26	Residential Permits - Thous.				
Industrial Bldgs.	635	666	713	- 11	Single-family units	179.1	174.2	100.5	+ 78
Offices	1,833	1,835	1,344	+ 36	Multi-family units	149.3	143.7	83.4	+ 79
Stores	1,249	1,189	955	+ 31	Total Building Permits Value - \$ Mil.	19,765	19,228	12,897	+ 53
Hospitals	472	466	260	+ 82					
Schools	171	168	82	+109					
ALABAMA									
Nonresidential Building Permits - \$ Mil.					Residential Building Permits Value - \$ Mil.	397	384	229	+ 73
Total Nonresidential	450	430	389	+ 16	Residential Permits - Thous.				
Industrial Bldgs.	26	20	82	- 68	Single-family units	7.7	7.7	4.4	+ 75
Offices	59	58	54	+ 9	Multi-family units	7.1	6.8	4.2	+ 69
Stores	86	83	64	+ 34	Total Building Permits Value - \$ Mil.	847	815	618	+ 37
Hospitals	23	24	25	- 8					
Schools	8	8	8	0					
FLORIDA									
Nonresidential Building Permits - \$ Mil.					Residential Building Permits Value - \$ Mil.	6,860	6,693	4,015	+ 71
Total Nonresidential	3,933	3,875	3,090	+ 27	Residential Permits - Thous.				
Industrial Bldgs.	376	358	359	+ 5	Single-family units	95.6	92.3	52.0	+ 84
Offices	852	854	650	+ 31	Multi-family units	82.6	81.2	50.3	+ 64
Stores	701	661	506	+ 39	Total Building Permits Value - \$ Mil.	10,793	10,568	7,105	+ 52
Hospitals	294	298	130	+126					
Schools	54	52	19	+184					
GEORGIA									
Nonresidential Building Permits - \$ Mil.					Residential Building Permits Value - \$ Mil.	2,314	2,243	1,243	+ 86
Total Nonresidential	1,272	1,233	983	+ 29	Residential Permits - Thous.				
Industrial Bldgs.	176	173	145	+ 21	Single-family units	40.5	39.8	23.8	+ 70
Offices	352	373	220	+ 60	Multi-family units	24.1	23.3	12.0	+101
Stores	138	132	89	+ 55	Total Building Permits Value - \$ Mil.	3,586	3,475	2,227	+ 61
Hospitals	36	26	27	+ 33					
Schools	28	28	18	+ 56					
LOUISIANA									
Nonresidential Building Permits - \$ Mil.					Residential Building Permits Value - \$ Mil.	1,064	1,009	619	+ 72
Total Nonresidential	1,210	1,209	925	+ 31	Residential Permits - Thous.				
Industrial Bldgs.	46	47	80	- 43	Single-family units	16.9	16.6	10.3	+ 64
Offices	365	406	297	+ 23	Multi-family units	16.0	14.4	8.1	+ 98
Stores	129	122	150	- 14	Total Building Permits Value - \$ Mil.	2,273	2,218	1,544	+ 47
Hospitals	123	78	28	+339					
Schools	69	65	24	+188					
MISSISSIPPI									
Nonresidential Building Permits - \$ Mil.					Residential Building Permits Value - \$ Mil.	310	288	162	+ 91
Total Nonresidential	192	190	150	+ 28	Residential Permits - Thous.				
Industrial Bldgs.	8	7	13	- 38	Single-family units	4.8	4.7	3.3	+ 45
Offices	19	17	17	+ 12	Multi-family units	4.5	3.8	2.1	+114
Stores	43	38	34	+ 26	Total Building Permits Value - \$ Mil.	501	478	312	+ 61
Hospitals	18	18	5	+260					
Schools	7	8	3	+133					
TENNESSEE									
Nonresidential Building Permits - \$ Mil.					Residential Building Permits Value - \$ Mil.	976	933	425	+130
Total Nonresidential	788	742	667	+ 18	Residential Permits - Thous.				
Industrial Bldgs.	58	61	35	+ 66	Single-family units	13.5	13.2	6.9	+ 96
Offices	150	127	106	+ 42	Multi-family units	15.1	14.2	6.8	+122
Stores	151	154	114	+ 32	Total Building Permits Value - \$ Mil.	1,691	1,602	1,091	+ 55
Hospitals	24	22	43	- 44					
Schools	5	6	10	- 50					

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.		NOV 1983	OCT 1983	NOV 1982	ANN. % CHG.
