
Alex Muresianu

Key Findings

- Allowing companies to fully and immediately deduct investments in structures is one of the most cost-efficient ways lawmakers can stimulate investment, create jobs, and boost GDP during a post-pandemic recovery.

- Changes to depreciation schedules in the two pieces of major tax legislation in the 1980s influenced investment in real estate and have since been reformed, so accelerating cost recovery for structures would not cause the problems that bedeviled 1980s real estate like overbuilding.


- The Tax Reform Act of 1986 extended depreciation schedules for both forms of real estate, reducing the attractiveness of those investments.

- The real estate market was volatile in the 1980s due to a variety of factors, including but not limited to those tax changes.

- The tax provisions that helped drive inefficient investment were the deduction for business interest and the passive loss deduction, which created opportunities for tax-motivated investments by how they interacted with cost recovery policy.
Introduction

As Congress wrestles with many possible policy changes in response to the COVID-19 pandemic, it is important to draw the correct lessons from past changes to the tax code. One of the options Congress may consider is reforming the tax treatment of structures. Allowing companies to deduct the cost of investment in structures immediately is a powerful, pro-growth policy: our model showed that full expensing for structures would create 2.8 percent higher long-run GDP, a 2.4 percent increase in wages, and 569,000 jobs.¹

There were two major tax reforms in the 1980s, both of which changed the tax treatment of structures. The 1981 tax reform accelerated the depreciation of structures, while the 1986 tax reform reversed those changes by lengthening depreciation schedules for structures. The economic impact of these changes was huge, especially on the real estate industry. However, the changes to depreciation were not the only reforms that affected real estate in the United States, and there were many other economic factors that influenced the real estate boom and bust during the decade. Not only did other tax changes affect real estate markets, but also macroeconomic changes like the rise and fall of inflation and demographic changes helped drive fluctuations.

This paper reviews the tax reforms of the 1980s and the reforms’ effect on the cost of capital for structures and real estate markets as well as other changes that affected real estate markets in the 1980s, and discusses how these events can inform improvements to the cost recovery of structures today.

An Explanation of Different Methods of Depreciation

There are several ways in which the cost of investments have been recovered through the tax code. Different assets have different lives, and the amount deducted per year depends on the depreciation method.

Straight-line depreciation means that the value of the asset is deducted evenly across the asset’s life. The Declining Balance and Sum of Years’ Digits methods of depreciation allow companies to deduct a larger portion of their investments earlier in the asset’s life.

To illustrate the differences, take an asset that costs $1 million, has an asset life of five years, and can be sold for scraps for $100,000 at the end of the fifth year.

For straight-line depreciation, each year’s depreciation expense would be calculated using this formula: Depreciation Expense = (Total Acquisition Cost - Salvage Value)/Useful Life. The useful life ends when the balance sheet value equals the salvage value.

### TABLE 1.

#### Straight-line Depreciation

<table>
<thead>
<tr>
<th>Year</th>
<th>Net Book Value, Beginning of Year</th>
<th>Straight-line Depreciation (Book value/years)</th>
<th>Net Book Value, End of Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$1,000,000</td>
<td>$180,000</td>
<td>$820,000</td>
</tr>
<tr>
<td>2</td>
<td>$820,000</td>
<td>$180,000</td>
<td>$640,000</td>
</tr>
<tr>
<td>3</td>
<td>$640,000</td>
<td>$180,000</td>
<td>$460,000</td>
</tr>
<tr>
<td>4</td>
<td>$460,000</td>
<td>$180,000</td>
<td>$280,000</td>
</tr>
<tr>
<td>5</td>
<td>$280,000</td>
<td>$180,000</td>
<td>$100,000</td>
</tr>
</tbody>
</table>


Under the Declining Balance method, companies can deduct a larger portion of the investment sooner. The formula for depreciation expenses under this method runs like this:

- For Year 1: Depreciation Expense = ((rate of acceleration)/(useful life)) * (original acquisition cost - accumulated depreciation).
- For Year 2 and Beyond: Depreciation Expense = ((rate of acceleration)/(useful life))*asset value on balance sheet.

For this example, we’re using Double-Declining Balance, so the rate of acceleration would be 2. For 150 percent declining balance depreciation, it would be 1.5. This table uses the same asset as with the explanation of straight-line depreciation.

