Unintended Consequences: Effect of the American Jobs Creation Act Reforestation Incentives on Family Forest Owners in the South

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Abstract: The American Jobs Creation Act of 2004 rewrote the reforestation tax incentives available to private forest owners. Owners can now deduct outright reforestation costs up to $10,000 per year for each qualified timber property and amortize any additional amount over 8 tax years. To assess the economic effect of the new incentives on forest owners, the authors developed spreadsheets to calculate after-tax Bare Land Value (BLV) for representative management plans for family forests in the South under three tax situations: no reforestation incentives, the incentives under the previous law, and the incentives under the current law. We found that compared to no tax incentive, the current law chiefly benefits owners with high non-timber income, increasing BLV by roughly 20 percent, compared to 5–10 percent for owners with low or median income. Compared to the previous law, the current law chiefly benefits owners with large forest holdings, increasing BLV by roughly 5–15 percent, while decreasing BLV for owners with small holdings. These findings are significant since it appears Congress intended that the new incentives continue to benefit primarily "small woodland owners" with modest incomes and forest holdings.

Keywords: Reforestation, tax, deduction, incentive, financial analysis

Introduction

The American Jobs Creation Act of 2004 (P.L. 108-357) rewrote the reforestation tax incentives available to private forestland owners. Under the previous law (P.L. 96-451) owners could take a 10-percent tax credit on and amortize (write off) qualifying reforestation costs up to $10,000 per year over 8 tax years.[1] Under the new law, owners can deduct outright qualifying reforestation costs up to $10,000 per year for each qualified timber property and amortize any additional amount, again over 8 tax years. The reforestation tax credit is eliminated.

With its $10,000 cap on both the tax credit and amortization provisions, the previous law was designed to benefit primarily "small woodland owners." In contrast, the new law benefits owners of forest holdings of all sizes, large and small, although it appears Congress intended that it continue to benefit "small woodland owners" with modest incomes and forest holdings (RIA 2004).

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Procedure

To demonstrate the effect of the new reforestation tax incentive we developed spreadsheets to calculate after-tax Bare Land Value (BLV) for a representative southern pine management plan under three tax situations and five combinations of forest size and non-timber income.

The tax situations used were:

- No reforestation incentives;
- The incentives under the previous law (P.L. 96-451); and
- The incentives under the current law (P.L. 108-357).

The combinations of forest size and owner income used were:

- Low income owners with a small forest holding;
- Median income owners with a small forest holding;
- Median income owners with a large forest holding;
- High income owners with a small forest holding; and
- High income owners with a large forest holding.

The spreadsheets calculated on a year-by-year basis the net financial effect of owning and managing a forest holding under each tax situation and each combination of forest size and owner income. Included were the costs of site preparation and planting; property tax; the effect on federal and state income taxes of deducting forest management expenses and using any reforestation incentives; and the returns, costs, harvest taxes, and federal and state capital gain taxes resulting from timber harvests. The annual net cost and return figures were discounted to the beginning of the rotation using the owners' personal discount rate (see below), and summed to calculate after-tax per-acre BLV.

Non-timber income was assumed to be \$20,000 annually for the low income scenarios, \$60,000 for the median income scenarios, and \$180,000 for the high income scenarios. The median figure closely approximates average 2005 disposable personal income for a two-person household (Council of Economic Advisors 2006). Holding size was assumed to be 40 acres for the small holding scenarios and 400 acres for the large holding scenarios.

The forest management plan used is shown in Table 1. The plan itself was taken from USDA Forest Service Research Paper SO-255 (Busby and others 1990). Management costs were adapted from the *Forest Landowner 34th Manual Edition* (DuBois and others 2003), and stumpage prices were 5-year regional averages from the *Timber Mart-South Market Newsletter* (Timber Mart-South 2001–2005).

The forest holding was assumed to consist of a single, even-age stand constituting one qualified timber property. The forest owners were assumed to be a married couple who file joint federal and state tax returns, qualify as material participants in their forest enterprise, have itemized deductions equal to the standard deduction, and use a personal discount rate of 4 percent, real (with inflation factored out).

The owners also were assumed to be subject to the following federal, state, and local taxes:

- Federal income and capital gains taxes at 2005 rates;

- State income and capital gains taxes at 25 percent of the federal rates;
- A property tax equal to $5 per acre per year; and
- A harvest tax equal to 2.5 percent of the gross stumpage price.

