

## Comment on Andrew S. Carron and R. Dan Brumbaugh, Jr.'s "The Viability of the Thrift Industry"

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In their paper, "The Viability of the Thrift Industry," Andrew Carron and R. Dan Brumbaugh contend that thrifts are no longer viable home mortgage lenders. This comment addresses the issues they raise, focusing on three specific questions:

1. Is the role of thrifts in mortgage markets declining?
2. Can and do thrifts make a profit from home mortgage lending?
3. What is the future for thrifts in mortgage markets under the Financial Institutions Reform, Recovery and Enforcement Act (FIRREA)?

The material and arguments Carron and Brumbaugh present are reviewed and some new evidence is brought to bear on these questions.

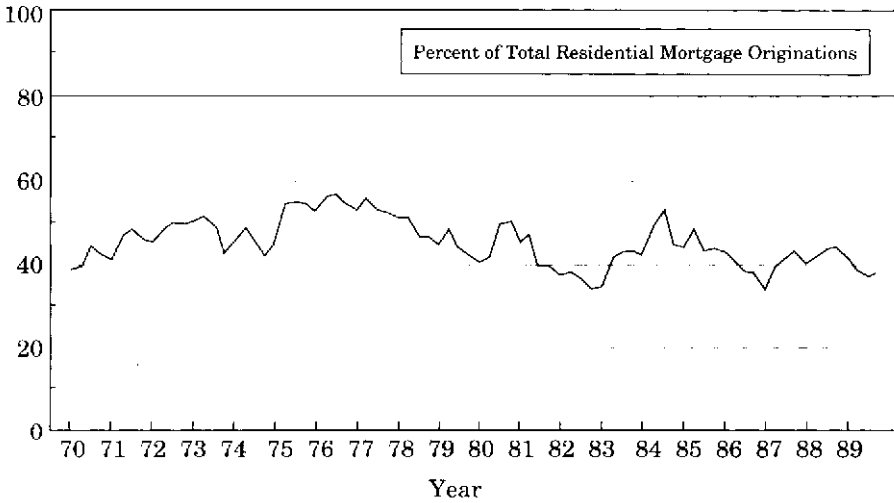
### Thrifts' role in home mortgage markets

Several events in the 1980s reduced the role of thrifts in holding and originating home mortgages. Nonetheless, thrifts have remained an important—albeit less dominant—force in such markets. The rapid evolution of secondary mortgage instruments opened up this market to new investors, but thrifts were among the most active acquirers of such paper. At the same time, deregulation allowed thrifts expanded asset powers. Some thrifts made generous use of the new powers, but most did not. Not until 1989, when massive credit quality and capital-sufficiency problems led to a legislated retrenchment, did the thrift industry sharply reduce its role in home mortgage markets. Even then, many healthy thrifts continued to lend for residential mortgages and to play a key role in loan originations.

*Origination function*

Carron and Brumbaugh begin their analysis with a discussion of originations that mixes the traditional use of the term—loans closed—with the separate concept of acquisition of mortgages for portfolio. Thrifts originate loans both for their own portfolios and for sale to others. Thrifts’ share of residential mortgage originations has remained relatively strong in recent years (see fig. 1). Thrifts originated approximately 40 percent of residential mortgages throughout the past decade—down from the 50-percent level typical in the 1970s. Replication of Carron and Brumbaugh’s results suggests that their data do not include originations by mortgage banking subsidiaries. If one could separate such activity from the mortgage company data, the thrift share would be higher than the 40-percent figure in recent years.

*Figure 1. Thrift Role in Residential Mortgage Originations, 1970-89 (Quarterly)*



Source: U.S. Department of Housing and Urban Development, *Survey of Mortgage Lending Activity*.

*Thrifts as portfolio lenders of home mortgages.*

Carron and Brumbaugh present evidence of thrifts' "diversification away from mortgages." First, they give industry-average data and interpret the data to suggest that all thrifts have diversified away from traditional mortgage assets.<sup>1</sup> The average figures, however, mask sharp differences within the thrift industry. Most thrifts have continued to be traditional home mortgage lenders. The 1,500 thrifts that currently pass the qualified thrift lender (QTL) test and pass all three capital requirements under FIRREA have consistently been heavy investors in residential mortgage assets during the past decade (see table 1). Residential whole loans fell from 74 percent of their portfolios in 1980 to 60 percent in 1989; however, mortgage-backed securities (MBS) rose from 3 percent to more than 9 percent during the same period. Other residential mortgage assets were small, but they also increased in importance. Other thrifts did diversify away from home mortgage assets during the 1980s, however. Nontraditional thrifts' holdings of "traditional assets" declined from 74 percent to 55 percent of assets (see table 2).