### TABLE 2.

#### 200% Declining Balance Method

<table>
<thead>
<tr>
<th>Year</th>
<th>Net Book Value, Beginning of Year</th>
<th>Double-Declining Balance Depreciation</th>
<th>Net Book Value, End of Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$1,000,000</td>
<td>$400,000</td>
<td>$600,000</td>
</tr>
<tr>
<td>2</td>
<td>$600,000</td>
<td>$240,000</td>
<td>$360,000</td>
</tr>
<tr>
<td>3</td>
<td>$360,000</td>
<td>$144,000</td>
<td>$216,000</td>
</tr>
<tr>
<td>4</td>
<td>$216,000</td>
<td>$86,400</td>
<td>$129,600</td>
</tr>
<tr>
<td>5</td>
<td>$129,600</td>
<td>$29,600</td>
<td>$100,000</td>
</tr>
</tbody>
</table>


Also sometimes used is the Sum of Years' Digits method of depreciation. This method calculates the percentage of the asset that can be deducted based on the ratio of the remaining years of useful life of the asset divided by the sum of the digits of the asset's life.

For our asset with a useful life of five years, the sum of the digits of the asset's life is (5+4+3+2+1), or 15. At the beginning of year 1, the asset would have five remaining years of useful life, so the company would be able to deduct 33.3 percent of (asset's value - salvage value).
The latter two methods for calculating depreciation are examples of accelerated depreciation, as they allow companies to deduct a larger share of the asset’s value closer to when the investment is made. And as I will elaborate later, allowing companies to deduct the cost of their investments sooner can be economically advantageous.

The Nature of the 1980s’ Tax Reforms on Cost Recovery for Structures

The Economic Recovery Tax Act (ERTA) of 1981 created the Accelerated Cost Recovery System (ACRS), allowing companies to deduct the cost of their investments faster than under previous law. The law shortened the recovery periods of both commercial real estate and residential real estate to 15 years, from 36 years and 31 years, respectively. The law also allowed companies to write off a larger portion of the cost of the asset in earlier years of the asset’s life, through the declining balance method.

In order to reduce the budget deficit, Congress passed two smaller-scale tax increases, one in 1982 (the Tax Equity and Fiscal Responsibility Act, or TETRA) and another in 1984 (the Deficit Reduction Act of 1984). These two bills extended depreciation schedules for both types of property: TETRA increased them to 18 years in 1982 and the Deficit Reduction Act increased them to 19 years in 1984.

The Tax Reform Act of 1986 (TRA86) reversed many of the changes of the ERTA. It imposed the Modified Accelerated Cost Recovery System (MACRS), which extended the depreciation schedules of many assets. In the case of real estate, TRA86 extended the asset lives of commercial real estate to 31.5 years and residential real estate to 27.5 years. The Act also required straight-line depreciation, removing the ability of companies to write off a larger share of the cost in earlier years of the asset’s life. Then in 1993 tax increases lengthened the recovery period of commercial real estate investments to 39 years.

One of the main goals of TRA86 was to be revenue-neutral, and the bill’s architects thought the best way to accomplish that was to “lower the rates and broaden the base.” The act lowered both personal

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3 Ibid.
and corporate income tax rates, while curbing the power of deductions on the personal income tax side and extending cost recovery on the corporate side to raise revenue. However, while the principle of broad bases and lower rates is generally sound, extending cost recovery schedules actually makes the corporate income tax base more distorted.

### TABLE 4.
Length of Cost Recovery for Real Estate, 1980-1993

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial Real Estate</td>
<td>36 years, 150% declining balance</td>
<td>15 years, 175% declining balance</td>
<td>18 years, 175% declining balance</td>
<td>19 years, 175% declining balance</td>
<td>31.5 years, straight-line depreciation</td>
<td>39 years, straight-line depreciation</td>
</tr>
<tr>
<td>Residential Real Estate</td>
<td>31 years, sum of years’ digits depreciation</td>
<td>15 years, 175% declining balance</td>
<td>18 years, 175% declining balance</td>
<td>19 years, 175% declining balance</td>
<td>27.5 years, straight-line depreciation</td>
<td>27.5 years, straight-line depreciation</td>
</tr>
</tbody>
</table>


