2011

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National Tax Journal, June 2011, 64 (2, Part 2), 565–590

ASSESSING THE FEDERAL DEDUCTION FOR STATE AND LOCAL TAX PAYMENTS

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This paper examines the distributional and behavioral impacts of ending the deductibility of state and local taxes against the federal individual income tax. I carry out a number of distributional analyses — considering both variation across income and across states — of the subsidy from deductibility as well as the distributional impact of potential partial reforms. I also consider how behavioral responses affect the distributional analysis. Using a large panel of data on state and local governments, I find that deductibility increases reliance on deductible taxes and increases state and local spending out of own-source revenue.

Keywords: tax expenditures, state and local tax deductions, tax reform

JEL Codes: H24, H71

I. INTRODUCTION

One of the largest deductions taken against individual income taxes is the deduction for state and local income and property taxes. Taking all state and local tax deductions as a group, the deduction is the third largest tax expenditure following the exclusion of employer contributions for health insurance from income and the deduction for mortgage interest on owner occupied homes (Office of Management and Budget, 2010). This deduction has come under attack at various times despite its widespread popularity. The most serious threat came in the debates that led to the Tax Reform Act of 1986 (TRA86). While the elimination of the entire deduction for state and local taxes was proposed initially, TRA86 only removed the deduction for general sales taxes. And this curtailment was undone to some extent in the American Jobs Creation Act of 2004 when individuals were given the option to deduct either income or sales taxes (but not both).[1] The deduction was attacked again by President George W. Bush's Advisory Panel on Federal Tax Reform and more recently by the National Commission on Fiscal

[1] This primarily benefitted those states with a general sales tax but no income tax: Florida, Nevada, South Dakota, Tennessee, Texas, Washington, and Wyoming.

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Responsibility and Reform (2010). President Bush's panel argued in language that could have come from either report that ending this deduction would contribute to a "cleaner and broader tax base" and a tax system that was more equitable across income groups (President's Advisory Panel on Federal Tax Reform, 2005, p. 83).

While these recommendations remain to be taken up by Congress, the deduction for state and local taxes has been eroded to some extent by two features of the federal tax code. First, limitations on itemized deductions reduce the value of this deduction for some households with large amounts of itemized deductions. Second, the Alternative Minimum Tax (AMT) targets this deduction directly. In fact, a major determinant of whether a taxpayer is subject to the AMT is the presence of large deductions for state and local taxes. A taxpayer subject to the AMT loses this deduction.

The magnitude of the tax expenditure for state and local tax deductions makes it a prime target for policy makers looking for revenue to pay for other changes in the tax code.[2] Feldstein and Metcalf (1987), however, argued that estimates of the revenue gain from eliminating deductibility may be too high as they do not take into account a possible shift away from once-deductible taxes to non-deductible taxes and fees in the absence of deductibility. Many of these latter taxes and fees are paid by businesses. As these costs rise, federal business tax collections would fall, offsetting some of the gains of ending deductibility. Feldstein and Metcalf also found little evidence that ending deductibility would have a negative impact on state and local spending itself.

Given the renewed interest in changing or eliminating this subsidy, I present a number of distributional analyses — considering both variation across income and across states — of the subsidy from deductibility. These distributional analyses are static in nature. The Feldstein and Metcalf analysis suggests that the mix of state and local taxes, as well as overall state and local spending, could change in response to changes in the deduction. To consider this issue, I re-estimate the Feldstein-Metcalf regressions using a large panel of data on state and local governments. I find that the use of deductible state and local taxes is sensitive to federal deductibility. Unlike the previous analysis, I also find that overall sub-national spending could fall in the absence of deductibility.

Focusing on the distributional impact of the federal deduction for state and local taxes in isolation may not provide a complete picture of the distributional impact of ending deductibility. To the extent that state and local spending is directed towards services disproportionately utilized by lower income households, the regressivity of the deduction may be overstated. Whether that is true or not is beyond the scope of this paper.

The next section provides a brief review of the empirical literature on the impact of federal deductibility of state and local taxes on sub-federal fiscal systems. Section III provides static estimates of the revenue loss from deductibility from the National Bureau of Economic Research's TAXSIM tax simulator. Section IV constructs distributional tables for the deduction, again using TAXSIM data. Section V presents estimates of the effects of eliminating deductibility on the state and local tax mix and the overall

[2] The Congressional Budget Office (2008) provides a good history of this deduction and efforts to change it over time. It also carries out a number of distributional analyses similar in spirit to those in this paper.

level of state and local spending, using a state-level panel data model of state and local taxes, fees, and spending. A brief final section summarizes and concludes the paper.

II. BACKGROUND

The deduction for state and local taxes is a significant form of federal aid to state and local governments. In the fiscal year 2011 budget submission, the deductions for all non-business state and local taxes amount to over $70 billion, making it the third largest tax expenditure in the federal budget (Office of Management and Budget, 2010). While state and local tax deductibility dates to the creation of the modern income tax, it became a major focus of research activity in the mid-1980s when President Ronald Reagan proposed to eliminate the deduction as part of the tax reform proposal issued in late 1984 (U.S. Department of the Treasury, 1984). The final legislation, TRA86, ultimately eliminated only the deduction for general sales taxes. Many felt that this was not especially controversial as most taxpayers used sales tax look-up tables which, from an individual taxpayer's point of view, did not necessarily appear related to their own spending.

Early research on this topic focused on the role that deductibility played in encouraging state and local spending. After all, one of the rationales for the deduction is to support spending at the sub-national level that might have significant spillover effects into other jurisdictions. Spending on public parks, for example, by one community might benefit members of other communities who could enjoy the park. In other words, state and local spending could have important positive externalities or be public goods. In the absence of federal intervention, it was argued that state and local governments were unlikely to provide the optimal amount of these goods and services.[3] Early papers in this literature include Noto and Zimmerman (1983, 1984), and Ladd (1984). Attention was increasingly paid to the mix of taxes chosen as well as the level of spending. Zimmerman (1983) provided a median voter analysis of the relationship of income tax reliance on deductibility while Hettich and Winer (1984) provided a political economy analysis. Neither paper was successful at finding an economically sensible relationship between deductibility and tax reliance.

Feldstein and Metcalf (1987) employed an average voter framework to analyze the impact of deductibility on state and local spending and tax reliance. Their innovation was to use the IRS Public Use Files with the NBER's tax calculator, TAXSIM, to estimate average marginal tax prices for state and local deductible taxes. Based on a cross-section of states in fiscal year 1980, they found statistical support for the view that deductibility led to greater reliance on state and local taxes that are deductible at the federal level. The statistical results were less clear cut as to whether deductibility increased state and local spending out of own-source revenues or whether sub-federal governments were substituting deductible for non-deductible taxes and fees while holding spending

[3] I do not address in this paper whether state and local government goods and services are public goods or provide positive externalities.

constant. The authors discussed the implications of both possibilities and noted that "[u]ntil additional evidence is available, it seems best to recognize that both responses are plausible and consistent with the existing data" (Feldstein and Metcalf, 1987, p. 726).