Second, the measures of the thrift industry's role in residential mortgage markets presented by Carron and Brumbaugh overstate the decline in the thrift industry's role. The authors construct a series, which they label "net originations," by subtracting the net sale of mortgages from loan originations. The series is used to measure thrifts' market share of net acquisition of new mortgage assets. That series not only shows a general downtrend, but it registers net negative "shares" in the early 1980s and below 20 percent of the market in several periods.

Figure 2 corrects for the acknowledged "limitation" of their measure (as shown in their fig. 1) by including changes in MBS holdings—an important component of thrift net acquisitions of home mortgage assets during the past decade. As may be seen in the top panel, thrifts were net acquirers of new residential mortgage assets until 1989, when FIRREA-induced industry shrinkage caused unprecedented sales of MBS by troubled institutions. Research conducted at the Office of Thrift Supervision (OTS) shows that this decline is almost entirely attributable to troubled and poorly capitalized institutions; many healthy institutions continued to be net acquirers in 1989. In market share terms (bottom panel), thrifts averaged a reduced, one-third share of the market during the 1984-88 period. The decline is less extreme than reported in the Carron and Brumbaugh measure.

*Table 1. Selected Asset Ratios of Thrifts That Passed the QTL Test and Were Capital Sufficient as of December 1989*

Asset Category	Percent of Average Assets										Ten-Year	
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	Average	
Traditional thrift assets	78.1	71.6	75.9	73.8	72.5	68.1	66.4	67.7	69.3	70.8	72.0	
Residential permanent loans	74.0	73.0	69.9	65.4	63.6	59.8	57.8	57.2	58.0	59.3	63.8	
Mortgage-backed securities	3.2	3.6	5.0	7.2	7.8	7.2	7.4	8.8	9.4	9.4	6.9	
Multiclass mortgage securities	NA <sup>a</sup>	NA	NA	NA	NA	NA	NA	0.5	0.7	0.9	0.7	
Other residential assets	1.1	1.1	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.3	1.2	
Real estate development	7.7	7.5	7.4	7.3	7.6	10.0	10.3	10.6	10.8	10.9	9.0	
Residential construction loan	NA	NA	NA	NA	NA	2.0	2.1	2.5	2.7	2.6	2.4	
Direct real estate investment	0.2	0.2	0.3	0.4	0.4	0.5	0.5	0.6	0.6	0.6	0.4	
Nonresidential & land loans	6.1	5.9	5.6	5.5	5.8	6.1	6.1	6.2	6.2	6.1	6.0	
Investments in subsidiaries	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	
Fixed assets	1.7	1.7	1.8	1.7	1.1	1.1	1.1	1.1	1.2	1.2	1.4	
Trading												
Investment assets	10.9	11.4	12.9	14.9	15.7	16.9	18.1	16.3	14.4	12.8	14.4	
Commercial banking												
Non-mortgage loans	1.8	1.7	1.6	1.7	2.3	2.8	3.1	3.2	3.5	3.9	2.6	
Other assets	1.1	1.2	1.6	1.7	1.9	2.0	2.0	2.0	1.9	1.7	1.7	
Total assets (\$millions)	160.0	174.0	203.0	237.0	267.0	281.0	309.0	341.0	385.0	408.0	276.5	
Mortgage banking												
Ratio of net loans serviced to assets <sup>b</sup>	-1.4	-1.1	-0.3	0.6	1.2	1.6	5.1	8.4	9.4	11.7	3.5	

Source: Office of Thrift Supervision, *Thrift Financial Reports* (various quarterly reports). These data exclude institutions in conservatorship.

<sup>a</sup> NA = not available

<sup>b</sup> Net loans serviced = loans serviced for others - loans serviced by others.

