The Impacts of Federal-State Death and Gift Taxes on Private Nonindustrial Forest Owners

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(ABSTRACT)

The families of forest owners face potentially serious death tax problems. Increasing timberland values and demand for alternative land uses creates higher forest land and timber valuations. When coupled with federal and state death taxes, the estates of timber owners may experience a heavy financial burden.

Many states have recently changed or updated their death tax structures following the federal tax reforms. This study re-examines and details the death tax provisions in each of the 50 states. Forest management plans are integrated into the estate planning process to measure the combined federal and state death tax burden's impact on forest continuity and sustainability.

Emphasis was placed on the interaction of the federal estate and gift tax provisions with state death taxes. Different planning techniques are illustrated with hypothetical examples in which the death tax burden in selected states is calculated. Limited and basic planning provisions, which include intestate succession, all to my spouse wills, and full use of the unified transfer credit and marital deduction, are compared and contrasted against more sophisticated planning techniques. These advanced techniques include gifting programs, special use valuation, installment payments, minority discounts, conservation easement donations and charitable remainder trusts.

Unplanned estates, with a $3.5 million gross estate, often experienced a death tax burden in excess of 21 percent of the original gross estate. Effective planning techniques were able to reduce the tax burden to 2.6 percent of the original gross estate. For estates less than $1.2 million, the death tax burden was effectively eliminated in most states.

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CHAPTER 1

Introduction and Implications of the Problem

An important element of the nation's future timber supply is based on the private nonindustrial forest (PNIF) lands in the United States, which comprises 58 percent of the commercial forest resource (USDA Forest Service 1982). These holdings represent approximately eight million ownerships including a large number of retired[1] owners. Sixty-five percent of these landowners are estimated to be within 10 to 15 years of death tax transfers (Haney and Siegel 1993). More than 24 percent of the PNIF lands in Louisiana are expected to be transferred in the next 10 years because of landowner mortality projections (Cleaves 1995).

The families of forest owners, and especially the retired, face potentially serious death tax problems. Increasing timberland values and demand for alternative land uses creates higher forest land and timber valuations. When coupled with federal and state death taxes, the estates of timber owners may experience a heavy financial burden if they fail to plan.

Numerous documented cases of forest estates suggest that federal and state death tax burdens cause disruptions in management or cause heirs to abandon timber production programs. Many estates are forced to harvest timber prematurely in order to pay the death taxes, especially when unplanned (Sample 1992). These premature sales cause interruptions in the continuity of timber management and impair forest sustainability (DeCoster 1993). In an effort to relieve death tax burdens, the federal estate and gift tax

[1] Private forest landowners were separated into the categories of farmer, retired, white collar, blue collar, and other where retired persons ranked second, comprising 23 percent of the private forest land ownerships (Birch 1983).

provisions were revised in the Economic Recovery Tax Act of 1981 (ERTA). Paradoxically, the combination of lowering the tax rate and increasing the unified estate and gift tax credit may have led to complacency on the part of some landowners in terms of the need for effective estate planning.

Olson, Haney and Siegel (1982) elaborated on the need for estate planning and showed the importance of including state death tax considerations in such plans. Numerous changes have occurred in state death tax provisions since this information was compiled as of August 1980 and updated in 1985 by Walden, Haney and Siegel (1987). Substantial change occurred in the federal estate and gift tax statutes as a result of provisions enacted in the Tax Reform Act of 1986, the Revenue Reconciliation Act of 1993 and other major revenue acts passed in 1988, 1989, and 1990.

Many states have recently changed or updated their death tax structures following the federal tax reforms. There are three basic state death tax systems in use: the piggy-back tax system, the estate tax system, and inheritance tax system. Most states have adopted the so-called piggy-back death tax method. It allows a state to collect the proportion of federal estate tax allowable as a federal state death tax credit. Therefore, the taxpayer's overall tax burden is not increased. The other states use either an estate death tax system which is a levy on the right to transfer property by the decedent's estate, or an inheritance death tax system, which is a levy on the right to receive property by heirs. Inheritance tax states typically impose higher tax rate schedules on heirs who are further removed from the decedent.

Additional taxes include a pick-up tax and a gift tax. The pick-up tax absorbs any difference between an estate or inheritance tax and the maximum credit allowed for state death taxes on the federal return. If the inheritance or estate tax is less than the maximum federal credit, the pick-up tax ensures that the total tax is equal to a piggy-

back tax. The gift tax, is usually levied on gifts to recipients over a specified exemption value. Since death tax systems vary considerably among the states, forest landowners have a need for information on the interaction between the federal and state taxes in order to make prudent forest management decisions (Walden, Haney, and Siegel 1987).

The current importance of death taxes to PNIF landowners is further illustrated by the leadership in the forest industry. In April of 1994, the U.S. Forest Service and National Association of State Foresters sponsored the First National Conference on Stewardship (Baughman 1994). A major goal of this symposium was to discover ways to increase the number of dedicated forest stewards. One of the primary problems inhibiting stewardship management was the federal estate tax. The participants believed that estate taxes, which lead to premature and excessive harvesting, provided the largest barrier to ownership continuity. Proposed solutions included tax reform and educational seminars sponsored by State Extension Services to better explain the current estate planning/tax structure (Baughman 1994). In 1994, the Northern Forest Lands Council (1993) recommended that estate tax laws should be less confiscatory of land values (DeCoster 1993). In addition, Howard (1992) advised the council that "reviews of state-level death taxes may be as important as reviews of federal tax law".

Purpose

The objective of the proposed study is to re-examine and analyze the basic death tax legislation in each of the 50 states in terms of the potential effects on forest management during a family's lifetime. The study will include the combined effects of federal and state death taxes on an intergenerational transfer of private nonindustrial forest land. Emphasis will be placed on the interaction of the federal estate and gift tax provisions with state death taxes. Particular attention will be focused on legislative provisions specifically directed to forestry and related land use. This will include the present

structure of: (1) basic death statutes, (2) special use valuation, (3) deferral and extension of tax payments, (4) special forestry provisions, (5) the effect of different forms of business ownership, and (6) the total impact of death taxes on continuity of management and forest sustainability.

Each of the 50 states was re-surveyed since the previous study by Walden, Haney and Siegel in 1987. Each state revenue department, or other taxing authority, was asked to furnish information on their current death tax statutes, applicable tax forms and pending legislation that would affect forestry and agricultural land. Copies of applicable legislative provisions for each state were compiled.

In the analysis, federal-state death tax interactions were modeled based on:

(1) Death tax rates;
(2) Marital deduction, exemption, or credit;
(3) Special-use valuation;
(4) Tax payment deferrals, installments and extensions;
(5) Special provisions applicable to forest land and timber, including the use of IRC Section 2032(A) to forest properties;
(6) Gifting strategies.

The analysis incorporates forest management plans into estate planning models that include considerations for efficient continuity of management and sustainability.

Intergenerational transfers are considered for the impact of federal and state death taxes on a typical family of husband, wife, three children and three grandchildren. The death taxes are analyzed in present value terms, through both parents' deaths. The impact of death taxes was considered for transferring assets greater than $1.2 million. A brief example illustrates the importance of basic planning techniques on a $1.2 million gross estate, since virtually no tax is experienced on a planned estate of this size. Advanced techniques are illustrated on a larger $3.5 million forested estate. The simulations were modified to reflect any known policy changes and prevailing economic conditions.

Organization

A review of literature is contained in Chapter 2. This review included the current federal estate planning techniques, special forestry estate planning techniques, and proposed federal estate tax law changes. Chapter 3 details the methods used in this study.

The current federal and state death and gift tax provisions through May of 1996 are reviewed in Chapter 4. Most federal provisions trickle down to the state level when the states impose a piggy-back tax system. However, several special forestry provisions such as special use valuation and deferral and extension of tax payments may be treated differently by piggy-back states. Both the inheritance and estate tax states may or may not follow the federal provisions. Each of the important federal and state provisions are considered individually.

Financial analyses of timber investments and businesses are detailed in Chapters 5 and 6. In a hypothetical example, financial evaluation criterion are applied to an estate with forestry assets. The impacts of premature or delayed harvesting are illustrated in terms of deviations from optimal financial returns.

The effects of the various planning techniques in different states are shown in Chapters 6, 7 and 8. The 50 states were separated into four different regions; the Southern states, the Northeast states, the Midwestern states, and the Western states. In each region, a hypothetical example is carried through selected states and different estate planning techniques are emphasized. States were selected based upon the importance of forestry in the state, and in order to show each type of death tax, from each region, if available. Lastly, the information in each of the regions was modulated in order to separate the planning impacts for presentation in regional journals.

The Southern states are used to analyze the impacts of limited, basic and advanced planning techniques in Chapter 6. A high tax cost may be paid for allowing assets to be distributed by intestate succession, but several basic federal provisions can be used to substantially reduce the total tax burden for forest landowners. Additionally, the tax burden is analyzed in terms of disruptions in management continuity and asset depletion. A detailed forest management regime was developed to show how timber and other assets are available to pay the tax burden in the Southern region.

The effects of advanced planning techniques and opportunities for incorporating additional tax reductions are discussed in Chapters 7 and 8. The Midwestern and Northeastern regions are used to examine conservation easement donations. The importance of a charitable remainder trusts is shown with a hypothetical example in the Western states.

CHAPTER 2

Review of Literature

Estate planning is a complex process. All aspects of a family's objectives should be integrated with their financial resources, including tax, in the context of the applicable law. Since objectives and financial positions change over time, estate planning should be dynamic. Frequent tax law changes complicate the problem and require continuous planning in order to be effective and meet the family's goals.

No one can predict the future with certainty, so landowners need current information about estate planning techniques. Due to the changing nature of the estate tax law, regulations and judicial precedents, many prior studies have become outdated. Current information is necessary to insure that conventional planning techniques are optimal for forest landowners. Many of these planning techniques, however, are still important and previous studies should not be ignored.

A review of the estate tax literature is divided into four parts. Current planning techniques that help minimize the federal estate tax for all estates are covered in the first part. The past and current literature that focuses on forested and farm oriented estates are analyzed in the next section. In order to effectively plan for a forested asset, a clear financial understanding of forestry is essential. Financial analysis and decision making for the forested asset is covered Chapter 5. Lastly, a review of proposed federal estate tax legislation is needed to anticipate possible changes.

Current federal estate planning techniques

Many popular estate and financial planning books are quite insufficient, especially in

terms of covering forested estates or in addressing state level planning aspects. Ernst and Young's personal financial planning guide (Garner, et. al., 1995) discussed many of the federal estate planning provisions, however, they did not cover special use valuation, deferral and extensions or minority discounts. Additionally, they gave little notice to the state level death tax impacts experienced by any estate.

Even books that do cover special use valuation and deferral and extensions fall short of providing forest landowners with all of the relevant estate planning information. The *CCH Financial and estate planning guide* (Kess 1994) covers special use valuation and deferral and extensions, but fails to provide substantial information pertaining to state death taxes. In a special section devoted to farmers and ranchers, they correctly pointed out the illiquid nature of farm assets. Kess thoroughly discusses special use valuation and the impacts of the different forms of business ownership. However, he overlooks installment payments in the section for farmers, and he does not discuss minority discounts or potential disruptions in management continuity.

Another estate planning book, however, was written for forest landowners. Haney and Siegel (1993) wrote a General Technical Report, *Estate planning for forest landowners: what will become of your timberland?*, that comprehensively summarized the relevant federal estate tax provisions. In a user friendly manner, Haney and Siegel illustrated how estate planning should be used by forest landowners. Only a small section, however, was devoted to state level tax impacts. Although the method of state death taxes were outlined in each state, this information has become outdated. Additionally, minority discounts and conservation easements were not addressed in their text.

Small (1992) wrote *Preserving family lands: essential tax strategies for the landowner*, to explain estate planning options for landowners. He focused on the use of conservation easements, gifting and charitable donations as a method of reducing the estate and income

tax burden on land, in order to keep it in the family. The need for extensive planning with the aid of professional advisors was emphasized.

Although easements, gifts and donations are powerful estate planning tools for landowners, many important tax-relief provisions are ignored. Special use valuation, installment payments and minority discounts are not included by Small. Failure to use these techniques, where appropriate, could increase the death tax burden unnecessarily. Estate planning was not followed through two deaths, husband and wife, and the importance of using the unified transfer credit was not recognized. Furthermore, he did not address the unique problem of gifting land to heirs under the annual gift tax exclusion.

Small recognized the impact of state death taxes on the tax burden, but in a haphazard way. He incorrectly implied that the piggy-back state tax was paid in addition to the federal estate tax. Instead, the full federal tax is due whether or not a state takes their allowable portion of the federal tax. Small then compared the different federal and state taxes experienced, at different estate values, for all of the 50 states. Unfortunately, he did not explain the importance of the number of heirs, and their relationship to the decedent, when computing death taxes for the inheritance tax states. Small's comparison may give a general idea of different state death taxes, but state provisions are far too complex to generalize without knowing what types of assets are distributed and in what manner.

Dwyer (1994) quickly outlined the benefits of a lifetime gifting program. He noted that gifting was beneficial for estates with valuations greater than $600,000, and he outlined a plan that gave assets away under the annual exclusion, tax-free, to reduce the size of the donor's estate. Although cash may be the easiest gift to make, Dwyer recognized appreciating property may be the best asset to give away. This type of gift not only

removes the current value of the asset from the estate, but also prevents any future appreciation from increasing the value of the estate.

Feinman and Britt (1995) looked at charitable remainder trusts as an estate planning tool. Even with lifetime gifting, minority discounts, and other planning techniques many estates face considerable estate taxes. As an alternative, Feinman and Britt believe a choice could be made on whether to give the money to society in the form of taxes or in the form of a charitable contribution, with the recipient chosen by the donor.

Feinman and Britt gave several reasons to consider a charitable remainder trust (CRT). Where property has increased in value, this appreciation is not recognized as taxable gain for income tax purposes if it is transferred into a CRT. A CRT allows flexible annual income distributions for the life of the grantor and/or the grantor's spouse. Income and estate tax deductions are created when property is transferred into a CRT. Additionally, Feinman and Britt suggested that a portion of the income stream and income tax savings from the charitable deduction can be used to fund life insurance. As long as the life insurance is placed in an irrevocable life insurance trust, the value of the donated asset can be replaced by insurance proceeds and transferred tax-free to heirs of the trust at the decedent's death. They also mentioned that assets, such as land, with a low basis, and low, irregular income stream are well suited for a CRT.

Conservation easements are another method of reducing the estate tax burden for forested lands. Wright (1994) pointed out that a donation of an easement can lower the value of an interest in land, which correspondingly reduces the land value for estate tax purposes. Although conservation easements are not widely used, they offer a tax saving mechanism for forest landowners who wish to maintain forest continuity and family ownership.

Some articles are able to illustrate effective federal estate planning using realistic

examples. Roha (1994) discussed the estate planning techniques, for small-business owners, implemented by Barbara Balter, a widow in control of the family engineering firm. Roha reported that only 30 percent of family-run firms are successfully transferred to the second generation. For this reason, estate planning is essential for small businesses.

Roha reviewed several of the estate tax savings provisions used by Balter and stated that a good succession plan separates ownership from control. For this reason, equity can be given to the children by issuing voting or controlling stock to active heirs and nonvoting stock to inactive heirs. Roha emphasized the importance of gifting because of the annual exclusion and minority discounts which apply to gifts. She warned of postponing tax under the marital deduction and suggested the use of buy/sell agreements. Selling the company to the children was not recommended because tax is paid on the profit. Lastly, Roha recognized the use of installment plans, under Section (§) 6166 of the Internal Revenue Code of 1986 (IRC), to pay the federal estate tax on family businesses.

Although Roha illustrated estate planning for the family business, the same principles would apply to forestry businesses. Certainly, forest landowners often face the problem of being equitable to the children who are active in the business and those who are not. Many owners have limited partnerships and Subchapter S corporations which allow for buy/sell agreements, minority discounts and estate tax installment payments.

Forest death tax considerations

Sutherland and Tedder (1979) looked at the impacts of estate tax transfers for estates made up primarily of land and timber, following the Federal Tax Reform Act of 1976. Since new owners of inherited estates face substantial taxes, owners are often forced to

cut timber to pay death taxes. Additional taxes may be incurred because of the forced harvest (e.g., yield taxes). Thus, Sutherland and Tedder analyzed how the new estate tax law affected owners with varying forest conditions, stocking levels, and age distributions when a new owner is forced to sell timber to pay taxes. They were able to compare different forest estates and the impact of prematurely harvesting timber by comparing the present net worth of the estates.

Sutherland and Tedder briefly discussed methods of funding estate tax burdens. They found a reduction in present net worth when timber was sold in order to pay estate taxes. As an alternative, insurance could be purchased, as long as the discounted value of present net loss due to taxes is greater than the discounted value of the premium payments. Borrowing money was also suggested by Sutherland and Tedder. They pointed out, however, that few lending institutions will loan money to forest enterprises and the repayment of the loan and interest may cost more than harvesting timber to pay the taxes.

Sutherland and Tedder provided a model to compare different forest stocking levels. However, estate planning must be much more comprehensive in order to be effective. They made assumptions regarding forest property that may not be reasonable. First, it is highly unlikely that an estate will be comprised solely of forest land. Second, the fact that state inheritance taxes were ignored could have a substantial impact. Sutherland and Tedder correctly pointed out that many states have a "pick-up" tax which follows the federal credit and renders the effective tax unchanged. There are many states, however, that have not only different tax rates, but different death tax systems than the federal estate tax.

Another important assumption made by Sutherland and Tedder was that the estate could be valued at the market value or the forest use value. At least currently, the IRS

imposes strict regulations which substantially limit the use of special use valuation to forestry landowners, under IRC § 2032A. Since the difference between fair market value and current use value is often considerable, the estate tax can be much greater without IRC § 2032A and forested land may have to be sold to pay the taxes.

As alternatives for cutting timber to pay estate taxes, Sutherland and Tedder mentioned the use of insurance. Each of these alternatives must be analyzed on a case by case basis, but Prindle (1981) pointed out another option, the installment payment election (deferral and extension under IRC § 6166). The installment payment election provides for a 5 year tax deferral followed by a 10 year equal annual payment schedule for the principal and 4 percent interest (on amounts up to $1,000,000). Though the installment sale method is only applicable in some cases, it is a powerful estate planning tool and should not be ignored (Prindle 1981).

Perhaps the first article to include state death tax considerations for forest landowners was written by Olson and Haney (1980). They recognized that the illiquid nature of forestry assets posed a unique problem to forested estates. Only careful planning, which includes state death tax considerations, would help prevent adverse death tax effects.

Olson and Haney calculated the state tax burden for each of the southern states. They discovered that the state portion of the death tax burden could be quite significant and variable. Additionally, they looked at special use valuations as a method of reducing the tax burden on the federal and state levels and found a substantial tax savings occurred using this special provision in many of the states. Olson and Haney concluded that death tax planning should include the state level impacts.

The article written by Olson and Haney was one of the first compilations to include state level implications in forest estate planning. The southern states were used and special

focus was given to special use valuation. For forested estates, this special focus was particularly important.

Several of the relevant state level provisions were excluded by Olson and Haney's article. The individual rates and exemptions, which are primarily responsible for the tax burden, were not included. The deferral and extension of tax payments were given little notice and the tax was only calculated for one death. A true family tax burden could not be calculated since no considerations were given to different estate planning techniques that encompassed two deaths.

Howard (1985) looked at the interaction of key provisions, for federal estate tax planning, in terms of forms of business ownership and techniques for funding of estate settlements. Different forms of business and tax funding techniques were considered.

Howard began with a complex example to illustrate the impact of different estate planning options with four different property right distribution scenarios. The husband and wife initially had equal ownership, the husband's interest was transferred to the wife at his death, and the assets were distributed equally to the children at the wife's death. Second property right distribution was the same as the first, except the husband made gifts of $10,000 per year to each of the adult children. Third, the husband owned 75 percent and the wife 25 percent and the assets were distributed as in the second case. Lastly, Howard assumed the husband owned the entire property and bequeathed the entire amount to the wife, who divided the assets among the heirs at the wife's death.

Howard considered three mutually exclusive estate settlements and four business alternatives. The first settlement was to liquidate timber to pay the estate taxes. The second settlement was to borrow from private sources or the federal government using

the installment payment election[1] and to pay the principal and interest with timber proceeds. Lastly, Howard assumed the estate taxes were paid by life insurance policies. The different business forms considered included a sole proprietorship, a partnership which participates with the children, a Subchapter S corporation, and a testamentary non-marital deduction trust created at the husband's death[2] and dissolved at the wife's death.

Each alternative was compared by dividing the present value of the timber cash flows (net of taxes and costs) by the present value of the pre-tax cash flows. This calculation determined a percent tax-induced reduction in the net present value. Howard assumed a constant tax schedule over the 90 year planning period and that interest rates and price changes were in real terms.

The base run, which assumed the husband died 10 years before the wife, favored the partnership with 75-25 percent ownership and the testamentary trust with 50-50 percent ownership and the husband as a sole owner. The preferred settlement method was overwhelmingly timber liquidation. The best combination corresponded to a 27 percent reduction in present value and occurred with the trust and immediate liquidation.

The trust was favored since it reduced estate settlement costs and spread those costs over a long period of time. It accomplished a reduction in settlement costs by excluding $600,000 of tax from the wife's estate. The trust also reduced income taxes by preserving the stepped up basis as compared to the partnership and S corporation.

Howard found the immediate liquidation of timber to be the best method for paying estate

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[1] The installment payment election falls under the Internal Revenue Code of 1954, Section 6166.

[2] The business was assumed to be a sole proprietorship before the husband's death.

taxes. The liquidation effectively spread the cash-flow impacts over the 60 year timber rotation, whereas the loan payment was spread over a shorter time and life insurance payments were collected in the present. The fact that the installment payment election was not more cost effective was surprising, however, the payment of principal and interest caused cash flow problems and the 4 percent interest only applied to the first $345,000 of tax, minus the unified transfer credit.

Lastly, Howard varied all the parameters of the base run to see how the results were affected. Overall, the trust with sole ownership and 50-50 percent ownership was preferred with immediate liquidation. Even with different interest rates, real price changes, rotation ages and land acerages, the trust and liquidation was most cost effective. One notable exception was that life insurance was the preferred settlement method if the life spans of the husband and wife were significantly shortened.

Howard included many of the key factors that effect estate planning on forested estates that had been previously ignored. Several of the important components of estate taxes included by Howard were the form of business ownership, the method of settlement and the impact of varying assumptions. However, state level death tax impacts were not incorporated.

Howard assumed that the highest and best use of the land was forestry. As Howard admitted, he effectively avoids the special valuation issue under IRC section 2032A. As more and more rural development occurs, the special use valuation issues should not be ignored. Additionally, Howard noted the possibility of timber liquidation to flood local markets and force below fair market value sales in order to pay estate settlement costs.

Another important oversight by Howard was the failure to include Subchapter C corporations as a business alternative. He felt that the loss of long-term capital gain

character by timber in a C corporation would make the C corporation too costly. This, especially currently, may be significant. Though corporations do not have a special rate for capital gains, the highest corporate rate is less than the highest individual rate. Currently, the highest individual tax rate is 39.6 percent as compared to 15 percent for a corporation with $50,000 of timber income per year. The rate goes up to 35 percent for the corporate profits, but dividends on distributions are taxed again. The corporation is subject to an additional tax when the stock in the corporation is sold, or the corporation is dissolved, but this income is only subject to the individual capital gains rate. Further, this second tax may be postponed well into the future, which reduces the effective second tax rate.

Another benefit of the C corporation status is the ability to switch between Subchapter S and Subchapter C status. If there is an initial period where no timber sales occur, the deduction for property taxes and management costs may possibly be transferred to the individual under Subchapter S status. The deduction will benefit the owner more since the deduction will be subject to the individual's higher tax rate. Once the corporation starts having income, the Subchapter S status can be revoked, and the income would be taxed at the lower corporate rate. All of the relevant factors must be weighed in order to determine what form of business ownership is appropriate for a landowner.

As an extension and update to Olson and Haney's article, Walden, Haney and Siegel (1988) looked at the federal and state death tax implications on private nonindustrial forest estates. Covering the Northeastern states, Walden, Haney and Siegel reported the current state statutes and changes that occurred since the original study. The state exemptions and rates were included along with special use valuation and deferral and extensions. They constructed hypothetical examples to compare the tax burden experienced in different states. The tax at the first death was calculated for each state and the unified transfer credit was used for estates greater than $600,000. There was no

tax liability, due to the marital deduction, in the piggy-back state. However, there was a significant tax burden at all three estate levels for the inheritance and estate tax states.

In addition to looking at the tax burden through one death, Walden, Haney and Siegel compared three different estate planning techniques in a piggy-back, an inheritance, and an estate tax state. In each state, assets were distributed by transferring all assets to the surviving spouses, using the marital deduction and unified transfer credit, and allowing assets to transfer according to intestate succession. The tax burdens varied considerably, across the three alternatives, in each state. No single form of distribution or particular state had the lowest tax burden in each case. They were able to effectively compare different death tax liabilities over the entire region and illustrate the impacts of different asset distributions in selected states.

Their study, however, only reported and briefly discussed the provisions regarding special use valuation and deferral and extensions. The impact of these federal provisions were not illustrated in an example, so landowners were not shown the tax penalty for not using these unique provisions. Since the tax savings is very significant, landowners must understand the consequence of not using special use valuation and deferral and extension.

Many forest landowners are concerned about how death taxes impact forest management. Walden, Haney and Siegel did not mention the possibility of death tax burdens to disrupt forest continuity. Along with goals of providing for the family, many landowners want to ensure their forest land will be available to benefit their heirs. In many cases, only through understanding and planning for the forested asset can disruptions be prevented.

Several general provisions were skipped on the state and federal levels by Walden, Haney and Siegel. Although the states that impose a gift tax were reported, the important provisions pertaining to state level gifting were not covered. The benefit of

a gifting program and its impacts of the state level were overlooked as well. Other options, such as charitable donations and conservation easements could be used to reduce the federal and state tax burdens.

A new study is needed for forest landowners that updates and expands the previous articles. State death taxes can be substantial, so they must be included. Relevant planning techniques for landowners, such as special use valuation and deferral and extensions should be compared to simple estate planning. Death tax reducing techniques, such as gifting, minority discounts, conservation easements and charitable reminder trusts, that were previously ignored or unavailable should be addressed. The impact of the death tax burden, over two deaths, should consider the financial character of the forestry asset in order to ensure estate planning does not adversely effect management.

Proposed federal estate tax legislation

After the 1994 congressional elections, the Republican Party was the majority party in both houses, for the first time in approximately twenty years. During their election campaign, the Republicans promised widespread reforms in the federal government, which included changes in the federal income, estate and gift taxes. Although very few of these reforms passed, it is prudent for the estate planner to understand potential estate and gift tax changes and how they could affect current estate planning techniques.

Zaritsky (1996) compiled possible estate and gift tax changes in his article titled *The year in review: An estate planner's perspective of recent tax developments*. In addition to summarizing the tax legislation and proposals, Zaritsky reported each estate tax bill's current status. The more important estate tax proposals compiled by Zaritsky are the focus of this section. In this review, the key points of the proposed bills are summarized.

