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THE IMPACT OF TAX REFORM ON THE MORTGAGE MARKET

BY

KENNETH T. ROSEN
AND
JANET SPRATLIN

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THE IMPACT OF TAX REFORM
ON THE MORTGAGE MARKET

by

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Real Estate Research Department.

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Salomon Brothers Inc.

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Brothers Inc.
Impact of Tax Reform on the Mortgage Market

Introduction

The Tax Reform Act of 1986 will significantly affect supply and demand for mortgage credit and the structure of the mortgage finance system over the next several years. Although a variety of forces are involved that operate in different directions and frequently offset one another, we project that the net long-term effect of the new tax law will be to lower the demand for mortgage credit and increase the supply of funds available, which should lower the spreads between mortgages and Treasury securities.

The sharply lower marginal tax rates for individuals and the restrictions on the deductibility of interest on home mortgage loans (to the purchase price plus improvements on the home) will tend to reduce the demand for home mortgage credit. This will be partially offset by the elimination of deductions on consumer interest payments, which will encourage households with enough eligible equity to consolidate their nonhousing debt into a home equity loan -- thus increasing the demand for mortgage credit.

Rental and commercial real estate will be especially hard-hit by the new tax law; as a result, the demand for mortgage credit for
real estate development over the next several years will be substantially below the record levels in 1985. The lowering of marginal tax rates, the lengthening of the depreciable life of investment real estate assets, the elimination of accelerated depreciation, and the sharp restrictions on the ability to use real estate tax losses to offset nonreal estate income will reduce tax-oriented investors' demand for real estate assets. The substantial oversupply of space in almost all categories of investment real estate will further weaken investment demand.

On the positive side, tax reform will substantially improve the real estate market's accessibility to mortgage funds. The introduction of a new conveyance vehicle for mortgage debt, the real estate mortgage investment conduit (REMIC), will enhance the ability to structure mortgage debt obligations in a way that will broaden their appeal to general capital market sources. This structured financing vehicle, which is a tax-efficient version of the collateralized mortgage obligation (CMO), should increase the supply of credit to the residential and commercial mortgage markets.

Offsetting this increase in fund flows from the capital market to the mortgage market will be some decrease in the holding of mortgages by the savings and loan industry. The tax act removes much of the tax advantage to savings and loans of holding a large portion of their portfolio in mortgages by reducing the bad debt reserve provision in the current tax structure. This reduction in
the tax incentive to hold mortgages will encourage savings and loan associations to diversify their debt portfolio out of the mortgage area. On balance, we expect that the growth in the holdings of mortgage securities by nontraditional mortgage investors will outweigh any contraction in mortgage holdings by the thrift industry, resulting in a net increase in the supply of credit to the mortgage market.

Finally, the wide variety of new investment opportunities available using REMIC securities will encourage many institutions to reevaluate their basic investment and business strategies. For example, many mortgage lenders will be motivated to experiment with new types of mortgage products, because nonstandard mortgages can now be packaged into readily saleable REMIC securities. On the other hand, because virtually any major financial institution now has the option and incentive to be both an issuer of and investor in REMIC securities, we expect that new REMIC structures will be driven increasingly by the diverse requirements of investors, rather than by the needs of a rather more narrow group of issuers.

Tax Reform and the Demand for Residential Mortgage Credit

The recently passed tax reform act retains most of the deductibility for mortgage interest payments and property taxes on principal residences and second homes. However, deductions of mortgage interest payments are restricted to a mortgage that covers
the initial purchase price, plus the value of improvements on the home. Interest on borrowings above this adjusted initial equity basis is not deductible except for borrowings for educational or medical expenses. Because owner-occupied housing has retained most of its tax advantages and many alternative tax shelters have been eliminated, many analysts in the field have concluded that tax reform will increase the demand for owner-occupied housing.

This conventional analysis fails to address two key points:

(1) The after-tax cost of owner occupancy will rise substantially for households that are currently in the 30%-50% marginal tax bracket; and

(2) The restriction on the deductibility of mortgage interest for borrowings against equity will reduce the borrowing capacity of many households.

**After-Tax Cost of Owner-Occupied Housing**

The after-tax cost of owner-occupied housing is equal to mortgage payments plus property tax payments minus the tax savings from the deductibility of these payments. The tax savings depend directly on the marginal tax bracket of the households. (We ignore nondeductible insurance, maintenance and principal repayments made by the household.)
After-Tax Cost of Owner-Occupied Housing = (Mortgage Interest Payments and Property Tax Payments) x (1 - Marginal Tax Rate).

Using this simple formulation, we calculated the after-tax cost of housing for the current- and post-tax reform environment. In the post-tax reform environment, the after-tax cost of owner-occupied housing will rise by 11%-13% for middle-income households and by as much as 44% for upper-income households (see Figure 1).

This rise in the relative after-tax price of housing is caused by the reduced value of deductions for mortgage interest and property tax payments. Each $1.00 of a deduction is now worth only $0.28 of tax savings versus $0.30-$0.50 of tax savings under the old tax rate environment. This rise in relative price will, all else equal, over time reduce the consumption of owner-occupied housing. This in turn will translate into lower relative house prices.