**Table 2: Selected Asset Ratios of Thrifts That Failed the QTL Test and/or Were Not Capital Sufficient as of December 1989**

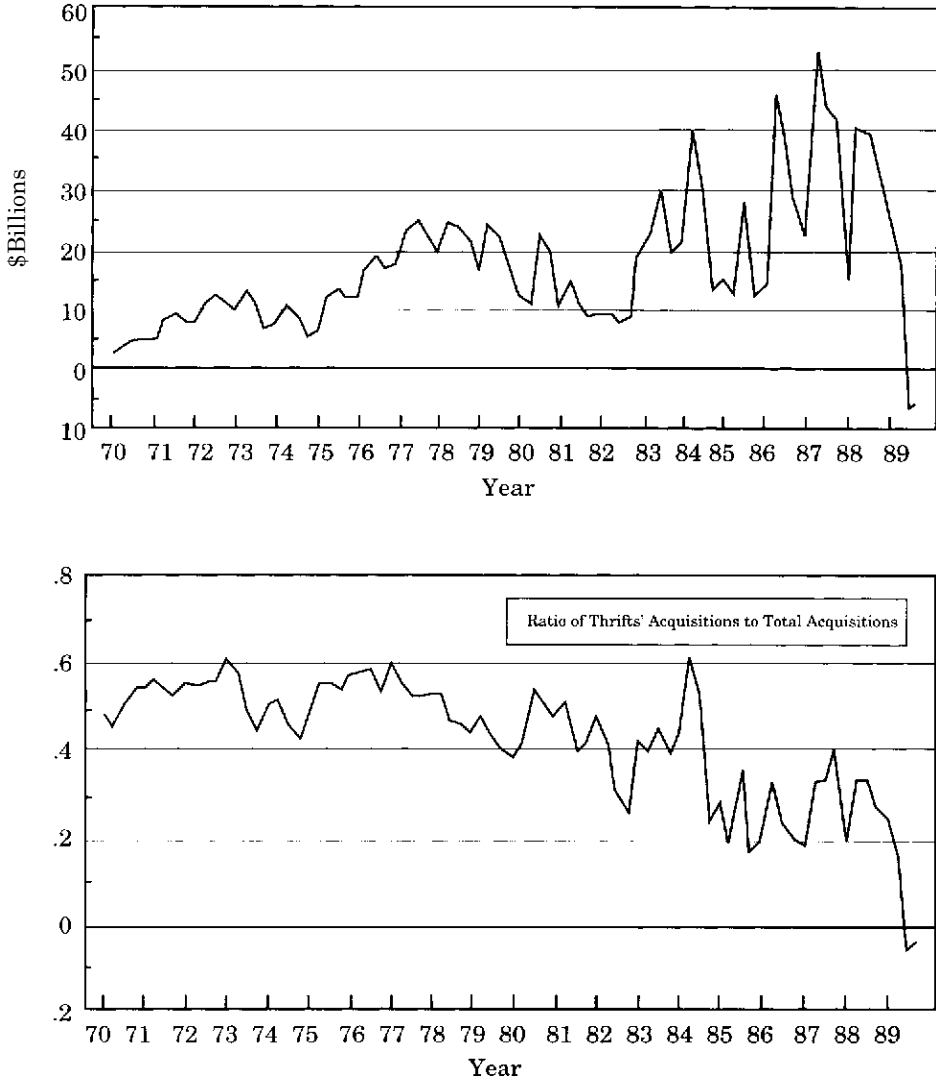
Asset Category	Percent of Average Assets										Ten-Year Average
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	
Traditional thrift-assets	74.3	73.3	70.5	67.2	64.1	56.7	53.8	53.5	53.8	54.7	62.2
Residential permanent loans	69.3	67.8	63.0	56.8	53.3	47.7	45.3	43.7	42.9	43.4	53.3
Mortgage-backed securities	3.8	4.2	6.1	9.0	9.3	7.5	7.0	7.9	8.7	8.7	7.2
Multiclass mortgage securities	NA <sup>a</sup>	NA	NA	NA	NA	NA	NA	0.4	0.8	1.0	0.7
Other residential assets	1.3	1.4	1.5	1.6	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Real estate development	9.0	9.0	9.4	10.0	11.1	15.9	17.3	18.1	18.4	18.8	13.7
Residential construction loans	NA	NA	NA	NA	NA	3.0	3.2	3.5	3.5	3.4	3.3
Direct real estate investment	0.2	0.3	0.5	0.6	0.7	0.8	1.1	1.3	1.8	2.1	0.9
Nonresidential & land loans	6.9	6.8	6.9	7.3	8.4	10.1	10.9	11.1	10.9	11.0	9.0
Investments in subsidiaries	0.3	0.4	0.5	0.6	0.7	0.7	0.8	0.8	0.9	1.0	0.7
Fixed assets	2.0	2.1	2.1	2.0	1.3	1.3	1.3	1.3	1.3	1.3	1.6
Trading											
Investment assets	12.9	13.4	14.6	16.3	17.6	18.8	19.6	18.9	18.1	16.7	16.7
Commercial banking											
Non-mortgage loans	2.1	2.3	2.4	2.9	3.9	5.1	5.7	6.0	6.2	6.6	4.3
Other assets	1.2	1.4	2.5	2.9	3.2	3.5	3.5	3.4	3.5	3.2	2.8
Total assets (\$millions)	157.0	175.0	214.0	258.0	293.0	322.0	353.0	382.0	518.0	516.0	318.8
Mortgage banking											
Ratio of net loans serviced to assets <sup>b</sup>	1.4	1.5	2.2	2.9	4.3	5.3	9.9	14.8	15.2	17.3	7.5