The first major tax proposal reported by Zaritsky, was a proposal to increase the unified transfer credit. This change would have raised the exemption equivalent to $750,000 over a 6 year period. In addition, the exemption equivalent would be indexed for inflation after the year 2001. This provision would not change estate planning techniques. Although estates would experience a lower federal estate tax burden, for a given taxable estate value, the use of the marital deduction, gifting, special use valuation, deferral and extensions and minority discounts would still be needed on estates greater than $1.5 million through two deaths after 2001. This reform was vetoed under the Contract with America Tax Relief Act of 1995 (CATRA of 1995), as included in the Seven-Year Balanced Budget Reconciliation Act of 1995 (SYBBRA of 1995).

The next major tax proposal was a reduction in estate taxes for land with permanent conservation easements. The bill, which was vetoed by the CATRA of 1995 and SYBBRA of 1995, would allow the executor to elect to exclude 40 percent of the value of land subject to a qualified conservation easement from the estate tax. The land would have to be located near a metropolitan area or national park or wilderness area and have been owned by the decedent, or their family, 3 years before death. Additionally, the land must be a qualified conservation contribution under IRC § 170(h) and would be subject to an overall $5 million limit. The passage of this bill would greatly increase the importance of conservation easement donations as a method of reducing the estate tax burden.

The indexing of the maximum estate reduction under IRC § 2032A for inflation was proposed by the CATRA of 1995. This provision would index the $750,000 maximum gross estate reduction for special use valuation for inflation occurring after 1999. Indexing the maximum reduction would maintain special use valuation's effectiveness in reducing estate taxes instead of allowing inflation to erode its benefit. Although this provision was vetoed with the SYBBRA of 1995, the maximum reduction may be

indexed in the future since the income tax rates are indexed for inflation.

A new section, 2033A, was proposed by the CATRA of 1995 and vetoed by the SYBBRA of 1995. Section 2033A would apply to family-owned business interests that composed more than 50 percent of a decedent's estate after 1995. This section would exclude the first $1 million of qualified family-owned business interests from tax. Additionally, 50 percent of the qualified interests between $1 million and $2.5 million would be excluded from estate taxes. The proposed tax benefit would also be coordinated with IRC § 2032A and IRC § 6601(j), the special 4 percent interest rate for IRC § 6166.

If IRC § 2033A had passed, the estate tax burden for many forest landowners could have been significantly reduced. Estate planners would take great pains in order to ensure that estates qualified for the requirements of the new section. Zaritsky noted that the original version of IRC § 2033A was introduced by Senators Dole and Pryor with more that 30 co-sponsors. Due to the bi-partisan support, there is a good chance that IRC § 2033A will be reintroduced and passed in the future.

Another important estate tax reform would allow the value of the annual gift tax exclusion to be removed from estates with revocable trusts. Although this provision was vetoed by the SYBBRA of 1995, the implementation of this reform would increase the use of revocable trusts which bypass probate.

The last proposed estate tax change would index the $1 million of business interest subject to the 4 percent interest rate for inflation. This change would prevent the degradation of the maximum limit due to inflationary increases. Unfortunately, this provision was introduced by the CATRA of 1995 and vetoed under the SYBBRA of 1995.

In addition to the many estate tax reforms, one very important gift tax and generation skipping tax (GST) reform was proposed. The proposed reform would index the annual exclusion and the GST exemption for inflation, effective for decedent dying after 2000. This change would prevent inflation from eating away the annual gift tax exclusion and GST exemption. Both of these changes were vetoed in the CATRA of 1995 under the SYBBRA of 1995.

Many estate and gift tax reforms were proposed in 1995. Although all of them were vetoed with the SYBBRA of 1995, several of the provisions may be reintroduced. Estate planners must be prepared to quickly incorporate these new provisions to ensure that estates do not pay unnecessary taxes during the transition periods.

CHAPTER 3

Methods

In June of 1995, the taxing authority, in each of the 50 states, was asked to send a copy of their current statutes and regulations on death and gift taxes, special use valuations, deferral and extension of tax payments, and the treatment of different forms of business ownership. In addition, each state was asked to furnish all applicable tax forms necessary to file a complete gift or death tax return for a forested estate. They were specifically requested to call attention to any pending legislation on death and gift taxes or any special taxes related to forestry. The letter appears in Appendix A.

After each of the states responded, the relevant information from each state was compiled. The 50 states are separated into four regions: the Midwest, Northeast, South and West. All states are classified according to their current state death tax system. The relevant basic state tax provisions, such as due dates for state death tax returns, marital deductions, exemptions/credits, and tax rates, were recorded. Special considerations affecting forestry comprised the treatment of taxable gifts, special use valuation, and deferral and extensions. Deferral and extension included the ability to defer tax filing and payments, the interest rates applicable to extended payments, and other relevant provisions such as installment payments and discounts.

After the states were classified, the federal basic provisions and special considerations affecting forestry were accumulated. The basic statutes were compiled and compared to the CCH state tax guide in which state tax laws are summarized in a simplified format. This was necessary since the language of the state statutes vary and the death tax provisions are subject to different interpretations. All specified provisions were double checked against the compiled state provisions for accuracy. Questionable provisions and

gaps in the relevant information were clarified by telephone interviews with a state tax authority.

The federal and state provisions were separated into basic and advanced planning techniques. The basic planning techniques consist of the utilization of the unified transfer credit (Chapter 4) and the deferral of tax, under the marital deduction, at the first spouse's death. Equalization of the estate between spouses is included so that the results are effective no matter which spouse dies first. The basic techniques are compared to limited planning techniques such as distributions by intestate succession, transferring all assets to the surviving spouse, and not equalizing the estate. The advanced planning techniques incorporate the special considerations available to forested estates. These techniques include lifetime gifting programs, special use valuation, minority discounts, and the deferral of taxes under an installment plan. The advanced techniques are compared to the basic planning techniques, singly and in combination, to illustrate the tax savings that are possible by using each of the special forestry considerations.

Hypothetical case examples were constructed so that the death tax calculations for a typical woodland owner's family could be followed through two deaths. The family consisted of a husband and wife, 3 children and 3 grandchildren. The deaths were assumed to be separated by 10 years since the average husband is 3 years older than his wife and the average wife lives 7 years longer than her husband. This also avoids any confusion for a credit against prior death taxes paid. A family of two parents and 3 children was assumed because two parent families are more predominant and estate planning is more complicated for a family as opposed to a single decedent. The total amount of federal and state death taxes were computed for each death. The tax burdens across planning options were compared in present value terms. An interest rate of 7.6 percent, based on the average monthly federal rate from January 1992 to December 1995 for valuations of gifts and estates (Commerce Clearing House 1995), was used to

discount future values to the present.

The federal-state comparisons of death tax burdens were conducted among selected states in each region by following hypothetical examples. Three states in each region were selected, one with a piggy-back tax system, an estate tax system, and an inheritance tax system. When more than one state in a region has the same death tax system, the states with highest forestry activity were selected. Two piggy-back states and an inheritance tax state were selected in the Western region because none follow a separate estate system.

In the South, states were used to illustrate the importance of basic planning techniques in maintaining the estate. Then, each of the special forestry considerations: gifting, special use valuation, installment payments, and minority discounts were introduced incrementally at first and then in combination. The effects of limited and basic planning were illustrated by comparing the four basic cases: 1) an estate where all assets are distributed by intestate succession, 2) an estate that transfers all assets to the surviving spouse in a so-called "I love you" will, 3) an estate with a marital deduction formula will that utilizes the unified transfer credit at the first death, and defers the balance of taxes under the marital deduction, and 4) an estate that uses the marital deduction formula, but the estates are equalized between the husband and wife to make sure they are effective no matter which spouse dies first. This technique is referred to as basic planning techniques whereby the estates are equalized, the unified transfer credit is fully used, and the balance of death tax is deferred. Initially, the examples were constructed for a gross estate of $1.2 million and $3.5 million; however, effective basic planning eliminated the federal estate tax for a net taxable estate of $1.2 million or less.

The special forestry considerations were then applied only to the $3.5 million gross estate, since they are not needed to reduce the federal tax burden of a $1.2 million estate,

if effectively planned. The estate tax using a hypothetical gifting program, special use valuation, installment payments, and minority discounts were calculated separately to illustrate their effect on the tax burden. A final case incorporated all of the special forestry considerations to achieve the maximum tax savings, given the specific assumptions and estate planning techniques.

In the Midwestern and Northeastern states, the results for combined impacts of the special forestry considerations were compared to the results obtained using basic planning techniques. Conservation easement donations were also analyzed and compared to results with the basic planning techniques. Conservation easement donations are increasing in popularity and are being promoted by both governmental and non-governmental organizations. Conservation easements offer an alternative to landowners who cannot qualify for special use valuation, minority discounts, or installment payments. Conservation easements have the ability to remove the developmental pressures that may abruptly increase the land's fair market value. This technique was only applied to the $3.5 million gross estate since the problems encountered by a $1.2 million unplanned estate could be resolved with basic planning techniques.

Planning for the Western states assumed that basic planning techniques were used and focused on the effects of the special forestry considerations and charitable remainder trusts. Charitable remainder trusts can be very useful for families both with and without children. They offer a current income tax deduction, a reduction in taxable estate value, the guarantee of lifetime income for both spouses based on the total market value of the assets (i.e., no capital gains tax), as well as the benefits of making lifetime charitable gifts. Once again, basic planning was the initial assumption for a $3.5 million gross estate.

Forestry assets are unique because they are long-term, capital-intensive undertakings.

Forestry investment periods may be as short as 10 years or as long as 100 years. Unlike most other investments, the trees constitute both the principal and the income. During this period, a considerable capital outlay is often necessary to promote forest growth even when little or no revenue is generated during the early phases of the investment cycle. As a result, many forestry assets are illiquid and proper planning is essential to avoid disruptions in forest management continuity which results from premature and uneconomical harvesting. If estate planning is poor, forest and land assets may need to be sold to cover costs which in turn disrupts forest sustainability. To truly understand the impact of death taxes on forest continuity, the estate planner must be familiar with the forestry asset or work with a forester.

The financial optima of forestry investments have been analyzed extensively, starting with Faustmann (1849). Since then, many other researchers have explored forest investments including the optimal forest rotation length which is summarized by Newman (1985). However, these investment criteria and valuation techniques are rarely applied in estate planning models.

A simple model was developed to discuss the financial impact of death taxes on forested estates and assets. First, a growth and yield program estimated the inventory of loblolly pine over a 50-year rotation. PCWTHIN, version 2.0, was the growth and yield program used to estimate timber yields from a set of site productivity, stocking, and species assumptions (Weih, Scrivani and Burkhart et al. 1990). Although loblolly pine is used in the example, the principles are applicable to Douglas fir, white pine, white oak and most commercially important timber species. Once the yields were found, total revenues were estimated by multiplying timber yields by timber prices. The timber prices were based upon 1995 Timber Mart-South average Southeast stumpage prices. Estimated costs associated with the timber investment were based upon southern price estimates (Dubois et. al. 1995). Next, the costs and revenues were incorporated in a

forestry investment program (Vasievich and Wiethe 1986) to yield the financial decision making criteria [i.e., net present value (NPV), internal rate of return (IRR), and land expectation value (LEV)]. The process was repeated for rotation lengths in 2 year increments up to a 50 year rotation.

Additionally, this model quantified the cost of financial deviations from the optimal rotation length. A decision window existed where small deviations from the optimum had little effect on the investment. However, significant deviations had a severe impact on the forest investment. By using the Southern hypothetical examples of limited and basic planning techniques, the tax burden was expressed in terms of asset depletion. The model's forest assets were molded into the hypothetical estate's forestry assets in order to show the effects of the death tax burden on the estate's assets. This model was unique to a loblolly pine investment, but a similar analysis could be conducted for every region and forest species.

In addition to the previous hypothetical examples, the Southern states were used to show the impacts of inflation on the total tax burden. Inflation can cause problems since none of the federal or state tax rates, exemptions, or provisions are indexed for inflation. The tax burden increases over time, when all other assumptions are held constant because inflation is an implicit tax when the tax rates are progressive. The higher gross estate value, due to time passing with inflation, will cause a higher tax burden because of the progressive tax rates. The impact of inflation was shown by growing assets at a constant inflation rate between the two deaths for an estate that allowed assets to transfer following limited planning and basic planning. Assets and expenses were examined individually to ensure values that are not affected by inflation (e.g., life insurance) were handled appropriately.

CHAPTER 4

Federal Estate Tax Provisions

The federal government imposes a unified estate and gift tax on all assets transferred during life and at death (Internal Revenue Code of 1986). The tax is progressive and cumulative with marginal tax rates that increase as the value of the taxable estate increases. The rates vary from 18 percent on the first $10,000 of taxable estate to 55 percent on taxable estates in excess of $3 million, which is shown in Appendix B (IRC § 2001). The federal gift tax is imposed at the same tax rates as the estate tax and all taxable transfers are cumulative over the grantor's life (IRC § 2501 and IRC § 2502). Generally, all assets are valued at fair market value, however, deductions are allowed for reasonable funeral and administrative expenses and all debts (IRC § 2031 and IRC § 2053). An unlimited deduction is allowed for all transfers to a surviving spouse, during life or at death, but gifts of future interest[1] to a spouse are not deductible (IRC § 2056). In addition to these deductions, a unified estate tax credit of $192,800 is allowed for each decedent to offset their estate tax (IRC § 2010). This credit is equal to a $600,000 exemption equivalent in the taxable estate[2]. These federal estate tax provisions are briefly described and represent only a few of the statutes that compose the federal estate tax. An outline of the federal estate and gift tax provisions found in the Internal Revenue Code are outlined in Appendix C.

In addition to the basic federal provisions, the federal tax code contains several

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[1] Gifts of future interests are gifts in which the possession or enjoyment is experienced in the future and not in the present (Black 1990).

[2] A $600,000 exemption equivalent is equal to the $192,800 unified estate tax credit.

provisions that may be beneficial for forest landowners[3]. These provisions include tax-free gifting, special use valuation and deferral and extensions which are discussed below.

Gifting

One of the most effective methods of reducing the size of an estate is to give away assets, and therefore, reduce the estate tax. Large transfers are taxable on the federal level and sometimes on the state level. A planned estate can transfer many assets, tax-free, by making gifts that are valued less than the federal and state annual exclusions. Over a period of years, the gross estate and death tax burden can be significantly reduced. However, a loss of control is experienced by the donor in exchange for the tax savings because an asset is only excludible from the donor's estate if the transfer is a bonafide gift, and the asset is not used or controlled by the donor following the gift.

The federal tax code allows an annual gift exclusion of $10,000 per person per year and no gift tax return is required (IRC § 2503). A husband and wife can elect to split a gift where one-half of the gift is considered to be made by each spouse (IRC § 2513). A gift tax return must be filed, but a split-gift allows a total of $20,000 to be transferred, tax-free, to any person each year. Federal gifts over the annual exclusion are offset against each person's $192,800 unified transfer credit. Once the exemption is exhausted, taxes become due on any additional taxable gifts. Also note that qualified appraisals may be necessary for some assets -- land and timber, art, etc.

For example, assume a family has imposed an aggressive gifting regime for a gross estate valued at $3.5 million. The husband and wife are splitting gifts of $20,000 to their 3 children and 3 grandchildren for 6 years prior to the first death. That amounts to

[3] For a more detailed discussion of the special forestry provision and their requirements, see (Haney and Siegel 1993) or (Kess 1994).

$60,000 for the children and $60,000 for the grandchildren per year, which accumulates to $720,000 over 6 years. The gross estate is subsequently reduced to $2.8 million at the first death. This lower estate value equates to a reduction of $380,000 in potential taxes. A vigorous gifting program may also include annual gifts to the children's spouses if sufficient trust is involved and the family recognizes the possibility that land may leave the family's control.

Another important gifting technique is the donation of assets to qualified charities. Generally, gifts to governmental, educational, or religious institutions will remove assets from an estate, regardless of the timing of the transfer (IRC § 2055). If a gift is made prior to death, however, an income tax deduction may be allowed for the charitable contributions. Charitable donations are discussed in the context of a charitable remainder trust in Chapter 8.

Special gifting considerations

An important aspect of giving is deciding what to give. Many assets, such as real estate and life insurance, are difficult to give in $10,000 or $20,000 increments. A substantial fee may be incurred to retitle real property every year. However, partnerships, limited liability companies, and trusts can be set up so that donees can receive partial interest within the annual exemption constraints and with minimal administrative costs.

Generally, life insurance should be owned by someone other than the decedent because the face value will be taxed in his/her estate (IRC § 2035). A transfer made during the lifetime of the insured is made at the insurance policy's cash value, which is usually substantially less than the face value. If the decedent owns the insurance, the face value will be included in his/her estate. Gifts of insurance must be made more than three years before the date of death or the face value of the policy will be pulled back into the decedents' estate.

A testamentary transfer of property will have a stepped-up basis equal to the fair market value (FMV) of the asset on the date of death, or on the alternative valuation date, which is six months later. A gift of property simply transfers the donor's basis to the donee. Because the estate rates are generally higher than the income tax rates, a stepped-up basis resulting from a death transfer is generally more costly for property with a low basis, for high estate values. However, a comparison must be made that includes variables such as the rate of appreciation, the relevant tax rates and the amount of time between a hypothetical gift and the decedent's death, in order to determine if a gift is better than a testamentary transfer.

Special use valuation

One of the most important federal estate tax provisions available to farm and forest landowners is the allowance of current valuation instead of highest and best use valuation on farm and forested property. This "special use valuation" is provided under Section 2032(A) of the Internal Revenue Code. It is limited to a maximum reduction in the decedent's gross estate of $750,000, but this reduction can potentially save $412,500 in taxes, at the highest federal tax rate.

In order to qualify for special use valuation, stringent requirements must be met. The decedent's property must be located in the United States, the decedent must have been a U.S. citizen and the property must be transferred to a qualified heir. A qualified heir includes the spouse of the decedent; an ancestor of the decedent; any lineal descendant of the decedent, decedent's spouse or the decedent's parents; or the spouse of any lineal descendant listed above.

The property must have been owned and used for a farming or a closely-held business purpose, by the decedent, or his (her) family, for 5 out of the last 8 years prior to death.

The decedent, or the decedent's family, must have had an equity interest and materially participated in the operation for 5 out of the last 8 years before death. For purposes of material participation, the 8 years before death can be substituted with the 8 years before the decedent became disabled or the 8 years before the date on which social security benefits began, as long as they continued until the decedent's death.

In addition, the total property qualifying for Section 2032(A) must constitute 50 percent of the decedent's estate, when valued at fair market value. A minimum of 25 percent of the adjusted value of the gross estate must be qualified real property. Only 25 percent of the value of the estate need be elected for special use valuation. All heirs with an interest in the qualifying property must sign and elect special use valuation on the estate tax return.

For 10 years following the decedent's death, some requirements must be met in order to continue special use valuation and avoid a federal tax recapture. The decedent's family (or qualified heir) must retain full ownership, except in the event of an involuntary conversion or like-kind exchange. One heir, at a minimum, must materially participate in the management of the property in 5 of every 8 years. At least one heir must retain an equity interest and the property must be managed and used for the qualified use (Reg. § 20.2032A-3). In addition, a two year grace period is allowable which may extend the special use period to a total of 12 years.

If any of the qualifications are violated after special use valuation has been elected, the tax savings may be subject to recapture. This includes the severance (harvesting) of specially valued timber, if elected.

In order to ensure the recapture of tax, in the case that special use valuation is discontinued, the Treasury Department may impose a lien on the qualified property. The

lien will apply until the qualified heir dies, the tax benefit is recaptured, or the 10 year recapture period has elapsed.

Deferral and extension

Under normal circumstances, the estate tax return must be filed and paid within 9 months of the decedent's date of death. If this date is missed, interest and penalties may apply to the overdue amount. In general, interest for an underpayment (IRC § 6621) is charged at the applicable federal rate (AFR), which is equal to the federal short-term rate plus 3 percentage points. Additionally, the interest is compounded daily.

The federal estate tax can be deferred or extended in one of three ways. Under IRC § 6081, the Secretary may grant an extension of time to file the estate tax return for a reasonable period of time. Additionally, the Secretary may extend the time for payment of the estate tax for reasonable cause (IRC § 6161). Although an extension may be allowed, interest will still be charged on the overdue amount at the applicable federal rate, but no penalties are assessed. Generally, no single extension to file or pay may exceed 6 months. The final method of deferring estate tax payments is provided by IRC § 6166 which allows for deferral and installment payments.

Installment payments

An important provision that is helpful for farming businesses, including woodlands, is the allowance of installment payments of federal estate tax under IRC § 6166. If a closely-held business comprises more than 35 percent of the adjusted gross estate, then the federal estate tax on the closely-held business portion of the tax can be deferred for 5 years and then paid in 2 to 10 equal annual installment payments. The closely-held business must have active business management. The special use valuation must be used, if elected, for the 35 percent test. Interest is charged at 4 percent on the first million

dollars of closely-held business property minus the exemption equivalent (IRC § 6601). Amounts above the million dollar limitation are subject to interest at the federal short-term rate plus 3 percent. A disposal of more than one-half of the qualified business interest will accelerate the payment schedule.

The ability to defer taxes is quite helpful, especially for forested estates. The extra time allows the estate to arrange its business affairs and improve liquidity. Additionally, the deferral permits some forest stands to reach economic maturity, thus, helping to prevent disruptions in forest continuity.

Minority discounts

The last special forestry consideration deals with determination of the fair market value of minority ownerships. Revenue Ruling 59-60 recognized a minority interest of stock is valued substantially less than stock owned by a controlling interest (Haney and Siegel 1995). Revenue Ruling 93-12 clarified the use of minority discounts because the transfer of shares is valued without regard to the family relationship between the donor and donee (Haney and Siegel 1995).

Experts commonly agree that a minority interest does not always equal the percentage of its ownership value. Thus, a minority discount can be given for the lack of control over an asset or due to the lack of an asset's marketability. The average discount is 30 percent for a minority discount and 42 percent for the lack of marketability (Haney and Siegel 1995). None of the 50 states have provisions for these discounts, but expert valuation of fair market value should reduce the estate value on both the state and federal levels. Estate planners must be cautious, because a discount may render property ineligible for other tax provisions such as special use valuation and deferral and extension. The interaction of all these provisions must be carefully considered.

Basic planning techniques

Basic estate planning is relatively straightforward. For net estates above $600,000 in value, assets should be distributed to non-spouses to ensure that the unified estate tax credit is fully used at the first death. Any additional assets may be transferred to the spouse in order to defer taxes, under the marital deduction, until the second death. The transfer to the heirs can be outright, if these assets are not needed by the surviving spouse, or in trust, if the survivor needs the income earned by these assets. This point will be covered more fully in Chapter 7. To ensure that this is accomplished, a family's estate should be arranged so that it is approximately equally owned by the husband and wife. Death cannot be predicted, so estate plans must be prepared to use both the husband's and the wife's unified transfer credit, at any time. A will enables the decedent's estate to incorporate all of the basic planning techniques. It may name an executor, waive bond and insure that the assets are distributed according to the decedent's guidelines.

State Death Tax Systems

There are three basic state death tax systems currently in use -- the piggy-back, estate, and inheritance tax systems. Twenty-nine of the states have adopted the so-called piggy-back death tax method. This method allows a state to take the proportion of federal estate tax allowable as a state tax credit, and thus causes no net increase in the taxpayer's overall tax burden. The maximum state tax credit is progressive and ranges from .8 percent on taxable estates in excess of $100,000 and 16 percent for taxable estates in excess of $11,000,000, which is shown in Appendix D (IRC § 2011). Five states use an estate death tax system, which is a levy on the right to transfer property by the decedent's estate. Sixteen states impose an inheritance tax system, which is a levy on the right to receive property by heirs. Inheritance tax states typically increase their tax

rate schedules on property transferred to individuals that are less closely related to the decedent. All estate and inheritance tax states impose an additional tax called a pick-up tax to absorb any difference between their state tax and the maximum credit allowed as a deduction for state death taxes on the federal return. A state gift tax is also levied in 6 states, usually on gifts to non-spouses over a specified exemption value.

Death taxes in the Midwest region

Fourteen states are considered to compose the Midwest. The states are: Illinois, Indiana, Iowa, Kansas, Kentucky, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, West Virginia and Wisconsin.

In this region of the United States, seven of the states impose the piggy-back death tax system and simply follow the allowable federal state credit (Table 4-1A). Six states use the inheritance tax system and only Ohio follows a separate estate tax system. None of the states impose an additional gift tax, but all the inheritance and estate tax states have pick-up tax provisions.

Table 4-1A. State death tax systems in the Midwestern states, as of May 1996.

State	Piggy-back	Estate	Inheritance	Pick-up
Illinois	P			
Indiana			I	P
Iowa			I	P
Kansas			I	P
Kentucky			I	P
Michigan	P			
Minnesota	P			
Missouri	P			
Nebraska			I	P
North Dakota	P			
Ohio		E		P
South Dakota			I	P
West Virginia	P			
Wisconsin	P			

Effective federal estate planning does not necessarily mean effective estate planning on the state level. Each of the inheritance and estate tax states have individual tax rates that vary from the federal state credit rates (Table 4-2A). The due date for the filing and payment of the federal estate tax may also differ from the state due date. The state due dates vary between 9 and 18 months after the date of death, regardless of the tax system. In all of the states, however, direct transfers to the surviving spouse are not taxed.

Note, however, Kentucky is currently in the process of significantly changing its inheritance tax. Prior to July 1, 1995, the following exemptions were allowed for each Class 1 beneficiary: $20,000 for children or mentally disabled adult children; $5,000 for parents, adult children, step-children, and grandchildren; and $1,000 for brothers and sisters. After July 1, 1995, a 25 percent exemption is allowed for distributive shares to all class 1 beneficiaries until June 30, 1996. The exemption is increased by 25 percent

each year, until June 30, 1998. After June 1998, a 100 percent exemption is allowed for the distributive shares of all class 1 beneficiaries.

Table 4-2A. State death tax rates and deductions for the Midwestern states, as of May 1996.

State	Due date (After date of death)	Marital deduction	Class	Exemption/(Credit) ($)	Rate Min. (%)	Rate Max. (%)
Illinois	9 months	Unlimited	N/A	60,000 total	.8	16
Indiana	12 months	Unlimited	Class 1:	10,000; 5,000; or 2,000 each[1]	1	10
			Class 2:	500 each	7	15
			Class 3:	100 each	10	20
Iowa	end of 9th month	Unlimited	Class 1:	50,000; or 15,000 each[2]	1	8
			Class 2:	None	5	10
			Class 3:	None	10	15
			Class 4:	None	15	15
			Class 5:	None	10	10
			Class 6:	None	5	5
Kansas	9 months	Unlimited	Class 1:	30,000 each	1	5
			Class 2:	5,000 each	3	12.5
			Class 3:	None	10	15
Kentucky	18 months	Unlimited	Class 1:	20,000; 5,000; or 1,000 each[3]	2	10
			Class 2:	1,000 each	4	16
			Class 3:	500 each	6	16
Michigan	9 months	Unlimited	N/A	60,000 total	.8	16
Minnesota	9 months	Unlimited	N/A	60,000 total	.8	16
Missouri	9 months	Unlimited	N/A	60,000 total	.8	16
Nebraska	12 months	Unlimited	Class 1:	10,000 each	1	1
			Class 2:	2,000 each	6	9
			Class 3:	500 each	6	18
North Dakota	15 months	Unlimited	N/A	60,000 total	.8	16
Ohio	9 months	Unlimited	N/A	500 total (credit)	2	7
South Dakota	9 months	Unlimited	Class 1:	30,000 each	3.75	7.5
			Class 2:	3,000 each	3	15
			Class 3:	500 each	4	20
			Class 4:	200 each	5	25
			Class 5:	100 each	6	30
			Class 6:	500 each	3	15
West Virginia	9 months	Unlimited	N/A	60,000 total	.8	16
Wisconsin	9 months	Unlimited	N/A	60,000 total	.8	16

[1] $10,00 for each child under age 21.
$5,000 for each child age 21 or older and parents.
$2,000 for other Class 1 transferees.