Subsequent work corroborated Feldstein and Metcalf's finding that federal deductibility is associated with greater reliance on those state and local taxes that are deductible at the federal level. That subsequent work was less clear-cut on whether deductibility simply leads to a shift in revenue structure or whether it leads to increased state and local spending.[4] Based on an analysis of 172 municipalities over a three-year period, Holtz-Eakin and Rosen (1988) find that local spending is quite responsive to federal deductibility. Gade and Adkins (1990) also find support for tax shifting and argue that most states would decrease overall spending if deductibility were ended. The precision of their estimates on state spending cannot be determined since they did not run regressions of spending on a tax price variable but rather inferred the impact from the underlying tax instrument regressions. Metcalf (1993) looked in greater detail at the composition of state-level taxes over an eight-year period and found support for the view that deductibility leads to a substitution of personal income for corporate income taxes. While he did not explicitly test for impacts on state spending, the estimates suggest that deductibility enhances state spending as well as shifting the mix of revenue instruments.

This paper returns to the basic formulation in Feldstein and Metcalf (1987) but employs a panel data set of state and local government tax and spending structure rather than a single cross section. The small number of observations in their 1987 study limited Feldstein and Metcalf's ability to obtain statistically precise estimates and disentangle the two possible impacts of federal deductibility on state and local fiscal structures — revenue shifting and/or more state and local spending.

III. MEASURING THE REVENUE LOSS FROM STATE AND LOCAL TAX DEDUCTIBILITY

Before considering any behavioral responses that might arise from ending deductibility, I provide some statistics on measurements of the tax expenditure for deductibility that ignore behavioral responses. I first focus on errors that arise from adding tax expenditure estimates. In general, users are cautioned not to add tax expenditure estimates, given interactions within the tax code as deductions and other tax expenditure items are changed. Both the Office of Management and Budget and the Joint Committee on Taxation report tax expenditure estimates for state and local tax deductibility separately. Proposals to end deductibility, on the other hand, typically eliminate both sets of deductions. If one wants to know the impact of ending all state and local tax deductions, how large an error occurs when simply adding the two tax expenditure estimates?

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[4] Feldstein and Metcalf's results suggested that states would shift away from their reliance on general sales taxes after 1986. This appeared not to happen. A number of papers addressed this issue including Inman (1989), Courant and Gramlich (1990), Metcalf (1992), and Metcalf (1993). More recent work by Izraeli and Kellman (2003) suggests that reliance on the general sales tax did eventually fall once sufficient time had passed.

Tax code interactions can lead to biases in either direction from simply adding the two tax expenditure estimates to measure the impact of ending all state and local tax deductions. For example, one might expect that eliminating the deduction for all state and local personal taxes would yield a smaller tax expenditure estimate than the sum of the tax expenditures for personal non-property taxes and property taxes, since removing one of the deductions will push some taxpayers below the threshold for itemizing deductions at which point their other state and local tax deduction becomes worthless. On the other hand, removing one tax deduction could push taxpayers into higher tax brackets thereby making the other deduction more valuable. Thus whether summing individual tax expenditures overestimates or underestimates the tax expenditure estimate from removing both deductions is a priori uncertain.

The first row of Table 1 shows results from using TAXSIM to estimate the state and local tax deduction tax expenditures for calendar year 2004 using the Statistics of Income (SOI) public use file assuming elimination of the deduction under current law. This is the difference in tax liability for an individual return (as calculated by TAXSIM) between the current law and the law assuming the elimination of the deduction. This difference is computed at the individual level and then aggregated using the sample weights from the SOI dataset. The weighted sum of the individual estimates gives the estimate of the tax expenditure indicated in each column. For example, under current law (as of 2004), eliminating the deduction for personal, non-property taxes yields a tax expenditure estimate of $40.3 billion. The corresponding estimate for property taxes is $22.0 billion. Adding these two numbers yields an estimate of the impact of ending all state and local deductibility of $62.3 billion. This is 0.3 percent less than the estimate generated in TAXSIM by eliminating all state and local deductions ($62.5 billion). This calculation suggests that adding the two estimates does not seriously misrepresent the estimate of the tax expenditure from ending both deductions simultaneously when calculated using 2004 data.[5] But the error varies over time. Figure 1 shows that the error peaks at 5 percent in 1993 and has been steadily falling since.

I also consider the errors in adding the tax expenditure estimates under different assumptions about the tax law. In the second row of Table 1, I assume that no AMT patch is applied in 2004. Now adding the estimates underestimates the aggregate tax expenditure estimate by 8 percent. The error is smaller if the AMT is eliminated altogether or if the Bush tax cuts had not been in effect. In either case the error is less than 5 percent. In short, it does not appear that large errors occur when adding tax expenditure estimates for the two state and local tax deductions to get an estimate of the tax expenditure arising from eliminating all state and local tax deductions altogether.

Table 1 also indicates that the AMT significantly reduces the value of this deduction. If there were no AMT, the tax expenditure estimate would be 15 percent higher ($72.0

[5] At the taxpayer level, adding expenditure estimates overestimates the tax expenditure by at least $580 for 1 percent of returns and underestimates the tax expenditure by at least $700 for 1 percent of returns. The error for 90 percent of taxpayers is $104 or less. The error is less than one-half of 1 percent of cash income for over 98 percent of filers.

Table 1

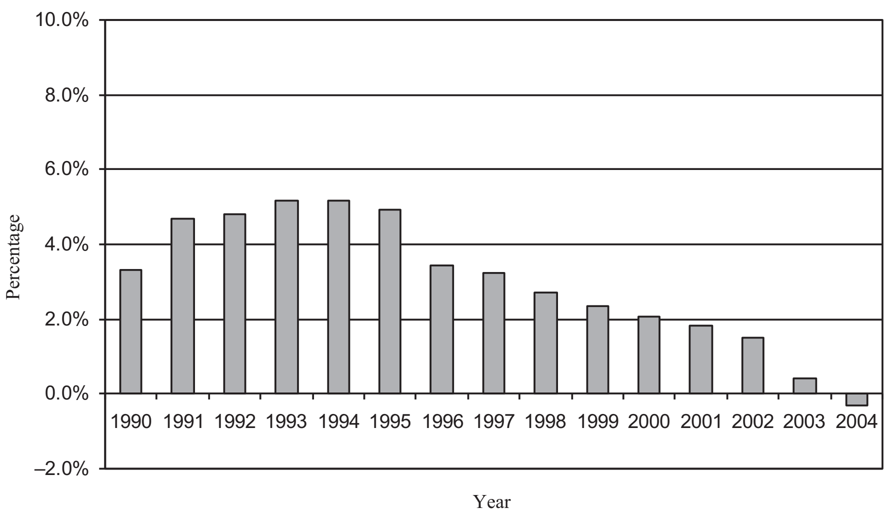
Tax Expenditure Estimates
(Calendar Year 2004)

Proposal	Personal, Non-Property Taxes	Property Taxes	All Deductible Taxes	Adding Error (%)
Current law	40,330	22,014	62,549	–0.3
No AMT patch	32,063	16,391	52,587	–7.9
No AMT	48,617	26,602	71,987	4.5
No Bush tax cuts	52,024	28,293	78,860	1.8

Notes: All amounts are in millions of dollars.
Source: NBER TAXSIM Model applied to SOI Public Use Data for 2004.