Source: Office of Thrift Supervision, *Thrift Financial Reports* (various quarterly reports). These data exclude institutions in conservatorship.

<sup>a</sup> NA = not available

<sup>b</sup> Net loans serviced = loans serviced for others - loans serviced by others.

Figure 2. Thrift Role in New Residential Mortgage Assets, 1970-89 (Quarterly)



Sources: U.S. Department of Housing and Urban Development, *Survey of Mortgage Lending Activity*; U. S. Department of Treasury Office of Thrift Supervision, unpublished data on net mortgage acquisitions.

Carron and Brumbaugh also present data on the change in thrift holdings of residential mortgages relative to total *outstanding* mortgages. Their results suggest two extreme periods of net sales of mortgage assets, in 1982 and again in 1989. For instance, their figure 2 notes that 71 percent of *all* outstanding residential mortgages were sold by savings and loan associations insured by the Savings Association Insurance Fund alone in the third quarter of 1982.

A more consistent way to measure the thrifts' role in the provision of mortgage credit is to look at their share of the growth of such credit rather than the total outstanding stock. Figure 3 provides annual flow of funds data from the Board of Governors of the Federal Reserve on thrift acquisition of whole residential mortgage loans and mortgage-backed securities. Not surprisingly, the results are similar to the "net acquisition" data, differing only in that they include retirements of principal. On an annual basis, thrifts were net providers of mortgage credit each year in the 1980s until 1989. Moreover, except for 1981-82—when record interest rates debilitated the thrift industry—and 1989, the industry still provided, on average, 35 percent of the new home mortgage credit.

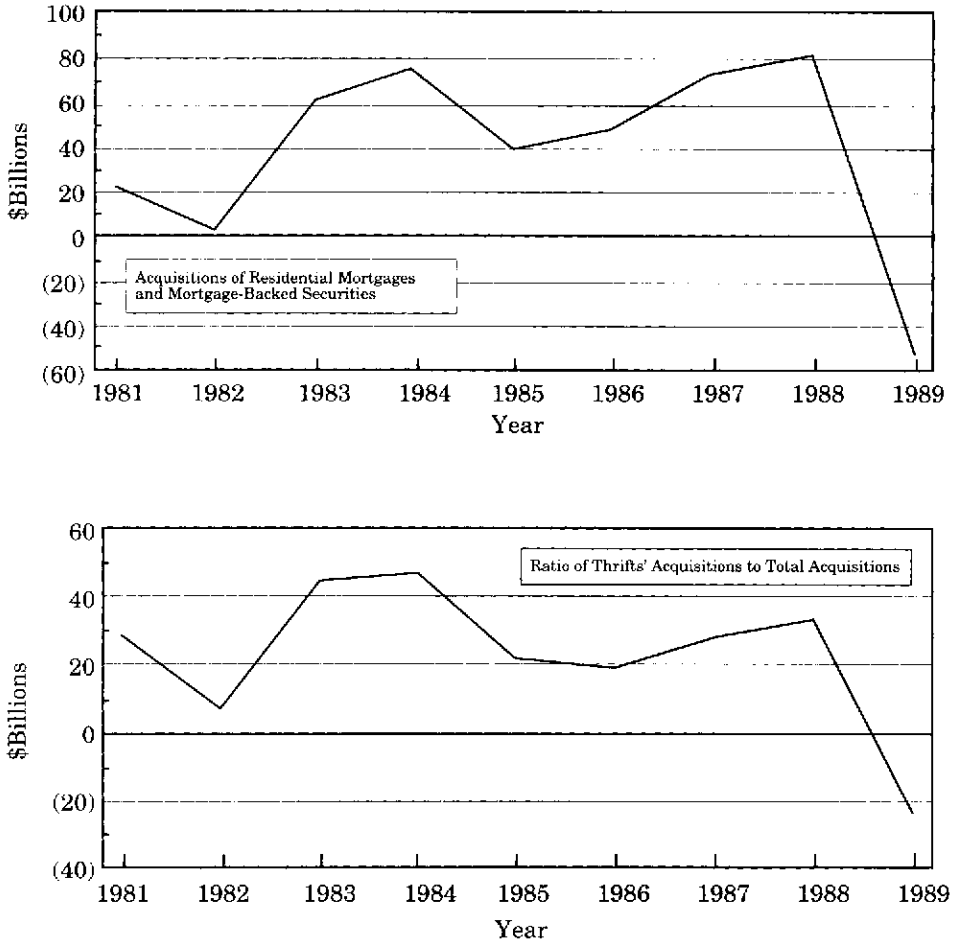
### **Thrift profitability as residential mortgage lenders**