UNITED STATES										
Personal Income (\$bil. - SAAR)	2Q	2,709.1	2,650.6	2,556.1	+ 6	Agriculture				
Taxable Sales - \$bil.		N.A.	N.A.	N.A.		Prices Rec'd by Farmers				
Plane Pass. Arr. 000's		N.A.	N.A.	N.A.		Index (1977=100)	135	134	128	+ 5
Petroleum Prod. (thous.)	NOV	8,634.7	8,670.0	8,637.5	- 0	Broiler Placements (thous.)	73,141	73,681	75,276	- 3
Consumer Price Index 1967=100	NOV	303.1	302.6	293.6	+ 3	Calf Prices (\$ per cwt.)	59.2	57.1	58.1	+ 2
Kilowatt Hours - mils.	SEP	201.6	207.7	183.6	+ 9	Broiler Prices (\$ per lb.)	33.0	29.3	24.8	+33
						Soybean Prices (\$ per bu.)	7.97	7.96	5.34	+49
						Broiler Feed Cost (\$ per ton)	243	237	198	+23
SOUTHEAST										
Personal Income (\$bil. - SAAR)	2Q	326.8	319.5	306.4	+ 7	Agriculture				
Taxable Sales - \$ bil.		N.A.	N.A.	N.A.		Prices Rec'd by Farmers				
Plane Pass. Arr. 000's	SEP	3,649.4	4,282.6	3,268.7	+11	Index (1977=100)	123	119	114	+ 8
Petroleum Prod. (thous.)	NOV	1,399.0	1,399.5	1,384.5	+ 1	Broiler Placements (thous.)	27,657	28,559	28,231	- 2
Consumer Price Index 1967=100		N.A.	N.A.	N.A.		Calf Prices (\$ per cwt.)	55.5	51.9	52.8	+ 5
Kilowatt Hours - mils.	SEP	33.5	34.8	33.8	- 1	Broiler Prices (\$ per lb.)	32.1	28.2	24.1	+33
						Soybean Prices (\$ per bu.)	7.98	7.91	5.45	+46
						Broiler Feed Cost (\$ per ton)	229	227	185	+24
ALABAMA										
Personal Income (\$bil. - SAAR)	2Q	36.2	35.5	33.9	+ 7	Agriculture				
Taxable Sales - \$ bil.	AUG	28.1	27.5	27.3	+ 3	Farm Cash Receipts - \$ mil.				
Plane Pass. Arr. 000's	OCT	111.6	105.8	106.6	+ 5	(Dates: AUG, AUG)	1,206	-	1,232	- 2
Petroleum Prod. (thous.)	NOV	52.0	52.0	53.0	- 2	Broiler Placements (thous.)	9,278	9,577	9,406	- 1
Consumer Price Index 1967=100		N.A.	N.A.	N.A.		Calf Prices (\$ per cwt.)	53.9	51.7	52.2	+ 3
Kilowatt Hours - mils.	SEP	4.5	4.6	4.7	- 5	Broiler Prices (\$ per lb.)	33.0	29.0	23.5	+40
						Soybean Prices (\$ per bu.)	7.80	7.84	5.41	+44
						Broiler Feed Cost (\$ per ton)	255	240	192	+33
FLORIDA										
Personal Income (\$bil. - SAAR)	2Q	122.0	118.8	113.4	+ 8	Agriculture				
Taxable Sales - \$ bil.	OCT	72.1	71.4	66.6	+ 8	Farm Cash Receipts - \$ mil.				
Plane Pass. Arr. 000's	SEP	1,677.0	2,039.2	1,474.2	+14	(Dates: AUG, AUG)	3,116	-	2,998	+ 4
Petroleum Prod. (thous.)	NOV	52.0	55.0	68.0	-24	Broiler Placements (thous.)	1,755	1,810	1,852	- 5
Consumer Price Index - Miami Nov. 1977 = 100	NOV	164.0	162.9	156.8	+ 5	Calf Prices (\$ per cwt.)	56.5	55.1	55.0	+ 3
Kilowatt Hours - mils.	SEP	9.8	9.9	9.2	+ 6	Broiler Prices (\$ per lb.)	31.0	27.5	23.5	+32
						Soybean Prices (\$ per bu.)	7.80	7.84	5.41	+44
						Broiler Feed Cost (\$ per ton)	250	255	210	+19
GEORGIA										
Personal Income (\$bil. - SAAR)	2Q	58.2	56.6	53.5	+ 9	Agriculture				
Taxable Sales - \$ bil.	3Q	41.1	40.4	39.3	+ 5	Farm Cash Receipts - \$ mil.				