[2] $50,000 for each child.
$15,000 each for parent and other lineal descendants.

[3] $20,000 for each child who has been declared mentally disabled.
$5,000 each for parents, children and grandchildren.
$1,000 each for other Class 1 transferees.
These are the minimum exemption for beneficiaries in class 1.
After June 30, 1998, all Class 1 beneficiaries are exempt from tax.

The piggy-back states follow the federal rates and deductions. The federal allowable state credit has an exemption of $60,000, and the rates range from .8 to 16 percent. If no tax is experienced on the federal level, however, no tax is paid to the state. Once a transfer becomes taxable, above $600,000, the state credit disallowed by the exemption equivalent immediately becomes due to the extent of the total tax. For example, a net taxable estate of $642,424 experiences a federal tax of $15,697 and an allowable state credit of $15,697. Net taxable estates between $600,000 and $642,424 will only pay taxes to the state. Above this level, in a piggy-back state, the federal government will start collecting tax.

The inheritance tax states have a wide range of rates and exemptions. Each state imposes a tax rate schedule depending upon the relationship of the heir to the decedent. The tax classes vary in terms of heirs, rates, and number of classes. All class 1 rate schedules include distributions to children, however, several state's exemptions vary within the first class. South Dakota and Iowa have the greatest number of classes, 6, but South Dakota has the highest marginal tax rate, 30 percent.

Ohio is the only estate tax state in the Midwest region. They offer a total credit of $500 and their rates vary from 2 to 7 percent.

Many of the special forestry provisions are treated differently on the state level. Gifting, special-use valuation, and deferral and extensions vary not only among death tax systems, but also among the states. The federal treatment of gifts flows through to the piggy-back states, however, other states pull gifts, within 1 to 3 years of death, back into the decedent's estate. These gifts may be deemed in contemplation of death unless a prior gift program was established well before the decedent's death (Table 4-3A). Additionally, many states do not include the federal annual gift exclusions in the estate. Special use valuation also varies among the states. All the piggy-back states follow the

federal provisions, but other states may have unique qualifications. Indiana simply disallows special use valuation. Kentucky and Ohio have maximum gross estate reductions of $500,000 and recapture periods of 5 and 4 years, respectively. South Dakota, however, has a special tax class for farm and forest heirs. Their inheritance class 6, with lower marginal rates, applies to heirs, not in class 1 or 2, who engaged in business or farming with the decedent for at least 10 out of 15 years prior to death. Although the special use valuation may not be fully utilized by some of the states, the federal provision will pass through to the state if the pick-up tax is effective.

Table 4-3A. Special provisions for the Midwestern states, as of May 1996.

State	Gift treatment	Special use valuation
Illinois	-Indirect with Federal	-Indirect with Federal
Indiana	-Within 1 year of death are pulled back into estate	-Not allowed
Iowa	-Within 3 years of death are pulled back into estate	-Similar to Federal
Kansas	-Within 1 year of death are pulled back into estate	-Similar to Federal
Kentucky	-Within 3 year of death are pulled back into estate	-Max. reduction of $500,000 5 year recapture period
Michigan	-Indirect with Federal	-Indirect with Federal
Minnesota	-Indirect with Federal	-Indirect with Federal
Missouri	-Indirect with Federal	-Indirect with Federal
Nebraska	-None	-Similar to Federal
North Dakota	-Indirect with Federal	-Indirect with Federal
Ohio	-Within 3 year of death are pulled back into estate	-3 year prior use Max. reduction of $500,000 4 year recapture period
South Dakota	-Within 1 year of death are pulled back into estate	-Separate tax schedule
West Virginia	-Indirect with Federal	-Indirect with Federal
Wisconsin	-Indirect with Federal	-Indirect with Federal

Deferral and extension on the state level does not always follow the federal provisions (Table 4-4A). States may apply their own interest rates to extensions, give additional extensions, or limit the total extensions. All of the states, except Kentucky, allow extensions to file. However, 6 states do not allow extensions to pay the death taxes. The interest rate on extensions to pay the tax varies from 6 percent to 12.7 percent, but Missouri and Ohio follow the federal applicable rate for extensions. Many of the states have variable interest rates, similar to the federal, so the interest rates are current as of May 1996.

Table 4-4A. Deferral and extension for the Midwestern states, as of May 1996.

State	Extension for time to file	Extension for time to pay	Interest rate on extensions	Important provisions
Illinois	Yes	Yes	10%	-Install. pmts. are allowed (6%)
Indiana	Yes	No	10%[1]	-5% discount for pmts. within 1 year of death No install. pmts.
Iowa	Yes	Yes[2]	.9% per month	-No install. pmts.
Kansas	Yes	No	12%[3]	-Install. pmts. are allowed with no delay period (12%)
Kentucky	No	No	9%[4]	-5% discount for inheritance tax pmts. made within 9 months of death 10 or 5 equal annual install. pmts. if tax ≥ $5,000 (9%)
Michigan	Yes	Yes	9.9%	-No install. pmts.
Minnesota	Yes	Yes	9%	-Install. pmts. are allowed if tax is ≥ $5,000 (9%)
Missouri	Yes	Yes	AFR[5]	-Install. pmts. are allowed (4%)
Nebraska	Yes[6]	No	9%	-No install. pmts.
North Dakota	Yes	Yes	1% per month	-No install. pmts.
Ohio	Yes	Yes	AFR	-Partial. pmts. not to exceed 14 years (AFR)
South Dakota	Yes	No	10%[7]	-No install. pmts.
West Virginia	Yes	Yes	12%	-Install. pmts. are allowed (12%)
Wisconsin	Yes	No	12%[8]	-Install. pmts. are allowed (12%)

[1] The state court can reduce the interest rate to 6% for unavoidable cause or delay. The interest does not start to accrue until 18 months after the decedent's date of death.
[2] An extension to pay is only granted if 80% of the tax is paid.
[3] The interest maybe abated for the inability to determine heirs or shares or due to litigation.
[4] Interest is charged at 9% for unavoidable delay.
[5] Interest is charged at 9% for state granted extensions to pay.
[6] An extension to file or pay tax is only allowed for the delay to come into possession.
[7] Interest is not charged until 1 year after the decedent's date of death.
[8] Interest is charged at 12% from the decedent's date of death, if the state tax is not within 9 month of the decedent's date of death.

Installment payments rarely follow the federal provisions in the Midwest. Six states do not allow installments, and only Missouri allows installments at 4 percent interest. Illinois has a slightly reduced interest rate of 6 percent for installments, but all the other states do not give a special interest rate for installments as compared to extensions. Additionally, Indiana and Kentucky allow 5 percent discounts for prompt payment of their state taxes if they are made within 1 year and 9 months of the decedent's date of death, respectively.

Death taxes in the Northeast region

Eleven states are considered to compose the Northeast region. These state are: Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island and Vermont.

In this region of the United States, only three states impose the piggy-back death tax system (Table 4-1B). However, Connecticut and Massachusetts are in the process of changing their death tax system to a piggy-back system. Six states use the inheritance tax system and 2 states follow a separate estate tax system. Connecticut, Delaware, and New York impose an additional gift tax. All the inheritance and estate tax states have pick-up tax provisions.

Table 4-1B. State death tax systems in the Northeast states, as of May 1996.

State	Piggy-back	Estate	Inheritance	Pick-up	Gift
Connecticut[1]			I	P	G
Delaware			I	P	G
Maine	P				
Maryland			I	P	
Massachusetts[2]		E		P	
New Hampshire			I	P	
New Jersey			I	P	
New York		E		P	G
Pennsylvania			I	P	
Rhode Island	P				
Vermont	P				

[1] Connecticut will start phasing out their inheritance tax to become a piggy-back state in 1997.
[2] Massachusetts will impose a piggy-back tax as of January 1, 1997.

Each of the inheritance and estate tax states have individual tax rates that vary from the federal state credit rates (Table 4-2B). The due dates vary between 6 and 9 months after the date of death, regardless of the tax system.

Most of the states do not tax direct transfers to the surviving spouse. Delaware, however, taxes spousal inheritances over a $70,000 exemption. Maryland taxes non-real property, without the right of survivorship, in excess of $100,000.

The piggy-back states follow the federal rates and deductions, in the Northeast. However, the inheritance tax states have a wide range of rates and exemptions. Each state imposes a tax rate schedule depending upon the relationship of the heir to the decedent. The tax classes varied in terms of heirs, rates, and number of classes. New Hampshire and New Jersey exempt entire tax classes, whereas Maryland has no exemptions for their inheritance tax. Delaware and New Jersey have the greatest number of classes, 4, but Connecticut has the highest marginal inheritance tax rate of 20.02

percent, when the additional surtax is imposed.

Table 4-2B. State death tax rates and deductions for the Northeast states, as of May 1996.

State	Due date (After date of death)	Marital deduction	Class	Exemption/(credit) ($)	Rate Min. (%)	Rate Max. (%)
Connecticut	6 months[1]	Unlimited	Class 1:	50,000 total	4.29[2]	11.44
			Class 2:	6,000 total	5.72	14.30
			Class 3:	1,000 total	11.44	20.02
Delaware	9 months	Class 1	Class 1:	70,000 total	2	4
			Class 2:	25,000 each	1	6
			Class 3:	5,000 each	5	10
			Class 4:	1,000 each	10	16
Maine	9 months	Unlimited	N/A	60,000 total	.8	16
Maryland	Determined by state register	[3]	Class 1:	None	1	1
			Class 2:	None	10	10
Massachusetts	9 months	Unlimited	N/A	600,000 total[4]	5	16
New Hampshire	9 months	Unlimited	Class 1:	all transfers	--	--
			Class 2:	1 Joint Account ≤ $10,000	18	18
New Jersey	8 months	Unlimited	Class 1:	all transfers	--	--
			Class 2:	all transfers	--	--
			Class 3:	25,000 each	11	16
			Class 4:	None	15	16
New York	9 months	Unlimited	N/A	500[5] total (credit)	2	21
Pennsylvania	9 months	Unlimited[6]	Class 1:	2,000 family exemption	6	6
			Class 2:	None	15	15
Rhode Island[7]	9 months	Unlimited	N/A	60,000 total	.8	16
Vermont	9 months	Unlimited	N/A	60,000 total	.8	16

[1] The Inheritance tax is due 6 months after the decedent's death and the estate (pick-up) tax is due 9 months after the decedent's death.
[2] The tax rates are the effective inheritance tax rates after an additional surtax is imposed.
[3] Transfers to the surviving spouse are tax free for property with a right of survivorship; real property; or the first $100,000 of property other than real property, or an interest in property that passes by right of survivorship.
[4] The tax cannot be greater than 20 percent of the amount by which the Massachusetts net estate exceeds the exemption.
[5] If the tentative tax is $2,950 or less, the credit is equal to the tentative tax.
If the tentative tax is greater than $2,950 and less than $5,400, the credit is $5,900 less the tentative tax.
If the tentative tax is $5,400, the credit is $500.
[6] Although the surviving spouse was taxed in Class 1, no inheritance tax applies to the transfer of property to a husband or wife.
[7] A $25 filing fee is required for all returns.

Massachusetts allows a $600,000 exemption, although the tax cannot be greater than 20 percent of the amount by which the net estate exceeds the exemption. New York allows a $500 total credit if the state tax is greater than $5,400. Additionally, New York has the highest marginal tax rate, 21 percent, in the Northeast region.

Many of the special forestry provisions are treated differently on the state level. Gifting, special-use valuation, and deferral and extensions vary not only among death tax systems, but also among the states. The federal treatment of gifts flows through to the piggy-back states, however, other states pull gifts, within 6 months to 3 years of death, back into the decedent's estate. These gifts may be deemed in contemplation of death unless a prior gift program was established well before the decedent's death (Table 4-3B). Additionally, many states allow the federal annual gift exclusions to be exempt from inclusion in the estate. Pennsylvania, however, only allows a $3,000 exemption for each gift made within 1 year of death.

Each of the three states that impose a gift tax -- Connecticut, Delaware, and New York -- follow the federal annual exclusions, including the provisions for split gifts. New York imposes the gift tax at the same rate as their estate tax, but Connecticut and Delaware both tax gifts at rates between 1 and 6 percent.

All the piggy-back states follow the federal special use valuation provisions, but other states have unique provisions. Indiana simply disallows special use valuation. Although New Jersey does not allow special use valuation, they value forest land according to comparable forest land sales and require a recalculation of the estate tax if the land use is changed. Maryland values forest land according to its most recent real property assessment and allows for a 15 year tax recapture. Pennsylvania has a recapture period of 7 years. Although the special use valuation may not be fully utilized by some of the states, the federal provision will pass thorough to the state, if the pick-up tax is effective.

Table 4-3B. Special provisions for the Northeast states, as of May 1996.

State	Gift treatment	Special use valuation
Connecticut	-Federal annual exclusions Taxed at 1% to 6% Within 3 years of death are pulled back into estate	-Similar to Federal
Delaware	-Federal annual exclusions Taxed at 1% to 6% Within 6 months of death are pulled back into estate	-Similar to Federal
Maine	-Indirect with Federal	-Indirect with Federal
Maryland	-Within 2 years of death are pulled back into estate	-15 year recapture period[1]
Massachusetts	-Within 3 years of death are pulled back into estate	-Similar to Federal
New Hampshire	-Within 2 years of death are pulled back into estate	-Not allowed
New Jersey	-Within 3 years of death are pulled back into estate	-Not allowed[2]
New York	-Federal annual exclusions Taxed at 2% to 21%	-Similar to Federal
Pennsylvania	-Within 1 year of death are pulled back into estate[3]	-7 year recapture period[4]
Rhode Island	-Indirect with Federal	-Indirect with Federal
Vermont	-Indirect with Federal	-Indirect with Federal

[1] Forest land will qualify for the most recent real property assessment plus any inflation allowance, if, for the 5 years immediately before the death of the decedent, the real property qualifies under § 8-209 or § 8-211 of the Tax-Property Article (§ 7-211 Ann. Code of MD).
[2] The FMV of forest land is determined using comparable forest land sales. If the land use is changed, the estate is required to inform the state revenue department for recalculation of the estate tax.
[3] All gifts over $3,000 made within 1 year of death are pulled back into the decedent's estate.
[4] Forest land will be valued for its particular use, if the land is presently devoted to forest reserve, and is not less than 10 contiguous acres in area.

Deferral and extension on the state level does not always mimic the federal provisions (Table 4-4B). States may apply their own interest rates to extensions, give additional extensions, or limit the total extensions. All of the states allow for extensions to file. However, Connecticut and New Hampshire do not allow for extensions to pay the death taxes. The interest rate on extension to pay the tax varies from 0 percent to 15 percent.

Table 4-4B. Deferral and extension for the Northeast states, as of May 1996.

State	Extension for time to file	Extension for time to pay	Interest rate on extensions	Important provisions
Connecticut	Yes	No	12%	-Install. pmts. are allowed (12%)
Delaware	Yes	Yes	1% per month[1]	-Install. pmts. are determined by the state
Maine	Yes	Yes	11%	-Maximum extension ≤ 10 years Install. pmts. are allowed[2] (11%)
Maryland	Yes[3]	Yes[3]	13%	-Install. pmts. for small bus. ≤ 5 years (13%)
Massachusetts	Yes	Yes	None[4]	-Install. pmts. are allowed (9%)
New Hampshire	Yes	No	15%	-Install. pmts. are determined by the state (15%)
New Jersey	Yes	Yes	10%[5]	-Install. pmts. are allowed for the pick-up tax portion (6%)
New York	Yes	Yes	7%	-Install. pmts. are allowed (4%) $250,000 deduction for principal residence Agricultural exemption credit ≤ $15,000
Pennsylvania	Yes	Yes	9%	-5% discount for payment within 3 months of death Install. pmts. are allowed (9%)
Rhode Island	Yes	Yes	12%	-Install. pmts. are determined by the state
Vermont	Yes	Yes	9.6%[6]	-No Install. pmts.

[1] An additional .25% late payment fee is charged each month.
[2] A 1% penalty is charged for failure to pay on installment payments, in addition to regular interest.
[3] The inheritance and pick-up estate tax are handled separately. Federal due dates and extensions are allowed for the pick-up tax, but the court determines extensions for the inheritance tax.
[4] Interest is charge at the federal short-term rate plus 4 percent for payments without extensions.
[5] The state revenue department can reduce the interest rate to 6% until the federal extension expires or for unavoidable delay.
[6] No interest is charged on hardship payment extensions, up to a 5 year maximum.

Massachusetts charges no interest for extensions and Vermont charges no interest on extensions for hardship (not to exceed 5 years). Many of the states have variable interest rates, similar to the federal, so the interest rates are current as of May 1996.

Installment payments rarely follow the federal provisions in the Northeast. Vermont does not allow installments. Only New York allows installments at 4 percent interest. Many of the other states do not give a special interest rate for installments as compared to extensions. Additionally, Delaware and Rhode Island allow installment plans which are uniquely arranged between the estate and the taxing authority.

Pennsylvania allows a 5 percent discount for prompt payment of their state tax, if payment is made within 3 months of the decedent's date of death. New York allows a

$250,000 principal residence deduction, and an Agricultural Exemption Credit, not to exceed $15,000, for property used in the trade or business of farming. Since the qualified property is the same as that determined for special use valuation, the exemption applies to forest land.

Death taxes in the Southern region

Twelve states are considered to compose the Southern region. These state are: Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas and Virginia.

In this region of the United States, seven states impose the piggy-back death tax system (Table 4-1C). Three state use the inheritance tax system and two follow a separate estate tax system. Louisiana, North Carolina and Tennessee impose an additional gift tax, and all inheritance and estate tax states have pick-up tax provisions.

Table 4-1C. State death tax systems in the Southern states, as of May 1996.

State	Piggy-back	Estate	Inheritance	Pick-up	Gift
Alabama	P				
Arkansas	P				
Florida	P				
Georgia	P				
Louisiana			I	P	G
Mississippi		E		P	
North Carolina			I	P	G
Oklahoma		E		P	
South Carolina	P				
Tennessee			I	P	G
Texas	P				
Virginia	P				

Each of the inheritance and estate tax states have individual tax rates that vary from the

federal state credit rates (Table 4-2C). The due date for the filing and payment of the state tax is 9 months after the date of death, regardless of the tax system. No Southern state taxes direct transfers to the surviving spouse.

Table 4-2C. State death tax rates and deductions for the Southern states, as of May 1996.

State	Due date (After Date of Death)	Marital deduction	Class	Exemption/(credit) ($)	Rate Min. (%)	Rate Max. (%)
Alabama	9 months	Unlimited	N/A	60,000 total	.8	16
Arkansas	9 months	Unlimited	N/A	60,000 total	.8	16
Florida	9 months	Unlimited	N/A	60,000 total	.8	16
Georgia	9 months	Unlimited	N/A	60,000 total	.8	16
Louisiana	9 months	Unlimited	Class 1:	25,000 each	2	3
			Class 2:	1,000 each	5	7
			Class 3:	500 each	5	10
Mississippi	9 months	Unlimited	N/A	600,000 total	1	16
North Carolina	9 months	Unlimited	Class 1:	26,150 total (credit)	1	12
			Class 2:	None	4	16
			Class 3:	None	8	17
Oklahoma	9 months	Unlimited	Class 1:	175,000 total	.5	10
			Class 2:	None	1	15
South Carolina	9 months	Unlimited	N/A	60,000 total	.8	16
Tennessee	9 months	Unlimited	N/A	600,000 total	5.5	9.5
Texas	9 months	Unlimited	N/A	60,000 total	.8	16
Virginia	9 months	Unlimited	N/A	60,000 total	.8	16

The piggy-back states follow the federal rates and deductions. The inheritance tax states, however, have a wide range of rates and exemptions, and each imposes a tax rate schedule depending upon the relationship of the heir to the decedent. The tax classes varied in terms of heirs, rates, and number of classes. North Carolina offers a credit of $26,150 for class 1 heirs and Oklahoma has a $175,000 total exemption for class 1 heirs. Louisiana has exemptions for each heir, depending upon the class of the heir. Louisiana and North Carolina have the greatest number of classes, 3, but North Carolina has the highest marginal tax rate of 17 percent in the Southern region.

Mississippi and Tennessee allow a $600,000 exemption against their estate tax. Their

tax rates vary from 1 to 16 percent and 5.5 to 9.5 percent, respectively.

Many of the special forestry provisions are treated differently on the state level. Gifting, special-use valuation, and deferral and extensions vary not only among death tax systems, but also among the states. The federal treatment of gifts flows through to the piggy-back states, however, other states pull gifts, within 1 to 3 years of death, back into the decedent's estate. These gifts may be deemed in contemplation of death unless a prior gift program was established well before the decedent's death (Table 4-3C). Additionally, many states do not include the federal annual gift exclusions in the estate.

Louisiana and North Carolina's gift taxes follow the federal annual exclusions, including the provisions for split gifts. Tennessee, however, only allows the annual exclusions to class 1 heirs, and a $5,000 total exemption is allowed for class 2 donees for gifts that exceed $3,000. Louisiana has a $30,000 specific lifetime exemption and North Carolina has a $100,000 lifetime exemption for transfers to class 1 donees. North Carolina taxes gifts at the same rate as their inheritance tax, whereas Louisiana taxes gifts from 2 to 3 percent. Tennessee has an additional class for their gift tax as compared to their inheritance tax. Their rates range from 6.5 to 16 percent.

All the piggy-back states follow the federal special use valuation provisions, but other states have unique provisions. North Carolina and Oklahoma simply disallow special use valuation. Louisiana has no provisions for special use valuation, but they will accept the federal valuation. Mississippi has a maximum estate reduction of $500,000 and a recapture period of 15 years. Although Virginia is a piggy-back state, they have special provisions to extend the recapture period to 15 years.

The deferral and extension on the state level does not always follow the federal provisions (Table 4-4C). States may apply their own interest rates to extensions, give

Table 4-3C. Special provisions for the Southern states, as of May 1996.

State	Gift treatment	Special use valuation
Alabama	-Indirect with Federal	-Indirect with Federal
Arkansas	-Indirect with Federal	-Indirect with Federal
Florida	-Indirect with Federal	-Indirect with Federal
Georgia	-Indirect with Federal	-Indirect with Federal
Louisiana	-Federal annual exclusions $30,000 specific lifetime exemption Taxed at 2% to 3% Within 1 year of death are pulled back into estate	-Will accept Federal provisions
Mississippi	-Within 3 year of death are pulled back into estate	-Max. reduction of $500,000 15 year recapture period
North Carolina	-All classes: Federal annual exclusions Class 1: $100,000 lifetime exemption Class 1: Taxed at 1% to 12% Class 2: Taxed at 4% to 16% Class 3: Taxed at 8% to 17% Within 3 year of death are pulled back into estate	-Not allowed
Oklahoma	-Within 3 year of death are pulled back into estate	-Not Allowed
South Carolina	-Indirect with Federal	-Indirect with Federal
Tennessee	-Class 1: Federal annual exclusions Class 1: Taxed at 5.5% to 9.5% Class 2: $5,000 exemption for the class[1] Class 2: Taxed at 6.5% to 16% Within 3 year of death are pulled back into estate	-Similar to Federal
Texas	-Indirect with Federal	-Indirect with Federal
Virginia	-Indirect with Federal	-Indirect with Federal 15 year recapture period

[1] The tax is applicable only to the extent that the gifts to each donee exceeds $3,000.

additional extensions, or limit the total extensions. All of the states allow for extensions to file. However, Mississippi does not allow for an extension to pay the death taxes. The interest rate on extensions to pay the state tax varies from 6.2 to 14.6 percent. Alabama and South Carolina follow the applicable federal rate, but Virginia adds 2

percent to the applicable federal rate. Many of the states have variable interest rates, similar to the federal, so the interest rates are current as of May 1996. Alabama, South Carolina and Texas limit the maximum extension to 10, 5 and 4 years, respectively.

Table 4-4C. Deferral and extension for the Southern states, as of May 1996.

State	Extension for time to file	Extension for time to pay	Interest rate on extensions	Important provisions
Alabama	Yes	Yes	AFR	-Maximum extension ≤ 10 years Install. pmts. are allowed ≤ 10 years (AFR)
Arkansas	Yes	Yes	10%	-Install. pmts. are allowed (4%)
Florida	Yes	Yes	1% per month[1]	-Install. pmts. are allowed (1% per month)
Georgia	Yes	Yes	1% per month	-No Install. pmts.
Louisiana	Yes	Yes	None[2]	-Install. pmts. are allowed (9.75%)
Mississippi	Yes	No	1/2% per month	-Install. pmts. are allowed (1/2% per month)
North Carolina	Yes	Yes	9%	-Install. pmts. are determined by the state
Oklahoma	Yes	Yes	1.25% per month[3]	-Partial pmts. are allowed (1.25% per month)
South Carolina	Yes	Yes	AFR	-Maximum extension ≤ 5 years Install. pmts. are allowed (AFR)
Tennessee	Yes	Yes	13%	-Install. pmts. are determined by the state
Texas	Yes	Yes	12%	-Maximum extension ≤ 4 years Install. pmts. are allowed (12%)
Virginia	Yes	Yes	(AFR+2%)	-Install. pmts. are allowed (AFR+2%)

[1] Not to exceed 12% per year.
[2] Interest is charged at 1/2% per month for the period between 9 and 12 months after the date of the decedent's death and 1% per month on payments one year after the decedent's date of death without extensions.
[3] Interest is charged at .625% per month for delays due to litigation, contingent claims, or disagreement.

Installment payments rarely follow the federal provisions in the South. Georgia does not allow installments, but Arkansas allows installments at 4 percent interest. Many states do not give a special interest rate for installments as compared to extensions. Additionally, North Carolina and Tennessee allow installment plans which are uniquely arranged between the estate and the taxing authority.

Death taxes in the Western region

Thirteen states are considered to compose the Western region. These state are: Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon,

Utah, Washington and Wyoming.

In this region of the United States, twelve states impose the piggy-back death tax system (Table 4-1D). Only Montana imposes the inheritance tax system and the pick-up tax. No states have a separate estate tax system or impose a gift tax.

Table 4-1D. State death tax systems in the Western states, as of May 1996.

State	Piggy-back	Estate	Inheritance	Pick-up
Alaska	P			
Arizona	P			
California	P			
Colorado	P			
Hawaii	P			
Idaho	P			
Montana			I	P
Nevada	P			
New Mexico	P			
Oregon	P			
Utah	P			
Washington	P			
Wyoming	P			

Montana has individual tax rates that vary from the federal state credit rates (Table 4-2D). The due date for the filing and payment of the federal estate tax varies between 9 and 18 months after the date of death, regardless of the tax system. None of the Western states tax direct transfers to the surviving spouse.