Although Carron and Brumbaugh acknowledge that thrift mortgage lending business "viewed in the entirety, may be profitable," they claim thrifts "may have profited from the noninvestment aspects of the mortgage business." This view follows from their general conclusion that investment in residential mortgages by thrifts has been unprofitable. That finding is based on an analysis of spreads on Freddie Mac participation certificates (PCs) that found inadequate returns both on a realized and on an options-adjusted basis.

#### *Residential mortgage lenders have been profitable*

Well-capitalized thrifts that have specialized in home mortgage lending during the past five years have been profitable, even in 1989, when the yield curve was flat or negative.<sup>2</sup> Such institutions averaged 70 percent of their portfolio in residential loans and mortgage-backed securities, and nearly three-fourths of their total income was from traditional mortgage assets during the period. Fee income and income on other investments were only minor contributors. The average return on assets for such thrifts during the past

Figure 3. Thrift Net Acquisition of Residential Mortgage Assets, 1981-89 (Annual)



Source: Board of Governors of the Federal Reserve System, Flow of Funds Data.

five years was 75 basis points (see table 3). The average return on equity was 15.6 percent. (In the future, lower leverage ratios will make such results harder to attain.) These results are consistent with studies of profitability of banks specializing in real estate lending.<sup>3</sup>

*Table 3. Historical Returns for Capital-Sufficient Thrifts Currently Passing QTL Test*

	1985	1986	1987	1988	1989	Five-Year Average: 1985-89
Return on assets (Basis Points)	77	101	76	69	53	75
Return on equity (Percent)	22.2	23.8	12.9	10.5	9.3	15.6

*Source:* Office of Thrift Supervision. *Thrift Financial Reports* (various quarterly issues). These data exclude institutions in conservatorship.

How does this profitability square with the arguments and evidence presented by Carron and Brumbaugh? It is consistent with their argument that during most periods (“when interest rates decline, remain stable, or rise by a sufficiently small amount”), thrifts earn a positive spread from portfolio lending. It is inconsistent with their thesis—based on evidence during the late 1980s on thrift profits on Freddie Mac PCs—that home mortgage lending was not profitable.

### *Evidence on profitability of mortgage instruments*

Carron and Brumbaugh conclude that mortgage lending by thrifts is not viable based upon their review of “marginal” investments in Freddie Mac PCs. This approach attempts to isolate only the profits from arbitrage between such instruments and similar-maturity treasuries, eliminating returns from maturity intermediation. This approach was previously established by Lea (1988) and Hendershott (1989).<sup>4</sup> Carron and Brumbaugh also omit the returns of intermediating across denominations and of assuming default risks inherent in holding whole loans.<sup>5</sup> To the extent that all these intermediation functions are eliminated, the required rate of return on equity invested should be near the risk-free rate, rather than the 15 percent they suggest.