Plane Pass. Arr. 000's	OCT	1,646.3	1,446.3	1,294.0	+27	(Dates: AUG, AUG)	1,734	-	1,781	- 3
Petroleum Prod. (thous.)		N.A.	N.A.	N.A.		Broiler Placements (thous.)	10,928	11,490	11,307	- 3
Consumer Price Index - Atlanta 1967 = 100	OCT	304.4	303.9	297.8	+ 2	Calf Prices (\$ per cwt.)	50.4	47.6	49.8	+ 1
Kilowatt Hours - mils.	SEP	4.9	5.7	5.2	- 6	Broiler Prices (\$ per lb.)	31.5	29.0	23.5	+34
						Soybean Prices (\$ per bu.)	7.79	7.72	5.31	+47
						Broiler Feed Cost (\$ per ton)	210	220	181	+16
LOUISIANA										
Personal Income (\$bil. - SAAR)	2Q	45.9	45.3	44.7	+ 3	Agriculture				
Taxable Sales - \$ bil.		N.A.	N.A.	N.A.		Farm Cash Receipts - \$ mil.				
Plane Pass. Arr. 000's	OCT	286.7	241.7	271.0	+ 6	(Dates: AUG, AUG)	704	-	775	- 9
Petroleum Prod. (thous.)	NOV	1,209.0	1,207.0	1,172.5	+ 3	Broiler Placements (thous.)	N.A.	N.A.	N.A.	- 0
Consumer Price Index 1967 = 100		N.A.	N.A.	N.A.		Calf Prices (\$ per cwt.)	55.0	51.9	55.2	+ 2
Kilowatt Hours - mils.	SEP	5.7	5.7	5.9	- 4	Broiler Prices (\$ per lb.)	33.0	28.5	25.0	+30
						Soybean Prices (\$ per bu.)	8.19	7.75	5.55	+48
						Broiler Feed Cost (\$ per ton)	290	290	245	+18
MISSISSIPPI										
Personal Income (\$bil. - SAAR)	2Q	20.8	20.4	19.8	+ 5	Agriculture				
Taxable Sales - \$ bil.		N.A.	N.A.	N.A.		Farm Cash Receipts - \$ mil.				
Plane Pass. Arr. 000's	OCT	35.3	32.1	27.7	+27	(Dates: AUG, AUG)	1,042	-	1,088	- 4
Petroleum Prod. (thous.)	NOV	86.0	85.5	91.0	- 5	Broiler Placements (thous.)	5,695	5,682	5,666	+ 1
Consumer Price Index 1967 = 100		N.A.	N.A.	N.A.		Calf Prices (\$ per cwt.)	58.7	52.7	53.6	+10
Kilowatt Hours - mils.	SEP	2.4	2.5	2.4	0	Broiler Prices (\$ per lb.)	32.0	26.0	26.5	+21
						Soybean Prices (\$ per bu.)	8.06	8.03	5.41	+49
						Broiler Feed Cost (\$ per ton)	205	195	161	+27
TENNESSEE										
Personal Income (\$bil. - SAAR)	2Q	43.7	42.9	41.1	+ 6	Agriculture				
Taxable Sales - \$ bil.	NOV	37.7	36.9	34.8	+ 8	Farm Cash Receipts - \$ mil.				
Plane Pass. Arr. 000's	OCT	160.7	146.5	156.0	+ 3	(Dates: AUG, AUG)	1,086	-	1,051	+ 3
Petroleum Prod. (thous.)	NOV	N.A.	N.A.	N.A.		Broiler Placements (thous.)	N.A.	N.A.	N.A.	- 0
Consumer Price Index 1967 = 100		N.A.	N.A.	N.A.		Calf Prices (\$ per cwt.)	56.7	51.2	51.3	+11
Kilowatt Hours - mils.	SEP	6.2	6.4	6.4	- 4	Broiler Prices (\$ per lb.)	30.0	28.2	23.0	+30
						Soybean Prices (\$ per bu.)	7.89	8.12	5.53	+43
						Broiler Feed Cost (\$ per ton)	225	225	170	+32

Notes:

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

EMPLOYMENT

	OCT 1983	SEPT 1983	OCT 1982	ANN. % CHG.		OCT 1983	SEPT 1983	OCT 1982	ANN. % CHG.