Relative Value of Owner-Occupied Housing

The precise impact of these changes in the relative price of owner occupancy on the value of owner-occupied units is difficult to determine. First, we know that households adjust their consumption of housing only slowly in response to changes in
Figure 1. Tax Reform and the Cost of Home Ownership -- Mortgage Interest and Property Tax Costs ($100,000 House, $80,000 Mortgage at 10% and Property Taxes at 1.5% of Value)

<table>
<thead>
<tr>
<th>Household Currently in 50% Bracket</th>
<th>Current Law</th>
<th>Reform Implemented</th>
</tr>
</thead>
<tbody>
<tr>
<td>Before Tax Cost</td>
<td>$9,500</td>
<td>$9,500</td>
</tr>
<tr>
<td>Tax Savings</td>
<td>4,750</td>
<td>2,660</td>
</tr>
<tr>
<td>After-Tax Cost</td>
<td>4,750</td>
<td>6,840</td>
</tr>
<tr>
<td>Change in Cost</td>
<td>--</td>
<td>+2,090</td>
</tr>
<tr>
<td>Percentage Change in Cost</td>
<td>--</td>
<td>+44%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Household Currently in 35% Bracket</th>
<th>Current Law</th>
<th>Reform Implemented</th>
</tr>
</thead>
<tbody>
<tr>
<td>Before Tax Cost</td>
<td>$9,500</td>
<td>$9,500</td>
</tr>
<tr>
<td>Tax Savings</td>
<td>3,325</td>
<td>2,660</td>
</tr>
<tr>
<td>After-Tax Cost</td>
<td>6,175</td>
<td>6,840</td>
</tr>
<tr>
<td>Change in Cost</td>
<td>--</td>
<td>+665</td>
</tr>
<tr>
<td>Percentage Change in Cost</td>
<td>--</td>
<td>+11%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Household Currently in 25% Bracket</th>
<th>Current Law</th>
<th>Reform Implemented</th>
</tr>
</thead>
<tbody>
<tr>
<td>Before Tax Cost</td>
<td>$9,500</td>
<td>$9,500</td>
</tr>
<tr>
<td>Tax Savings</td>
<td>2,375</td>
<td>1,425</td>
</tr>
<tr>
<td>After-Tax Cost</td>
<td>7,125</td>
<td>8,075</td>
</tr>
<tr>
<td>Change in Cost</td>
<td>--</td>
<td>+950</td>
</tr>
<tr>
<td>Percentage Change in Cost</td>
<td>--</td>
<td>+13%</td>
</tr>
</tbody>
</table>
employment or family status. Thus, it may take up to ten years for the adjustment process to occur. In addition, more than one half of U.S. owner occupants has no mortgage on their home, and only 23% took itemized deductions for mortgage interest payments in 1984. Thus, the after-tax cash cost of owning will not change for many home owners (although their opportunity costs will change). However, the proportion of itemized deductions is highly concentrated in the upper-income groups.

Despite these caveats, we expect a capitalization of the loss of tax deductions. If the loss in tax deductions were to be fully capitalized, owner-occupied houses in the high end of the market would appreciate by 2.1% less per year than without tax reform. The average house would show a smaller effect with appreciation of 0.3% less per year.1 These price effects are modest when viewed in the context of other factors that influence housing prices, such as changes in income, employment and interest rates. However, over a decade this "tax effect" will cut relative price gains in the housing market as households adjust their consumption patterns. Thus, removal of a substantial portion of the tax subsidy to housing will, all else equal, reduce the demand for mortgage credit.

A final adjustment to the change in the value of the tax deduction for mortgage interest will be the home owner's
propensity toward a 15-year rather than the traditional 30-year mortgage. The 15-year mortgage has higher monthly payments, but it offers a lower interest rate and a much lower cumulative level of mortgage interest payments over the life of the loan. This faster equity build-up will be especially attractive to the household that is not constrained by affordability factors and that is sensitive to the decreased value of its mortgage interest deductions. Offsetting this increased demand for 15-year loans is the fact that once the home loan is paid off, the homeowner is restricted to borrowing no more than the equity in the home.

**Borrowings Against Home Equity**

The new tax law creates conflicting incentives for households that want to borrow against the equity in their home. The elimination of the deduction for interest on consumer loans provides a large incentive to consolidate consumer loans into a mortgage against one's home. Many consumers will choose home equity loans at 8%-11% over consumer loans with nondeductible interest rates of 12%-20%.

Offsetting this incentive to consolidate consumer debt is the restriction on deductibility of mortgage interest payments to a mortgage that covers the initial purchase price plus the value of the improvements on the home plus $100,000.

This restriction on borrowings against home equity will have a significant impact. To illustrate, we consider two
representative homes: the median-priced home in California, which is now worth $130,000, and the median-priced home in the New York metropolitan area, which is worth $165,000. The equity that is accessible for a deductible loan varies depending on the purchase price, which in general reflects the date of the home purchase. We obtained the purchase price in earlier years by applying the appropriate regional rates of housing price inflation, and we estimated the current amount of equity in the home by assuming that, at the time of purchase, the home owner took out an 80% mortgage and has not refinanced in the interim.

The results are startling: For a house purchased in 1970 in California, only 9% of the existing home equity is eligible for a deductible loan. This percentage increases to 13%, 41% and 66% respectively, for California homes purchased in 1975, 1980 and 1985. In New York, because of the rapid appreciation in the past two years, even for a house purchased as late as 1985, only 47% of existing home equity is eligible for a deductible mortgage loan (see Figure 2).