Figure 1

Percentage Error from Adding Tax Expenditure Estimates



billion versus $62.5 billion). Conversely, eliminating the AMT patch — which reduces the impact of the AMT — would lower the tax expenditure estimate by 20 percent ($52.6 billion versus $62.5 billion). Table 1 also shows that the Bush tax cuts reduced the tax expenditure on deductibility by 20 percent ($78.9 billion versus $62.5 billion). Lower tax rates reduce the value of all deductions.

IV. DISTRIBUTIONAL ANALYSIS

How are the benefits of deductibility distributed across taxpayer groups? In this section, I report both income and geographic measures of the benefits of the deduction. For the income analysis, I use cash income to sort taxpayers. Cash income equals adjusted gross income (AGI) less state and local tax refunds plus adjustments to income, medical savings account (MSA) and Keogh plan deductions, tax-exempt interest and non-taxable Social Security benefits. The distributional impact is measured by taking weighted averages across the 150,000 returns in the 2004 SOI Public Use File at different income deciles.[6]

Table 2 presents the change in average tax liability for different income groups if deductibility were eliminated. The increase in average tax liability is below $100 for the bottom 60 percent of the income distribution. The tenth decile faces an average increase of $3,238. Considerable skewness occurs in this top decile as the mean tax increase exceeds the increase in tax liability for the 75th percentile within this decile. Breaking

Table 2

Distributional Impact of Eliminating Deductibility: All State and Local Taxes

Decile or Percentile Income Range	Mean Tax Increase	Percentile of Tax Increase Distribution		Mean Tax Increase as a Percentage of Cash Income	Percentage of Returns with Increase in Tax Liability
		25th	75th		
1	0	0	0	0.0	0
2	1	0	0	0.0	1
3	6	0	0	0.0	4
4	15	0	0	0.1	8
5	40	0	0	0.1	16
6	100	0	100	0.3	28
7	215	0	342	0.5	40
8	371	0	627	0.6	54
9	746	0	1,196	0.9	70
10	3,238	840	3,191	1.3	86
90–95%	1,536	609	2,289	1.3	85
95–99%	2,639	1,209	3,814	1.4	89
Top 1%	14,139	1,915	13,254	1.4	84

Source: NBER TAXSIM Model applied to SOI Public Use Data for 2004.

[6] The cut-offs for the deciles in cash income are $5,440, $11,365, $17,340, $23,898, $31,960, $41,730, $53,710, $70,831, and $100,973. The 95th percentile cut-off is $140,381 and the 99th percentile cut-off is $343,872.

down the top decile a bit further, the largest increases occur in the top 1 percent of the distribution. As a percentage of cash income, the increase in tax liability is quite small — less than 1 percent for the bottom 90 percent of the income distribution. Eliminating this deduction does add progressivity to the federal tax system, as tax liability as a percentage of cash income rises monotonically with income. The last column of Table 2 shows that the share of returns facing higher taxes goes up steadily with income.

As an alternative to eliminating deductibility altogether, I consider two alternative reforms. The first replaces the deduction with a 15 percent non-refundable tax credit. In effect this allows all taxpayers to deduct their state and local taxes as if they were in the 15 percent tax bracket.[7] The second reform allows a deduction above a floor. If policymakers believe that the tax deduction has positive incentive effects, the floor lowers the cost of providing the deduction while continuing to provide an incentive for state and local spending. I assume a floor set at $7,575. This generates a tax expenditure of $35 billion in 2004. Replacing the deduction with a 15 percent tax credit raises $14 billion in 2004, considerably less than eliminating the deduction, in part because taxpayers who were not receiving the benefit of the deduction because they took the standard deduction now have the opportunity to take the credit.

Table 3 provides distributional results for shifting from the current deduction to the 15 percent credit. Because this reform now makes the benefit available to all taxpayers, it lowers tax liability for some households although the reductions are quite modest (Table 3). Fewer taxpayers face higher tax bills than if deductibility is eliminated altogether, and the average change in tax liability is less than one-half of 1 percent of cash income. Compared to eliminating deductibility, this reform is less progressive at the federal level.

Allowing a deduction above a floor is analyzed in Table 4. The floor reform is less progressive than either of the other two reforms. It raises revenue, however, while preserving the strongest marginal incentive for state and local tax collections.

Table 5 presents some distributional information across states. This table reports the average increase in tax liability by state from eliminating deductibility in dollar terms and as a percentage of income. The average increase per return in the United States is $473. Several states have increases in excess of $700 (New Jersey, Connecticut, Massachusetts, Maryland, District of Columbia, New York) while other states see average increases of less than $200 (Tennessee, Mississippi, South Dakota, West Virginia, Wyoming). On a percentage basis, New Jersey, Maryland, Connecticut, Massachusetts, District of Columbia, New York, and Oregon have increases of 0.6 percent of income or more, while Arkansas, Louisiana, Tennessee, Mississippi, South Dakota, and West Virginia have increases that equal 0.1 percent of income.

In Table 6, I consider eliminating all deductions for state and local taxes, assuming no AMT patch, no AMT, and no Bush tax cuts, all in 2004. I focus on the AMT because of its increased impact on middle class households in the tax code. The Bush tax cuts

[7] I calculate state income taxes for non-itemizers using the TAXSIM state tax calculator. For property taxes, I "hot deck" from the Consumer Expenditure Survey (CEX). That is, I draw a similar taxpayer from the CEX (based on income category and number of dependents) and check to see if the taxpayer would itemize using the mortgage interest and property tax deduction imputed from the CEX (along with the calculated state income tax deduction). If this taxpayer would itemize, I discard the CEX household and draw another similar household. If this return would not itemize, I use this household's property tax payment for the SOI taxpayer.

Table 3

Distributional Impact of Replacing Deduction with 15 Percent Tax Credit

Decile or Percentile Income Range	Mean Tax Increase	Percentile of Tax Increase Distribution		Mean Tax Increase as a Percentage of Cash Income	Percentage of Returns with Increase in Tax Liability
		25th	75th		
1	0	0	0	0.0	0
2	–1	0	0	0.0	0
3	–2	0	0	0.0	0
4	–6	0	0	0.0	0
5	–12	0	0	0.0	0
6	–20	0	0	–0.1	2
7	0	0	0	0.0	13
8	3	0	0	0.0	16
9	93	0	276	0.1	36
10	1,009	840	1,189	0.4	71
90–95%	448	609	881	0.4	70
95–99%	686	1,209	1,507	0.4	73
Top 1%	5,104	1,915	6,198	0.4	66

Source: NBER TAXSIM Model applied to SOI Public Use Data for 2004.