UNITED STATES									
Civilian Labor Force - thous.	112,042	112,197	110,767	+ 1	Nonfarm Employment- thous.	91,716	91,116	89,541	+ 2
Total Employed - thous.	102,659	102,366	99,825	+ 3	Manufacturing	19,195	19,148	18,504	+ 4
Total Unemployed - thous.	9,383	9,830	10,942	-14	Construction	4,326	4,282	4,070	+ 6
Unemployment Rate - % SA	8.8	9.3	10.5		Trade	20,752	20,747	20,421	+ 2
Insured Unemployment - thous.	N.A.	N.A.	N.A.		Government	15,763	15,369	15,863	- 1
Insured Unempl. Rate - %	N.A.	N.A.	N.A.		Services	20,084	19,961	19,195	+ 5
Mfg. Avg. Wkly. Hours	40.7	40.8	39.0	+ 4	Fin., Ins., & Real Est.	5,484	5,501	5,334	+ 3
Mfg. Avg. Wkly. Earn. - \$	363	363	334	+ 9	Trans. Com. & Pub. Util.	5,079	5,077	5,077	+ 0
SOUTHEAST									
Civilian Labor Force - thous.	14,671	14,725	14,498	+ 1	Nonfarm Employment- thous.	11,624	11,544	11,352	+ 2
Total Employed - thous.	13,292	13,353	12,987	+ 2	Manufacturing	2,217	2,204	2,140	+ 4
Total Unemployed - thous.	1,378	1,374	1,511	- 9	Construction	659	653	641	+ 3
Unemployment Rate - % SA	9.6	9.5	10.7		Trade	2,758	2,744	2,682	+ 3
Insured Unemployment - thous.	N.A.	N.A.	N.A.		Government	2,174	2,139	2,154	+ 1
Insured Unempl. Rate - %	N.A.	N.A.	N.A.		Services	2,304	2,297	2,240	+ 3
Mfg. Avg. Wkly. Hours	41.1	41.1	39.9	+ 3	Fin., Ins., & Real Est.	668	668	650	+ 3
Mfg. Avg. Wkly. Earn. - \$	318	317	296	+ 7	Trans. Com. & Pub. Util.	701	698	697	+ 1
ALABAMA									
Civilian Labor Force - thous.	1,769	1,745	1,752	+ 1	Nonfarm Employment- thous.	1,319	1,314	1,310	+ 1
Total Employed - thous.	1,551	1,531	1,484	+ 5	Manufacturing	335	335	328	+ 2
Total Unemployed - thous.	218	215	268	-19	Construction	61	61	60	+ 2
Unemployment Rate - % SA	12.9	12.8	15.9		Trade	268	267	267	+ 0
Insured Unemployment - thous.	N.A.	N.A.	N.A.		Government	293	290	292	+ 0
Insured Unempl. Rate - %	N.A.	N.A.	N.A.		Services	218	218	218	+ 0
Mfg. Avg. Wkly. Hours	41.7	41.6	39.8	+ 5	Fin., Ins., & Real Est.	59	59	59	0
Mfg. Avg. Wkly. Earn. - \$	318	316	289	+10	Trans. Com. & Pub. Util.	71	71	71	0
FLORIDA									
Civilian Labor Force - thous.	5,003	5,113	4,937	+ 1	Nonfarm Employment- thous.	3,917	3,877	3,740	+ 5
Total Employed - thous.	4,571	4,697	4,483	+ 2	Manufacturing	483	477	454	+ 6
Total Unemployed - thous.	432	416	454	- 5	Construction	264	261	243	+ 9
Unemployment Rate - % SA	8.2	7.8	8.7		Trade	1,049	1,038	992	+ 6
Insured Unemployment - thous.	N.A.	N.A.	N.A.		Government	646	631	634	+ 2
Insured Unempl. Rate - %	N.A.	N.A.	N.A.		Services	938	932	898	+ 4
Mfg. Avg. Wkly. Hours	40.9	40.8	40.0	+ 2	Fin., Ins., & Real Est.	295	295	281	+ 5
Mfg. Avg. Wkly. Earn. - \$	303	302	289	+ 5	Trans. Com. & Pub. Util.	233	233	229	+ 2