Clearly, the vast majority of home equity is no longer available for a tax-deductible mortgage loan. Only if the household moves to a newly purchased home will it be able to monetize the majority of the equity in its home. We expect an increase in the sale of existing homes to be one of the responses to the new tax law.
Figure 2. Equity Eligible for Deductible Mortgage Loan

<table>
<thead>
<tr>
<th>Year</th>
<th>Original Purchase Price</th>
<th>Balance Due on Mortgage</th>
<th>Equity Eligible Old Law</th>
<th>Equity Eligible New Law</th>
<th>Equity Eligible New/Old</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>California</strong> ($130,000)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1970</td>
<td>$24,128</td>
<td>$14,013</td>
<td>$115,987</td>
<td>$10,115</td>
<td>9%</td>
</tr>
<tr>
<td>1975</td>
<td>41,100</td>
<td>28,315</td>
<td>101,685</td>
<td>12,785</td>
<td>13</td>
</tr>
<tr>
<td>1980</td>
<td>98,040</td>
<td>75,836</td>
<td>54,164</td>
<td>22,204</td>
<td>41</td>
</tr>
<tr>
<td>1985</td>
<td>117,680</td>
<td>93,550</td>
<td>36,450</td>
<td>24,130</td>
<td>66</td>
</tr>
<tr>
<td>1987E</td>
<td>130,000</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td><strong>New York</strong> ($165,000)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1970</td>
<td>$28,200</td>
<td>$16,378</td>
<td>$148,622</td>
<td>$11,822</td>
<td>8%</td>
</tr>
<tr>
<td>1975</td>
<td>44,000</td>
<td>30,313</td>
<td>134,687</td>
<td>13,687</td>
<td>10</td>
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<tr>
<td>1980</td>
<td>62,000</td>
<td>47,928</td>
<td>117,072</td>
<td>14,072</td>
<td>12</td>
</tr>
<tr>
<td>1985</td>
<td>134,000</td>
<td>106,296</td>
<td>58,704</td>
<td>27,704</td>
<td>47</td>
</tr>
<tr>
<td>1987E</td>
<td>165,000</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td><strong>United States</strong> ($82,000)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1970</td>
<td>$23,000</td>
<td>$13,358</td>
<td>$68,642</td>
<td>$9,642</td>
<td>14%</td>
</tr>
<tr>
<td>1975</td>
<td>35,300</td>
<td>24,320</td>
<td>57,680</td>
<td>10,980</td>
<td>19</td>
</tr>
<tr>
<td>1980</td>
<td>62,200</td>
<td>48,081</td>
<td>33,919</td>
<td>14,119</td>
<td>42</td>
</tr>
<tr>
<td>1985</td>
<td>75,500</td>
<td>59,891</td>
<td>22,109</td>
<td>15,609</td>
<td>71</td>
</tr>
<tr>
<td>1987E</td>
<td>82,000</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>
Impact on the Demand for Commercial Mortgage Credit

Four major features of the tax reform act will significantly affect the commercial real estate market:

(1) The depreciable life of real estate assets will lengthen from 19 years to 27.5-31.5 years. The plan will eliminate the use of accelerated depreciation.

(2) Effective capital gains tax rates will increase. For top-tax-bracket investors, the effective capital gains tax rate will rise to 28% from 20%.

(3) The ability to use real estate tax loss to offset non-real estate income will be reduced. One of the most important provisions of the bill -- and the key to the elimination of tax shelters -- is the restriction on individuals' ability to shelter earned income and "portfolio" income (dividends and interest), with losses arising from "passive" activities. Passive-activity losses will be able to offset only passive-activity gains. All limited-partnership interests will be treated as passive activities even if the limited partner materially participates in the business activity. Rental real estate activity will be considered passive regardless of the taxpayer's material participation. There will be special rules for individuals whose income is below $150,000. Individuals will be allowed to annually deduct up to $25,000 of passive losses (to the
extent that they exceed passive activity gains) from rental real estate if the individual "actively participates." The $25,000 deduction will be reduced by 50% of the individual's adjusted gross income above $100,000.

These limitations on investment interest deductions and passive losses will be phased in over a four-year period. Deductions will be reduced by 35% in 1987, by 60% in 1988, by 80% in 1989, and by 90% in 1990. Finally, investors will be able to carry forward unused annual tax shelter losses, and these can be used at time of sale.

(4) The maximum Federal income tax rate will be lowered to 28%, which will reduce the value of the deductions normally associated with real estate. In addition, the alternative minimum tax provisions will be tightened.

All of these tax changes -- combined with the oversupply of space -- will reduce the demand for mortgage credit for new commercial developments by 30%-40% from the peak levels of 1985.

For residential and commercial mortgage markets combined, we expect that tax reform will lower long-term demand for mortgage credit, although some short-term offset will result from households consolidating consumer loans into home equity loans.
Tax Reform and the Supply of Mortgage Credit

The provision in the new tax law for a new type of structured financing vehicle (a REMIC) will facilitate the creation of mortgage investments that better meet the needs of traditional capital market investors. The resultant broadening of the investor base in mortgage securities will lead to an increase in the supply of funds available to mortgage borrowers.