The piggy-back states follow the federal rates and deductions. However, Montana has a tax rate schedule depending upon the relationship of the heir to the decedent, and Montana organizes their inheritance tax into 4 tax classes. They offer a full exemption

Table 4-2D. State death tax rates and deductions for the Western states, as of May 1996.

State	Due date (After date of death)	Marital deduction	Class	Exemption/(credit) ($)	Rate Min. (%)	Rate Max. (%)
Alaska	15 months	Unlimited	N/A	60,000 total	.8	16
Arizona	9 months	Unlimited	N/A	60,000 total	.8	16
California	9 months	Unlimited	N/A	60,000 total	.8	16
Colorado	9 months	Unlimited	N/A	60,000 total	.8	16
Hawaii	9 months	Unlimited	N/A	60,000 total	.8	16
Idaho	9 months	Unlimited	N/A	60,000 total	.8	16
Montana	18 months[1]	Unlimited	Class 1:	7,000 each[2]	2	8
			Class 2:	1,000 each	4	16
			Class 3:	None	6	24
			Class 4:	None	8	32
Nevada	9 months	Unlimited	N/A	60,000 total	.8	16
New Mexico	9 months	Unlimited	N/A	60,000 total	.8	16
Oregon	9 months	Unlimited	N/A	60,000 total	.8	16
Utah	9 months	Unlimited	N/A	60,000 total	.8	16
Washington	9 months	Unlimited	N/A	60,000 total	.8	16
Wyoming	9 months	Unlimited	N/A	60,000 total	.8	16

[1] Inventory reports are due within 3 month of the decedent's date of death.
[2] The $7,000 exemption is for lineal ancestors. Transfers to spouses and lineal descendants are fully exempt from tax.

to lineal descendants and a $7,000 exemption for each lineal ancestor. A $1,000 exemption is allowed to each class 2, heir and the rates range from 2 to 32 percent over all of the classes.

Most of the state level special forestry provisions are treated similarly to the federal provisions. However, gifting, special-use valuation, and deferral and extensions vary slightly among the states. The federal treatment of gifts flows through to the piggy-back states, however, Montana pulls gifts, within 3 years of death, back into the decedent's estate if they exceed the federal annual exclusions. These gifts may be deemed in contemplation of death unless a prior gift program was established well before the decedent's death (Table 4-3D).

All the piggy-back states follow the federal special use valuation provisions. Montana,

however, has provisions that are similar to the federal special use valuation provisions.

Table 4-3D. Special provisions for the Western states, as of May 1996.

State	Gift treatment	Special use valuation
Alaska	-Indirect with Federal	-Indirect with Federal
Arizona	-Indirect with Federal	-Indirect with Federal
California	-Indirect with Federal	-Indirect with Federal
Colorado	-Indirect with Federal	-Indirect with Federal
Hawaii	-Indirect with Federal	-Indirect with Federal
Idaho	-Indirect with Federal	-Indirect with Federal
Montana	Within 3 years of death are pulled back into estate	-Similar to Federal
Nevada	-Indirect with Federal	-Indirect with Federal
New Mexico	-Indirect with Federal	-Indirect with Federal
Oregon	-Indirect with Federal	-Indirect with Federal
Utah	-Indirect with Federal	-Indirect with Federal
Washington	-Indirect with Federal	-Indirect with Federal
Wyoming	-Indirect with Federal	-Indirect with Federal

The deferral and extension on the state level does not always follow the federal provisions (Table 4-4D). States may apply their own interest rates to extensions, give additional extensions, or limit the total extensions. All of the states, except Montana, allow for extensions to file. However, California, Montana and Oregon do not allow for an extension to pay the death taxes. The interest rate on extension to pay the tax varies from 0 to 14.6 percent. Arizona and Nevada follow the applicable federal rate and Wyoming charges no interest on extensions. In addition, Wyoming has no provisions to charge any interest or penalty for any late payment. Many states have variable interest rates, similar to the federal, so the interest rates are current as of May 1996. Alaska has a maximum extension of 5 years.

Installment payments rarely follow the federal provisions in the West. Oregon does not allow installments. Montana and Nevada allow installments at 4 percent interest and

Wyoming charges no interest on installments. Many states do not give a special interest rate for installments as compared to extensions. California allows installment plans which are uniquely arranged between the estate and the taxing authority. Arizona allows installment payments, only if the state tax exceeds $50,000. Additionally, Montana allows 5 percent discounts for prompt payment of their state taxes, if payment is made within 18 months of the decedent's date of death.

Table 4-4D. Deferral and extension for the Western states, as of May 1996.

State	Extension for time to file	Extension for time to pay	Interest rate on extensions	Important provisions
Alaska	Yes	Yes	11%	-Maximum extension ≤ 5 years Install. pmts. are allowed (11%)
Arizona	Yes	Yes	AFR	-Install. pmts. are allowed, if tax ≥ $50,000 (AFR)
California	Yes	No	12%	-Install. pmts. are determined by the state
Colorado	Yes	Yes	9%[1]	-Install. pmts. are allowed (9%)[1]
Hawaii	Yes	Yes	.667% per mo.	-Install. pmts. are allowed (.667% per mo.)
Idaho	Yes	Yes	8%	-Install. pmts. for sacrifice sale of assets ≤ 14 years (8%)
Montana	No	No	10%	-5% discount for pmts. within 18 months[2] Install. pmts. are allowed (4%, 6%)[3]
Nevada	Yes	Yes	AFR	-Install. pmts. are allowed (4%)
New Mexico	Yes	Yes	1.25% per month	-Install. pmts. are allowed (1.25% per month)
Oregon	Yes	No	10%[4]	-No install. pmts.
Utah	Yes	Yes	8%	-Install. pmts. are allowed (8%)
Washington	Yes	Yes	12%	-Install. pmts. are allowed (12%)
Wyoming	Yes	Yes	None[5]	-Install. pmts. are allowed (0%)

[1] If payment is received within 30 days of a bill, issued for extensions and installments, 9% interest is charged. Otherwise, 12% interest is charged.
[2] If the tax is not paid within 18 months, interest is charge at 10% for the entire 18 month period.
[3] An installment plan similar to IRC § 6166 has interest of 4%. However, a 10 year installment plan is allowed at 6% with less stringent qualifications.
[4] A one time 5 percent late payment penalty is imposed on extensions to pay.
[5] Wyoming has no provisions to charge any interest or penalties for any late payments.

The federal estate tax is quite complex and must be thoroughly understood in order to conduct effective estate planning. Some state taxation systems are just as complex, and the federal provisions should not be assumed to pass onto the state level. The piggy-back states may handle special provisions differently form the federal tax code, so strict

federal planning may cause an unnecessary tax increase on the state level.

CHAPTER 5

Financial Planning for Forested Estates

Normally, estate planning is a continuous and dynamic process. Many special considerations must be addressed in order to plan effectively for forestry related assets. This requires a thorough understanding of both forestry assets and death tax statutes, which is essential to prevent disruptions in forest continuity and sustainability.

Land and timber assets are unique because timber serves as both capital stock and income. The timber also yields many amenity values and it is illiquid for much of the rotation. The investment horizon for timber production often varies from 10 years to more than 100 years. A forest management plan must account for these unusual financial considerations that affect rotation lengths and the return from the forestry investment. As a result, planners for timber estates should integrate the unique financial characteristics of timber into the estate plan.

Family and ownership goals form the backbone of both financial and estate planning. The owner of timber assets, however, must understand the economic climate in which he/she works. Typically, three primary factors affect the financial returns from a forest -- timber growth, timber markets and the cost of capital (Haney and Siegel 1995).

Timber growth

The physical yields from timber are dependent on the inherent productivity of the land. If a landowner is given the species, site index, stocking, and the age of a forest, he/she will be able to predict the growth and yield of a timber asset. Although, timber yields are affected by many other variables, such as genetics and cultural practices, prediction

models exist for most major timber species. For example, the yields for loblolly pine can be predicted for a chosen stocking rate, 700 trees per acre, under different land productivity classes (Figure 5-1). Using PCWTHIN, version 2.0 (Weih, Scrivani and Burkhart 1990), an acre of land, site index of 60 (base age 25 years) will produce 50 cords of wood per acre at age 30.

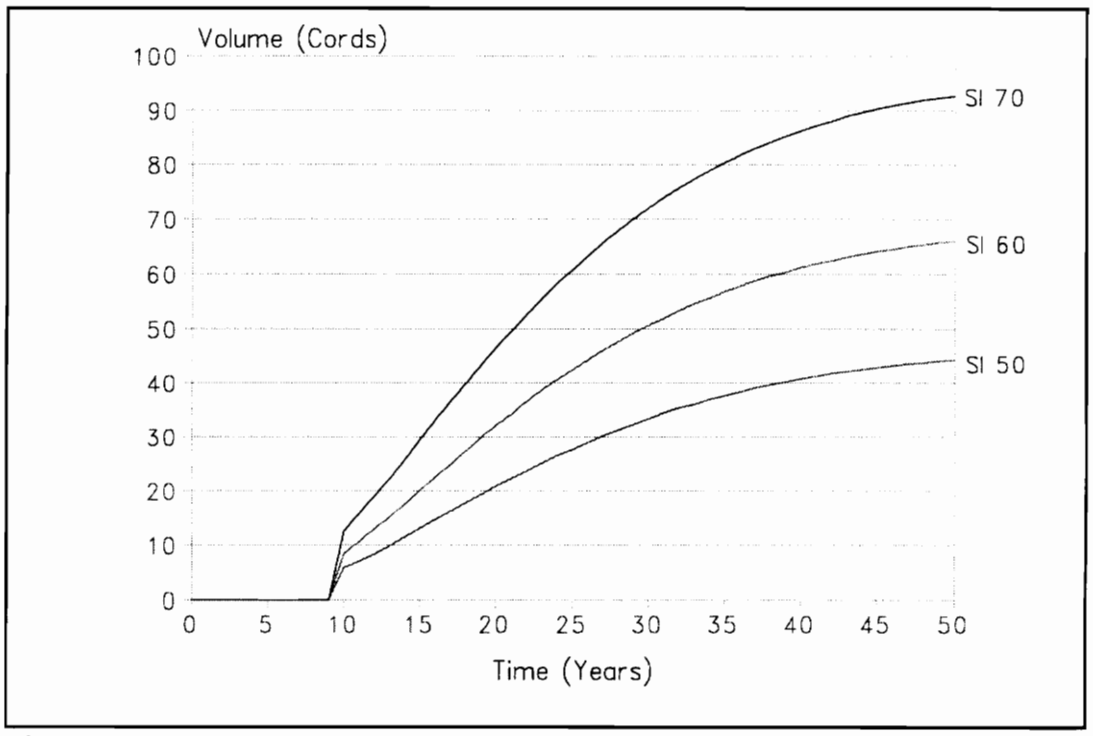

Figure 5-1. Timber growth for loblolly pine, planted at 700 trees per acre, for three site productivity levels, per acre.

Timber markets

The prices for timber are governed by timber markets. The interaction of supply and demand for a product will determine its stumpage price. Short run supply is typically fixed because land use changes take time, but long run supply can be affected by land use decisions, application of technology, and level of investment. Timber demand is a

function of consumer tastes, disposable income, and population. Additionally, timber prices are influenced by the economy and local operating conditions. In the short run, prices can fluctuate considerably. The stumpage price trends for the south, between 1979 and 1995, can be seen by plotting data collected from Timber Mart-South (Figure 5-2).

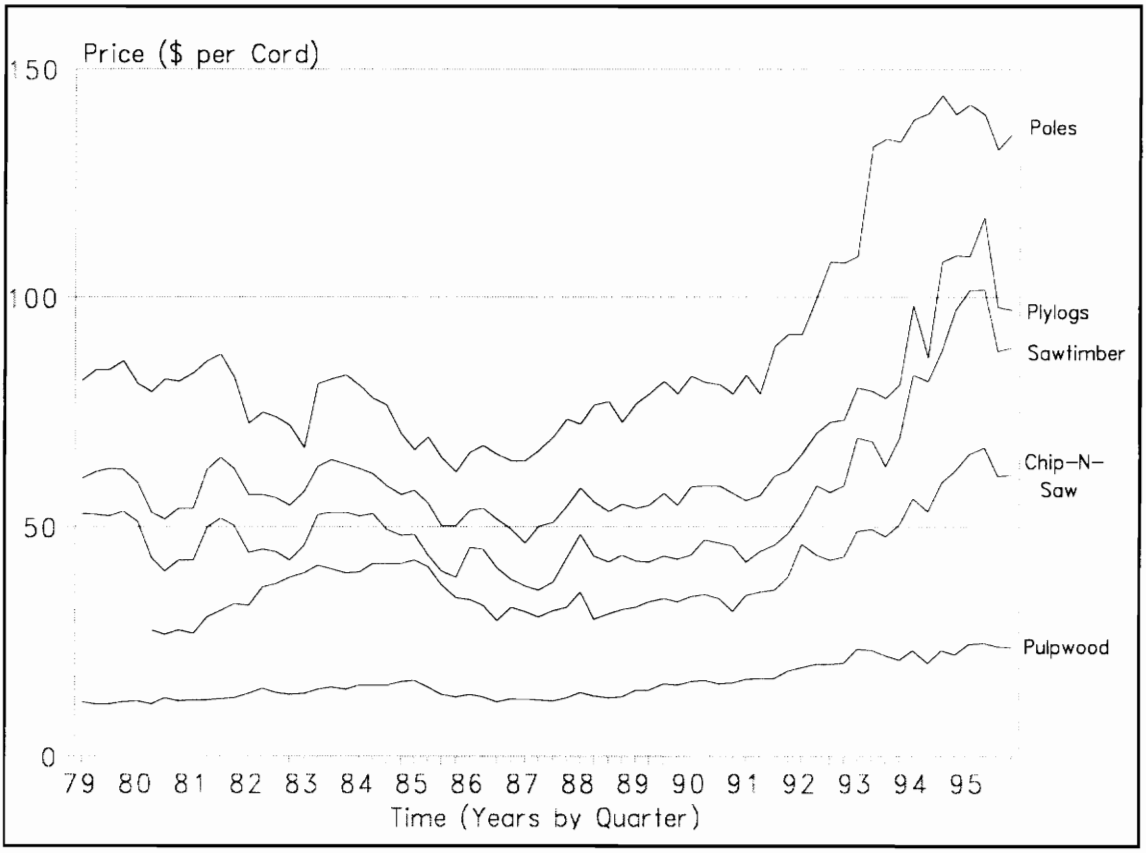

Figure 5-2. Average pine stumpage prices for the Southeast, quarterly data: 1979-1995 in current dollars.

The price of pine stumpage for various products varied over the 16 year period. High value products were the most volatile. The prices were considerably higher in 1995 as compared to 1979, however, these prices do not include the effects of inflation. Inflation can be stripped out by deflating prices relative to some index such as the producer price index for total finished goods (Council of Economic Advisors 1996). This equates prices

in 1995 dollar terms (Figure 5-3).

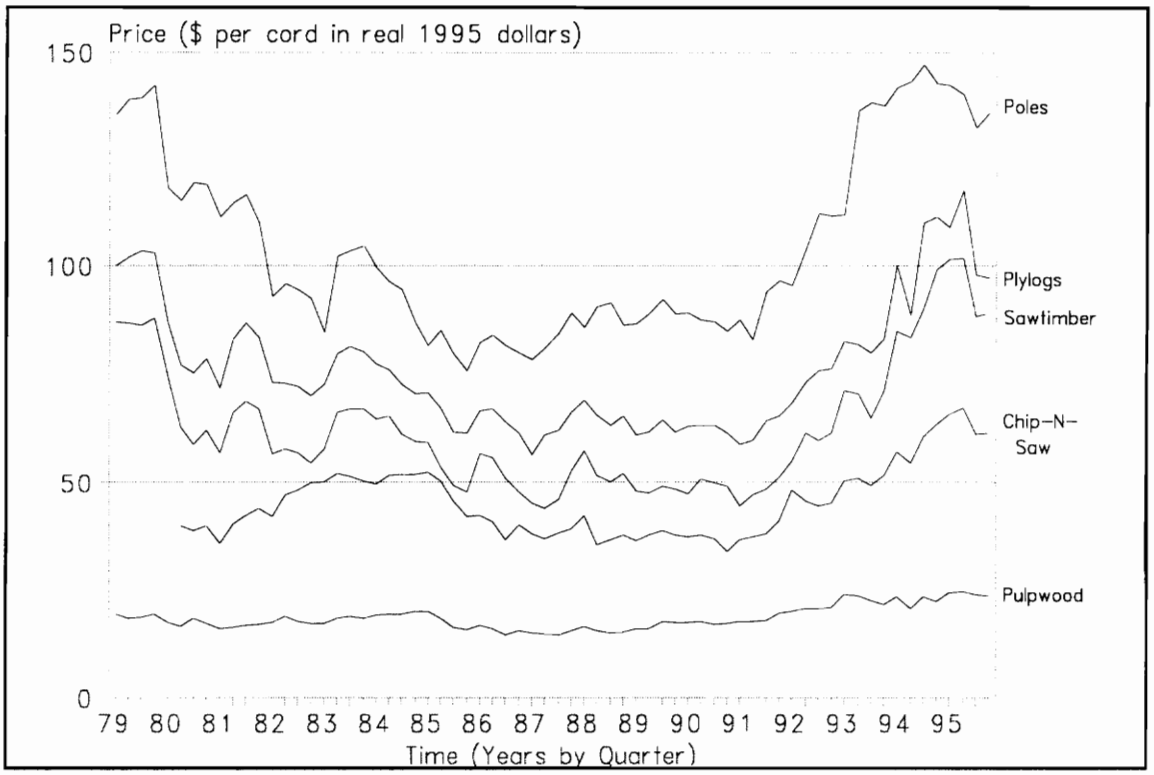

Figure 5-3. Average pine stumpage prices, in 1995 dollars, for the Southeast, quarterly data: 1979-1995.

Without inflation, real stumpage price trends present a different picture. Generally, real prices declined from 1979 to 1985, were relatively low between 1985 and 1992, and rebounded sharply until 1994. Financial planners must be careful to consider the effects of inflation on the stumpage prices in order to accurately plan for the forest asset.

Timber value

The combination of the timber growth times timber prices yields a value growth curve. It can also be regarded as a liquidation curve because it shows what can be harvested at any particular time in the life of the timber stand. At any age, the value growth curve

corresponds to the stand's liquidation price. Timber volume growth is based upon an acre of loblolly pine on a site index of 60, base age 25 (Figure 5-3). Timber prices are dependent upon the product class, which varies by timber size -- pulpwood, 5"+ diameter breast height (dbh); chip-and-saw, 8" to 11" dbh; and sawtimber 12"+ dbh. The average 1995 prices for the Southeast were held constant over the rotation -- pulpwood, $23.49 per cord; chip-and-saw, $66 per cord; sawtimber, $95.71 per cord. That is, the following analysis is in real terms, net of inflation.

First, the value growth was plotted for a no-thin management regime (Figure 5-4). Multiplying timber volume by the respective timber price gave a value growth curve that increases almost linearly over time. The value growth curve is also known as the liquidation curve.

The effects of thinning are also shown in Figure 5-4. The stand was thinned at age 20 to 80 square feet of residual basal area. The thinning removed approximately 10 cords of pulpwood per acre by removing a row for access and thinning from below in the remaining stand. Thinnings, done properly, concentrate growth on selected crop trees and remove inferior trees that would be lost to competition. Although the total volume is not increased, note the increases in the value growth rate.

A second thinning from below to 80 square feet of residual basal area was done at age 28. Approximately 10 cords of predominately pulpwood and chip-and-saw material were removed. Both of the value growth curves for the thinned stands increased the value faster than the no-thin stand.

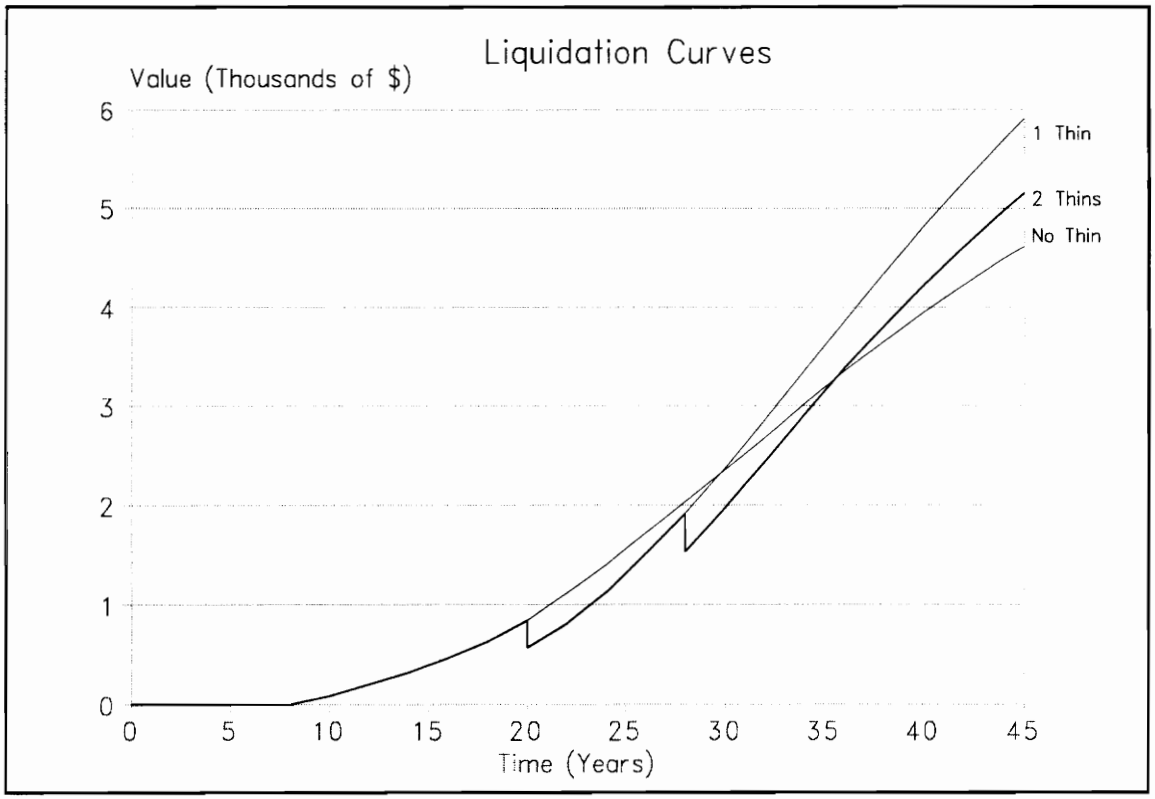

Figure 5-4. Value growth of a loblolly pine plantation on a site index 60 (base age 25) based on 1995 average prices for the Southeast, thinned and unthinned, per acre.

Cost of capital

Several definitions are needed in order to discuss the cost of capital. The cost of capital is the interest rate paid on capital raised for investment (Klemperer 1996). The opportunity cost of holding the capital assets is the foregone income that would have been earned if the value of the assets had been invested elsewhere. The alternative rate of return is the rate of return for the best alternative investment.

A management plan must consider the cost of capital in order to maximize the landowner's financial return. Since timber production is a capital intensive operation, the financial optimums are greatly affected by the cost of capital or alternative rate of

return. Generally, a higher interest rate will result in a shorter rotation, ceritus paribus, if other variables remain constant (Newman 1985).

Financial Decision Criteria

Several criterion have been utilized in order to financially compare investments. Some of the more common criterion -- annual change in value, net present value, internal rate of return and land expectation value -- are discussed individually. These decision criteria can be used to evaluate investment opportunities, including forestry investments.

Annual change in value

The annual change in value (ACV) can be used as a financial decision criterion. It is the marginal rate of value growth for a timber stand at a particular age (Equation 5-1). The stand should be liquidated when the annual change in value equals or drops below the cost of capital, or the landowner's alternative rate of return.

$$ACV = \frac{V(n+1) - V(n)}{V(n)} \qquad \textbf{(5-1)}$$ Annual change in value

Where,

ACV = annual change in value

V_n = value in year n

The annual change in value for an acre of loblolly pine (Figure 5-4) is shown in Figure 5-5. Of course, greatest ACV is experienced at age 11 (74 percent), as the stand reaches merchantability and obtains liquidatable value. By age 18, the annual change in value has dropped to 16 percent. Although the effects of thinning, so clearly seen in Figure 5-4, are reflected here, the ACV in each of the three cases (no-thin, one-thin, and two-thins) drops below the cost of capital if the stand is allowed to grow until age 45.

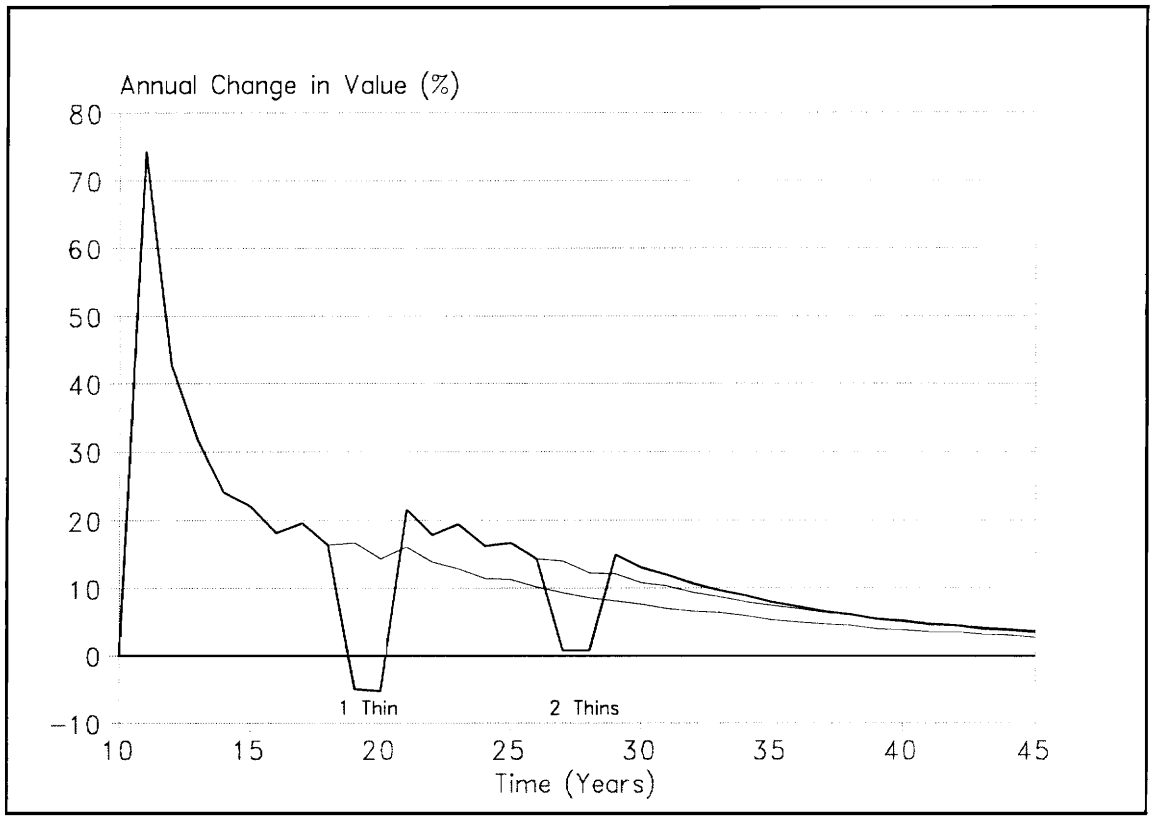

Figure 5-5. The annual change in value of a loblolly pine plantation on a site index 60 (base age 25) based on 1995 average prices for the Southeast, per acre.