Table 4

Distributional Impact of Setting a Floor on Deduction at $7,575

Decile or Percentile Income Range	Mean Tax Increase	Percentile of Tax Increase Distribution		Mean Tax Increase as a Percentage of Cash Income	Percentage of Returns with Increase in Tax Liability
		25th	75th		
1	0	0	0	0.0	0
2	1	0	0	0.0	1
3	5	0	0	0.0	4
4	14	0	0	0.1	8
5	39	0	0	0.1	16
6	98	0	100	0.3	28
7	209	0	340	0.4	40
8	356	0	627	0.6	54
9	680	0	1,136	0.8	70
10	1,235	301	1,894	0.8	79
90–95%	1,221	561	1,894	1.0	84
95–99%	1,241	142	2,092	0.7	77
Top 1%	1,286	0	2,651	0.2	59

Source: NBER TAXSIM Model applied to SOI Public Use Data for 2004.

Table 5

Distributional Impact of Eliminating Deductibility:
Average Across State Taxpayers

State	Average Tax Increase	Percentage of Cash Income	State	Average Tax Increase	Percentage of Cash Income
Alaska	261	0.2	Montana	266	0.2
Alabama	265	0.2	North Carolina	465	0.4
Arkansas	212	0.1	North Dakota	218	0.2
Arizona	334	0.3	Nebraska	362	0.3
California	639	0.5	New Hampshire	566	0.5
Colorado	531	0.4	New Jersey	888	0.7
Connecticut	869	0.6	New Mexico	330	0.2
District of Columbia	748	0.6	Nevada	262	0.2
Delaware	340	0.3	New York	721	0.6
Florida	300	0.2	Ohio	461	0.5
Georgia	463	0.4	Oklahoma	296	0.3
Hawaii	444	0.4	Oregon	558	0.6
Iowa	377	0.4	Pennsylvania	449	0.4
Idaho	337	0.3	Rhode Island	572	0.5
Illinois	527	0.4	South Carolina	310	0.3
Indiana	346	0.3	South Dakota	171	0.1
Kansas	404	0.3	Tennessee	177	0.1
Kentucky	376	0.4	Texas	317	0.2
Louisiana	212	0.1	Utah	396	0.4
Massachusetts	776	0.6	Virginia	634	0.5
Maryland	775	0.7	Vermont	379	0.4
Maine	323	0.3	Washington	272	0.2
Michigan	440	0.4	Wisconsin	372	0.5
Minnesota	521	0.4	West Virginia	115	0.1
Missouri	363	0.3	Wyoming	44	0.1
Mississippi	173	0.1	United States	473	0.4

Notes: State distributions do not allocate high-income returns perfectly to states.
Source: NBER TAXSIM Model applied to SOI Public Use Data for 2004.

Table 6

Impact of Tax Code Changes on Tax Expenditure:
Elimination of Deductibility

Decile or Percentile Income Range	Current Law		No AMT Patch		No AMT		No Bush Tax Cuts	
	Mean Tax Increase	Percentage of Cash Income	Mean Tax Increase	Percentage of Cash Income	Mean Tax Increase	Percentage of Cash Income	Mean Tax Increase	Percentage of Cash Income
1	0	0.0	0	0.0	0	0.0	0	0.0
2	1	0.0	1	0.0	1	0.0	1	0.0
3	6	0.0	6	0.0	6	0.0	8	0.1
4	15	0.1	15	0.1	15	0.1	19	0.1
5	40	0.1	40	0.1	40	0.1	49	0.2
6	100	0.3	100	0.3	101	0.3	115	0.3
7	215	0.4	211	0.4	215	0.4	243	0.5
8	371	0.6	365	0.6	373	0.6	427	0.7
9	746	0.9	729	0.9	757	0.9	971	1.1
10	3,238	1.3	2,512	0.9	3,936	1.5	4,131	1.7
90–95%	1,536	1.3	1,112	0.9	1,593	1.3	1,793	1.5
95–99%	2,639	1.4	1,451	0.8	3,454	1.7	3,463	1.7
Top 1%	14,139	1.4	13,754	1.3	17,583	1.9	18,497	2.0

Source: NBER TAXSIM Model applied to SOI Public Use Data for 2004.

are also germane, given the recent decision to extend the Bush tax cuts for another two years (2010–2012).

The pattern of increased taxes from eliminating the deduction is not surprising, given the aggregate estimate of the tax expenditure in Table 1. Nevertheless, a few interesting facts emerge. First, the AMT patch in 2004 increases the regressivity of the deduction with most of the impact occurring in the top decile. This point is reinforced by a comparison of the Current distribution with the No AMT distribution. In the absence of the AMT, the state and local tax deduction is more regressive, again with nearly all the increased regressivity occurring in the top 5 percent of the income distribution. Second, the Bush tax cuts also served to reduce the regressivity of this deduction. Unlike in the AMT case, the change in tax burden is spread over more deciles.

These distributional results hold behavior constant. I next turn to a reconsideration of the behavioral impacts of ending deductibility of state and local taxes. While the results from this analysis cannot be used to compute new distributional tables, they are informative regarding the revenue and distributional impact of ending or otherwise modifying deductibility.

V. EMPIRICAL ANALYSIS OF THE BEHAVIORAL RESPONSE TO THE DEDUCTION

State and local governments choose their mix of revenue instruments as well as their levels of spending knowing that taxpayers in their state may be able to deduct some of these taxes on their federal returns. This exporting of state and local taxes to the federal government lowers the political cost of raising revenue at the sub-federal level. How do state and local governments respond to this feature of the federal tax code? I measure this response by following the empirical strategy of Feldstein and Metcalf (1987) and estimating regressions of state and local deductible taxes, non-deductible taxes, and own-source revenue to determine the impact of federal deductibility. In contrast to this previous analysis, which focused on a cross section from fiscal year 1980, I employ panel data from 1979 through 2001.[8] Where calendar year data are matched with fiscal year data, the calendar year data for the beginning of the fiscal year are used. Thus for state and local data for fiscal year 1998, calendar year data from 1997 are used. This reflects the fact that decisions about fiscal structure are set at the beginning of the fiscal year, which occurs in the previous calendar year.