**Impact on Cost of Capital**

As the Tax Foundation found while modeling past tax reforms, the 1981 tax reform significantly reduced the cost of capital, primarily by accelerating depreciation of many investments, including structures, and thus helped stimulate economic growth.\(^4\) On the other hand, the 1986 reform actually raised the cost of capital on net, even though it reduced the corporate tax rate, because it increased the length of cost recovery schedules. As a result, despite cuts to personal marginal income tax rates and the corporate income tax rate, the 1986 tax reform did little to stimulate economic growth.\(^5\)

Lengthened cost recovery schedules further reduced the ability of companies to deduct the full value of their investments in real terms. Inflation and the time value of money mean that a deduction in 10 years is worth less than a deduction today.\(^6\) Additionally, when companies cannot deduct the full value of their investments in the year they occur, they can end up having to pay taxes on income that they don’t actually have.\(^7\) Table 5 shows how the percentage of real estate investments businesses could deduct over time in present value terms changed as depreciation policy shifted.

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TABLE 5.  The Present Value of Real Estate Investment Cost Recovery

<table>
<thead>
<tr>
<th></th>
<th>Pre-1981 (Corporate/Non-corporate)</th>
<th>1981-1986 (Corporate/Non-corporate)</th>
<th>Post-1986 (Corporate/non-corporate)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential Structures, Present Value of Deductions Received over Time, as Percentage of Investment Cost</td>
<td>42.73% / 41.72%</td>
<td>72.29% / 70.76%</td>
<td>51.01% / 48.52%</td>
</tr>
<tr>
<td>Nonresidential Structures, Present Value of Deductions Received over Time, as Percentage of Investment Cost</td>
<td>49.94% / 50.13%</td>
<td>73.74% / 71.59%</td>
<td>50.93% / 50.02%</td>
</tr>
</tbody>
</table>


Real Estate Markets in the 1980s

Real estate markets tend to be volatile and cyclical, and that was especially true during the 1980s. Both major tax reforms of the 1980s affected the real estate market, although they were not the only factors influencing real estate.

The boom and the bust of the 1980s real estate market is often described as the result of overbuilding. Overbuilding in real estate means that developers build more projects than markets demand, leading to a decline in the value of real estate. Fear of repeating the problem of overbuilding is one reason that industry associations like the Real Estate Roundtable opposed efforts to move to the full-expensing of structures under the Tax Cuts and Jobs Act (TCJA) of 2017.

The big picture of the boom and bust in the 1980s aligns with the story that the tax cuts in 1981 stimulated massive growth in real estate, while the reforms in 1986 caused a collapse. Economists James Follian, Patric Hendershott, and David Ling found that the 1986 tax reform explained the fall of the apartment market. Tax economist James Poterba reached a similar conclusion regarding rental housing investment. The decline in investment in rental housing helps explain the consistently low rates of construction of multifamily homes since 1986. And both academic evidence and economic intuition tell us that a decline in housing supply leads to an increase in rents.
However, it would be a mistake to solely blame the depreciation changes for the dramatic swings the industry faced in the 1980s. Industry participants argue that a significant portion of the overbuilding was driven by investors outside of the industry solely for use as a tax planning vehicle. Yet, we would only expect taxes to drive otherwise inefficient investment if the effective marginal tax rate dropped below zero percent, and while real estate businesses could deduct a larger share of the cost of their investments, they still could not recover the full cost. While shifts in depreciation help explain an increase in real estate investment after 1981 and a decline in investment after 1986, they do not explain purely tax-motivated construction.

A negative effective marginal tax rate on the other hand would drive inefficient investment, as it creates a reason for companies to undertake a particular project that they would not otherwise pursue just for the tax benefits. The Investment Tax Credit, which ERTA expanded in 1981 and TRA86 eliminated, did create negative effective marginal tax rates for some short-lived assets. However, while ERTA increased the value of the investment tax credit from 7 percent to 10 percent for short-lived assets, it eliminated the investment tax credit for structures. Ergo, the investment tax credit is not to blame for overbuilding.