Net present value

Net present value (NPV) is one of the decision criterion that is frequently used in capital budgeting. The NPV is defined as the sum of all cost and revenues that are discounted to the present at the landowner's cost of capital or alternative rate of return for a specific investment period (Equation 5-2). For a given interest rate, the NPV may be positive or negative at any given time. A negative NPV means an investment's discounted costs are greater than the investment's discounted revenues. If the NPV is negative, the project does not meet the landowner's alternative rate of return. The timber investment may be too short to reach the financial optimum, have passed the financial optimum, or

the investment may fall short of the landowner's opportunity cost. Correspondingly, a positive NPV means an investment's discounted revenues are greater than the discounted costs at the landowner's alternative rate of return. Only the independent projects with a positive NPV should be considered. For mutually exclusive projects, accept the project with the highest NPV, ceritus paribus.

$$NPV = \sum_{n=0}^{N} \left[\frac{R_n}{(1+i)^n} - \frac{C_n}{(1+i)^n}\right] \qquad \textbf{(5-2)}\ \text{Net present value}$$

Where,

NPV = net present value
R_n = revenue in year n
C_n = costs in year n
i = alternative rate of return
n = number of years of discounting from year 0

Internal rate of return

The internal rate of return (IRR) is another commonly used financial decision criterion. The IRR is the compound interest rate that equates the discounted value of all costs and revenues (Equation 5-3). A forestry project should be accepted if the IRR is greater than the landowner's required rate of return for independent projects. For mutually exclusive projects, accept the protect having the highest IRR, ceritus paribus.

$$\sum_{n=0}^{N} \left[\frac{R_n}{(1+IRR)^n}\right] = \sum_{n=0}^{N} \left[\frac{C_n}{(1+IRR)^n}\right] \qquad \textbf{(5-3)}\ \text{Internal rate of return}$$

Where,

IRR = internal rate of return
R_n = revenue in year n
C_n = costs in year n
n = number of years of discounting from year 0

Land expectation value

The land expectation value (LEV), developed by Faustmann (1849), is the last decision criterion discussed. LEV is similar to the NPV, whereby the discounted costs associated with an investment are subtracted from the discounted revenues, however, the investment cycle is continued in perpetuity. The residual value, known as LEV, incorporates the discounted net cash flows for an infinite number of rotations. The assumption is that timber is the highest and best use for the land; thus LEV will correspond to the total value of the land alone. The LEV is also known as the maximum bid price for bare land, generally per acre.

(5-4) Land expectation value

$$LEV = \frac{\sum_{n=0}^{t} [R_n(1+i)^{(t-n)}] - \sum_{n=0}^{t} [C_n(1+i)^{(t-n)}]}{(1+i)^t - 1} + \frac{a - c}{i}$$

(Klemperer 1996)

Where,

LEV = land expectation value
R_n = revenue in year n
C_n = costs in year n
i = alternative rate of return
t = rotation age
n = number of years of discounting from year 0
a = equal annual revenue
c = equal annual cost

Differences among the decision criteria

The ACV, NPV, IRR and LEV are different decision criteria that generally the same accept/reject decision, however, they yield different optimal rotation lengths (investment periods). The ACV only considers the revenues associated with the timber stand but it illustrates the marginal timber growth over the rotation. The NPV criterion is calculated for one investment cycle, which fails to capture the opportunity cost of the land. The

IRR, used when capital is a limiting factor, assumes that intermediate cash flows can be reinvested at the internal rate of return, which is a questionable assumption. The LEV is the preferred criterion, if the forest investment is the land's highest and best use, because it incorporates the opportunity cost of the land by calculating the net present value of a rotation continued in perpetuity.

Decision criteria for a hypothetical loblolly pine plantation

The decision criteria were calculated for a hypothetical loblolly pine plantation. The timber yields were based upon an average site index of 60 (base age 25) as previously calculated by PCWTHIN (Weih, Scrivani and Burkhart 1990). The timber prices were the Southeast average for 1995 Timber Mart-South pine stumpage prices (Figure 5-2). Prices were held constant, i.e., no real price appreciation or inflation. The following costs were incurred in the hypothetical rotation: $82 per acre site preparation in year 1; $75 per acre planting in year 1; $68 per acre release in year 3; and annual costs of $2 per acre for property tax and $5 per acre for management fees. Additionally, the project was analyzed using after-tax cash flows with Quick-Silver Version 3.1PC (Vasievich and Wiethe 1986). The taxes were based upon an amortization option with an investment tax credit of 10 percent. The capital gains tax rate was 33 percent (28 percent federal plus 5 percent state). Ordinary income tax rate was taxed at 41 percent (36 percent federal plus 5 percent state). The state rates were based upon a composite of the Southern state's tax rates after including the deductibility of state income tax from the federal for after-tax returns.

Net present value

NPVs for a real, after-tax interest rate of 5.5 percent were calculated given the above assumptions. The analysis is consistent -- the cash flows and interest rates are in the same context with respect to both inflation and income taxes. The maximum NPV --

rotation length -- occurred at 34 years for the no-thin case. A rotation age of 38 years was financially optimal in the thinned cases (Figure 5-6). The maximum NPV in the two-thinning case occurred at $264 per acre, and at $139 per acre in the no-thin case. The NPV represents one investment cycle (rotation) in the loblolly pine example.

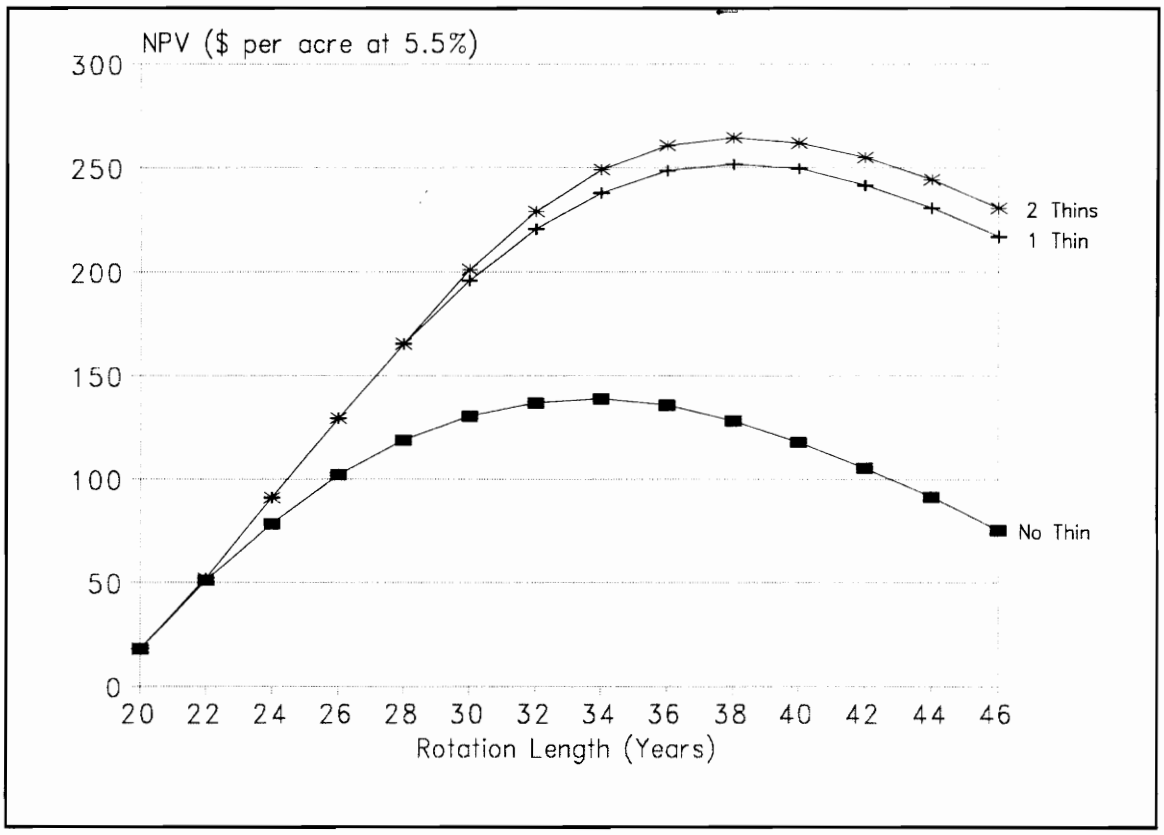

Figure 5-6. The net present value, after-tax, at a real 5.5 percent interest rate for a loblolly pine plantation on a site index 60 (base age 25) based on 1995 average prices for the Southeast, in constant dollars (i.e., net of inflation) per acre.

Internal rate of return

The IRR was also calculated for this hypothetical loblolly pine example. The IRR in the no-thin case was maximized at age 28 with 7.6 percent (Figure 5-7). Correspondingly, the maximum IRR was 8.6 percent at 32 years for one-thinning and 8.7 percent at 34 years for two-thinnings. Although the NPV and IRR suggest different optimum rotation

ages in each of the cases, the landowners wealth is maximized by the NPV criterion as long as the 5.5 percent discount rate is the landowner's true opportunity cost of holding the land and timber. The NPV assumes that land is limited whereas the IRR assumes that capital is limited.

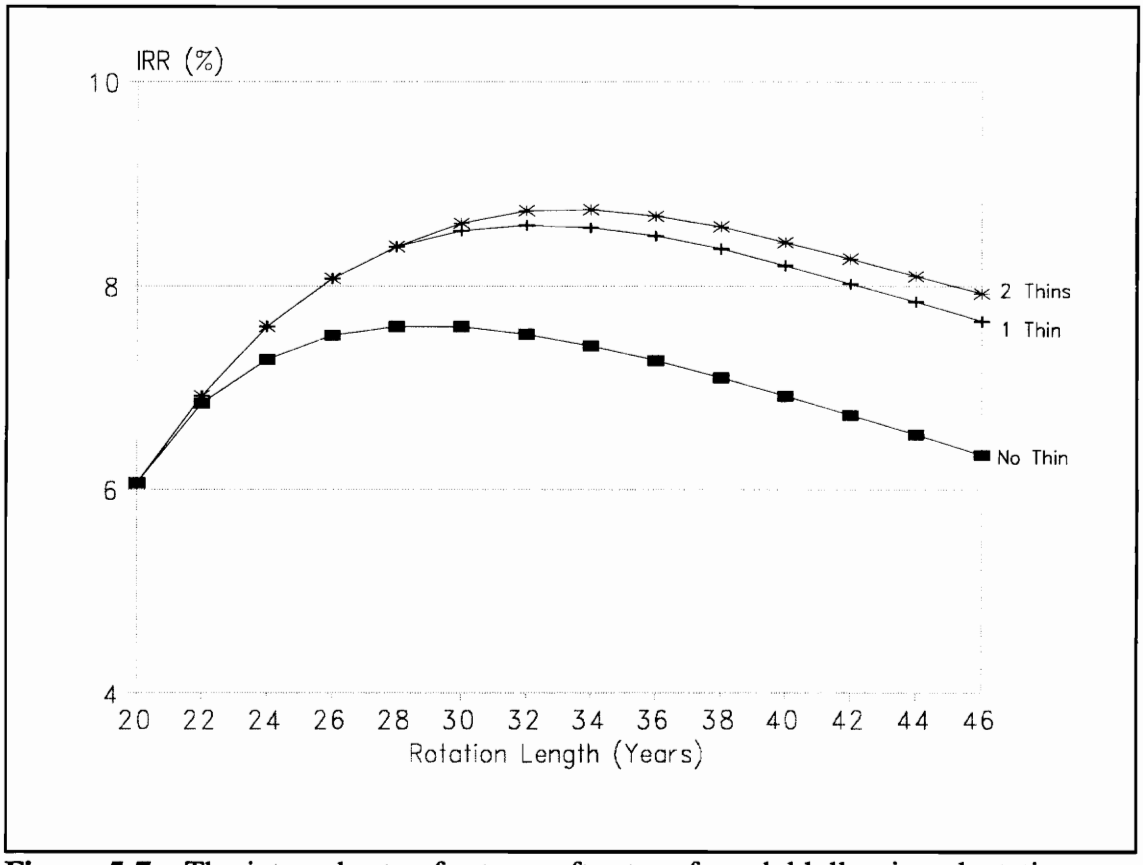

Figure 5-7. The internal rate of return, after-tax, for a loblolly pine plantation on a site index 60 (base age 25) based on 1995 average prices for the Southeast, in real terms (i.e., net of inflation) per acre.

Land expectation value

LEVs for a real, after-tax interest rate of 5.5 percent were calculated, given the above assumptions. According to the LEV, the rotation length was optimal at 32 years for the no-thin case. A rotation age of 36 years was financially optimal in the thinned cases (Figure 5-8). The maximum LEV, or bare land value, in the two-thinning case occurred

at $305 per acre, and at $167 per acre in the no-thin case. The maximum LEV was $290 per acre for the one-thinning case. The LEV represents a perpetual reinvestment cycle of the loblolly pine example. The perpetuity assumption permits rotations of unequal length to be compared.

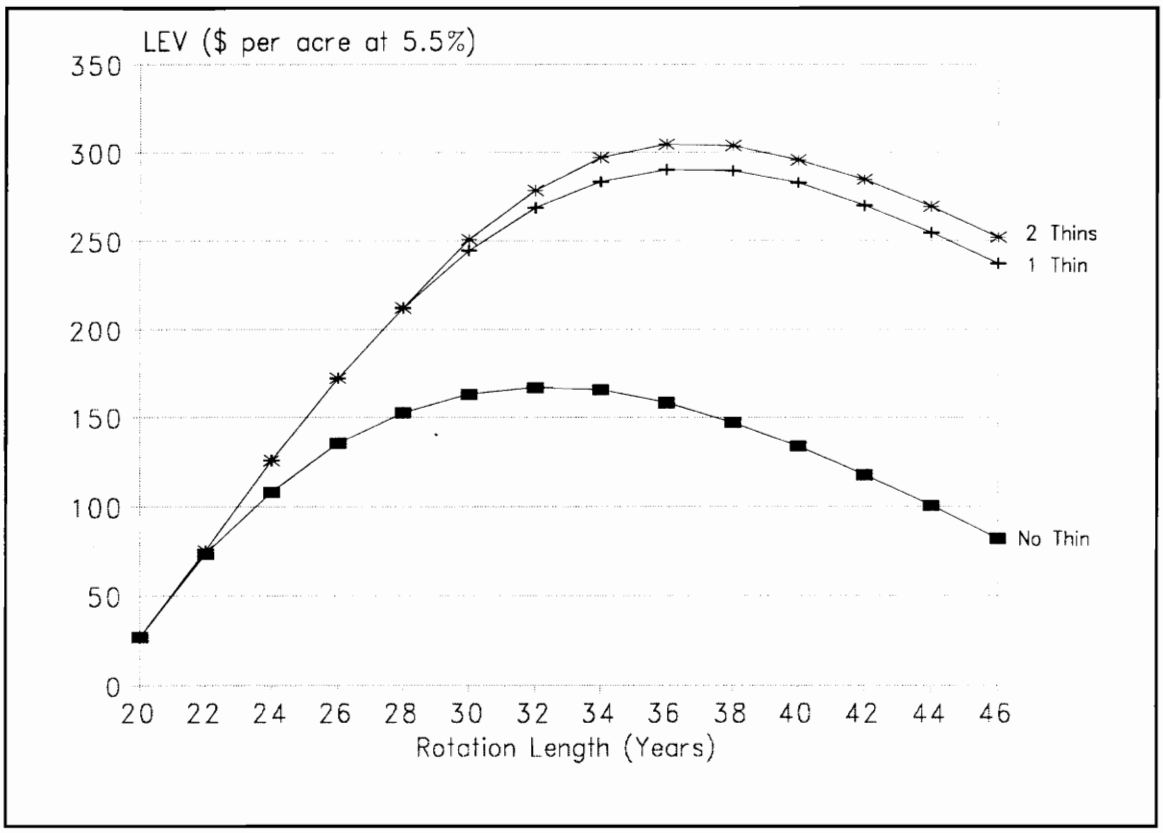

Figure 5-8. The land expectation value, after-tax, at a real 5.5 percent interest rate for a loblolly pine plantation on a site index 60 (base age 25) based on 1995 average prices for the Southeast, in constant dollars (i.e., net of inflation) per acre.

Decision window

The NPV, IRR and LEV are decision criteria that guide the landowner in choosing the financially optimum rotation length of a forestry investment, given certain assumptions about yields, prices and costs. The decision window, based upon the IRR criterion, is

calculated by plotting the liquidation curve (Figure 5-4), the harvest value at any given age plus the land value of the investment as discussed above. The maximum LEV of land for the investment is plotted. Superimposed on this graph are the cost/income (C/I) curves. The curves for a cost and income approach to valuation are identical in this "special case" where the interest rate is equal to the IRR. The cost curve, read left to right, shows the opportunity cost of the land, reforestation costs and incorporates the intermediate cash flows. The income curve, read right to left, depicts the value of an expected future harvest, including adjustments for intermediate cash flows. A cost and an income curve exist for each interest rate. However, if the curves are calculated using the IRR, the cost and income curves are identical.

The decision window focuses on the optimum rotation age, where the liquidation curve is tangent to the cost/income curve. A unique decision window exists for each case (i.e., the optimum for each; no-thin, one-thin and two-thins). The decision window for the one-thinning case is shown in Figure 5-9. In this case, the optimal rotation length occurs at age 32 since the C/I curve is based upon the IRR decision criterion. As you move away from the optimum, the loss of potential value can be seen as the vertical difference between the C/I curve and the liquidation curve. For example, if the stand is harvested at 28, four years before an optimum, the potential income loss is $79 per acre in NPV (at the internal rate of return) terms, per acre. Similar results will apply for landowners who carry stands past economic maturity, however, the potential income losses mount sharply 8 to 10 years beyond an optimum.

A window exists within 5 years before and after an optimum rotation age, where the landowner can focus on other goals that may be more important than the exact financial optimum. These considerations include market price fluctuations, income needs that will dictate the exact timing of the harvest within the decision window and perhaps constraints imposed by other business or personal activities of the family. The window will vary

depending upon the financial optimums and the specific revenues and costs, however, the analysis is similar in each case. Of-course the size of the decision window will depend upon the specific assumptions, optimum rotation length, and growth characteristics of the forest species.

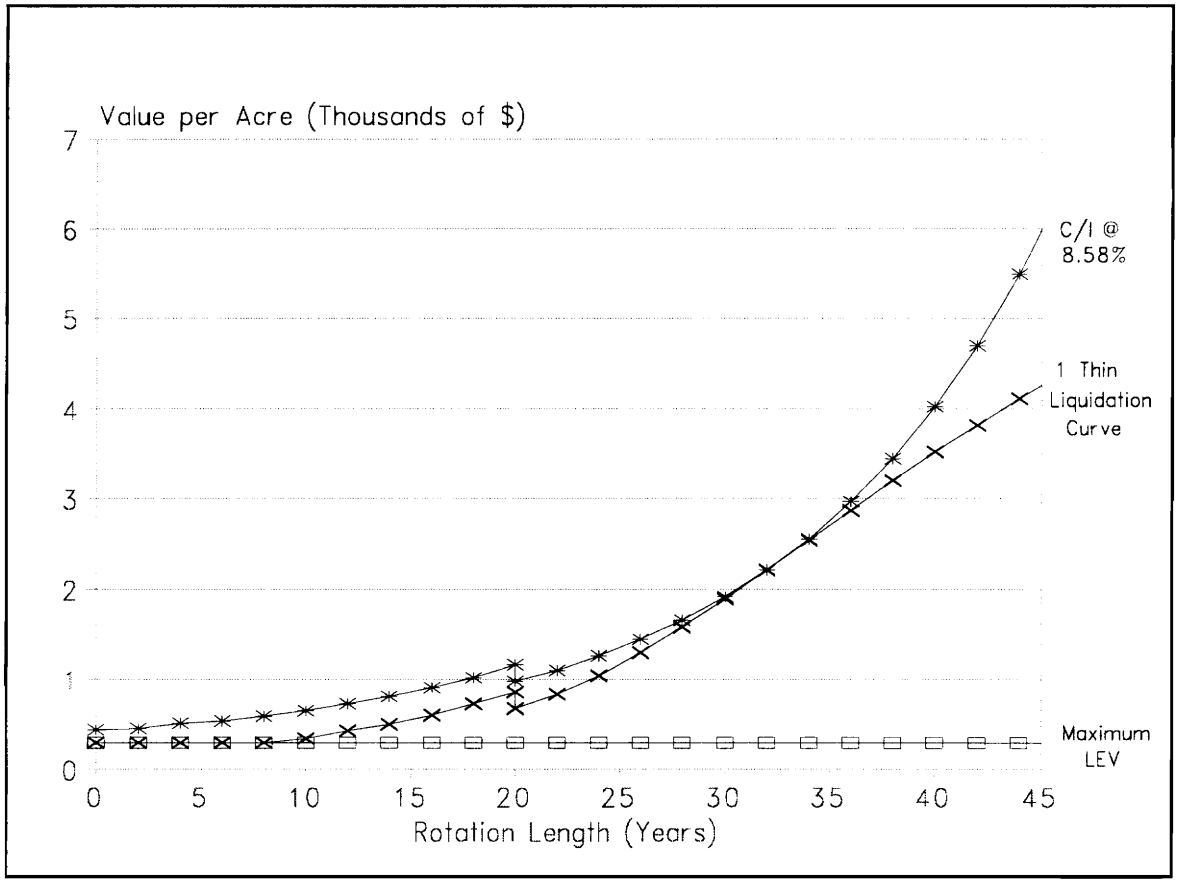

Figure 5-9. The after-tax decision window for a loblolly pine plantation on a site index 60 (base age 25) based on 1995 average prices for the Southeast, in constant dollars (i.e., net of inflation) per acre.

Note that because a continuum exists between bare land and bare land plus timber, an income value for timber at any age can be estimated. For example, consider a casualty that completely destroys an acre of premature, 8 year old, timber. Based upon the previous loblolly pine assumptions with one-thinning, the landowner would lose $293 in

present value terms (at the internal rate of return).

Liquidity zone

Based upon the decision window, the one-thinning C/I and liquidation curves can be separated into four arbitrary liquidity zones (Figure 5-10). The first zone (I), from approximately age 0 to age 15, is a period of illiquidity. A harvest of timber in this zone would yield little or no income. Zone II is a period of rapidly appreciating value between ages of 15 and 26 years. Although the stand is thinned in this zone, a liquidating harvest will result in a considerable sacrifice of potential income value. The decision window is represented by Zone III. A stand harvested between ages 26 and 38 years old will loose very little potential value. In this zone, the landowner can focus on other financial factors that may outweigh the optimum timing of the harvest. Zone IV represents a stand of over-mature timber above age 38. The cost of holding the timber increases rapidly above the stand's liquidatable value. This stand should be immediately harvested and regenerated unless there are extenuating circumstances.

A management plan is an essential tool for a landowner who wishes to maximize the financial returns from his/her timberland. A thorough understanding of the land and timber assets permits the landowner to make prudent management decisions. This understanding is also needed to conduct effective estate planning. The uniqueness of the forestry asset requires careful planning to meet the landowners' goals.

On the other hand, the consequence of inadequate planning may have disastrous financial impacts. A well planned estate will be able to minimize death taxes and harvest timber within the decision window in order to pay for death tax burdens. However, death tax burdens that require land to be harvested in Zones I or II may sustain a substantial economic loss. As a result, disruptions in management continuity are possible. The

family may also be forced to sell their forestry holdings to pay an unplanned tax burden. The impact of death taxes on the continuity of forest management is shown in Chapter 6.

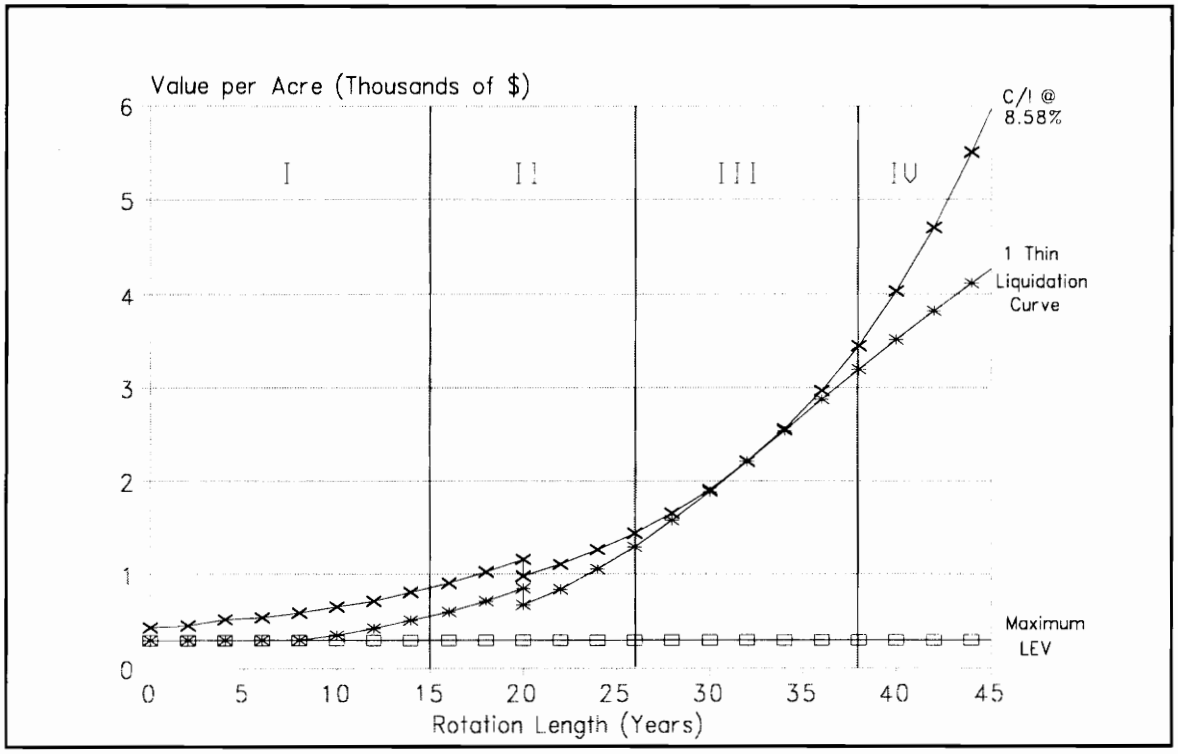

Figure 5-10. The after-tax liquidity zones for a loblolly pine plantation on a site index 60 (base age 25) based on 1995 average prices for the Southeast, in constant dollars (i.e., net of inflation) per acre.