The key tax variable is the tax price for state and local tax deductions. This is the reduction in federal and state taxes arising from an additional dollar of tax deduction. As a simple example of the concept, consider a taxpayer whose federal tax bracket is 25 percent. Further assume that federal taxes are not deductible at the state level. In that case, an additional $100 of state tax deductions will reduce federal tax liability by $25. The net cost of raising this $100 of state taxes is only $75 as $25 has been exported to

[8] State and local fiscal data are from the Bureau of the Census, Federal, State, and Local Governments, http://www.census.gov/govs/www/estimate.html. State level data are not available for fiscal year 2000 and so this year is excluded from the sample.

the federal government through deductibility. If m_k is the k^{th} taxpayer's federal marginal tax bracket, then this taxpayer's tax price (P_k) for state and local deductible taxes is

(1) $P_k = 1 - m_k.$

This assumes that the taxpayer itemizes her deductions. The tax price for a non-itemizer is one. Let d_k be a dummy variable equal to one if taxpayer k is an itemizer and zero otherwise. Then this taxpayer's tax price is

(2) $P_k = d_k(1 - m_k) + (1 - d_k) = 1 - d_k m_k.$

If federal taxes can be deducted at the state level, then the formula for taxpayer k's tax price is slightly more complicated,

(3) $$P_k = 1 - \frac{m_k^F\left(1 - m_k^S\right) + m_k^S\left(1 - m_k^F\right)}{1 - m_k^F m_k^S}.$$

but the NBER's TAXSIM calculator can compute these tax prices easily. TAXSIM is a computer tax model of the federal and state tax codes covering from 1977–2006.[9] Finally, I can construct state-level average tax prices as the weighted average of tax prices for taxpayers in state i using the TAXSIM data weights on taxpayers from the IRS SOI database used by the tax calculator,

(4) $$P_{it} = \frac{\sum_{k \in S_{it}} \omega_{kt} P_{kt}}{\sum_{k \in S_{it}} \omega_{kt}},$$

where ω_{kt} is the data weight on the k^{th} taxpayer in year t and S_{it} is the set of taxpayers in state i in year t.

I estimate regressions of the form

(5) $$Y_{it} = \beta_1 P_{it} + X_{it}\beta_2 + \alpha_i + \gamma_t + \varepsilon_{it},$$

where i indexes states and t indexes years. The dependent variable is deductible state and local taxes, non-deductible state and local taxes and fees, or own-source revenue relative to personal income.[10] The row vector, X_{it}, contains variables that help explain the dependent variable. These must vary within states over time given the inclusion of state-specific fixed effects and year dummies. State-specific fixed effects are included

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[9] Feenberg and Coutts (1993) provide a description of TAXSIM. The calculation in (3) is not exactly correct as it does not account for the phase out of itemized deductions that began in 2000 or the AMT. TAXSIM takes these provisions of the tax code into account when computing tax prices.

[10] General sales taxes are included under deductible taxes in those years when they are deductible on the federal tax return and included under non-deductible taxes and fees in all other years.

to control for unobserved attributes of a state that affect fiscal structure and are likely correlated with explanatory variables.[11] Year dummies provide a flexible framework for controlling for aggregate shocks to state and local tax systems and spending.

As pointed out by Feldstein and Metcalf (1987), OLS regressions of (5) are likely to provide biased estimates of the coefficient on the tax price variable. This is most easily seen by considering (2). Consider a shock that increases state income tax collections. This increases the deduction available to the taxpayer with two opposing effects. The first is that an increase in the potential state tax deduction increases the likelihood that a taxpayer will itemize on her federal tax return. This induces a negative correlation between the error term (ε_{it}) and the tax price P_{it} and biases the OLS estimate of β_1 downward. The second effect is that an increase in deductions could push the taxpayer into a lower tax bracket lowering m_{it}. This induces a positive correlation between the error term and the tax price and biases the OLS estimate of β_1 upward. Which effect dominates is an empirical question.

To control for endogeneity, I construct three instruments. The first is a synthetic instrument that attributes to each household the national probability of itemizing based on number of dependents (0, 1, 2+) and AGI group. I divide households into one of eight equally sized AGI groups.[12] The instrument for taxpayer k in year t is

$$(6)\quad \hat{d}_{kt}(Dep_{kt} = j, AGI\ Class_{kt} = l) = d_t^N(j,l),$$

where $d_t^N(j, l)$ is the probability of itemizing in the national sample in year t for households with j dependents in AGI class l. The instrument used in the regression is the weighted average across taxpayers in a state in a given year following the approach in (4).

The second instrument is constructed by setting the k^{th} taxpayer's state and local tax deductions to zero and computing the change in tax liability resulting from a marginal increase in wage income. Call this marginal tax rate m_{kt}^0. The first dollar tax price for taxpayer k in year t equals

$$(7)\quad P_{kt}^0 = 1 - \hat{d}_{kt} m_{kt}^0,$$

and the first dollar tax price instrument is the weighted average of P_{kt}^0 across taxpayers in a state in a given year following the approach in (4).

The third instrument is constructed by replacing the taxpayer's state and local tax deductions with national averages based on number of dependents and AGI class and then computing the change in tax liability resulting from a marginal increase in wage income. Call this marginal tax rate for taxpayer k in year t m_{kt}^L. The last dollar tax price for the taxpayer equals

$$(8)\quad P_{kt}^L = 1 - \hat{d}_{kt} m_{kt}^L,$$

[11] Holtz-Eakin (1986) assesses the biases arising from not controlling for fixed effects in state and local government fiscal structure regressions.

[12] The cut points for the AGI groups vary across years to maintain equal-sized groups.

and the last dollar tax price instrument is the weighted average of P_{kt}^{L} across taxpayers in a state in a given year following the approach in (4).

Table 7 shows summary statistics for the variables used in the regressions. Deductible taxes average 5.8 percent of personal income, ranging from 1.9 to 11.8 percent. Nondeductible taxes and fees average 8.9 percent of personal income and show a wider range across states and time. Own-source revenue is the sum of these two variables, averaging 14.7 percent of personal income. In addition to the tax price variable, I include demographic data on percentage young (age 17 and under) and old (age 65 and older). These two demographic groups are important drivers of demands for state and local public services, especially at the local level.[13] The change in the unemployment rate is included to control for state-specific economic shocks not captured by state or year effects. The next set of variables captures features of the distribution of income in the state that could affect the demand for revenue as well as the tax mix. They also control for non-linear income effects for which the tax price variable might otherwise serve as a proxy. Finally, I include information about the share of households married in the state.

Table 8 presents regression results for personal deductible taxes. Column 1 presents an OLS regression of non-business deductible taxes on the tax price variable and other control variables. Before discussing the tax price coefficient, consider some of the other variables. The coefficients on the AGI range variables are positive with the coefficients on the \$25,000 to \$50,000 AGI dummy variable (*fr25*) and the \$100,000 and over AGI dummy variable (*fr100*) statistically significant. As might be expected, the coefficient on *fr100* is substantially larger than the coefficient on *fr25* or the \$50,000 to \$100,000 AGI dummy variable (*fr50*). This pattern holds in general for the other regressions on non-business deductible taxes. The AGI variance and skew variables are never statistically significant in these regressions indicating that, controlling for the shares of returns in various AGI groups, other distribution statistics do not affect the choice of these taxes. The form of income also has little impact on the level of this tax. The coefficient on the capital gains income share in AGI (*capagi*) is statistically significant in all regressions though the estimated elasticity (not reported) is quite small.

States with a large share of young children or elderly people tend to have lower reliance on taxes deductible against personal income, though only the coefficient on the share of young children is statistically significant. The coefficient on the elderly share likely reflects a demand for lower overall spending by the elderly. The coefficient on the child share is a bit puzzling since this should correlate with a demand for school spending. Contrary to the finding in Metcalf (1993), increases in the unemployment rate are associated with a greater reliance on taxes deductible against personal income.