CMO Development Limited by Old Tax Law

Although the cash flow characteristics of mortgage pass-through securities have tended to limit their appeal to a fairly narrow set of institutional investors, the range of mortgage investors has widened significantly since the 1983 introduction of CMOs: mortgage securities with short-, medium- and long-term maturities.3 The universe of mortgage investors traditionally has been dominated by the thrifts, whose long experience with mortgage lending made them natural investors in pass-through securities. In contrast, most other institutional investors have gravitated toward assets with more defined maturity profiles that more closely approximate those of their liability portfolios. This began to change with the advent of CMOs; now commercial banks and money market funds are purchasing short-term "A" bonds; insurance companies seeking to match liabilities such as Guaranteed Investment Contracts (GICs) are being attracted to intermediate-term CMO tranches; and pension
funds and individual retail investors are buying the longer-maturity "D" and "Z" bonds.

Despite the strong investor demand for CMOs, the development of this market has been constrained by an Internal Revenue Service (IRS) ruling that refused grantor trust status to any trust issuing multiple classes of interests that divide ownership of investment assets (such as mortgages) or the cash flow from a pool of assets into nonpro rata pieces. To avoid taxation at the level of the trust, CMOs typically have been issued in the form of collateralized debt. Issuance of a debt security creates accounting and regulatory problems for some issuers, because it generally results in a liability on the issuer's balance sheet. Moreover, the tailoring of CMO structures to satisfy the IRS tests for a "true" debt instrument normally reduces the efficiency of the CMO -- that is, it limits the amount of CMO bonds that can be issued against a particular pool of mortgage collateral.

REMIC Legislation Removes Tax Constraints on Issuers

The REMIC legislation eliminates the need for issuers to balloon their balance sheets (or to establish special-purpose finance subsidiaries to issue CMOs) by allowing the issuance of REMICs -- multiple-class mortgage securities that qualify as asset sales for tax purposes. This new structure also eliminates the need for a variety of structural inefficiencies that are required for
CMOs and provides issuers with tremendous flexibility to create new types of mortgage securities that are tailored to meet specific investor needs.5

For example, REMIC permits the use of a senior/subordinated structure that will enable issuers of nonagency-backed REMICs to, in effect, self-insure whenever pool and/or hazard insurance -- both of which typically are necessary to obtain an investment-grade rating on securities backed by whole loans and conventional mortgages -- are either unavailable in the private mortgage insurance market or prohibitively expensive. Since the senior pieces of such REMIC securities can be rated AA or AAA, they are expected to compete with agency pass-throughs and agency-backed REMICs for investment dollars from the widest possible range of investors. The subordinated pieces, which will carry high yields and below-investment-grade ratings, are expected to appeal to investors in high-yield corporates.

Although these junior-class REMICs have been referred to as "mortgage junk bonds," many investors will find them more attractive than much of the corporate high-yield market. They will carry the benefit of lower leverage: An investor holding a junior interest in an 80% loan-to-value mortgage can expect to get much of his money back even if the loan defaults. Moreover, the risks involved in a junior-class REMIC will be qualitatively different from those of a high-yield corporate. An investor in a high-yield residential mortgage security is subject to an already diversified
risk (that many home owners making independent decisions will default) in contrast to the undiversified "event risk" in high-yield corporates (for example, that management will make a poor business decision or that industry-specific changes in the economic environment will adversely affect the firm).

**REMICS Provide Advantages to Investors**

From the investor's perspective, REMICS offer some distinct advantages over CMOs.

1. They are qualified mortgage investments for thrifts and eligible for investment by REITS.

2. Foreign investors are not subject to the 30% withholding tax, regardless of the issue date of the underlying mortgage collateral.

3. Since investors in REMIC multiclass pass-throughs will actually own a share in the collateral, rather than a bond secured by the mortgages, some will view the credit quality of a REMIC multiclass pass-through as superior to that of a comparable CMO.

4. The residual piece of a REMIC can now be sold freely to investors seeking investments with countercyclical return profiles without resorting to the owner's trust structure, which is currently necessary with the CMO. REMIC has clarified the taxation
of residual income and provides partial tax-free treatment to pension plans with respect to their income from CMO equity-type investments, reversing full taxability under current law of income from such investments through Owners' Trusts. Moreover, investors can expect the secondary market in REMIC residuals to be significantly more liquid than that for CMO residuals, because it will not be constrained by the unlimited liability and accompanying restrictions on transferability that are a necessary part of the CMO owner's trust structure.

(5) Because of the flexibility afforded REMIC issuers, investors can expect a wide range of REMIC structures, including the following:

- Monthly, quarterly, semiannual, and annual payment frequencies;
- Senior/subordinated structures;
- Coupon stripping; and
- Floating-rate securities (pursuant to Treasury regulations yet to be issued).

These advantages to the REMIC structure will bolster investor demand for mortgage securities. With the advent of REMICs, the
original promise of the CMO structure -- that it would open the mortgage market to the full range of institutional investors -- may finally be fulfilled.

The attractiveness of these new types of mortgage investments will be further enhanced by forthcoming regulatory changes that will affect the "repoability" of nonagency residential mortgage securities, thereby reducing their financing costs. The pending regulatory change will make most CMOs and REMICs repoable at a 5% margin and will also make SMMEA-qualified private pass-throughs eligible repo collateral. When these new regulations are in place, repo financing for CMOs, REMICs and SMMEA-qualified private pass-throughs will be available for only a few basis points above the rate for similar agency securities.7

In contrast, broker dealers currently are prohibited from lending against any privately issued pass-throughs, although agency pass-throughs (GNMAs, FNMA and FHLMCs) and agency-issued CMOs are repoable at a 3%-4% margin. All other CMOs are treated like corporate bonds and are subject to a 25% margin.