In summary, productive investments in timber require adequate growing stock and attention to timber prices and marketing. Additionally, the harvesting decision will be affected by the discount rate. A management plan will provide guidelines for an optimal harvest, however, landowners have a decision windows of plus or minus 5 years in which nonfinancial goals can be met with minimal foregone returns. The incorporation of the management plan into the estate plan should minimize estate shrinkage by focusing on liquidity and continuity of management considerations.

CHAPTER 6

Estate Planning for a Hypothetical Example

A hypothetical example has been developed in order to compare different estate plans among the four regions of the United States (Chapter 4). The assumptions concerning the hypothetical example will be followed for each of the estate planning calculations presented in this chapter and in Chapters 7 and 8, except where specifically noted. Although some assumptions change, depending upon the planning technique used, the basic example is held constant.

A family consisting of a husband and wife, 3 children, and 3 grandchildren comprise the basis of the hypothetical example. The 59 year old husband holds the fee title to all property, has poor health and earns a conservative salary, adequate to cover living expenses. The wife is 56 years old, healthy and earns no salary. The family works together harmoniously. Similar results would occur if the husband's and wife's roles were reversed.

One primary family goal is to minimize the amount of death taxes paid. The family also wants to maintain financial security and forest management continuity. Initially, assume that the husband prematurely dies in May of 1996 and the mother in May of 2006.

For all the cases considered, the tax is calculated over two deaths. Comparisons are made in terms of the present value of taxes due. An interest rate of 7.6 percent is used to calculate present value. This choice is based on the average monthly federal rate from January 1992 to December 1995 for valuations of gifts and estates (Commerce Clearing House 1995).

The hypothetical examples are evaluated for a gross estate value of $3.5 million. The family assets consist of a house, timberland, life insurance and stock (Table 6-1). Initially, the husband owns all assets including the life insurance on himself and his wife, and the wife's life insurance transfers completely to herself upon the husband's death. Additionally, $20,000 in funeral expenses are incurred at each death, and both estates have a total of $60,000 of debt.

A $1.2 million gross estate is also analyzed for the Southern region. However, the timberland, life insurance and stock assets are simply proportionally reduced from the $3.5 million example.

Limited and Basic Estate Planning

Basic estate planning techniques include having formula wills for both spouses, taking full advantage of the unified estate tax credit, and using the marital deduction to defer death taxes for the estate of the first to die. These basic elements are illustrated with the hypothetical example as different estate plans are compared. The contrast among the piggy-back, estate, and inheritance tax systems is shown.

Table 6-1. An inventory of assets for the hypothetical family of two gross estate values, assuming the husband dies first.

Assets:

Gross Estate = $1.2 Million

	Acres	Current value in 1996 ($)	Fair market value in 1996 ($ @ death)	Misc.
Home:	20	176,250	176,250	$50,000 Basis
Land:	315	94,500	283,500	No Basis
Timber:	315	441,000	441,000	
Life Insurance:				
Husband on Self:		50,400	126,000	
Husband on Wife:		23,625	23,625	
Stock:		110,250	110,250	$31,500 Basis
Increase in wife's estate due to insurance at second death:			39,375	
Total Assets:			1,200,000	

Gross Estate = $3.5 Million

	Acres	Current value in 1996 ($)	Fair market value in 1996 ($ @ death)	Misc.
Home:	20	250,000	250,000	$50,000 Basis
Land:	1,000	300,000	900,000	No Basis
Timber:	1,000	1,400,000	1,400,000	
Life Insurance:				
Husband on Self:		160,000	400,000	
Husband on Wife:		75,000	75,000	
Stock:		350,000	350,000	100,000 Basis
Increase in wife's estate due to insurance at second death:			125,000	
Total Assets:			3,500,000	

To illustrate the effectiveness of basic planning, four cases are analyzed for the $1.2 million and the $3.5 million gross estate. In the first case, the family has done no planning -- all assets are distributed by intestate succession. In the second case, each spouse has a simple, all to my spouse will -- the so called "I love you" will, where all assets transfer to the surviving spouse upon the death of the first spouse and to the

children at the second death. For case 3, the family has drafted a formula will that distributes $600,000 of net estate value to the children and the remainder to the surviving spouse. The children receive all remaining property at the second death. Finally, case 4 is exactly like case 3 except that the family recognizes that the husband might not die first and equalizes the estate between the husband and wife. In cases 3 and 4, the tax-free $600,000 transfer to the children could be outright, or in a trust if income is needed by the survivor, which is governed by the decedent's guidelines. In each of the cases, the growth in timber assets and all the additional growth in family assets between deaths are assumed to be offset by the surviving spouse's living expenses. A proportionate share of the tax burden at the first death correspondingly reduces the surviving spouse's estate.

Three states are considered for the combined federal-state analysis: North Carolina, an inheritance tax state; Virginia, a piggy-back state; and Mississippi, an estate tax state. Both North Carolina and Mississippi have "pick-up tax" provisions to ensure that they each receive the maximum allowable state credit.

Case 1: An unplanned estate

One of the most important estate planning tools is the will. Among the advantages of a will are the ability to pick an executor, waive bonding fees, distribute wealth as desired, and ensure that the unified transfer credit is used. It guarantees that property will pass in the appropriate amounts to each heir. When a valid will is not present, however, an estate is distributed by intestate succession.

Following intestate succession, each state considered has unique laws of estate distribution. In fact, most states have unique laws of decent and distribution. Some can lead to bizarre results especially when children from more than the current union are

involved. North Carolina law transfers one-third of real property and the first $30,000 plus one-third of personal property to the surviving spouse. The remainder of real and personal property passes to the children. All real property transfers to the surviving spouse in Virginia, but Mississippi gives equal portions of all property to the wife and children.

Such a disparity in the laws of distribution results in a wide range of estate tax bills between the three states in case 1. The present value of total taxes paid for Mississippi through two deaths is $79,000 and $841,000 for estates of $1.2 and $3.5 million, respectively (Table 6-2). The lowest present value tax bill, following intestate succession, is found in North Carolina with $37,000 for an estate value of $1.2 million and in Virginia with $634,000 for an estate value of $3.5 million. Virginia's tax bill was the highest for the smaller estate because the unified transfer credit is completely unused at the first death. Since the inheritance and estate tax rates (Chapter 4) are lower in North Carolina and Mississippi than the maximum federal credit for state death taxes, the pick-up tax is effective. The tax burden experienced by the $3.5 million estate is approximately 21 percent of the gross estate.

Case 2: An "I love you" will

A common method of distribution leaves all assets to the surviving spouse, through a so-called "I love you" will. With most estates, especially those valued under $600,000 through both deaths, no tax penalty is incurred. However, a $1.2 million estate paid over $93,000 in present value tax terms in each of the three states. The pick-up tax ensured that North Carolina and Mississippi received the maximum state credit for death taxes.

Table 6-2. Death tax calculations of a hypothetical family for two gross estate sizes with limited and basic estate planning techniques, in the Southern region.

State:	Tax payable at 1st death ($)			Tax payable at 2nd death ($)			PV of tax payable (7.6%) ($)		
	Federal	**State**	**Total**	**Federal**	**State**	**Total**	**Federal**	**State**	**Total**
Case 1-Intestate succession:									
$1.2 Million Gross Estate									
North Carolina	19,134	18,020	37,154	0	0	0	19,134	18,020	37,154
Virginia	0	0	0	155,200	38,800	194,000	74,605	18,651	93,256
Mississippi	55,780	23,303	79,083	0	0	0	55,780	23,303	79,083
$3.5 Million Gross Estate									
North Carolina	561,633	112,933	674,567	117,924	32,885	150,809	618,320	128,741	747,061
Virginia	0	0	0	1,098,400	219,600	1,318,000	528,005	105,562	633,567
Mississippi	682,413	136,500	818,913	26,735	19,153	45,888	695,264	145,707	840,971
Case 2-"I love you" will:									
$1.2 Million Gross Estate									
North Carolina	0	0	0	155,200	38,800	194,000	74,605	18,651	93,256
Virginia	0	0	0	155,200	38,800	194,000	74,605	18,651	93,256
Mississippi	0	0	0	155,200	38,800	194,000	74,605	18,651	93,256
$3.5 Million Gross Estate									
North Carolina	0	0	0	1,098,400	219,600	1,318,000	528,005	105,562	633,567
Virginia	0	0	0	1,098,400	219,600	1,318,000	528,005	105,562	633,567
Mississippi	0	0	0	1,098,400	219,600	1,318,000	528,005	105,562	633,567
Case 3-Maximize the unified transfer credit and Case 4-Equalize estates and maximize the unified transfer credit:									
$1.2 Million Gross Estate									
North Carolina	0	0	0	0	0	0	0	0	0
Virginia	0	0	0	0	0	0	0	0	0
Mississippi	0	0	0	0	0	0	0	0	0
$3.5 Million Gross Estate									
North Carolina	0	0	0	827,600	164,400	992,000	397,830	79,028	476,858
Virginia	0	0	0	827,600	164,400	992,000	397,830	79,028	476,858
Mississippi	0	0	0	827,600	164,400	992,000	397,830	79,028	476,858

A $3.5 million gross estate, in North Carolina, Virginia and Mississippi, paid over 633,000 in present value terms. An "I love you" will in North Carolina and Mississippi results in substantially less taxes than transfers following intestate succession because the

"I love you" will effectively defers all taxes by virtue of the marital deduction until the second death. However, more total taxes are actually paid. The lower rates in North Carolina and Mississippi allowed the pick-up tax to become effective. The tax burden following an "I love you" will is only 18 percent of the gross estate in each of the three states.

Case 3: A planned estate to maximize the unified transfer credit

Many estates experience a substantial tax savings by using a will with a marital deduction formula to transfer an amount equal to the exemption equivalent of $600,000 to the children at the first spouse's death. With a $1.2 million estate, residents in all three states did not pay any tax. This result occurs because each spouse was able to use the unified transfer credit of $192,800 which protects $600,000 each.

North Carolina, Virginia and Mississippi residents experienced combined federal-state taxes of approximately $477,000 for an estate of $3.5 million, in present value terms. The maximization of the unified transfer credits in conjunction with the marital deduction reduces the overall tax burden by deferring taxes until the second death. The tax burden in each of the states is only 14 percent of the original $3.5 million gross estate.

Case 4: An equalized estate planned to maximize the unified transfer credit

Although equalizing the estates produced no tax savings over case 3, it is very important to be prepared for whichever spouse dies first. Both estates in North Carolina, Virginia and Mississippi have the same tax burden as case 3. In the previous example, if the wife had unexpectedly died first, the $600,000 equivalent exemption would have been lost. As a result, the estate would have been taxed in a manner similar to an "I love you" will at the second spouse's death resulting in substantially higher taxes.

Basic planning implications

Basic estate planning can result in substantial estate tax savings. A properly drawn will with a marital deduction clause not only ensures the proper distribution of assets, but allows for the maximization of the unified transfer credit. Generally, a planned estate in North Carolina, Virginia and Mississippi yields the same tax burden. Both North Carolina and Mississippi's death taxes act like a piggy-back tax because the pick-up tax is effective in each of the basic cases. The individual state law and tax rates dictate the tax burden for each state following intestate succession or a so-called "I love you" will. Mississippi residents experience the greatest tax burden following intestate succession, whereas Virginia residents experience the lowest tax penalty.

The inheritance tax in North Carolina is very sensitive to the number of heirs. On a $3,000,000 net estate the federal estate tax is $1,098,000, and the maximum allowable as a state tax credit is $182,000. For this example, a family with one child in North Carolina who receives a $3,000,000 taxable distribution will pay $225,000 (or $43,000 more than the allowable state tax credit) to the state. If, however, the family has three children, who each receive a $1,000,000 taxable distribution, the total inheritance tax payable amounts to $157,300 in North Carolina (or $24,700 less than the allowable state tax credit). Because the inheritance tax on three heirs is actually less than the allowable state tax credit, the $24,700 pick-up tax will be paid to the state in addition to the inheritance tax. For a specific estate size, the more heirs, the lower the inheritance tax because individual heir's tax rate schedules are progressive. Generally, assets located in other states that impose an estate tax are not affected by the number of heirs.

There are two additional factors to consider. A Generation Skipping Tax is imposed on taxable transfers to grandchildren and later descendants if a generation is skipped. Generally, the states will pick-up this additional tax. North Carolina, however, imposes

a higher tax rate schedule on distantly related beneficiaries, like brothers/sisters, aunts/uncles, and nieces/nephews. Thus, a potential exists for North Carolina's tax to sharply increase relative to the other states, if the estates assets are not solely distributed to the surviving spouse and children.

Even though basic planning techniques significantly reduce the death tax burdens, approximately $1,000,000 in taxes are due at the second death for the $3.5 million estate. Life insurance covers some of this tax, but timber may need to be harvested in order to pay the full tax burden. On a managed forested estate, it is unlikely that the normal harvest schedule would cover that level of estate taxes. As a result, the tax may cause premature harvesting and become a barrier to forest continuity by disrupting forest management.

There are, however, consequences of such planning. If an estate is equalized, the original spouse owning the property loses control. To what extent control should be sacrificed for tax savings will depend upon the relationships among all parties involved in the estate, their goals, the size of the estate, and the estate's rate of value appreciation.

Advanced Planning Techniques

The basic planning techniques are effective for reducing and even eliminating the death tax for a net estate of $1.2 million and less. Larger estates still face a considerable tax burden, amounting to approximately 14 percent of the $3.5 million estate value. Several advanced estate planning techniques, made possible by the federal provisions, which were discussed previously (Chapter 4), can further reduce the estate tax burden for forest landowners. Again, potential tax saving from these special considerations must be balanced against the possible diffusion or loss of control, and financial security of the decedent.

In order to make these points, consider the previous $3.5 million gross estate level, and assume that basic planning has been done so that spousal shares have been equalized. The unified transfer credit will be fully utilized upon the husband's death in 1996. The remainder of the assets, which passes to the wife, is protected by the marital deduction. Additional cases have been developed to illustrate the federal-state impact of these special provisions. An aggressive gifting program to reduce estate valuation, before death, is incorporated in case 5. Special use valuation is examined in the sixth case. Deferral and extensions and minority discounts are shown in cases 7 and 8, respectively. Finally, all of the advanced planning techniques; aggressive gifting, special use valuation, deferral and extension, and minority discounts are combined in case 9. Although there are many more federal provisions that can reduce the death tax burden, they are beyond the scope of this analysis.

Case 5: A gifting program

One of the most effective methods of reducing the size of an estate, and therefore the estate tax, is to give away assets. Most states in the Southern region, including Virginia and Mississippi, do not have tax provisions on lifetime gifts. Taxable gifts, however, may affect the amount of death taxes paid to a state. On the federal level, lifetime taxable gifts are added to the taxable estate when calculating the estate tax payable. A credit is allowed for previous gift taxes paid, but the amount of gifts already taxed do not transfer to the maximum allowable state credit. When a taxable gift is made prior to death, the total tax burden will not change, yet a piggy-back state will receive less tax money.

Some states, like North Carolina, actually impose an additional gift tax, usually for gifts over a specified annual exclusion. North Carolina uses the same tax rates as their inheritance tax which gets progressively steeper as the recipient is further removed from

the donor (Table 4-2C). In addition, North Carolina follows the federal gift tax exclusion in providing a $10,000 exclusion and a $20,000 split-gift exclusion, annually. North Carolina also allows a taxable lifetime gift deduction of $100,000 for gifts to lineal ancestors and decedents (including step-children).

If a gifting program had been implemented several years before the decedent's death in 1996, the total estate tax due would have been substantially reduced. Consider an aggressive plan for transferring property by the husband, who owns the assets and could give each child $10,000 per year, or $30,000 for the three children per year. If the wife agrees, a maximum split-gift to each child of $20,000 per year is possible for each child. If the program is began 6 years prior to death, $60,000 could be transferred out of the estate each year to the children.

Although a considerable amount of assets can be removed from the estate by gifting, the selection of assets is very important. Life insurance is a prime candidate because a gift of life insurance is valued at its cash value whereas the face value of the life insurance from a testamentary transfer is included in the estate (Chapter 4). Money, stock and timber are other candidates because they are relatively easy to transfer. Money, stock and timber, however, are liquid assets which will be needed to pay the estate tax levy.

First, assume the cash value of the husband's life insurance ($160,000) was moved into an irrevocable life insurance trust. This transfer must be completed more than 3 years before the date of death, or the face value of the life insurance policy ($400,000) is grossed up into the estate. Similarly, the cash value of the wife's life insurance policy ($75,000) was transferred from the spouse into an irrevocable life insurance trust (ILIT). Then a total of $125,000 of the stock was transferred to the children within the 6 year gifting program. Thus, both life insurance policies and $125,000 of stock were transferred for the children's benefit prior to death. In the ILIT, the children are

beneficiaries, but they do not necessarily control the trust.

An even more aggressive tax-free gifting program could have been implemented by starting sooner, also giving to the children's spouses, and giving to the grandchildren. Gifting saves taxes, but it also causes a loss of control, and very few people want to give assets away this aggressively. Besides, parents should not give away assets they may possibly need.

Although North Carolina is the only selected state with a gift tax, a program designed to use the annual federal gift tax exclusion is effective in all three states. The initial gross estate of $3.5 million will be effectively reduced to $2.8 million during the suggested six year gifting program. The gifting program results in the reduction of the present value tax bill to approximately $300,000 in North Carolina, Virginia and Mississippi (Table 6-3). The tax burden is subsequently reduced to 8.6 percent of the original $3.5 million estate in each state.

Case 6: Incorporation of special use valuation

Perhaps the most important federal estate tax provision available to forest landowners is the allowance for current use valuation rather than valuation for the highest and best use on farm and forested property (IRC § 2032A). Piggy-back states, such as Virginia, allow the use of special use valuation passively since the state tax is based upon the federal estate tax. Virginia's recapture period, however, extends to 15 years, or the death of the qualified heir. Other states may or may not have special provision that allow current use valuation. North Carolina disallows special use valuation. Mississippi allows special valuation, but with a few notable changes from the federal requirements. The maximum gross estate reduction is only $500,000 and the recapture period is 15 years, or until the death of the qualified heir. Although some states disallow special use

valuation, the tax benefit may trickle down to the state level, if the pick-up tax becomes effective.

Table 6-3. Death tax calculations for a hypothetical family for the advanced planning techniques.

State:	Tax payable at 1st death[1] ($)			Tax payable at 2nd death ($)			PV of tax payable (7.6%) ($)		
	Federal	State	Total	Federal	State	Total	Federal	State	Total
Case 5-Aggressive Gifting Program:									
$3.5 Million Gross Estate									
North Carolina	0	0	0	519,750	105,000	624,750	249,846	50,474	300,320
Virginia	0	0	0	519,750	105,000	624,750	249,846	50,474	300,320
Mississippi	0	0	0	519,750	105,000	624,750	249,846	50,474	300,320
Case 6-Special Use Valuation:									
$3.5 Million Gross Estate									
North Carolina	0	0	0	571,200	143,300	714,500	274,578	68,885	343,463
Virginia	0	0	0	571,200	114,800	686,000	274,578	55,185	329,763
Mississippi	0	0	0	571,200	114,800	686,000	274,578	55,185	329,763
Case 7-Deferral and Extension:									
$3.5 Million Gross Estate									
North Carolina	0	0	0	827,600	164,400	992,000	381,165	79,028	460,193
Virginia	0	0	0	827,600	164,400	992,000	381,165	79,028	460,193
Mississippi	0	0	0	827,600	164,400	992,000	381,165	77,077	458,242
Case 8-Minority Discount:									
$3.5 Million Gross Estate									
North Carolina	0	0	0	713,486	142,229	855,714	342,975	68,370	411,345
Virginia	0	0	0	713,486	142,229	855,714	342,975	68,370	411,345
Mississippi	0	0	0	713,486	142,229	855,714	342,975	68,370	411,345
Case 9-Combination Program:									
$3.5 Million Gross Estate									
North Carolina	0	0	0	153,430	40,600	194,030	73,754	19,517	93,271
Virginia	0	0	0	153,430	38,520	191,950	73,754	18,517	92,271
Mississippi	0	0	0	153,430	38,520	191,950	73,754	18,517	92,271

[1] Deferred with the marital deduction

Special use valuation is allowed on the federal level for the hypothetical example. The estate qualifies for a $600,000 gross estate reduction at the second death, if all forestry assets are transferred to the wife at the first death. Since the estate is large enough to give $600,000 to the children without transferring forested property, special use valuation is not elected at the first death because the marital deduction defers all taxes due on the forested property. Special use valuation was only elected for the forest land, so that the timber could be harvested without constraint. However, $150,000 in timber could perhaps be valued at a lower "current use value."

Virginia and Mississippi both allow current use valuation on the state level, but North Carolina residents are limited to special use valuation on the federal level. As a result, North Carolina's inheritance tax exceeds their pick-up tax and the present value tax bill is $343,000. As a result, North Carolina residents will pay $14,000 more than residents of Virginia and Mississippi. Mississippi has a $500,000 maximum reduction of estate value, but the pick-up tax allows the full $600,000 deduction to flow through to the state level.

Case 7: Incorporation of deferral and extension

Another provision that is often helpful for farming businesses, including woodlands, is the payment of the federal estate tax in installments. Only Mississippi has a financially reasonable provision concerning a deferral and extension of tax payments, which can reduce the tax burden. Mississippi allows the same extension as determined by the federal government, but charges interest at a rate of one-half of one percent per month (effectively 6.2% per year). Virginia allows for the payment of tax at the time of federal payment, as long as the schedule is approved. However, a minimum interest rate equal to the AFR plus 2 percent is applied. North Carolina has provisions to extend the payment period past 9 months in the case of undue hardship, but not for installments.

The ability to defer taxes is quite helpful, especially for forested estates. The extra time allows the estate to arrange its affairs to accommodate markets and to improve liquidity. Additionally, the deferral permits some forest stands to reach economic maturity, thus helping to prevent disruptions in forest continuity.

The financial consequences of the deferral and extension of tax payments can only be seen in present value terms, as shown in case 7. Deferral and extension is not needed at the first death since all forested property is transferred to the wife and no tax is paid. At the second death, deferral and extension is allowed for the first million dollars, subject to the 4 percent interest rate. Deferral and extension was not elected for amounts above the million dollar threshold because the average federal short-term interest rate plus 3 percent is greater than the 7.6 percent discount rate.

A substantial federal tax savings occurs, in present value terms, in each of the three states. Since the interest rate of 7.6 percent is used for the present value calculations, 3.6 percent of the first million dollars of estate value is saved over the first 5 years. Then, more money is saved because the equal annual payments are spread over an additional 10 years. The effect of deferral and extension is to reduced the present value of North Carolina and Virginia's taxes to $460,000. Only Mississippi enjoys an additional $2,000 of savings because the state tax is due when the federal tax is due. The average present value tax burden is 13 percent of the original gross estate.

Case 8: Incorporation of minority discounts

The final advanced planning technique deals with minority ownerships. None of the three selected states have provisions for minority discounts, but expert valuation of fair market value should reduce the estate value on both the state and federal levels. Estate planners must be cautious, however, because a heavy discount might render property

ineligible for other tax provisions such as special use valuation and deferral and extension. The interaction of all these provisions must be carefully considered.

Discounts are achieved by giving up part of the land and timber assets in a limited partnership, closely-held business, or other means that restructure control. The consequences of reducing the gross estate due to minority discounts are illustrated in case 8, as long as the timber property and land are held in a partnership or closely-held business. Only a discount at the first death is allowed because the husband does not have a controlling interest. The wife has a controlling interest at the second death, unless she can reduce her ownership to 50 percent or less by gifting. When a discount of 30 percent is applied at the first death, assuming the children inherit only land and timber interests, a total of $411,000 in present value of tax is due in each of the three states. The present value tax burden is reduced to 12 percent of the original gross estate.

Case 9: Combination program

To achieve greater possible tax reductions, a combination program is employed. It incorporates the basics of estate equalization between spouses and the maximization of the unified transfer credit at the first death plus an aggressive gifting program, special use valuation, deferral and extension, and minority discounts. The results of using all special provisions in the combination program are shown in case 9.

Initially, assume the husband's and wife's estates are equalized, and a family limited partnership is formed containing the timber and timberland assets, prior to death. The husband and wife are general partners in the partnership. The children will become limited partners as interest in the partnership is transferred.

The aggressive gifting program is similar to the gifting program found in case 5. Six

years prior to death, the husband's life insurance is transferred into an irrevocable life insurance trust (ILIT), with the three children as beneficiaries, at a rate of $60,000 per year for the first two years. In the third year, the remaining $40,000 is divided among the children as beneficiaries in the trust. Then the remaining allowable gift tax exclusion of $20,000 for the wife's life insurance is transferred into the ILIT. Three years prior to death, the remaining $55,000 of the wife's life insurance is transferred into trust and the children receive $5,000 of the timber partnership in the form of a limited interest. A 30 percent minority discount is applied to the gift, so $7,143 of the partnership is transferred to the children. In the two years before death, each child is given a limited interest of $20,000 in the timber partnership. Subsequent yearly transfers, which includes a 30 percent minority discount, reduce the estate by $85,714. The gifts reduce the gross estate by $778,571 and the children own 7.8 percent of the partnership when the husband dies at the conclusion of the six year plan.

The husband holds title to $300,000 of stock. Fifty thousand dollars of stock and the house are owned by the wife. The $60,000 of debt is split between the husband and wife's estates.

At the first death, a 30 percent minority discount is applied to the children's inheritance because the husband no longer holds a controlling interest. Special use valuation is not elected because no estate tax is payable. An interest in the timber partnership of 35.3 percent is divided among the children in equal shares. The interests are valued at $857,143 before the minority discount which reduces the taxable value of the transfer to $600,000. The wife inherits the remaining 4.97 percent of the husband's general partnership interest and his stock. Deferral and extension is unnecessary because all tax is deferred.

At the second death, a 30 percent minority discount is applied, if the wife has

successfully given away 5 percent, or more, of her partnership interest. The 5 percent interest, valued at $114,286, can be given away under the annual gift tax exclusion. With a 30 percent minority discount, the partnership interest is valued at $80,000 and gifted, tax-free, within a 3 year period. Special use valuation is elected on the timberland. Additional reductions are possible by specially valuing some of the standing timber. All remaining assets are transferred to the children.

A substantial tax savings is experienced for each of the three selected states. Estates in North Carolina, which disallows special use valuation, pay $93,000 in present value terms, which is higher than Virginia and Mississippi. Virginia and Mississippi residents only pay $92,000 in total taxes. The deferral and extension of installment payments (IRC § 6166) precluded on the federal level because the total value of the assets associated with the timberland partnership are less than the $600,000 exemption equivalent. Again the present value tax burden is significantly reduced, to 2.6 percent of the original gross estate, in present value terms.

This total savings is very significant and shows the potentially disastrous financial consequences of inadequate planning, especially with the special forestry provisions. The present value of federal tax savings from the combination program averages $540,000, as compared to intestate succession (Table 6-4). Tax savings in Mississippi, at the state level, are the greatest with $127,000, whereas Virginia landowners would save $87,000 in state taxes. These techniques result in federal-state tax reductions of 88, 85, and 89 percent in North Carolina, Virginia, and Mississippi, respectively, as compared to an estate following intestate succession at the $3.5 million level.