The coefficient on the tax price variable equals –2.41 and is precisely estimated. The elasticity at the mean equals –4.1, suggesting that the state tax structure is highly responsive to changes in the tax price. However, we must be cautious about this estimate given the potential endogeneity discussed above. The next regression in Table 8 presents

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[13] It is possible that the state tax structure can affect the age distribution of populations living in a state. This is an interesting issue that I do not pursue in this paper. I thank Roger Gordon for pointing this out. Tax price results are insensitive to excluding these variables.

Table 7

Summary Statistics

Variable	Description	Mean	Standard Deviation	Minimum	Maximum
ded	Deductible taxes (per $1000 of personal income)	58.6	16.9	19.2	117.6
nded	Non-deductible taxes and charges (per $1000 of personal income)	88.8	25.9	44.0	204.5
own	Own-source revenue (per $1000 of personal income)	147.4	23.0	95.5	322.1
rate	Tax price for deductible taxes	93.1	2.0	85.9	98.4
frate	First dollar tax price instrument	79.1	2.6	70.5	86.8
zrate	Last dollar tax price instrument	79.6	2.6	71.1	87.2
phat	Synthetic probability of itemizing	30.9	4.8	18.0	43.6
pchild	Share of population between ages 0 and 17	26.5	2.4	19.9	37.5
pold	Share of population age 65 and older	12.9	2.2	7.5	20.5
cru	Change in the unemployment rate	0.0	1.0	–4.2	4.2
fr25	Share of returns with AGI between $25k and $50k	24.2	3.9	8.9	37.5
fr50	Share of returns with AGI between $50k and $100k	11.8	6.9	1.1	32.3
fr100	Share of returns with AGI over $100k	3.2	2.9	0.0	17.2
agi2	Variance of AGI in state	31,940	80,717	157.7	1,872,309
agi3	Skew of AGI in state	3,709	37,099	-119,724	1,009,043
divagi	Mean of dividends to AGI	7.4	2.9	2.9	21.6
capagi	Mean of capital gains to AGI	4.6	3.3	–13.5	44.6
pmar	Percentage of filing units that are married	46.1	5.3	34.4	65.2

Sources: State and local tax data are from Census of Governments, State and Local Government Finances. Tax return data are from SOI Public Use Files and TAXSIM. Demographic data are from U.S. Census Bureau, Census and Population Estimates, Unemployment data are from U.S. Bureau of Labor Statistics, Local Area Unemployment Statistics. Data are for 48 continental states between fiscal years 1979–2001, excluding 2000.

Table 8

Deductible Taxes Regressions

	Original Instruments			New Instruments	
	OLS	IV	IV	IV	IV
Tax price	–2.413 (0.342)***	–1.927 (0.672)***	–2.279 (0.713)***	–4.422 (1.141)***	–3.804 (1.103)***
AGI between 25–50K	0.239 (0.098)**	0.293 (0.117)**			
AGI between 50–100K	0.089 (0.148)	0.163 (0.172)			
AGI variance	0.00001 (0.000007)	0.00001 (0.000007)			
AGI skew	–0.00002 (0.00001)*	–0.00002 (0.00001)*			
AGI between 0–5K			–0.989 (0.352)***	–0.598 (0.392)	–1.054 (0.376)***
AGI between 5–10K			–1.356 (0.349)***	–0.925 (0.397)**	–1.424 (0.38)***
AGI between 10–15K			–1.287 (0.339)***	–0.918 (0.377)**	–1.344 (0.362)***
AGI between 15–20K			–1.524 (0.338)***	–1.200 (0.369)***	–1.6 (0.357)***
AGI between 20–30K			–1.281 (0.327)***	–1.023 (0.349)***	–1.391 (0.338)***
AGI between 30–40K			–0.948 (0.322)***	–0.849 (0.33)**	–1.143 (0.321)***
AGI between 40–50K			–0.806 (0.333)**	–0.695 (0.342)**	–0.965 (0.334)***
AGI between 50–75K			–1.00 (0.329)***	–0.966 (0.335)***	–1.145 (0.332)***
AGI between 75–100K			–1.70 (0.421)***	–1.67 (0.428)***	–1.796 (0.428)***
AGI over 100K	1.304 (0.261)***	1.373 (0.274)***			
Dividends as a share of AGI	–0.186 (0.19)	–0.192 (0.19)	–0.169 (0.189)	–0.158 (0.193)	
Capital gains as a share of AGI	0.206 (0.102)**	0.196 (0.103)*	0.266 (0.103)***	0.319 (0.107)***	

Table 8 (Continued)

Deductible Taxes Regressions

	Original Instruments			New Instruments	
	OLS	IV	IV	IV	IV
Percentage married	–0.019 (0.101)	–0.005 (0.102)	0.092 (0.103)	0.036 (0.107)	
% population age 0–17	–0.34 (0.093)***	–0.339 (0.093)***	–0.313 (0.093)***	–0.317 (0.095)***	
% population age 65+	–0.543 (0.552)	–0.548 (0.553)	–0.778 (0.549)	–0.734 (0.558)	
Change of unemployment rate from previous year in % point	0.959 (0.34)***	0.939 (0.341)***	1.013 (0.341)***	1.123 (0.349)***	
R^2	0.686	0.685	0.69	0.679	0.673

Notes: Standard errors are in parentheses. Asterisks denote significance at the 10% (*), 5% (**), and 1% (***) levels. Regressions contain 1,056 observations on 48 continental states. All regressions include state and year effects.

two stage least squares estimates of the coefficients, controlling for the endogeneity in the tax price variable with the instruments described above. The first stage regression (not reported here) has a high R^2 with the F statistic on the joint significance of the instruments highly significant. In the second stage regression (column 2) the coefficient estimate on the tax price variable falls in absolute value from –2.41 to –1.93. The downward bias in the OLS estimate suggests that the itemization bias outweighs the tax bracket bias. While the coefficient is less precisely estimated, it is still statistically significant at the 1 percent level. At the mean, the elasticity of the reliance on deductible taxes with respect to the tax price is –3.1.

One concern with the instruments used is that they may not adequately control for non-linear income effects and that the tax price variable may simply be picking up additional income effects. In the next column I increase the number of AGI share variables to provide greater flexibility in disentangling income from tax price effects. The two-stage least squares estimate increases in absolute value to –2.28 and continues to be highly statistically significant. The tax price elasticity at the mean from this regression equals –3.6. As in all the other two-stage least squares regressions, the first stage regressions fit quite well and provide no evidence of problems arising from weak instruments. It does not appear that the tax price variable is simply measuring non-linear income effects.