GEORGIA									
Civilian Labor Force - thous.	2,696	2,695	2,693	+ 0	Nonfarm Employment- thous.	2,279	2,269	2,215	+ 3
Total Employed - thous.	2,504	2,504	2,487	+ 1	Manufacturing	515	513	499	+ 3
Total Unemployed - thous.	192	191	205	- 6	Construction	108	108	103	+ 5
Unemployment Rate - % SA	7.3	7.2	8.0		Trade	544	542	525	+ 4
Insured Unemployment - thous.	N.A.	N.A.	N.A.		Government	440	433	441	- 0
Insured Unempl. Rate - %	N.A.	N.A.	N.A.		Services	396	396	378	+ 5
Mfg. Avg. Wkly. Hours	41.8	41.7	40.0	+ 4	Fin., Ins., & Real Est.	121	121	117	+ 3
Mfg. Avg. Wkly. Earn. - \$	298	296	272	+ 9	Trans. Com. & Pub. Util.	148	148	145	+ 2
LOUISIANA									
Civilian Labor Force - thous.	1,930	1,924	1,892	+ 2	Nonfarm Employment- thous.	1,596	1,587	1,608	- 1
Total Employed - thous.	1,719	1,699	1,676	+ 3	Manufacturing	194	193	201	- 3
Total Unemployed - thous.	210	226	217	- 3	Construction	116	115	121	- 4
Unemployment Rate - % SA	11.3	12.1	11.7		Trade	368	367	369	- 1
Insured Unemployment - thous.	N.A.	N.A.	N.A.		Government	314	310	310	+ 1
Insured Unempl. Rate - %	N.A.	N.A.	N.A.		Services	308	308	304	+ 1
Mfg. Avg. Wkly. Hours	40.7	40.5	41.3	- 1	Fin., Ins., & Real Est.	80	80	80	0
Mfg. Avg. Wkly. Earn. - \$	399	402	390	+ 2	Trans. Com. & Pub. Util.	124	124	128	- 3
MISSISSIPPI									
Civilian Labor Force - thous.	1,065	1,069	1,075	- 1	Nonfarm Employment- thous.	799	795	795	+ 1
Total Employed - thous.	948	947	956	- 1	Manufacturing	207	207	199	+ 4
Total Unemployed - thous.	117	122	119	- 2	Construction	39	39	42	- 7
Unemployment Rate - % SA	12.0	12.2	12.1		Trade	163	163	163	0
Insured Unemployment - thous.	N.A.	N.A.	N.A.		Government	182	181	182	0
Insured Unempl. Rate - %	N.A.	N.A.	N.A.		Services	124	123	124	0
Mfg. Avg. Wkly. Hours	40.6	40.8	39.6	+ 3	Fin., Ins., & Real Est.	33	33	33	0
Mfg. Avg. Wkly. Earn. - \$	277	276	255	+ 9	Trans. Com. & Pub. Util.	40	39	41	- 3
TENNESSEE									
Civilian Labor Force - thous.	2,208	2,179	2,149	+ 3	Nonfarm Employment- thous.	1,714	1,702	1,684	+ 2
Total Employed - thous.	1,999	1,975	1,901	+ 5	Manufacturing	483	479	459	+ 5
Total Unemployed - thous.	209	204	248	-16	Construction	71	69	72	- 1
Unemployment Rate - % SA	10.5	10.3	12.2		Trade	366	367	366	0
Insured Unemployment - thous.	N.A.	N.A.	N.A.		Government	299	294	295	+ 1
Insured Unempl. Rate - %	N.A.	N.A.	N.A.		Services	320	320	318	+ 1
Mfg. Avg. Wkly. Hours	41.1	41.0	39.0	+ 5	Fin., Ins., & Real Est.	80	80	80	0
Mfg. Avg. Wkly. Earn. - \$	312	310	282	+11	Trans. Com. & Pub. Util.	85	83	83	+ 2

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

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