Tax Law Reduces Demand for Alternative Investments

In addition to the new investors who will be pulled into the mortgage securities market by the new REMIC securities, other investors will be pushed into considering mortgage investments
because the new tax law makes some alternative investments relatively less attractive.

Broad-based tax changes will motivate a wide range of investors to examine mortgage investments more closely. For example, the eventual elimination of the preferential rate on capital gains reduces the relative attractiveness of equities versus fixed-income investments. Similarly, the reduction of the marginal tax rate reduces the relative attractiveness of tax-exempt bonds versus taxable fixed-income investments.

Other pertinent changes are industry specific. For example, previously, commercial banks could limit their tax liabilities via leveraged purchases of municipal bonds -- a much less attractive strategy under the new tax law, because banks can no longer deduct the interest expense of carrying municipals. Banks are expected to replace maturing municipals with higher-yielding taxable securities. Similarly, individual investors will find the relative attractiveness of taxable fixed-income investments such as mortgage securities enhanced by the repeal of many of the tax advantages of real estate tax shelters.

Thrifts' Incentives to Hold Mortgage Investments Decreased

In contrast, the thrift industry has been subject to tax changes that reduce the relative attractiveness of mortgage
investments. Because thrifts account for approximately one quarter of all mortgage securities currently held, any shift in thrift behavior is potentially important to the mortgage securities market and bears closer scrutiny.

Thrifts currently have a strong tax incentive to invest in mortgages. Under Section 593 of the Tax Code, thrifts can choose the "percentage method" of reserving for loan losses. Using the percentage method, any savings and loan association holding 82% of its assets in qualified mortgage investments, cash and Government securities is allowed to deduct up to 40% of its net income in the form of a loan-loss reserve. (However, to the extent that the 40% of net income exceeds an institution's actual bad debt experience, it is counted as a tax preference item and must be reduced by 20%, which, in the extreme, reduces the deduction to 32% of net income.)

As a savings and loan's qualified asset/total asset ratio falls below 82%, the Section 593 bad debt deduction also declines (by 0.75% for each 1% decrease in the ratio) down to 23.5% in the case of savings and loans that hold 60% of their assets in qualified assets (and this, in turn, is reduced to 18.80% in the case where the institution must give up the maximum 20% as tax preference). If less than 60% of a savings and loan's assets is held in qualified assets, the "percentage method" bad debt deduction falls to 0.10
Under the new tax law, the allowable bad debt deduction for a savings and loan holding 60% of its assets in qualifying mortgage investments is reduced to 8%. Although the difference between the 8% deduction and the actual bad debt experience is no longer treated as a preference item, 8% is the maximum allowable deduction, regardless of how high the qualified asset ratio rises above 60%.

Thus, the tax incentive to hold more than 60% of total assets as qualifying mortgage investments has been eliminated, and once the effects of the lower tax rate are added in, the benefits of holding even 60% now appear small (see Figure 3).

For a savings and loan association holding 82% of its assets in mortgages and other qualifying assets, the after-tax earnings from $100 of pretax income under the new tax law will be virtually the same as they are currently; for an institution maintaining a 60% qualified-asset ratio, the after-tax return actually will be higher under the new tax law, because the lower tax rate will more than offset the lower deduction.

Investment strategies are based not on absolute returns, however, but on relative returns, and for thrifts, the relative returns from mortgage investments will be reduced under the new tax law. Under the old tax law, the after-tax yield on a 10% mortgage investment exceeds that of a 12% corporate bond (see Figure 4).
Figure 3. Impact of Lower Bad Debt Reserve on Thrift Return from Mortgage Investment

<table>
<thead>
<tr>
<th>Qualified Asset Ratio</th>
<th>82%</th>
<th>60%</th>
<th>0%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Under Old Tax Law</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>If Earn</td>
<td>$100.00</td>
<td>$100.00</td>
<td>$100.00</td>
</tr>
<tr>
<td>Can Deduct</td>
<td>40.00</td>
<td>23.50</td>
<td></td>
</tr>
<tr>
<td>Less 20% Tax Pref.</td>
<td>8.00</td>
<td>4.70</td>
<td></td>
</tr>
<tr>
<td>Net Deduction</td>
<td>32.00</td>
<td>18.80</td>
<td>0</td>
</tr>
<tr>
<td>Taxable Income</td>
<td>$68.00</td>
<td>$81.20</td>
<td>$100.00</td>
</tr>
<tr>
<td>Tax Rate</td>
<td>0.46</td>
<td>0.46</td>
<td>0.46</td>
</tr>
<tr>
<td>Tax</td>
<td>31.28</td>
<td>37.35</td>
<td>46.00</td>
</tr>
<tr>
<td>After-Tax Earnings</td>
<td>68.72</td>
<td>62.65</td>
<td>54.00</td>
</tr>
<tr>
<td><strong>Tax Benefit to Holding Qualified Assets</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>$8.65-$14.72</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| **Under New Tax Law** |     |     |    |
| If Earn               | $100.00 | $100.00 | $100.00 |
| Can Deduct            | 8.00 | 8.00 | 0 |
| Taxable Income        | $92.00 | $92.00 | $100.00 |
| Tax Rate              | 0.34 | 0.34 | 0.34 |
| Tax                   | 31.30 | 31.30 | 34.00 |
| After-Tax Earnings    | 68.70 | 68.70 | 66.00 |
|                      | $2.70 |

Figure 4. Comparing the After-Tax Yields of a 10% Mortgage with a 12% Corporate Bond