Basic estate planning techniques can save forest landowners a considerable amount of estate taxes. However, the advanced planning techniques correspond to federal-state tax reductions of 80, 81, and 81 percent in North Carolina, Virginia, and Mississippi,

respectively, as compared to a $3.5 million level estate following the basic planning techniques. In all three states, the present value of the tax savings for the combination program is greater than $383,000 as compared to equalizing estates and maximizing the unified transfer credit. Mississippi and Virginia have the greatest tax savings because special use valuation is allowed on the state level.

Virginia and Mississippi generally allow landowners the lowest tax burden. Virginia has the potential for greater tax savings when using special use valuation, whereas Mississippi allows the use of deferral and extension on the state level, if the estate qualifies. North Carolina, on the other hand, has substantially higher taxes because they do not allow special use valuation or deferral and extension on the state level.

Table 6-4. Total federal-state tax savings due to the combination program in present value at 7.6 percent.

State:	Federal ($)	State ($)	Total ($)
Tax savings for combination program as compared to intestate succession:			
$3.5 Million Gross Estate			
North Carolina	544,566	109,224	653,790
Virginia	454,251	87,045	541,296
Mississippi	621,510	127,190	748,700
Tax savings for combination program as compared to equal equalizing estates and maximizing the Unified Transfer Credit (basic estate planning):			
$3.5 Million Gross Estate			
North Carolina	324,076	59,511	383,587
Virginia	324,076	60,511	384,587
Mississippi	324,076	60,511	384,587

Advanced planning implications

Generally, estate planners should follow basic planning, which includes using wills that take advantage of the unified transfer credit and the marital deduction, at both deaths. Advanced techniques such as a yearly gifting program, special use valuation, and deferral and extension of installment payments should be incorporated. Minority discounts can also be used to save estate taxes while retaining control for general partners in a partnership.

Each state tax should be closely examined when planning an estate. Even piggy-back states, which are designed to follow the federal statutes, have special exceptions. For example, Virginia has specific provisions allowing for deferral and extension, but it imposes a higher interest rate than the 4 percent allowed under IRC § 6166. Similarly, the recapture period for special use valuation in Virginia is 15 years compared to 10 years on the federal level. Therefore, a thorough understanding of the state provisions, regardless of the state death tax system, is essential.

The special forestry provisions -- IRC § 2032A and IRC § 6166 -- can save taxes on both the federal and state levels. The degree of saving on the state level varies with the type of death tax. Fortunately, well planned special provisions do not substantially affect the family's control of their assets, with the exception of equalizing the estate and lifetime gifts. If there is concern for the donee's competence gifted property can be transferred into a trust to insure the funds are not miss used. Furthermore, a qualified terminal interest trust (QTIP) allows the decedent to control the distribution of assets upon the surviving spouse's death, as long as the surviving spouse is entitled to all income from the trust, distributed annually. This is generally done to allow use of the marital deduction while insuring that the decedent's children will receive the corpus of the trust.

In the hypothetical examples, some simplifying assumptions were made in order to show the effects of the special provisions. Realistically, many estates are not able to meet the pre- and post-death qualifications for special use valuation, deferral and extension, and/or minority discounts. The estates may lack enough forested assets, or the families may be unable to manage their forestry operations as active, closely-held businesses. As a result, tax burdens can sharply increase and may force the premature, inefficient harvesting of forestry assets.

Planning for the Forested Estate

A forestry management plan, when drafted by a professional, should give a detailed description of a landowner's timber and timberland assets based upon the objectives of the landowner. Within this description, the management plan should include a financial analysis of the timberland in order to help a landowner efficiently manage his/her timber investment. Many times the maximum financial return is not the most relevant factor to a landowner, however, costs and revenues frequently occur when managing timberland for other interest, (i.e., to promote wildlife or scenic beauty). For the landowner who manages their land as an investment, the management plan should detail and rank financial alternatives. The plan should be a guide to the landowner that recommends the timing and method of timber harvesting. Although forest management plans are a guide -- actual operations vary due to markets, weather, and landowner needs -- an owner normally should match the average to the plan's targets.

Many landowners have estates that are composed of a significant portion of forest land. Therefore, effective estate planning must included the forested asset and incorporate its financial characteristics. Integrating an active management plan into the estate plan is the easiest and most effective way for a landowner to plan for the distribution of his/her timber investment. In fact, the forest management plan and estate plan should ideally be

created simultaneously because forest rotations often exceed the current landowner's tenure.

In the preceding chapter a technique that optimized the financial returns of a forested asset was reviewed. The decision window showed that slight deviations from the optimal rotation age will have only minor impacts on a forest's financial return. Using the hypothetical forest management regime for loblolly pine, the financial characteristics of a timber asset can be integrated with the estate plan in order to measure the impacts of estate planning techniques on forest continuity.

The hypothetical example with a $3.5 million gross estate was guided by managing the estate's timber assets to the optimal forest rotation assumptions (Chapter 5). That is, the timber assets for the hypothetical estate are assumed to follow the forest management plan within the framework of the decision window. One thinning occurs in year 20, and the optimal rotation age was determined to be 32 years, using the IRR financial criterion (Figure 5-9). The maximum LEV and NPV, however, gave a rotation age of 36 and 38 years, respectively. Since maximum LEV is a preferred decision criterion and since each of the decision criteria fell within the Zone III of the decision window, a 38 year rotation age was used for the estate's timber.

The composition of the hypothetical estate's $1.4 million of timber was residually determined by using the cost/income valuation of the decision window's assets. The forest was assumed to be homogeneous and managed under strict area control with the entire forestry asset split into 39 age-class stands, each with an equal area. Once a stand reached 39 years old each year, it would be immediately harvested and reforested. The yearly harvest and thinnings were assumed to occur prior to the husband's death in May of 1996 and the wife's death in May of 2006. The cost/income value of each the age classes was multiplied by the number of acres in order to equal $1.4 million in forested

assets. The number of acres in each age class was found to be 35.97, with a total of 1,403 acres of timber. The cumulative value of the timber on 1 acre of each age class was $38,918 and ranged in timber value from $3,160 at age 38 to $141 at age 0. The harvest of the 39 year old age class was $125,573 per year.

The $1.4 million in estate value corresponded to the cost/income value of the timber, even though the income approach to valuation is usually limited to elections under IRC § 2032A. In practice, timber is appraised by reconciling comparable sales, the cost approach and the income approach to valuation. Often comparable sales are given the most weight since they are based on the price paid for similar assets that have been sold on the open market. The income approach is based upon the discounted value of future revenues for an investment cycle (or life), minus the discounted value of future costs, plus the present value of terminal interests. The cost approach is the estimated cost of replacing assets by projecting the value of future costs, minus the future value of revenues. The combined valuation technique was not an option for the hypothetical example since comparable sales were not available. Instead, the cost and income approach was used where the IRR of 8.58% was used as the discount rate. Using this rate, the cost and income curves are identical.

The LEV, $290 per acre, was maximized at age 36, at a 5.5 percent interest rate, using the decision window assumptions. Although the LEV was $10 less than the $300 per acre current use valuation in the hypothetical example, the estate value of $300,000 current use and $900,000 fair market value was not altered. For this particular set of facts, there would be a reallocation between basis of the land and timber. As long as there is enough liquidatable timber assets to cover the estate tax burden, the land would not need to be sold. Therefore, the land values were not changed to coincide with the new timber valuation in order to keep the gross estate value at $3.5 million.

The impact of estate distributions on forest continuity

Premature harvesting of forested assets has the potential to disrupt forest management continuity. By using the new timber values incorporated into the hypothetical example, the impact of estate taxes can be seen by subtracting the estate taxes and costs from the estate's assets over both spouses' deaths. Forest continuity was analyzed for two of the previous hypothetical cases. First, the assets are distributed by intestate succession and second, the estate follows the basic planning techniques where the estates are equalized, the unified transfer credit is used at each death, and the remainder of the assets are shielded under the marital deduction. The three selected states in the Southern region are used for this analysis.

Several assumptions are used for this comparison. All liquid assets, e.g., life insurance[1] and stock, are sold in order to pay the tax and administrative expenses before timber is harvested. Note also, that it may be desirable to balance the payment of taxes with a mix of assets for liquidity and a balanced portfolio. Timber is consecutively harvested in the oldest age class until no expenses remain. In the worst case, that timber is not liquidatable, the land would then be sold to cover the remaining costs. Again, the growth in all the estate's assets are consumed by the wife after the husband's death.

Intestate succession effects on forest continuity

Following intestate succession, the estate's assets were distributed in the proportions dictated by state law. However, in each of the cases, the wife retained total ownership of the house and her life insurance while the children received a greater portion of other assets in order to comply with the state law. The administrative and funeral costs and taxes were paid according to the proportionate distribution received by the children and

[1] The wife's life insurance remains in her possession until her death.

the wife.

In addition to $80,000 in debt and expenses, North Carolina, Virginia, and Mississippi residents received a tax bill of $675,000, $0, and $819,000 (Table 6-2), respectively, at the first death. With a levy of this size, both North Carolina and Mississippi residents experienced a slight disruption in their forest management plan. Landowners in North Carolina must harvest 11 acres of the 38 year age class for a total of $35,616 of timber (Table 6-5). In Mississippi, they need to harvest all of 38 year age class and 12 acres of the 37 year age class in order to pay $148,913 of expenses. Since all the liquid assets must be sold, it may be advantageous to balance the timber harvest with the need for cash.

All of the remaining estate's assets transfer to the children after the surviving spouse's death. Virginia residents have the greatest tax at the second death with $1,318,000 followed by $151,000 in North Carolina and $46,000 in Mississippi. Each of the estates incurred $20,000 of expenses. Both North Carolina and Mississippi residents experienced only a small tax at the second death so that the wife's life insurance proceeds easily cover the expenses (Table 6-6). In Virginia, however, the estate is forced to harvest $468,000 worth of timber. This means that 173 acres -- the oldest 4 age-classes plus 29 acres in the fifth age-class -- are immediately liquidated. Although timber was not cut at a severe financial loss, the continuity of the forest plan has been disrupted.

Table 6-5. Effect of intestate succession on estate assets depletion for a hypothetical family, at first death.

	North Carolina ($)	Virginia ($)	Mississippi ($)
Assets sold for tax/expenses:			
Husband's life insurance	400,000	80,000	400,000
Stock	318,951	0	350,000
Timber	35,616	0	148,913
Total	754,567	80,000	898,913
Timber depletion:	11 ac. of 38 yr. old	None	36 ac. of 38 yr. old 12 ac. of 37 yr. old

If the distribution of assets are not clearly spelled out in a will, the state's probate court will determine the distribution. In any case, every state's residents are likely to harvest timber in order to pay the tax burden. Intestate succession in Virginia follows the same assets distribution as an "I love you" will. In terms of forest continuity, an "I love you" will has a much greater impact than intestate succession, partly because more total taxes are actually paid through both deaths.

Table 6-6. Effect of intestate succession on estate assets depletion for a hypothetical family, at second death.

	North Carolina ($)	Virginia ($)	Mississippi ($)
Assets sold for tax/expenses:			
Wife's life insurance	170,809	200,000	65,888
Husband's life insurance	0	320,000	0
Stock	0	350,000	0
Timber	0	468,000	0
Total	170,809	1,338,000	65,888
Timber depletion:	None	36 ac. of 38-35 yr. old 29 ac. of 34 yr. old	None

Basic planning effects on forest continuity

The basic planning techniques have been very effective in reducing the total tax burden and deferring estate taxes experienced at the first death. North Carolina, Virginia, and Mississippi still must pay $50,000 of debts and funeral and administrative expenses, which is easily covered by the husband's life insurance (Table 6-7). In order to fully utilize the unified transfer credit, the expenses were deducted solely from the wife's inheritance and the children received $350,000 of the husband's life insurance and $250,000 of the stock.

Table 6-7. Effect of basic planning on estate assets depletion for a hypothetical family, at first death.

	North Carolina ($)	Virginia ($)	Mississippi ($)
Assets sold for tax/expenses:			
Husband's life insurance	50,000	50,000	50,000
Stock	0	0	0
Timber	0	0	0
Total	50,000	50,000	50,000
Timber depletion:	None	None	None

The total tax burden is much lower following basic planning than under intestate succession. The total taxes paid at both deaths, however, may be higher following basic planning. In fact the lowest total tax is found when one-half of the entire estate is taxed at each death because the assets are not deferred and taxed in a higher marginal tax bracket. This higher total tax leads to a considerable disruption in forest continuity, when the husband's life insurance and the stock are transferred to the children at the first death (Table 6-8). Landowners in each of the three states would experience the same state taxes and severe disruptions in continuity. Almost 320 acres of timber need to be harvested from the 30 year old to 38 year old age classes in order to pay $742,000 of

taxes and expenses. This quantity of timber could affect a local market and create a large gap in forest management continuity. Also, the timber assets are very close to being prematurely harvested in financial terms.

The severe disruption is not only a direct result of higher total taxes but a function of the choice of assets distributed at the first death to the children. The estate gave most of the liquid assets to the children at the first death so that the wife would receive all income from the timber and have full control over the asset. Instead, the land and/or timber should be distributed to the children under the first unified transfer credit in order to prevent a severe liquidity problem at the second death. Even if all the liquid assets were retained until the second death, $142,000 of timber would have to be harvested. This amount of timber corresponds to the entire 38 year age class and 10 acres of the 37 year age class, but the forest management and continuity would only be impacted slightly. However, a full transfer of forested assets to the children, at the first death, may affect the use of special forestry considerations. The limited partnership may be an ideal vehicle because it permits control of the assets by the general partners while facilitating the dispersal of the respective interests.

Table 6-8. Effect of basic planning on estate assets depletion for a hypothetical family, at second death.

	North Carolina ($)	Virginia ($)	Mississippi ($)
Assets sold for tax/expenses:			
Wife's life insurance	200,000	200,000	200,000
Husband's life insurance	0	0	0
Stock	100,000	100,000	100,000
Timber	742,000	742,000	742,000
Total	1,042,000	1,042,000	1,042,000
Timber depletion:	36 ac. of 38-31 yr. old 32 ac. of 30 yr. old	36 ac. of 38-31 yr. old 32 ac. of 30 yr. old	36 ac. of 38-31 yr. old 32 ac. of 30 yr. old

The previous analysis assumed that timber could be harvested without constraint to cover the death tax burden. Forest practice regulations that limit harvesting may prevent financially optimal harvesting practices so that premature timber must be harvested. If the regulations are too strict, the harvested timber may not cover the tax burden and the land may be sold to cover the taxes. As a result, forest practice regulations can lead to the fragmentation of family lands.

One alternative to selling timber assets for the payment of estate taxes is to defer the payment of taxes. The use of special considerations will greatly help the estate prevent disruptions in continuity, but estates may not qualify. Generally, late payments of the estate tax are at a high rate of interest so they are not usually a viable option. Loans, however, my offer liquid assets to pay the tax burden at a much lower interest rate. This can prevent disruptions in management, but should only be considered as long as the interest rate on the forested asset to be harvested is greater than the interest rate of the loan. Although loans may be a viable alternative, many landowners do not want a rigid payment and others may have problems finding banks willing to invest in forest land (Sutherland and Tedder 1979).

Trusts may be a viable alternative for surviving spouses that desire to retain full control over their forestry assets and would prefer the distribution of the liquid assets to the children at the first death. Highly appreciating stands can be put in trust to keep them out of the survivor's estate. Trust can also allow the surviving spouse income from assets transferred into trust for life. As long as the surviving spouse does not have full control, the trust assets can be excluded from his/her estate. A co-trustee, who is a beneficiary to the trust, would guarantee that the surviving spouse does not have full control. Regardless of the trustee, the assets in trust must be managed according to the grantor's (decedent's) guidelines. Additionally, invasions on the principal may be allowed for emergencies. Such a trust can be tax-free under the unified transfer credit

and distribute all remaining assets to the beneficiaries upon the death of the surviving spouse. Unfortunately, trust are not eligible for the reforestation credit and amortization which increases reforestation costs.

CHAPTER 7

Illustration of Federal and State Tax Systems in the Midwest

The effect of federal planning techniques on the state level, in the Midwest, are shown by using hypothetical case examples. Basic estate planning techniques, some of the important forestry provisions, and conservation easement donations will be illustrated. They will be used to compare the different estate plans in selected Midwestern states. The contrast among the inheritance, piggy-back, and estate tax systems are shown for Kentucky, Minnesota and Ohio, respectively.

The hypothetical examples are considered for a gross estate value of $3.5 million. The family assets consist of a house, timberland, life insurance and stock (Table 6-1). The husband owns all assets including the life insurance on himself and his wife. The ownership of the wife's life insurance transfers completely to the wife upon the husband's death. Additionally, $20,000 in funeral expenses are incurred at each death, and both estates have a total of $60,000 of debt.

Basic planning techniques: Case 1

If the estate's assets are equalized between the spouses, the maximum unified transfer credit is used at both deaths, and the balance of estate tax deferred, the estate experiences an absolute estate tax of approximately 28 percent, at the second death, and a present value tax burden of approximately 14 percent of the gross estate value (Table 7-1A). In a $3.5 million estate, Minnesota residents experienced the lowest present value tax burden of $477,000 and a total tax of $992,000, at the second death. The highest tax burden is found in Ohio, the estate tax state, with $512,000. Ohio residents pay $1,002,000 of taxes, at the second death. Kentucky, the inheritance tax state is in the

middle with a $500,000 tax burden and $982,000 of tax liability, at the second death, when the 5 percent prompt payment discount is applied.

Table 7-1A. Case 1: Death tax calculations with basic estate planning techniques for a hypothetical family with a $3.5 million gross estate in selected Midwestern states.

State:	Tax payable at 1st death			Tax payable at 2nd death			PV of tax payable (7.6%)		
	Federal ($)	State ($)	Total ($)	Federal ($)	State ($)	Total ($)	Federal ($)	State ($)	Total ($)
Kentucky	0	28,215	28,215	819,531	162,793	982,324	393,952	106,470	500,422
Minnesota	0	0	0	827,600	164,400	992,000	397,830	79,028	476,858
Ohio	0	30,100	30,100	818,991	182,737	1,001,728	393,692	117,942	511,634

Although basic planning techniques significantly reduce the death tax burdens, approximately $1,000,000 in taxes are due at the second death for families with a $3.5 million estate. Life insurance will cover some of this tax, but substantial volumes of timber will also need to be harvested in order to pay the full tax burden. On a managed forested estate, it is unlikely that scheduled harvests would cover the taxes. As a result, the tax is likely to cause disruptions in forest continuity, as shown in Chapter 6.

Advanced planning techniques in the Midwest

Consider the previous $3.5 million gross estate level and assume that the estate owners have done the basic estate planning. Spousal shares have been equalized, the unified transfer credit will be fully used upon the husband's death in 1996, and the remainder of the estate assets pass to the wife where the estate taxes are deferred by the marital deduction. An advanced case has been developed to illustrate the impact of the special forestry considerations on the total federal-state tax. The combination program incorporates an aggressive gifting program, special use valuation, deferral and extension,

and minority discounts. Although there are other federal provisions that can reduce the death tax burden, they are beyond the scope of this analysis.

Combination program: Case 2

Initially, assume the husband's and wife's estates are equalized, and a family limited partnership is formed containing the timber and timberland assets, prior to death. The husband and wife are general partners in the partnership. The children will become limited partners as interest in the partnership is transferred.

Assumptions about the husband's date of death are relaxed to initiate a gifting program. Six years prior to death, the husband's life insurance is transferred into an irrevocable life insurance trust (ILIT) at the policy's cash value. The three children are beneficiaries, at a rate of $60,000 per year for the first two years. In the third year, the remaining $40,000 is divided among the children as beneficiaries in the trust. Then the remaining allowable gift tax exclusion of $20,000 for the wife's life insurance is transferred into the ILIT. Three years prior to death, the remaining $55,000 of the wife's life insurance is transferred into trust and the children receive $5,000 of the timber partnership in the form of a limited interest. A 30 percent minority discount is applied to the gift, so $7,143 of the partnership is transferred to the children. In the two years before death, each child is given a limited interest of $20,000 in the timber partnership. Subsequent, yearly transfers, which includes a 30 percent minority discount, reduce the estate by $85,714. The gifts reduce the gross estate by $778,571 and the children own 7.8 percent of the partnership when the husband dies at the conclusion of the six year plan. Life insurance must be removed from the decedent's estate three years prior to death in order to ensure the face value of the insurance policy is not included.

The husband holds title to $300,000 of stock. Fifty thousand dollars of stock and the house are owned by the wife. The $60,000 of debt is split between the husband and

wife's estates.

At the first death, a 30 percent minority discount is applied to the children's inheritance because the husband no longer holds a controlling interest. Special use valuation is not elected because no estate tax is payable. An interest in the timber partnership of 35.3 percent is divided among to the children in equal shares. The interests are valued at $857,143 before the minority discount which reduces the taxable value of the transfer to $600,000. The wife inherits the remaining 4.97 percent of the husband's general partnership interest and his stock. Deferral and extension is unnecessary because all tax is deferred.

At the second death, a 30 percent minority discount is applied, if the wife has successfully given away 5 percent, or more, of her partnership interest. The 5 percent interest, valued at $114,286, can be given away under the annual gift tax exclusion. With a 30 percent minority discount, the partnership interest is valued at $80,000 and gifted, tax-free, within a 3 year period. Special use valuation is elected on the timberland. Deferral and extension of installment payments (IRC § 6166) is precluded because the forestry assets are less than the exemption equivalent. All remaining assets are transferred to the children.

A substantial tax savings occurs for each of the three selected states (Table 7-2A). Landowners in Kentucky and Ohio must pay approximately $117,000 and $132,000 in present value terms, respectively. These tax burdens are more than $25,000 and $39,000 higher than Minnesota, respectively, primarily because of the higher tax rates imposed by the inheritance and estate tax states. The average total present value tax burden is reduced to 3.3 percent of the original gross estate. In absolute terms, Kentucky, Minnesota and Ohio residents have a second death tax liability of $186,000, $192,000 and $211,000, respectively

Table 7-2A. Case 2: Death tax calculations with the combined planning techniques for a hypothetical family with a $3.5 million gross estate in selected Midwestern states.

State:	Tax payable at 1st death			Tax payable at 2nd death			PV of tax payable (7.6%)		
	Federal ($)	State ($)	Total ($)	Federal ($)	State ($)	Total ($)	Federal ($)	State ($)	Total ($)
Kentucky	0	28,215	28,215	148,014	37,663	185,677	71,151	46,320	117,471
Minnesota	0	0	0	153,430	38,520	191,950	73,754	18,517	92,271
Ohio	0	30,100	30,100	147,652	63,607	211,260	70,977	60,676	131,653

This total savings is very significant and shows the potentially disastrous financial consequences of ignoring the special forestry considerations. The present value of federal tax savings from the combination program averages $323,000, when compared to basic planning techniques (Table 7-3A). The present value of state level savings in Minnesota are the greatest with $61,000, followed by Kentucky and Ohio. Landowners in Ohio save $57,000 of state taxes, in present value terms. Minnesota experiences the greatest total tax savings over two deaths.

Table 7-3A. Present value of tax savings for combination program compared to basic planning for a hypothetical family with a $3.5 million gross estate in selected Midwestern states, which includes equal equalizing estates and maximizing the unified transfer credit at 7.6 percent.

State:	Federal ($)	State ($)	Total ($)
Kentucky	322,801	60,150	382,951
Minnesota	324,076	60,511	384,587
Ohio	322,715	57,266	379,981

Each state tax law must be closely examined when planning an estate. Even piggy-back states, which are designed to follow the federal statutes, have special exceptions. For

example, each of the selected states has specific provisions allowing for installment payments, but at higher interest rates than the 4 percent discount rate allowed at the federal level. A thorough understanding of the state provisions, regardless of the state death tax system, is essential.

The proper utilization of the special forestry considerations, as illustrated by the hypothetical example in case 2, helps to avoid disruptions in management continuity by saving on estate taxes. The relatively small estate tax of $200,000 may be paid by harvesting the maturing stands (Table 7-2A). Not all estates, however, have the timber resources to completely cover their estate taxes, and a disruption in continuity will result if timber is harvested prematurely. In fact this is an exceptional estate -- it has an evenly stocked forest, low debt, good insurance, and the husband and wife are insurable.

Conservation easement donations in the Midwest

In the combination case, some assumptions were simplified in order to show the effects of the special forestry provisions. Realistically, many estates are not able to meet the pre- and post-death qualifications for special use valuation, deferral and extension of installment payments, and/or minority discounts. The estates may not contain sufficient forested assets, or the families may not be able to conduct their forestry operations as an active, closely-held business. Even estates that do benefit from these considerations may find death taxes burdening, especially because of the effects of inflation. Higher tax rates are imposed at higher gross estate levels. Therefore, a higher tax burden is experienced for property values that increase solely due to inflation because the tax rate schedule is not adjusted for inflation (Chapter 9). As a result, the tax burden can sharply increase and force the premature harvesting of forestry assets.

Conservation easement donations can be used to ensure forest land is valued at its current

use which can help landowners with forested estates reduce their tax burden. When an estate does not qualify for the special use valuation under IRC § 2032A, forest land must be valued at its fair market value, which includes all potential developmental pressures. Although special use valuation and minority discounts help prevent the inclusion of development pressures, many estates do not qualify.

Conservation easements can either be sold or donated to governmental or non-profit organizations. The selling of an easement can give the estate liquid funds for paying the death taxes. Usually, it is difficult to sell easements, except for land with high amenity values. Many non-profit organizations, however, allow for the donation of conservation easements. An income tax deduction is only allowed if the donation is made during the grantor's lifetime and the donation is in perpetuity (see Bick 1996 or Small 1992 for details). In addition to reducing the value of the estate, a conservation easement donation given prior to death, can be deducted as a charitable contribution for income tax purposes. However, a tax deduction can only be taken if the conservation easement is permanent. Families who eventually wish to subdivide and develop their properties should take great care before granting a conservation easement donation.

In order to illustrate the effect of conservation easement donations on the estate tax burden, conservation easement donations and the gifting program from case 5 (Chapter 6) are incorporated into the case 3. In this case, gifting is used since the estate did not qualify for the special forestry considerations and because the gifting plan is not affected by the types of assets the estate holds. The gifting program is designed to use the annual exclusion and effectively removes $725,000 worth of assets from the family's estate, in six years. An additional $600,000 is removed from the gross estate, by a conservation easement donation, which gives the forest land a fair market value without developmental pressures. The husband's stock, interest in the house and $362,500 of the timber assets are transferred to the children at the first death.

The present value of total taxes due is significantly reduced. Minnesotans only pay $169,000 whereas Ohioans must pay $210,000 (Table 7-4A). The average tax liability for the three states is $358,000, at the second death. The conservation easement donations and gifting program have an average tax savings of $305,000 when compared to basic planning (case 1). Although conservation easement donations do not reduce the tax burden as well as the combination program (case 2), the average present value total tax burden is reduced to 5.5 percent of the original estate. Conservation easement donations are an effective method of reducing the tax burden and ensuring that forest land remains in the family. Caution is advised because the easements are permanent (See Bick 1996 for details).

Table 7-4A. Case 3: Death tax calculations with conservation easement donations and a gifting program for a hypothetical family with a $3.5 million gross estate in selected Midwestern states.