Enter the deductibility of interest. Accelerated cost recovery does not create negative tax rates on its own. But when paired with allowing deductions for interest payments, it can lead to negative tax rates on some assets. This imbalance occurs when a company borrows money to make an investment, and then when it makes the investment, it can deduct both the cost of the investment itself as well as the interest payment on the loan. These negative tax rates can be negated by the taxes paid by the lender, although many lenders are tax-exempt. For example, according to a Congressional Budget Office report from 2014, 33 percent of interest payments made by C corporations in 2007 were never taxed. It is the interaction between accelerated cost recovery and the interest deduction that has the potential to create negative tax rates, not accelerated cost recovery itself, and those negative tax rates may have helped produce economically inefficient or tax-driven investment.

Given the real estate industry’s heavy reliance on debt financing and the extraordinarily high interest rates of the early to 1980s, the interaction between accelerated cost recovery and the interest deduction could have been especially powerful in that sector. That helps explain overbuilding: many projects could have been undertaken under the assumption that they’d be profitable with a negative tax rate, but the change in policy in 1986 might have left them underwater. In general, this tax bias in favor of debt over equity leads to increased risk of bankruptcy and instability in financial markets.

18 Greenberg, Olson, and Entin, “Modeling the Economic Effects of Past Tax Bills.”
Research suggests that the shifts in tax policy around real estate helped push the collapse of the Savings and Loan industry in the late 1980s.\(^{26}\)

Additionally, lengthening depreciation was not the only real estate-related tax change in the 1986 Tax Reform Act. The Act limited the passive loss deduction, blocking taxpayers from deducting losses from passive investments against ordinary income.\(^{27}\) Before the 1986 tax reform, rich investors would invest money in unprofitable businesses and use losses from those businesses to offset profits from good investments. But after 1986, real estate investors must devote at least 500 hours to the operation of the loss-generating enterprise to claim the loss.\(^{28}\) As Hendershott, Follian, and Ling noted, the new passive loss limitation would likely “lower significantly the values of recent loss-motivated partnership deals and of properties in areas where the economics have turned sour,” but that the “limitations should have little impact on new construction and market rents.”\(^{29}\)

Changes to capital gains taxation also made real estate investment less attractive.\(^{30}\) Before TRA86, 60 percent of long-term capital gains were not taxable as income. While TRA86 lowered the top personal income tax rate from 50 percent to 28 percent, it also eliminated the exemption for long-term capital gains, thus effectively raising the capital gains tax from 20 percent to 28 percent. This change further disadvantaged rental housing compared to owner-occupied housing, as owners of rental housing had to pay higher capital gains taxes on sales of their property, while owners of owner-occupied housing still could avoid capital gains on sales. This imbalance also contributed to the decline in residential real estate markets.

There’s good evidence for the argument that other changes, and not depreciation changes, were responsible for popping the overbuilding bubble. Limited partnerships, often established for tax reasons to invest in real estate, plummeted in popularity after TRA86’s passage.\(^{31}\) Limitations to the passive loss deduction in particular helped collapse the cottage industry of tax shelters.\(^{32}\)

The impact of the tax changes on real estate values also varied in magnitude by region of the country: higher-growth regions saw a smaller decline in real estate prices than in more stagnant areas.\(^{33}\) One way to interpret this phenomenon is that while extending depreciation schedules broadly reduced investment, areas where demand for new buildings was weaker saw a larger decline because more of the previous investment in those locations was driven by tax loopholes than in high-growth locations, where investment was driven by real market demand. Alternatively, this pattern could also be that the various other real estate tax provisions provided large benefits to established investors but did not provide much of an incentive to invest more on the margin. However, the pattern of real estate

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markets in wealthier regions experiencing smaller collapses relative to markets in more stagnant areas is not unique to the real estate bust of the late 1980s.  

Additionally, taxes aren't the only factor that influenced real estate markets in the 1980s. Demographic changes, as the Baby Boomer generation continued to enter the workforce in the 1970s and early 1980s, along with a generally strong economy, played a role in growing production of real estate. As inflation grew in the 1970s, households rushed to shift their assets from equity to real estate, driving up demand for real estate assets. This trend continued into the 1980s.