<table>
<thead>
<tr>
<th></th>
<th>At 82%</th>
<th>At 60%</th>
<th>Under New Tax Law</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Under Old Tax Law</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10% Mortgage</td>
<td>6.9</td>
<td>6.3</td>
<td>6.9</td>
</tr>
<tr>
<td>12% Corporate Bond</td>
<td>6.5</td>
<td>6.5</td>
<td>7.9</td>
</tr>
<tr>
<td>Difference</td>
<td>+0.4</td>
<td>+0.1</td>
<td>-1.0</td>
</tr>
</tbody>
</table>

21
With the lower rates in the new tax law, however, the after-tax yield of the 12% corporate bond increases by more than 20% and exceeds that of the mortgage by a full percentage point. Although on a risk-adjusted basis the mortgage investment may still have the higher yield, this example illustrates the potential effects of the new law on many thrifts' investment decisions.

Offsets to Thrifts' Reduced Tax Incentives to Invest in Mortgages

The impact on the mortgage market of a major restructuring of the thrift industry's balance sheet would be enormous. Currently, nearly $700 billion (or 70%) of the assets of U.S. savings and loan associations and about $240 billion (or 62%) of the assets of U.S. savings banks are held in mortgages and mortgage-backed securities. Even a 10% reduction in these holdings over a relatively short period of time could release close to $100 billion of mortgages and mortgage securities into the secondary market.

Despite the new tax law's adverse impact on the relative after-tax yield of mortgage investments, several factors are likely to motivate some thrifts to continue to be major investors in mortgage assets. One of these is the inherent attractiveness of REMICs over CMOs. Even though thrifts have been relatively small investors in the CMO market, they are expected to be major investors in REMICs. Not only are REMICs (unlike CMOs) qualified mortgage investments, but because of the added flexibility in the REMIC structure, thrifts will soon have the option of using
multiple-class mortgage investments to meet other regulatory requirements. For example, short-term REMICs can be used to meet match-funding objectives, which are likely to assume greater importance at many institutions given the Federal Home Loan Bank Board's current capital regulations that allow a thrift to take up to 2% credit in its net worth requirements (that is, they fall from 6% to 4% of their total liabilities) when it meets the gap test.11

Another factor that we expect to offset incentives to reduce the extent of the thrift industry's investment in mortgage securities -- at least in the short run -- is the uncertainty surrounding the need to recapture existing bad-debt reserves. It appears that under the new tax law, any thrift that chooses to hold less than 60% of its assets in qualifying mortgage investments would become subject to the same loan-loss-reserve treatment as a commercial bank, which would mean the following:

○ Thrifts with assets totaling $500 million or more would be required to move to a specific charge-off methodology allowing tax deductions only at the time that a loan is written off (rather than when the loan is made). Not only would this typically reduce the actual size of the tax deduction taken, but it would also necessitate the recapture of existing bad debt reserves to prevent double deductions (first as a reserve addition in the year that the loan is made and second in the year the loan is written off.)12
Thrifs with assets of less than $500 million would be treated as small banks: They would be able to retain the reserve method, but based on a moving average of their actual experience.

The financial statement impact of any reserve recapture would be substantial: Unlike banks, thrifts have treated the Section 593 tax savings under long-standing generally accepted accounting principle (GAAP) accounting as a quasi-permanent difference and have made no adjustments (to deferred taxes) to account for the future recapture of the "excess loan-loss reserves." Thus, in most cases, if a thrift failed to hold 60% of its assets in qualifying mortgage investments, the entire effect of the tax liability on total reserve recapture would hit the income statement immediately.13

Although the potentially adverse effect of any reserve recapture may motivate thrifts with substantial existing loan-loss reserves to continue to hold 60% of their assets in qualifying assets, younger institutions with smaller reserve balances will be less affected. Certainly, decisions to hold qualifying assets exceeding 60% of the portfolio will to be driven much more by relative yields than in the past. As a result, many institutions will begin to examine more seriously potentially higher-yielding investments such as corporate bonds, commercial loans and commercial real estate loans.
The degree to which thrifts choose to move out of residential mortgage investments will depend on the availability of alternative investments carrying higher-risk-adjusted yields and on how quickly the institutions can become comfortable underwriting what may be substantially different risks from those in the mortgage market. In this regard we expect that thrifts seeking yield will be obvious candidates for the high-yield subordinated REMIC securities, because they are likely to find the yields to be attractive and the risks in these mortgage securities to be more familiar than those of other investments offering similar yields.

Thrifty ability to restructure their portfolios will also depend on the receptivity of Bank Board regulators to thrift institutions holding radically different assets. Current regulations appear to provide considerable latitude to thrifts that choose to broaden their investment portfolios, but it is unclear how regulators would react in the face of any major industry shift out of the housing finance business.

The Mortgage Market Will Become Increasingly "REMICized"

Because the multiclass structure of REMICs provides clear benefits over traditional mortgage pass-throughs to a wide range of investor groups, and the new tax law has eliminated virtually all of the obstacles to issuing multiclass securities, we expect that the mortgage-backed securities market will become increasingly
"REMICized." In the conforming sector of the fixed-rate residential mortgage market, although a substantial proportion of loans will continue to be sold or swapped into the agency single-class pass-through market, an increasing fraction of these agency pass-throughs will be used to back REMICs that restructure the mortgage cash flows to attract a wider range of investors.