Table 1. Forest management plan, management costs, and stumpage returns used in the analysis.

a. Forest Management Plan		
Year 0: Site preparation and planting		
Year 15: Commercial thinning	3.85	cords per acre pulpwood
	0.75	cords per acre chip-n-saw
	0.00	MBF per acre sawtimber
Year 30: Final harvest	12.21	cords per acre pulpwood
	25.44	cords per acre chip-n-saw
	2.89	MBF per acre sawtimber
b. Management Costs		
Site preparation and planting	$ 270.00	per acre
Sale administration cost	10%	of gross stumpage price
c. Product Prices		
Pulpwood stumpage	$ 18.00	per cord
Chip-n-saw stumpage	$ 62.50	per cord
Sawtimber stumpage	$ 277.00	per MBF

This marginal approach enabled us to isolate and analyze the effect of the change in reforestation tax incentives on private forest owners with various sizes of forest holdings and income levels. The remainder of the paper presents and discusses the study findings.

Results

No Reforestation Incentives

Among the first findings of the study was that after-tax BLV varies with owner income and forest size – compare for example, the after-tax BLV values in Table 2, Tax Situation 1. The variation results from the progressive structure of federal and state taxes and from the effect of forest management deductions on forest owners' taxable non-timber income.

In the no reforestation incentive tax situation, reforestation costs are carried as basis until they can be deducted against timber harvest income. BLV is highest in the low income, small holding ownership scenario, for reasons related to owners' low non-timber income. First, deductions for property and harvest taxes removed a larger fraction of the owners' non-timber income from taxable income. Second, because capital gains are allocated between the 5- and 15-percent federal tax rates based on total income, most of these owners' timber capital gains were taxed at the lower rate (Table 2, Tax Situation 1).

In the median income ownership scenarios, deductions for property and harvest taxes removed a smaller fraction of the owners' non-timber income from taxable income, resulting in lower

BLVs. Comparing the two, about one-fourth of the median income, small holding owners' timber capital gains were taxed at the lower, 5-percent federal rate, resulting in a higher BLV. About nine-tenths of the median income, large holding owners' timber capital gains were taxed at the higher, 15-percent federal rate, resulting in a lower BLV (Table 2, Tax Situation 1).

In the high income ownership scenarios, deductions for property and harvest taxes removed a still smaller fraction of the owners' non-timber income from taxable income. All of these owners' timber capital gains were taxed at the 15-percent federal rate, resulting in identical BLVs (Table 2, Tax Situation 1).

Previous Law

In the previous law tax situation, the need to carry reforestation costs as basis is reduced or eliminated by the reforestation tax credit and amortization provisions. After-tax BLVs increased over the no-incentive tax situation in all five ownership scenarios, with the greatest increases occurring in the three small-holding ownership scenarios. In these scenarios, the law's reforestation tax credit provision – a dollar-for-dollar reduction in tax due – effectively shielded a portion of the owners' non-timber income from federal and state income taxes. More important from an economic standpoint, the amortization provision enabled the owners to recover nearly all of their reforestation costs during the first 8 years of a rotation (Table 2, Tax Situation 2).

Among the small-holding ownership scenarios, the low income owners saw the lowest increase in BLV, for two reasons. First, they had to spread their reforestation tax credit over 6 tax years because it exceeded their income tax due, and second their amortization deductions were taken against non-timber income in a low federal tax bracket (10 percent). The high income owners saw the highest increase in BLV because their amortization deductions were taken against non-timber income in a high federal tax bracket (28 percent; Table 2, Tax Situation 2).

Much smaller increases in BLV occurred in the two large-holding scenarios. The $10,000 cap on both the reforestation tax credit and amortization provisions allowed the owners to recover only about one-tenth of their reforestation costs in the early years of a rotation; the rest of the costs had to be carried as basis until timber was harvested. Comparing the scenarios, the high income, large holding owners took the amortization deduction against non-timber income in a high federal tax bracket (28 percent), resulting in a larger increase in BLV (Table 2, Tax Situation 2).