A second concern with the empirical specification is that the composition of population in the state is endogenous and could affect the taste for deductible taxes. In particular, if households in high tax brackets are attracted to states that rely heavily on deductible taxes, the coefficient estimates will be biased. State fixed effects should control for much of this endogeneity. However it may be that states are increasing their reliance on deductible taxes and thereby increasingly attracting taxpayers in high tax brackets. To control for this possibility, I create new instruments for each state in each year in which I calculate the average marginal tax price by running all the households in the SOI dataset through TAXSIM assuming they are subject to a particular state's tax code. Variation in these instruments is entirely driven by differences in state tax codes. The last two columns of the table report results from these regressions. I have replaced the original instruments with these new instruments. The fourth column reports results with the more complete set of AGI distribution variables and is otherwise comparable to the results in column 3. The estimated coefficient on the tax price variable is considerably higher in absolute value and continues to be precisely estimated despite its higher standard error.

The increase in magnitude of the estimated tax price coefficient is not consistent with high bracket households sorting into states that depend heavily on deductible taxes. If this were the case, then the estimated coefficient on the tax price variable should be getting smaller in absolute value. The impact of the new set of instruments is not affected by dropping demographic information on households in the sample (column 5). Thus I conclude that the negative sign on the tax price variable is not being driven by household sorting in the sample. If anything, sorting may be biasing the estimated coefficient toward zero.

If changes in the tax mix occur in response to changes in the deductibility of state and local taxes, then we should see an increase in the use of non-deductible taxes and fees in response to an increase in the tax price for state and local taxes. I explore this in regressions reported in Table 9. The format of the table is the same as Table 8. The results suggest that we are not observing a shift from deductible to non-deductible taxes and fees. The coefficient estimates in this table are substantially smaller in magnitude than the estimates from the previous table and are never precisely estimated in the instrumental variable (IV) regressions. In fact, the sign is counterintuitive if tax shifting is occurring. The impact of deductibility on own-source revenue is shown in Table 10, which reports a sharp drop in own-source revenue as the tax price rises. The IV estimate with the original instruments is –2.62 and is precisely estimated. The elasticity at the mean of the sample equals –1.64.

Recall that Feldstein and Metcalf (1987) could not distinguish between the hypothesis that deductibility only affects the mix of revenue sources while having no impact on overall own-source revenue and the hypothesis that own-source revenue increases with deductibility. The larger data set is helpful for obtaining greater statistical precision. The estimates reported in columns 4 or 5 of Tables 8–10 suggest the following. First, the impact of changes in the tax price on deductible tax shares is precisely estimated and similar in magnitude to estimates in the Feldstein and Metcalf (1987) paper (Table 8).[14] Federal deductibility continues to have a significant and large effect on the use of deductible taxes at the state and local level. Second, the coefficient on the tax price variable continues to be imprecisely estimated (Table 9) as in the 1987 analysis. Unlike

[14] The tax price coefficient estimates in Tables 8–10 of this paper must be divided by 10 to be comparable to the reported estimates in Feldstein and Metcalf (1987). The IV coefficient estimate for the full specification in Table 1 of the earlier paper is –0.42.

Table 9

Non-Deductible Taxes and Fees Regressions

	Original Instruments			New Instruments	
	OLS	IV	IV	IV	IV
Tax price	1.118 (0.398)***	–0.697 (0.789)	–0.337 (0.831)	–0.631 (1.312)	–0.238 (1.331)
AGI between 25–50K	0.161 (0.114)	–0.038 (0.137)			
AGI between 50–100K	–0.048 (0.172)	–0.325 (0.202)			
AGI variance	0.000001 (0.000008)	0.0000009 (0.000008)			
AGI skew	–0.000005 (0.00002)	–0.000003 (0.0002)			
AGI between 0–5K			1.455 (0.41)***	1.509 (0.451)***	1.169 (0.454)**
AGI between 5–10K			1.354 (0.407)***	1.413 (0.456)***	1 (0.459)**
AGI between 10–15K			1.678 (0.395)***	1.729 (0.433)***	1.375 (0.436)***
AGI between 15–20K			1.926 (0.394)***	1.97 (0.424)***	1.628 (0.432)***
AGI between 20–30K			1.415 (0.381)***	1.45 (0.401)***	1.128 (0.408)***
AGI between 30–40K			1.562 (0.375)***	1.575 (0.379)***	1.305 (0.388)***
AGI between 40–50K			1.3 (0.388)***	1.315 (0.393)***	1.143 (0.403)***
AGI between 50–75K			1.469 (0.383)***	1.474 (0.385)***	1.24 (0.401)***
AGI between 75–100K			0.77 (0.49)	0.77 (0.492)	0.741 (0.516)
AGI over 100K	–1.247 (0.304)***	–1.507 (0.322)***			
Dividends as a share of AGI	1.094 (0.221)***	1.117 (0.223)***	1.144 (0.221)***	1.146 (0.222)***	
Capital gains as a share of AGI	–0.113 (0.118)	–0.077 (0.12)	–0.119 (0.12)	–0.112 (0.123)	

Table 9 (Continued)

Non-Deductible Taxes and Fees Regressions

	Original Instruments			New Instruments	
	OLS	IV	IV	IV	IV
Percentage married	0.05 (0.117)	–0.002 (0.12)	0.006 (0.12)	–0.002 (0.123)	
Percentage population age 0–17	–0.485 (0.108)***	–0.488 (0.109)***	–0.483 (0.109)***	–0.483 (0.109)***	
Percentage population age 65+	–5.73 (0.642)***	–5.71 (0.649)***	–5.648 (0.639)***	–5.642 (0.642)***	
Change of unemployment rate from previous year in percentage points	–0.889 (0.395)**	–0.813 (0.4)**	–0.844 (0.397)**	–0.829 (0.402)**	
R^2	0.801	0.797	0.802	0.801	0.777

Notes: Standard errors are in parentheses. Asterisks denote significance at the 10% (*), 5% (**), and 1% (***) levels. Regressions contain 1,056 observations on 48 continental states. All regressions include state and year effects.

in that earlier paper, the point estimates from the IV regressions are consistently negative though roughly one-half to one-third of the magnitude of the estimates in the 1987 study. As a result (the third point), the coefficient on the tax price variable is negative and statistically significant in the own-source revenue regressions (Table 10). The IV estimates in columns 4 and 5 are roughly the same magnitude (after adjusting for differences in how the data are scaled) as in the full IV ratio regression reported in Table 1 of Feldstein and Metcalf (1987).

The results for own-source spending obtained in this analysis, which are based on a larger data set but otherwise similar methodology to the 1987 study, are consistent with the findings of Holtz-Eakin and Rosen (1988) as discussed above, as well as the rough estimates of Gade and Adkins (1990). I find similar results with regressions in log form (not reported here) or with different subsets of variables included or excluded.[15] One concern with my instruments is that political shocks that affect state fiscal systems might also affect the federal tax code thereby invalidating my instruments. To control for this, I included a variable measuring the percentage of the state's Congressional delegation that is Democratic.[16] Election shocks may be correlated between the state

[15] All unreported results are available on request from the author.

[16] A member of Congress in Vermont for a number of years is officially an independent. I coded this observation as a Democrat. Results are unaffected if I drop these observations.