The changes in the nonconforming sector of the market will be even more pronounced: The senior/subordinated structure permitted under REMIC greatly increases an issuer's ability to package and sell (into the secondary market) AA-rated mortgage securities backed by whole loans and other nonconforming residential mortgages. The AA-rating is critical for many investors, because it is required for a mortgage security to obtain the legal investment preemptions and regulatory benefits of SMMEA.14 One of the most burdensome elements in the securitization of nonconforming mortgages is the high cost of obtaining the credit support that is needed to obtain an investment-grade rating. The efficiencies inherent in the REMIC structure will lower these costs, which should permit a significant increase in the level of securitization of nonconforming loans.

We expect that as the market in rated nonagency REMICs develops and investors become more comfortable with such securities, the supply of funds to this sector of the market will increase, and spreads between nonconforming and conforming mortgages will narrow. Moreover, as mortgage originators discover
that REMICs provide a straightforward way to increase the marketability of a wide variety of nonconforming loans, they will be more willing to originate innovative mortgage product tailored to meet specific needs of home owners.

The senior/junior structure allowed under REMIC will also bolster the securitization of existing commercial mortgages. Although it has been possible (prior to REMIC) to restructure commercial mortgages into two (or more) classes of securities -- high-quality AA or AAA rated securities that appeal to a wide range of traditional investor groups, and a class of higher-yielding, subordinated securities -- the IRS's position was that the subordinated class had to be retained by the originator. Under REMIC, the subordinated class can be sold to investors seeking high-quality alternatives to high-yield corporates.

Implications for the Supply of Credit to the Mortgage Market

The net impact of tax reform on the supply of mortgage credit will be positive. Although the thrift industry will be less willing to invest in mortgage assets, any contraction in thrift holdings will occur over a period of years as thrifts adjust to new tax and regulatory environments and will, we believe, be outweighed by a dramatic increase in the holding of REMIC securities by nontraditional mortgage investors. We expect that this positive
supply effect, combined with the slowing in the demand for mortgage
credit, will cause the spread between mortgages and
comparable-maturity Treasury securities to narrow.

Tax Reform Will Increase the Flexibility of Financial Institutions

Many Issuers Will also Be Investors

In the CMO market, the majority of bonds has been issued by
one of four types of issuers: investment banks, FHLMC, home
builders, and thrifts. Moreover, CMO issuers have not, in general,
also been major investors in CMO bonds. We expect that with the
advent of REMICs, the range of issuers will broaden
significantly.16 Under the new tax law the issuer can get sales
treatment for the entire REMIC security: it can be removed entirely
from the balance sheet. This change opens the REMIC market to types
of issuers that have not been active in the CMO market, most
notably to mortgage bankers and to regulated depositories subject
to balance sheet constraints.

We also expect to see a blurring of the line between issuers
and investors with a wide range of institutions issuing
multiple-class REMICs and retaining all or part of the classes that
best match the maturity of their funding liabilities. For example,
pension fund issuers might sell the shorter-maturity classes and
keep the long end of the issue, whereas insurance company issuers
might keep the intermediate-maturity tranches to match GIC liabilities.

Institutions Will Reevaluate Strategies

The flexibilities introduced by REMIC will allow many institutions to reevaluate their basic investment strategies. For example, in the current regulatory environment in which the traditional growth strategy has higher net worth implications, some thrifts have been motivated to pursue strategies that conserve their capital requirements. The new tax law makes such strategies even more attractive. If (as it now appears) a thrift can issue a multiclass pass-through REMIC security without setting up a special-purpose finance subsidiary, it will no longer be subject to the "30% of assets" limitation. This will enable those institutions that choose to employ their mortgage origination capacity more like mortgage bankers to use securitization as an alternative to portfolio growth.

By allowing thrifts to sell loan packages in the form of multiclass pass-throughs, the REMIC legislation has increased the potential return from such sales, thereby enhancing thrifts' abilities to maintain mortgage origination market share without pushing up against their net worth limitations. Moreover, since any REMIC issuer has the option to sell only part of the issue and retain all or part of the class whose maturity most closely matches
the maturities of its deposit liabilities, the higher expected returns from strategies such as these do not necessarily imply worsening maturity mismatches.

The wide range of origination/investment strategies that can now be accommodated under REMIC offer institutions several new opportunities:

(1) For example, depending on the spread between fixed-rate mortgages and adjustable-rate mortgages (ARMS), a thrift may prefer to originate fixed-rate mortgages, issue REMICs containing a large floating-rate tranche and sell off only the residual, retaining in portfolio what is, in effect, a synthetic ARM. The institution would earn the origination fees and the servicing fees for the entire portfolio of loans plus the up-front payment for the residual, plus a spread over its cost of funds on the floating-rate piece retained in portfolio.

(2) Alternatively, an institution may choose to issue nonconforming loans (they could be ARMs, jumbos or seconds) and issue a REMIC with a senior/subordinated structure. They could then sell the AA or AAA rated senior piece, and either hold the junior piece as a high-yielding investment or sell it.

The application of this senior/subordinated structure to the nonconforming sector could have widespread ramifications for the thrift industry. Because these structures create a form of
self-insurance, they reduce the industry's dependence on either the Federal housing agencies or the private mortgage insurance industry for external credit enhancement.

We expect that over time, a fairly extensive market will develop for the junior pieces of REMICs backed by nonconforming single-family residential mortgages -- a market in which the superior underwriting skills of certain thrifts will allow their high-yield junior REMICs to command premium prices. We expect the thrift industry to dominate this market, not only as issuers, but also as investors, because their underwriting experience makes them better able to evaluate the underwriting skills and practices of other institutions.