Within their framework, Carron and Brumbaugh find a negative spread on holding Freddie Mac PCs, leading to the conclusion that “investment in mortgages has been unprofitable for thrifts for most of the past six years.” Both Lea and Hendershott, looking at whole loans rather than PCs, get substantially different—although also weak—returns, suggesting that estimates of risk-adjusted returns are quite sensitive to estimation procedures. Thus, Carron and Brumbaugh’s empirical estimates must be examined carefully before their conclusion is accepted.

Carron and Brumbaugh calculate two estimates of the return on holding Freddie Mac PCs: an actual historical estimate and an “expected” or option-adjusted estimate. Both give similar negative spreads. They estimate the actual spread over treasury rates for Freddie Mac PCs (79 basis points during the past six years) and a model-generated, option-adjusted spread (50 basis points to 100 basis points) during the same period. They find these spreads inadequate to meet thrifts’ marginal funding costs over treasuries, estimated at 94 basis points. Given the crucial importance of the 94-basis-point estimate, it bears close scrutiny.<sup>6</sup>

Attempting to overcome the “grave limitations” of published data, the authors attempt to estimate the “all-in, marginal cost of funds” including administrative expenses. However, their bottom line marginal cost figure of 94 basis points includes 73 basis points of “*average administrative*” (emphasis added) expenses estimated from a single year’s (1988) data. Moreover, studies conducted at the OTS show that average industry administrative costs in the late 1980s were raised by high-cost thrifts that invested heavily in nontraditional assets. Thus, using data for all thrifts likely overstates costs associated with traditional mortgage assets.

Furthermore, the concept of including differential administrative costs seems flawed. If an institution is acquiring a standard financial instrument, such as a PC, the marginal cost should be minimal and no higher than the cost of holding treasuries. If the use of PCs is a proxy for acquisition of whole loans, the points charged must be netted against administrative costs incurred.

The remaining 21 basis points of marginal cost represent the differential interest expense over treasuries. The “proprietary” model used was estimated using only high-cost, 11th Federal Home Loan Bank District cost of funds; no attempt is made to show that west coast costs are typical of the rest of the nation. Moreover, the equi-

librium marginal rate estimated by the model presumably is higher than actual costs, because the model that they used included lagged values in a period of falling market interest rates.

A more fundamental problem is that the returns and the cost of funds are not estimated consistently. The returns on mortgages are calculated over the expected life of the loans, using a large number of possible future interest rate scenarios. To be consistent, the cost of funds should be calculated using a similar approach, taking into account the cost of deposits that would be required to finance the mortgages over their life. This omission is important during the time period analyzed, given the well-known lag between market and thrift deposit rates. With treasury rates generally declining over the period, deposit rates would have been expected to decline. Therefore, expected cost of deposits likely would have been lower than Carron and Brumbaugh posit.

In summary, recent history shows evidence that many thrifts have continued to invest in residential mortgage assets and have registered profits by doing so. Evidence presented by Carron and Brumbaugh on the marginal profitability of Freddie Mac PCs, in contrast, indicates that spreads have not been sufficient.<sup>7</sup> However, limitations in their analysis suggest that additional empirical work may be necessary to substantiate that conclusion. Furthermore, solely examining marginal returns is not sufficient on theoretical grounds. Total profitability depends on the return on all assets held—not just on the marginal investment. Finally, a complete study of profitability should span at least a complete interest rate cycle to average in all features of thrift mortgage lending profitability.

## **Policy matters and conclusion**

Carron and Brumbaugh raise several policy issues. The idea that user fees be imposed on government-sponsored enterprises to compensate the government for its implicit guarantee seems reasonable and would aid thrifts on the yield side. Setting of higher capital standards for such agencies would also help “level the playing field.”

Their main policy conclusion, however, is that the QTL test should be eliminated and thrifts should “evolve into commercial banks.” This suggestion must be viewed cautiously because thrifts diversified largely into commercial real estate and land loans rather than

into more traditional, non-QTL bank assets when given the opportunity in the 1980s. Nonetheless, their findings seem to imply that, even without a thrift charter, insured depositories cannot profit from, thus should not have *any* role in, holding home mortgages—a conclusion that seems rather far reaching.<sup>8</sup>

As an alternative to being eliminated, Carron and Brumbaugh seem to argue that the QTL test should be “relaxed” to give thrifts more flexibility. Most analysts would agree with this argument because, in principle, such constraints are nonoptimal. However, the relaxation of the QTL test is unlikely to change the portfolio composition of most thrifts, because it has not been a binding constraint for most institutions. Four out of every five thrift institutions still voluntarily hold sufficient mortgage-related assets to more than satisfy the 70-percent QTL test that will go into effect in mid-1991, and even a higher proportion exceed the 60-percent requirement that has been in place. Despite their “main conclusion” that thrifts have been constrained by law from profitable portfolio adjustments, Carron and Brumbaugh present no evidence that suggests that this constraint has been the case for most institutions.