Lessons for Today

In testimony to the Senate Finance Committee in September 2017, the Real Estate Roundtable expressed its concerns with proposals to allow companies to fully expense investments in structures. Among the points emphasized by the Real Estate Roundtable, along with many scholars of the 1980s real estate boom, is that real estate investment should be "demand-driven, not tax-driven." This is a sound position. But expensing for structures does not stimulate otherwise inefficient investment. On the contrary, it is a way to treat all investments equally, instead of having different depreciation schedules for different asset classes, which can distort investment decisions. Long asset lives (for example, 27.5 years for residential buildings and 39 years for nonresidential buildings) in which deductions are spread over many decades mean that companies cannot deduct anywhere near the full value of their investments in structures, as inflation and the time value of money chip away at the value of those deductions.

Shortening depreciation schedules to 15 or even 20 years, roughly where they were before TRA86, would lessen the magnitude of this problem, but it would not be the ideal policy.

The current system of depreciation creates a bias against businesses that heavily invest in structures, as the effective marginal tax rates on investments in nonresidential and residential structures are much higher than those on equipment, software, and intellectual property.

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37 Han, "Commercial Real Estate and the Banking Crises of the 1980s and Early 1990s."
38 DeBoer, "Statement for the Record, Hearing on Business Tax Reform."
39 Ibid.
41 Ibid.
TABLE 6.
Marginal Effective Tax Rates for Capital Assets, 2020

<table>
<thead>
<tr>
<th>Asset Type</th>
<th>Corporate Asset</th>
<th>Noncorporate Asset</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equipment and Software</td>
<td>6.7%</td>
<td>0.9%</td>
</tr>
<tr>
<td>Nonresidential Structures</td>
<td>17.6%</td>
<td>13.2%</td>
</tr>
<tr>
<td>Intellectual Property</td>
<td>6.7%</td>
<td>0.9%</td>
</tr>
<tr>
<td>Residential Structures</td>
<td>21.5%</td>
<td>18.0%</td>
</tr>
<tr>
<td>Inventories</td>
<td>26.3%</td>
<td>23.6%</td>
</tr>
<tr>
<td>Commercial Land</td>
<td>26.3%</td>
<td>23.6%</td>
</tr>
<tr>
<td>Nonfarm Land</td>
<td>26.3%</td>
<td>23.6%</td>
</tr>
<tr>
<td>Farm Land</td>
<td>26.3%</td>
<td>23.6%</td>
</tr>
</tbody>
</table>


The conclusion to draw from this episode in tax policy is not that accelerating depreciation will cause inefficient investment and overbuilding. Rather, the conclusion from the 1980s tax changes is that tax policies do not exist in a vacuum, and sometimes good policies in an all-else-equal world might have unfortunate interactions with the rest of the tax code that produces inefficient policy outcomes.

Concerns about tax planning might be an argument in favor of neutral cost recovery over full expensing. Full expensing for structures would allow companies to deduct the whole value of investments made in the first year. Given that investments in structures are very large, this would likely mean real estate companies would often report a very large loss in this year.

Instead, neutral cost recovery would have companies spread the cost of their investments over many years, but the amount that they could deduct each year would be adjusted so that the deductions maintained the same present value. Under this system, as under full expensing, companies would be able to deduct the full value of their structures’ investments, but without a massive loss reported in a single year.  

However, the parts of the tax code that created exploitable holes that helped drive overbuilding in the 1980s are not the same today. Most notably, TRA86 restricted the passive loss deduction to go after tax shelters, which effectively eliminated those loss-motivated partnerships.

More recently, the TCJA put limits on the deductibility of interest, not permitting corporations to reduce their earnings by more than 30 percent using the deduction. As a result, concerns about improved cost recovery driving overbuilding are much less serious now than they were in the 1980s. Two of the tax provisions that created distortionary interactions with accelerated cost recovery for structures have been significantly pared back.

44 Slemrod, “Did the Tax Reform of 1986 Simplify Tax Matters.”
45 Cole, “Debt and Taxes.”
Conclusion

The United States experienced a tumultuous decade economically in the 1980s. The two major tax reforms had a huge impact on various sectors of the economy, including real estate. But it would be a mistake to blame the real estate bubble on accelerated depreciation introduced in the 1981 reform. Policymakers should focus on eliminating other tax provisions that create opportunities for tax shelters (and avoid creating new ones) and expanding neutral tax treatment of all kinds of investment, including structures.