Table 10

Own-Source Revenue Regression

	Original Instruments			New Instruments	
	OLS	IV	IV	IV	IV
Tax price	–1.295 (0.487)***	–2.624 (0.959)***	–2.616 (1.014)**	–5.052 (1.639)***	–4.042 (1.64)**
AGI between 25–50K	0.401 (0.14)***	0.255 (0.167)			
AGI between 50–100K	0.041 (0.21)	–0.162 (0.246)			
AGI variance	0.00001 (0.00001)	0.00001 (0.00001)			
AGI skew	–0.00003 (0.00002)	–0.00003 (0.00002)			
AGI between 0–5K			0.466 (0.5)	0.911 (0.563)	0.115 (0.56)
AGI between 5–10K			–0.003 (0.496)	0.487 (0.57)	–0.424 (0.566)
AGI between 10–15K			0.391 (0.482)	0.811 (0.541)	0.031 (0.538)
AGI between 15–20K			0.401 (0.481)	0.770 (0.53)	0.028 (0.532)
AGI between 20–30K			0.134 (0.465)	0.428 (0.501)	–0.263 (0.503)
AGI between 30–40K			0.614 (0.458)	0.726 (0.474)	0.162 (0.477)
AGI between 40–50K			0.494 (0.474)	0.62 (0.491)	0.178 (0.496)
AGI between 50–75K			0.469 (0.468)	0.508 (0.481)	0.095 (0.495)
AGI between 75–100K			–0.93 (0.598)	–0.90 (0.615)	–1.055 (0.636)*
AGI over 100K	0.056 (0.372)	–0.133 (0.392)			
Dividends as a share of AGI	0.908 (0.271)***	0.925 (0.272)***	0.976 (0.269)***	0.988 (0.277)***	
Capital gains as a share of AGI	0.093 (0.145)	0.119 (0.146)	0.147 (0.146)	0.207 (0.153)	

Table 10 (Continued)

Own-Source Revenue Regression

	Original Instruments			New Instruments	
	OLS	IV	IV	IV	IV
Percentage married	0.031 (0.143)	–0.007 (0.146)	0.098 (0.146)	0.034 (0.154)	
Percentage population age 0–17	–0.824 (0.132)***	–0.827 (0.133)***	–0.796 (0.133)***	–0.8 (0.136)***	
Percentage population age 65+	–6.273 (0.787)***	–6.259 (0.79)***	–6.426 (0.78)***	–6.376 (0.802)***	
Change of unemployment rate from previous year in percentage points	0.071 (0.483)	0.126 (0.486)	0.169 (0.484)	0.294 (0.502)	
R^2	0.433	0.429	0.441	0.41	0.356

Notes: Standard errors are in parentheses. Asterisks denote significance at the 10% (*), 5% (**), and 1% (***) levels. Regressions contain 1,056 observations on 48 continental states. All regressions include state and year effects.

and federal level; shocks to state political structures are likely to be correlated with the state's Congressional composition. The qualitative results were unaffected by the inclusion of this variable, which did, however, reduce the number of observations by half since Congress is elected biennially thereby reducing the precision of the estimates.

Another concern with the specification is that recessions may have differential impacts across states to the extent that states differentially rely on taxes on capital gains. If so, simply including year effects may not suffice to control for macroeconomic shocks. To test this, I ran regressions interacting the capital gains share in AGI (*capagi*) with the year dummies. Again, this had no material impact on the tax price coefficient estimates.

Finally, I also ran regressions on the simple cross-section of data from fiscal year 1980 — the data used by Feldstein and Metcalf (1987). The results were qualitatively similar to the results from the panel regressions, though the point estimates in the deductible tax regressions were somewhat higher. The tax price coefficient estimate in the non-deductible tax and fee regressions is imprecisely estimated but in the range of estimates reported in Feldstein and Metcalf (1987). The main difference is in the own-source revenue regressions where two of the three IV regressions are statistically significant and considerably larger in magnitude than in the previous analysis.

Differences in cross-section results are likely due to a combination of factors. Perhaps most important, Feldstein and Metcalf (1987) only measured the federal tax price, whereas subsequent work (including this analysis) takes into account the possibility in some states that federal taxes may be deducted at the state level (see (3) above). Also, minor changes in the TAXSIM calculator code over the past 20 or so years lead to modest changes in statewide average tax price calculations. In addition, the regressors are not precisely the same across the two studies. If nothing else, all this suggests the fragility of making too strong an inference from a cross section regression with only 20 or so degrees of freedom, a point stressed in the original Feldstein and Metcalf analysis.

The analysis in this paper points to offsetting effects of deductibility on tax progressivity. On the one hand, the federal deduction disproportionately benefits high bracket taxpayers. On the other hand, deductibility appears to lead to a greater reliance on progressive income taxes at the state and local level as discussed by Chernick (2005) among others.[17] The static distributional analysis in section IV, however, suggests that we might be able to avoid this tension between a deduction that disproportionately benefits high income taxpayers at the federal level while providing support for progressive taxes at the sub-national level by replacing the deduction with a 15 percent tax credit. This equalizes the benefits across tax brackets and makes the benefit available to non-itemizers.

VI. CONCLUSION

The deduction for state and local taxes has been a feature of the income tax since its inception. It is justified by some proponents as an important subsidy for state and local spending on the grounds that it increases spending on public goods that would otherwise be underfunded. While I do not assess the argument that state and local government spending is on public goods and therefore likely to be underfunded, the empirical evidence in this study indicates that the tax deduction is associated with higher levels of own-source revenue. The mechanism for this increased reliance is through deductible taxes. This analysis suggests that deductibility leads to greater reliance on income and property taxes and has no appreciable impact on non-deductible taxes and fees. Static distributional analysis suggests that the tax deduction is quite regressive at the federal level. However the regression analysis suggests that the deduction supports progressive taxes at the sub-national level.

Finally, it is possible to preserve an incentive for state and local spending through alternatives to the deduction, alternatives that reduce regressivity at the federal level. In particular, I consider setting a floor on the deduction as well as a replacement of the deduction with a 15 percent tax credit. The floor reform is an intermediate option that raises about one-half the revenue that is raised by eliminating the deduction (ignoring behavioral offsets). Replacing the deduction with a 15 percent tax credit raises the least amount of revenue before behavioral responses, since some people who would be eligible for the credit currently take the standard deduction and thus do not benefit

[17] It also supports higher levels of own-source revenue that presumably support higher spending. I do not consider in this paper the distributional impact of that spending.

from the deduction. But the credit is the least regressive of the approaches that provide support for state and local fiscal systems considered in this paper.

ACKNOWLEDGMENTS

This paper was prepared for the NBER Conference on Incentive and Distributional Consequences of Tax Expenditures, held in Bonita Springs, FL on March 28–29, 2008. I am grateful for help with TAXSIM calculations from Dan Feenberg, for expert research assistance from Yoshiyuki Miyoshi and Brielle Kissel, and for helpful comments from Roger Gordon and other conference participants as well as the *National Tax Journal* editors and referees.

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