Current Law

With its reforestation deduction and unlimited amortization provisions the current law eliminates the need to carry any reforestation costs beyond the first 8 years of a rotation. As under the previous law, BLVs increased over the no-incentive tax situation in all five ownership scenarios. The pattern of the increases, however, was quite different. The greatest increases occurred in ownership scenarios characterized by high non-timber income, because these owners took the reforestation and amortization deductions against non-timber income in a high federal tax bracket (28 percent; Table 2, Tax Situation 3).

Table 2. Comparison of the financial effect of reforestation tax incentives on owners under differing assumptions about forest size and non-timber income (all after-tax BLVs are on a per-acre basis).

	Tax Situation					
	1: No Reforestation Incentives		2: Previous Law (P.L. 96-451)		3: Current Law (P.L. 108-357)	
Ownership Scenario	After-Tax BLV	Increase Over Tax Situation 1	After-Tax BLV	Increase Over Tax Situation 1	After-Tax BLV	Increase Over Tax Situation 1
Low income, small holding	504.48	--	566.81	12.4%	526.54	4.4%
Median income, small holding	458.54	--	538.07	17.3%	507.74	10.7%
Median income, large holding	438.73	--	446.55	1.8%	474.84	8.2%
High income, small holding	453.69	--	574.73	26.7%	557.17	22.8%
High income, large holding	453.69	--	465.79	2.7%	543.44	19.8%

In the high income, small holding scenario the owners benefited most from the law's reforestation deduction provision, which enabled them to recover nearly all of their reforestation costs in the year they occurred – little was left to amortize. In the high income, large holding scenario the owners benefited most from the law's unlimited amortization provision, which allowed them to recover reforestation costs above the $10,000 deduction amount during the first 8 years of a rotation (Table 2; Tax Situation 3).

After-tax BLV increased by roughly half as much in the scenarios characterized by median non-timber income, because in these scenarios the reforestation and amortization deductions were taken against non-timber income in a lower federal tax bracket (15 pct). The median income, small holding scenario mirrored the small holding scenario above, with the owners benefiting most from the law's reforestation deduction provision. The median income, large holding scenario mirrored the large holding scenario above, with the owners benefiting most from the law's unlimited amortization provision (15 pct; Table 2, Tax Situation 3).

The increase in BLV was lowest for the low income, small holding scenario, again for two reasons. First, the owners were not able to make full use of the $10,000 reforestation deduction because it exceeded their taxable income by a sizeable amount; like large holding owners, they recovered most of their reforestation expenses through amortization. Second, both the reforestation and amortization deductions were taken against non-timber income in a low federal tax bracket (10 pct; Table 2, Tax Situation 3).

Note that after-tax BLVs for the three small-holding scenarios are lower under current law than under the previous law. This indicates that regardless of income level, for owners of small forest holdings the current law's more generous provisions for reforestation and amortization deductions are outweighed by the loss of the previous law's reforestation tax credit.

Discussion

After-tax BLV varies with size of the forest holding and amount of the forest owners' non-timber income. The variation results from the progressive structure of federal and state taxes – which increase with income for both ordinary income and capital gains – and from the effect of forest management deductions on owners' taxable non-timber income.

Compared to no reforestation incentives, both the previous law and current law produce higher after-tax BLVs in all five ownership scenarios. The pattern of the increases, however, is quite different. The previous law primarily benefited owners with small forest holdings. The law's reforestation tax credit effectively shielded a portion of these owners' non-timber income from federal and state income taxes, and its amortization provision enabled them to recover nearly all their reforestation costs during the early years of a rotation.

Compared to no reforestation incentives, the current law primarily benefits owners with high non-timber income, because the tax savings from the $10,000 reforestation deduction and unlimited amortization provisions are greatest for owners in high tax brackets. Compared to the earlier reforestation incentives, the current law primarily benefits owners with large forest holdings, because elimination of the $10,000 cap on the provisions lets them recover all of their reforestation costs in the early years of a rotation

For owners with small forest holdings, after-tax BLVs are lower under current law than under the previous law. For these owners, the current law's more generous reforestation and amortization deduction provisions are outweighed by the loss of the reforestation tax credit. These findings are significant since it appears Congress intended that the new incentives continue to benefit primarily "small woodland owners" with modest incomes and forest holdings.

Endnote

[1] The regulations for the amortization provision required than forest owners reduce the amount amortized by half of any reforestation tax credit they took.

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