A scenario that seems most likely, as Carron and Brumbaugh point out, is that a smaller, more efficient thrift industry is the likely outcome of FIRREA and of current competitive forces. No matter what their charter, insured depositories that specialize in home mortgage lending and that achieve economies of scope and scale are the most likely candidates for active participation in residential mortgage markets. The key research question is not a focus on the profitability of holding a single MBS product. Rather, the important issue is how residential mortgage lending fits into the integrated intermediation function of thrifts as insured depositories and how, or if, one can attribute profits separately to any particular residential mortgage activity.

## Author

At the time this comment was written, James L. Freund was acting chief economist at the Office of Thrift Supervision (OTS). He is currently chief of the Financial and Industry Analysis Section, Division of Research and Statistics, Federal Deposit Insurance Corporation (FDIC). This comment was a joint effort of the staff of the Office of the Chief Economist; contributors include Eric Hirschhorn, Michael Bradley, Gregor MacDonald, and Doug Gordon. The author also wishes to acknowledge the helpful input of John Feid and Don Bisenius of the Federal Housing Finance Board and Edward Golding of Freddie Mac. The views expressed in this comment, and any errors therein, are the responsibility of the author and do not represent the official position of OTS, the Department of the Treasury, or the FDIC.

## Endnotes

1. Table 1 in their paper is hard to interpret. All assets are not included in their totals, making it difficult to assess diversification. Moreover, their asset classification scheme can be confusing. For instance, "trading" assets are not defined in their table; using the definition of investment assets in the thrift financial report yields a much higher estimate in 1980 (more than 11 percent versus 0.5 percent).
2. Eric Hirschhorn, "Profiles in Profitability," Special Report (Washington, DC: Department of Treasury, Office of Thrift Supervision, 1990); Gregor D. MacDonald, "The Profitability of Home Mortgage Lending: A Review of the Experience of Well-Capitalized Thrifts," (Washington, DC: U.S. Department of Treasury, Office of Thrift Supervision, 1990).
3. Benton E. Gup and John R. Walter, "Top Performing Small Banks: Making Money the Old-Fashioned Way," *Economic Review* (November/December 1989): 23-35; Robert A. Eisenbeis and Myron L. Kwast, "Are Real Estate Specializing Depositories Viable? The Evidence from Commercial Banks," Finance and Economics Discussion Series no. 88 (Washington, DC: Board of Governors of the Federal Reserve System, 1989).
4. Michael J. Lea, "Housing and the Capital Markets" (Working Paper, MIT Center for Real Estate Development, 1988); Patric H. Hendershott, "The Future of Thrifts as Home Mortgage Portfolio Lenders," *The Future of the Thrift Industry*, Proceedings of the Fourteenth Annual Conference (San Francisco: Federal Home Loan Bank of San Francisco, 1989).
5. George G. Kaufman, "A Proposal for Eliminating Interest-Rate Ceilings on Thrift Institutions," *Journal of Money, Credit, and Banking* 4 (1972): 735-43.
6. It is also worth noting that in both cases Carron and Brumbaugh ignore profits garnered by thrifts in swaps from "excess servicing rights," which is the difference between the yield from the underlying mortgage assets and the yield at which those assets were sold to Freddie Mac, minus the actual cost of servicing.

7. The authors allude to adjustable-rate mortgages (ARMs) as likely to be unprofitable. J. Douglas Gordon, Jan E. Luytjes, and John J. Feid, "Thriffs' Pricing of Adjustable-Rate Mortgages," Research Paper no. 90-2 (Washington, DC: U.S. Department of Treasury, Office of Thrift Supervision, April 1990) present evidence that, on an option-adjusted basis, ARMs were profitable for efficient thrifts throughout the 1986-89 period.
8. An unanswered question is which investors have a lower cost of funds than insured depositories and, therefore, should find it profitable to hold home mortgages?