(3) Institutions looking to hedge against the prepayment risk of an existing mortgage portfolio may choose to originate fixed-rate mortgages and use them to back a STRIP issue, keeping the interest-only piece and selling the discount mortgage pass-through. The countercyclical risk profile of the interest-only piece provides a hedge for the procyclical mortgage portfolio.

(4) Similar objectives can be met by originating fixed-rate mortgages and issuing a multiclass pass-through REMIC, in which the institution retains the residual and/or all or part of selected class(es).
These are only a few of the possibilities. Moreover, strategies such as these not only apply to thrifts. Virtually any major financial institution now has the option to create -- out of mortgages or single-class mortgage securities -- a REMIC that includes a security (or securities) with maturity and investment characteristics that meet its particular needs and sell into the secondary market those pieces of the REMIC that do not fit its investment objectives. This has exciting implications for potential innovation in this market. Whereas the CMO structure was determined by the requirements of a relatively narrow group of issuers, REMIC structures will be created to meet the needs of a wide range of investors.

New flexibilities on the investment front will have long-term implications for the way that financial institutions organize other functions. We discussed earlier the likelihood that with a more developed secondary market in nonconforming mortgages, residential mortgage lenders would be more willing to experiment with innovative housing finance instruments. Similarly, some commercial lenders will now be able to make larger commercial real estate loans without entering into correspondent relationships with other institutions, because they now have the opportunity to create a senior/subordinated REMIC and sell the senior portion into the secondary market. We expect that over time, many institutions will be motivated to completely reevaluate their basic investment and business strategies in light of alternatives now available under the Tax Reform Act of 1986.
FOOTNOTES

1 The capitalization effects have been calculated making the following assumptions: that the price and income elasticity of demand for owner-occupied housing is 0.55%; that the income tax cut under the new tax law will be 6% for individuals, thus partly offsetting the price effect; and that the impacts of tax law reform will take ten years to work fully through the owner-occupied housing market.


4 Treasury Reg. 301.7701-4(c)(1) -- The so-called "Sears Regulations", dated March 24, 1986, generally deny trust classification to fixed-income investment trusts with multiple classes of ownership.

5 See REMICs: The Tax Bill Creates a New Opportunity in the Mortgage Securities Market, Andrew E. Furer, Salo

6 The Secondary Mortgage Market Enhancement Act of 1984 (SMMEA) includes several provisions that increase the marketability of most privately issued, residential, first-lien pass-throughs that are rated AA or better. In particular, it provides for the exemption of state blue-sky laws and state legal investment restrictions for SMMEA-qualified securities.

7 The necessary New York Stock Exchange changes have been approved and submitted to the Securities and Exchange Commission (SEC). It is now in the comment period following publication in the Federal Registrar. The Federal Reserve Board also has published notice of a concurrent change to "Regulation T" covering private placements. These changes will become effective by early 1987.

8 To date, only Federal Home Loan Mortgage Corporation (FHLMC) CMOs fit this category.


10 Mutual savings banks are allowed to deduct the maximum 40% when their qualified asset ratio is 72% or higher. Their allowable percentage deduction then declines by 0.50% for each 1% that the
qualified asset ratio falls below 72% (to a minimum of 34% at a qualified asset ratio of 60%).

11 A thrift's net worth requirement falls by 1% if its one-year gap is within 15% and by an additional 1% if the three-year gap is within 15%. For purposes of the net worth gap matching credit, the maturity is determined by the weighted average life (WAL). This would mean that the A bond of a multiclass pass-through REMIC collateralized by FHLMCs and a remaining WAL of three years would count toward the net worth credit. Floating-rate A pieces that reset in less than one year would count toward the one-year gap.

12 Under the new law, a bank can choose to move directly to the charge-off method, in which case it is required to bring existing reserves into taxable income over the following four-year period at the rate of 10%, 20%, 30%, and 40%, respectively. Alternatively, it can elect to use the "cutoff method," which means that although bad debts will be charged off only as they occur for any new loans, the thrift can continue to use the reserve method to account for bad debt losses on outstanding loans; that is, it can maintain the existing loan-loss reserve and charge off against the balance of that reserve any loan losses on the remaining loans issued prior to the cutoff date. The loan-loss reserve will then be recaptured over time as the original portfolio of loans pays down.

13 Moreover, if the substance of Financial Accounting Standards Board's (FASB) recently released exposure draft on thrift income tax accounting is adopted, thrifts considering the implications of reducing their qualified assets below 60% will be examining the tax benefits from the 8% bad debt reserve completely differently: It could no longer be a costless tax benefit. Instead, it would be treated as a deferred tax liability with the accompanying implications to reported income. This September 2 exposure draft would require each institution to make provisions for the recapture of existing loss reserves by 1991 at the latest and to begin immediately to set up a deferred tax liability for any new deductions -- even in cases in which tax reform is not expected to result in any additional tax liability. This would represent a multibillion-dollar contraction of the capital of the industry as dollars are shifted from net worth to deferred tax liability.

14 See footnote 4 on SMMEA.


16 Of the four major types of issuers currently in the CMO market, only home builders are expected to curtail their activity. Under the new tax law, the advantageous installment sales tax treatment that home builders have obtained when they issue CMOs is being phased out.