State:	Tax payable at 1st death			Tax payable at 2nd death			PV of tax payable (7.6%)		
	Federal ($)	State ($)	Total ($)	Federal ($)	State ($)	Total ($)	Federal ($)	State ($)	Total ($)
Kentucky	0	28,215	28,215	285,095	62,039	347,134	137,046	58,037	195,083
Minnesota	0	0	0	289,450	62,800	352,250	139,140	30,188	169,328
Ohio	0	30,100	30,100	284,804	90,462	375,266	136,906	73,586	210,492

Illustration of Federal and State Tax Systems in the Northeast

The effect of federal planning provisions on the state level, in the Northeast, are easily shown by using hypothetical case examples. Basic estate planning techniques, some of the important forestry provisions, and conservation easement donations will be illustrated. They will be used to compare the different estate plans in selected Northeast states. The contrast among the piggy-back, estate and inheritance tax systems are shown for Maine,

New York, and Pennsylvania, respectively.

The hypothetical examples are considered for a gross estate value of $3.5 million. The family assets consist of a house, timberland, life insurance and stock (Table 6-1). The husband owns all assets including the life insurance on himself and his wife. The ownership of the wife's life insurance transfers completely to the wife upon the husband's death. Additionally, $20,000 in funeral expenses are incurred at each death, and both estates have a total of $60,000 of debt.

Basic planning techniques: Case 1

If the estate's assets are equalized between the spouses, the maximum unified transfer credit is used at both deaths, and the balance of estate tax deferred, the estate experiences an absolute estate tax of approximately 29 percent, at the second death, a present value tax burden of approximately 14 percent of the gross estate value (Table 7-1B). In a $3.5 million estate, Maine residents experienced the lowest present value tax burden of $477,000, and a total tax of $992,000, at the second death. The highest tax burden is found in New York, the estate tax state, with $521,000, even when a $190,000 ($250,000 house minus $60,000 of debt) personal residence deduction is applied. New York residents pay $1,031,000 of taxes, at the second death. Pennsylvania, the inheritance tax state is in the middle with a $505,000 tax burden and $980,000 of tax liability, at the second death, after the 5 percent prompt payment discount.

Table 7-1B. Case 1: Death tax calculations with basic estate planning techniques for a hypothetical family with a $3.5 million gross estate in selected Northeastern states.

State:	Tax payable at 1st death			Tax payable at 2nd death			PV of tax payable (7.6%)		
	Federal ($)	State ($)	Total ($)	Federal ($)	State ($)	Total ($)	Federal ($)	State ($)	Total ($)
Maine	0	0	0	827,600	164,400	992,000	397,830	79,028	476,858
New York	0	25,500	25,500	820,307	210,785	1,031,092	394,325	126,825	521,150
Pennsylvania	0	34,086	34,086	817,851	162,459	980,311	393,144	112,181	505,325

Although basic planning techniques significantly reduce the death tax burdens, approximately $1,000,000 in taxes are due at the second death for families with a $3.5 million estate. Life insurance will cover some of this tax, but substantial volumes of timber will also need to be harvested in order to pay the full tax burden. On a managed forested estate, it is unlikely that scheduled harvests would cover the taxes. As a result, the tax is likely to cause disruptions in forest continuity, as shown in Chapter 6.

Advanced planning techniques in the Northeast

Consider the previous $3.5 million gross estate level and assume that the estate owners have done the basic estate planning. Spousal shares have been equalized, the unified transfer credit will be fully used upon the husband's death in 1996, and the remainder of the estate assets pass to the wife where the estate taxes are deferred by the marital deduction. An advanced case has been developed to illustrate the impact of the special forestry considerations on the total federal-state tax. The combination program incorporates an aggressive gifting program, special use valuation, deferral and extension, and minority discounts. Although there are other federal provisions that can reduce the death tax burden, they are beyond the scope of this analysis.

Combination program: Case 2

Initially, assume the husband's and wife's estates are equalized, and a family limited partnership is formed containing the timber and timberland assets, prior to death. The husband and wife are general partners in the partnership. The children will become limited partners as interest in the partnership is transferred.

Assumptions about the husband's date of death are relaxed to initiate a gifting programs. Six years prior to death, the husband's life insurance is transferred into an irrevocable life insurance trust (ILIT) at the policy's cash value. The three children are beneficiaries, at a rate of $60,000 per year for the first two years. In the third year, the remaining $40,000 is divided among the children as beneficiaries in the trust. Then the remaining allowable gift tax exclusion of $20,000 for the wife's life insurance is transferred into the ILIT. Three years prior to death, the remaining $55,000 of the wife's life insurance is transferred into trust and the children receive $5,000 of the timber partnership in the form of a limited interest. A 30 percent minority discount is applied to the gift, so $7,143 of the partnership is transferred to the children. In the two years before death, each child is given a limited interest of $20,000 in the timber partnership. Subsequent, yearly transfers, which includes a 30 percent minority discount, reduce the estate by $85,714. The gifts reduce the gross estate by $778,571 and the children own 7.8 percent of the partnership when the husband dies at the conclusion of the six year plan. Life insurance must be removed from the decedent's estate three years prior to death in order to ensure the face value of the insurance policy is not included.

The husband holds title to $300,000 of stock. Fifty thousand dollars of stock and the house are owned by the wife. The $60,000 of debt is split between the husband and wife's estates.

At the first death, a 30 percent minority discount is applied to the children's inheritance

because the husband no longer holds a controlling interest. Special use valuation is not elected because no estate tax is payable. An interest in the timber partnership of 35.3 percent is divided among the children in equal shares. The interests are valued at $857,143 before the minority discount which reduces the taxable value of the transfer to $600,000. The wife inherits the remaining 4.97 percent of the husband's general partnership interest and his stock. Deferral and extension is unnecessary because all tax is deferred.

At the second death, a 30 percent minority discount is applied, if the wife has successfully given away 5 percent, or more, of her partnership interest. The 5 percent interest, valued at $114,286, can be given away under the annual gift tax exclusion. With a 30 percent minority discount, the partnership interest is valued at $80,000 and gifted, tax-free, within a 3 year period. Special use valuation is elected on the timberland. Deferral and extension of installment payments (IRC § 6166) are precluded because the forestry assets do not exceed the exemption equivalent. All remaining assets are transferred to the children.

Great care should be take when calculating New York's estate tax. On top of the general federal provisions, New York offers unique provisions. An additional Agricultural Exemption Credit applies to property used in the trade or business of farming. The full $15,000 credit is allow for the children's inheritance at each death. However, the estate planner must use extreme caution to ensure the estate qualifies for the maximum credit of $15,000. A personal residence deduction is taken at the second death. In order to treat the forestry assets in a consistent manner between the selected states, the value of the residence is reduced by the debt experienced at both deaths. The New York personal residence is $190,000 ($250,000 - 60,000 debt). This may not be optimal for New York because of the personal residence deduction.

A substantial tax savings occurs for each of the three selected states (Table 7-2B). Landowners in Pennsylvania and New York must pay approximately $135,000 and $102,000 in present value terms, respectively. These tax burdens are more than $43,000 and $9,000 higher than Maine, respectively. New York enjoys a considerable tax savings with the Agricultural Exemption Credit and principal residence deduction which allows the pick-up tax to become effective at the second death. Pennsylvanians experience a high state tax burden even though the 5 percent prompt payment discount is applied at both deaths. This is a result of Pennsylvania's high average state tax rate and the one year partial gift tax recapture levied at the first death. The average total tax burden is reduced to 3.1 percent of the original gross estate. In absolute terms, Maine, New York, and Pennsylvania residents have a second death tax liability of $192,000, $190,000 and $208,000, respectively.

Table 7-2B. Case 2: Death tax calculations with the combined planning techniques for a hypothetical family with a $3.5 million gross estate in selected Northeastern states.

State:	Tax payable at 1st death			Tax payable at 2nd death			PV of tax payable (7.6%)		
	Federal ($)	State ($)	Total ($)	Federal ($)	State ($)	Total ($)	Federal ($)	State ($)	Total ($)
Maine	0	0	0	153,430	38,520	191,950	73,754	18,517	92,271
New York	0	10,500	10,500	151,414	38,201	189,615	72,785	28,864	101,649
Pennsylvania	0	35,283	35,283	146,657	61,210	207,868	70,499	64,707	135,206

This total savings is very significant and shows potentially disastrous financial consequences of ignoring the special forestry considerations. The present value of federal tax savings from the combination program averages $323,000, when compared to basic planning techniques (Table 7-3B). The present value of state level savings in New York are the greatest with $98,000, primarily due to the additional Agricultural Exemption Credit allowed at each death. Landowners in Maine and Pennsylvania save

$61,000 and $47,000, respectively, of state taxes, in present value terms. The landowners in New York experience the greatest total tax savings, over two deaths.

Table 7-3B. Present value of tax savings for combination program compared to basic planning for a hypothetical family with a $3.5 million gross estate in selected Northeastern states, which includes equal equalizing estates and maximizing the unified transfer credit at 7.6 percent.

State:	Federal ($)	State ($)	Total ($)
Maine	324,076	60,511	384,587
New York	321,540	97,961	419,501
Pennsylvania	322,645	47,474	370,119

Each state tax law must be closely examined when planning an estate. Even piggy-back states, which are designed to follow the federal statutes, have special exceptions. For example, Maine and Pennsylvania has specific provisions allowing for installment payments, but at higher interest rates than the 4 percent discount rate allowed at the federal level. New York, however, allows installment payments at 4 percent interest on the federal and state levels. A thorough understanding of the state provisions, regardless of the state death tax system, is essential.

The proper utilization of the special forestry considerations, as illustrated by the hypothetical example in case 2, helps to avoid disruptions in management continuity by saving on estate taxes. The relatively small estate tax of $200,000 may be paid by harvesting the maturing stands (Table 7-2B). Not all estates, however, have the timber resources to completely cover their estate taxes, and a disruption in continuity will result if timber is harvested prematurely. In fact this is an exceptional estate -- it has an evenly stocked forest, low debt, good insurance, and the husband and wife are insurable.

Conservation easement donations in the Northeast

In the combination case, some assumptions were simplified in order to show the effects of the special forestry provisions. Realistically, many estates are not able to meet the pre- and post-death qualifications for special use valuation, deferral and extension of installment payments, and/or minority discounts. The estates may not contain sufficient forested assets, or the families may not be able to conduct their forestry operations as an active, closely-held business. Even estates that do benefit from these considerations may find death taxes burdening, especially because of the effects of inflation. Higher tax rates are imposed at higher gross estate levels. Therefore, a higher tax burden is experienced for property values that increase solely due to inflation because the tax rate schedule is not adjusted for inflation (Chapter 9). As a result, the tax burden can sharply increase and force the premature harvesting of forestry assets.

Conservation easement donations can be used to ensure forest land is valued at its current use which can help landowners with forested estates reduce their tax burden. When an estate does not qualify for the special use valuation under IRC § 2032A, forest land must be valued at its fair market value, which includes all potential developmental pressures. Although special use valuation and minority discounts help prevent the inclusion of development pressures, many estates do not qualify.

Conservation easements can either be sold or donated to governmental or non-profit organizations. The selling of an easement can give the estate liquid funds for paying the death taxes. Usually, it is difficult to sell easements, except for land with high amenity values. Many non-profit organizations, however, allow for the donation of conservation easements. An income tax deduction is only allowed if the donation is made during the grantor's lifetime and the donation is in perpetuity (see Bick 1996 or Small 1992 for details). In addition to reducing the value of the estate, a conservation easement donation

given prior to death, can be deducted as a charitable contribution for income tax purposes. However, a tax deduction can only be taken if the conservation easement is permanent. Families who eventually wish to subdivide and develop their properties should take great care before granting a conservation easement donation.

In order to illustrate the effect of conservation easement donations on the estate tax burden, conservation easement donations and the gifting program from case 5 (Chapter 6) are incorporated into the case 3. In this case, gifting is used since the estate did not qualify for the special forestry considerations and because the gifting plan is not affected by the types of assets the estate holds. The gifting program is designed to use the annual exclusion and effectively removes $725,000 worth of assets from the family's estate, in six years. An additional $600,000 is removed from the gross estate, by a conservation easement donation, which gives the forest land a fair market value without developmental pressures. The husband's stock, interest in the house and $362,500 of the timber assets are transferred to the children at the first death. The New York personal residence deduction is affected by the debt, surviving spouse's portion of taxes, and expenses. The New York personal residence is $126,747 ($237,500 - 60,000 debt - 40,000 funeral and administrative expenses - 10,753 the wife's portion of the New York estate tax paid at the first death).

The present value of total taxes due is significantly reduced. Maine residents only pay $169,000 whereas Pennsylvanians pay $212,000 (Table 7-4B). The average tax liability for the three states is $363,000, at the second death. The conservation easements and gifting have an average tax savings of $306,000 when compared to basic planning (case 1). Although conservation easements do not reduce the tax burden as effectively as the combination program (case 2), the average present value total tax burden is reduced to 5.6 percent of the original estate. Conservation easement donations are an effective method of reducing the tax burden and ensuring that forest land remains in the family.

Caution is advised because the easements are permanent (See Bick 1996 for details).

Table 7-4B. Case 3: Death tax calculations with conservation easement donations and a gifting program for a hypothetical family with a $3.5 million gross estate in selected Northeastern states.

State:	Tax payable at 1st death			Tax payable at 2nd death			PV of tax payable (7.6%)		
	Federal ($)	State ($)	Total ($)	Federal ($)	State ($)	Total ($)	Federal ($)	State ($)	Total ($)
Maine	0	0	0	289,450	62,800	352,250	139,140	30,188	169,328
New York	0	25,500	25,500	285,514	82,875	368,389	137,248	65,338	202,586
Pennsylvania	0	35,283	35,283	284,005	83,113	367,117	136,522	75,236	211,758

CHAPTER 8

Federal and State Tax Systems in the West

The Western states are quite different from the other three regions of the United States. The West imposes the piggy-back death tax system in every state except for Montana. Although the Western states are comprised of mostly federal lands, PNIF lands are important due to increasing harvest regulations on the federal forests.

The effect of federal planning techniques in the West, are shown by using hypothetical case examples. Basic estate planning techniques, some of the important forestry provisions, and charitable remainder trusts (CRT) will be illustrated. They will be used to compare the different estate plans in selected Western states. The contrast among two piggy-back, and one inheritance tax system are shown for California, Oregon and Montana, respectively. California and Oregon were chosen because of their high level of forestry activity. Montana was chosen because it was the only inheritance tax state.

The hypothetical examples are considered for a gross estate value of $3.5 million. The family assets consist of a house, timberland, life insurance and stock (Table 6-1). The husband owns all assets including the life insurance on himself and his wife. The ownership of the wife's life insurance transfers completely to the wife upon the husband's death. Additionally, $20,000 in funeral expenses are incurred at each death, and both estates have a total of $60,000 of debt.

Basic planning techniques: Case 1

Basic planning assumes that the estate is equalized between the spouses, the maximum

unified transfer credit is used, and the balance of estate tax due at the first death is deferred. If the basic planning techniques are observed and the husband dies in May of 1996 and the Wife in May of 2006, the estate experiences a present value tax burden of approximately $477,000 in each of the selected states (Table 8-1). Residents, in each state, experience a tax burden equal to 14 percent of the gross estate value. This is expected from both piggy-back states and Montana which has an effective pick-up tax that excludes all distributions to children from tax on the state level. The 5 percent prompt payment discount is not effective in Montana since no inheritance tax is experienced (Chapter 4).

Table 8-1. Case 1: Death tax calculations with basic estate planning techniques for a hypothetical family with a $3.5 million gross estate in selected Western states.

State:	Tax payable at 1st death			Tax payable at 2nd death			PV of tax payable (7.6%)		
	Federal ($)	State ($)	Total ($)	Federal ($)	State ($)	Total ($)	Federal ($)	State ($)	Total ($)
California	0	0	0	827,600	164,400	992,000	397,830	79,028	476,858
Montana	0	0	0	827,600	164,400	992,000	397,830	79,028	476,858
Oregon	0	0	0	827,600	164,400	992,000	397,830	79,028	476,858

Although basic planning techniques significantly reduce the death tax burdens, $992,000 in taxes are due at the second death for the $3.5 million estate. Life insurance will help pay some of this tax, but substantial volumes of timber will also need to be harvested in order to cover the full tax burden. On a managed forested estate, it is unlikely that scheduled harvests could cover this level of taxes. As a result, the tax may cause disruptions in forest continuity, as shown in Chapter 6.

Advanced planning techniques in the West

Consider the previous $3.5 million gross estate level and assume that the estate owners

have done the basic estate planning. Spousal shares have been equalized, the unified transfer credit will be fully used upon the husband's death in 1996, and the remainder of the estate assets pass to the wife where the estate taxes are deferred by the marital deduction. An advanced case has been developed to illustrate the impact of the special forestry considerations on the total federal-state tax. The combination program incorporates an aggressive gifting program, special use valuation, deferral and extension, and minority discounts. Although there are other federal provisions that can reduce the death tax burden, they are beyond the scope of this analysis.

Combination program: Case 2

Initially, assume the husband's and wife's estates are equalized, and a family limited partnership is formed containing the timber and timberland assets, prior to death. The husband and wife are general partners in the partnership. The children will become limited partners as interest in the partnership is transferred.

Assumptions about the husband's date of death are relaxed to initiate a gifting program. Six years prior to death, the husband's life insurance is transferred into an irrevocable life insurance trust (ILIT), with the three children as beneficiaries, at a rate of $60,000 per year for the first two years. In the third year, the remaining $40,000 is divided among the children as beneficiaries in the trust. Then the remaining allowable gift tax exclusion of $20,000 for the wife's life insurance is transferred into the ILIT. Three years prior to death, the remaining $55,000 of the wife's life insurance is transferred into trust and the children receive $5,000 of the timber partnership in the form of a limited interest. A 30 percent minority discount is applied to the gift, so $7,143 of the partnership is transferred to the children. In the two years before death, each child is given a limited interest of $20,000 in the timber partnership. Subsequent, yearly transfers, which includes a 30 percent minority discount, reduce the estate by $85,714. The gifts reduce the gross estate by $778,571 and the children own 7.8 percent of the

partnership when the husband dies at the conclusion of the six year plan.

The husband holds title to $300,000 of stock. Fifty thousand dollars of stock and the house are owned by the wife. The $60,000 of debt is split between the husband and wife's estates.

At the first death, a 30 percent minority discount is applied to the children's inheritance because the husband no longer holds a controlling interest. Special use valuation is not elected because no estate tax is payable. An interest in the timber partnership of 35.3 percent is divided among the children in equal shares. The interests are valued at $857,143 before the minority discount which reduces the taxable value of the transfer to $600,000. The wife inherits the remaining 4.97 percent of the husband's general partnership interest and his stock. Deferral and extension under IRC § 6166 is unnecessary because all tax is deferred with the marital deduction.

At the second death, a 30 percent minority discount is applied, if the wife has successfully given away 5 percent, or more, of her partnership interest. The 5 percent interest, valued at $114,286, can be given away under the annual gift tax exclusion. With a 30 percent minority discount, the partnership interest is valued at $80,000 and gifted, tax-free, within a 3 year period. Special use valuation is elected on the timberland and deferral and extension is allowed for the forestry assets. All remaining assets are transferred to the children.

A substantial tax savings occurs for each of the three selected states (Table 8-2). Landowners in California and Oregon must each pay approximately $92,000 in present value terms. These tax burdens are the same as Montana because the wife's timber assets do not exceed the exemption equivalent in order to allow a deferral and extension installment payment plan (IRC § 6166) at a 4 percent interest rate. The average total

tax burden is reduced to 2.6 percent of the original gross estate.

Table 8-2. Case 2: Death tax calculations with the combined planning techniques for a hypothetical family with a $3.5 million gross estate in selected Western states.

State:	Tax payable at 1st death			Tax payable at 2nd death			PV of tax payable (7.6%)		
	Federal ($)	State ($)	Total ($)	Federal ($)	State ($)	Total ($)	Federal ($)	State ($)	Total ($)
California	0	0	0	153,430	38,520	191,950	73,754	18,517	92,271
Montana	0	0	0	153,430	38,520	191,950	73,754	18,517	92,271
Oregon	0	0	0	153,430	38,520	191,950	73,754	18,517	92,271

This total savings is very significant and shows the potentially disastrous financial consequences of ignoring the special forestry considerations. The present value of federal tax savings from the combination program averages $324,000, as compared to basic planning techniques (Table 8-3). Landowners, in each of the selected states, save $61,000 of state taxes, in present value terms.

Table 8-3. Present value of tax savings for combination program compared to basic planning for a hypothetical family with a $3.5 million gross estate in selected Western states, which includes equal equalizing estates and maximizing the unified transfer credit at 7.6 percent.

State:	Federal ($)	State ($)	Total ($)
California	324,076	60,511	384,587
Montana	324,076	60,511	384,587
Oregon	324,076	60,511	384,587

Each state tax law should be closely examined when planning an estate. Even piggy-back states, which are designed to follow the federal statutes, have special exceptions. For example, California has specific provisions allowing for installment payments, but at

higher interest rates than the 4 percent rate allowed at the federal level. Montana allows state level installments at 4 percent, but Oregon disallows all state level installments. A thorough understanding of the state provisions, regardless of the state death tax system, is essential.

The proper utilization of the special forestry considerations, as illustrated by the hypothetical example in case 2, helps to avoid disruptions in forest management continuity. The relatively small estate tax of $192,000 can be paid by harvesting the mature stands (Table 8-2). Not all estates, however, have the timber resources to completely cover their estate taxes and a disruption in continuity will result if timber is harvested prematurely.

Charitable remainder trusts in the West

A charitable remainder trust provides an alternative to reduce the tax burden for landowners who wish to make charitable donations. This is how they work. A CRT will reduce the family's gross estate by the amount of the contribution into the CRT, thus saving estate tax. The husband and wife, as beneficiaries, receive annual income distributions for both of their lives from an annuity trust or unitrust. Second, the entire amount of the contribution to the trust earns income because it is exempt from the capital gains tax. The property is generally valued at its FMV and a corresponding charitable income tax deduction is allowed. However, the IRC limits charitable contributions to public charities to 30 percent of the donor's adjusted gross income (AGI), with a 5 year carry-over period. The charitable deduction carry-over period could be extended if the contributions are made over time to a unitrust. Alternatively, a 50 percent of AGI deduction is allowed if the gifted property is valued at its basis. For highly appreciated property, a substantial tax savings would be lost with the current basis valuation.

A charitable remainder unitrust has been integrated into the previous hypothetical examples in order to illustrate the income and estate tax impacts. This example begins with the $3.5 million gross estate as described above. The land and timber are managed and valued according to the forest management plan set out in Chapters 5 and 6. One 36 acre age-class of timber is harvested each year when the timber reaches 39 years old. The 20 year old age-class is thinned each year.

Assume that the husband and wife have donative intent, and they have decided to contribute $1,000,000 of primarily highly appreciated (no basis) timber assets to a charitable remainder unitrust organized by the wife's almamater, XYZ University. A charitable remainder unitrust with makeup provisions that yields 6 percent is founded between the husband and wife and XYZ University, in early 1996. The yearly harvest occurred prior to the charitable transfer, so the timber valued between age 29 and 38 is donated to the CRT with a value of $802,120. The additional $197,880 transferred into trust is composed of stock. Additionally, the family's charitable goals outweigh the goal of forest continuity and timber will continue to be harvested yearly, when it reaches age 29. This is within the scope of the decision window (Chapter 5).

Income tax consequences

A 6 percent unitrust with makeup provisions will pay out $60,000 to the hypothetical family in 1997 (Table 8-4), according to the Virginia Tech Office of University Development. By year 10, the annual payment has increased to $65,621. In addition to the annual payment, a $218,330 charitable deduction is allowed in year 0, based upon a discount rate of 7.6 percent and the life expectancies of the husband and wife.

Table 8-4. Annual payments to trust beneficiaries for a $1,000,000 initial contribution to a 6 percent unitrust, based upon a two life payout for a husband, 59 years old, and a wife, 56 years old.

Year	Annual distribution ($)	Year	Annual distribution ($)
1996	0	2002	63,061
1997	60,000	2003	63,691
1998	60,600	2004	64,328
1999	61,206	2005	64,971
2000	61,818	2006	65,621
2001	62,436		

The family's net wealth comparing the charitable remainder trust contribution to their position without the CRT contribution can be made using the above information. The present value of after-tax income for each alternative is compared using a marginal analysis. Assuming the family has other sources of income, the alternatives were first weighed using a 33 percent (28 percent federal plus 5 percent state) capital gains rate and a 41 percent (36 percent federal plus 5 percent state) ordinary income tax rate. The 5 percent state income tax rate represents the adjusted rate for deductibility against federal income taxes. Unfortunately, the marginal income tax rates were generalized for illustrative purposes. Without an accurate yearly income, with and without the CRT, a precise analysis is prohibited. Even with a known yearly income, inflation will cause the effective tax rates to be variable.

Using a 7.6 percent discount rate, the family income in year 0 for the charitable remainder trust contribution equated to $626,000, in real terms. A 2 percent inflation rate, based on the PPI for total finished goods from 1985 to 1995, was used to deflate the CRT payments into real terms (Council of Economic Advisors 1996). Additionally, the charitable deduction limitation was linked solely the nominal CRT payments and the yearly timber harvest of $53,313, which was adjusted for the 2 percent inflation. Only

$213,787 of the charitable deduction was allowed. Realistically, the full charitable deduction would be allowed in only a few years if the family's income was taxed at the 41 and 33 percent tax rates. The alternative, retaining the yearly timber income of $123,573 equated to $649,000 in year 0. The family gave up $23,000 of wealth based on the previous assumptions. In reality, the family's wealth decreased even further since the stock appreciation was not included in the calculation.

In order to give a more accurate comparison, assume the family's only income is derived from the yearly timber harvest (which includes thinning revenues) and/or the annual charitable remainder trust payment. An average tax rate of approximately 25 percent for both ordinary and capital gain income is assumed. These rates are based upon the average tax rate experienced for a married family with $130,000 of income in 1995, plus a 3 percent increase for state income taxes. Even if 50 percent of the income is ordinary income, the average tax rate would not change. Similarly, a $40,000 allowable charitable deduction reduces the average tax rate to 18 percent, which is used for the after-tax income calculations when the deduction is allowed for the CRT alternative. The full $218,000 charitable income tax deduction will be allowed because the charitable deductions can be carried over for 5 years if current income, subject to IRS limitations, will not absorb all of the deduction in the current tax year.

This time, the CRT was slightly favored. The family's wealth is $729,000 with the CRT and $726,000 without the CRT. The family's wealth increases by $3,330 with the CRT, however, the loss of stock appreciation would certainly outweigh this difference and not favor the CRT. For longer time periods, the CRT would become less attractive since the real income is decreasing and an additional charitable deduction is not allowed.

Another option that is frequently associated with charitable remainder trusts is to leverage the tax savings into a life insurance policy. The tax savings, $218,000, can be used to

buy second to die life insurance. As long as this life insurance is placed into an irrevocable life insurance trust, the face value will not be included in the surviving spouse's estate. Each year, $30,000 can be transferred into the life insurance trust, tax-free, as long as the 3 children are beneficiaries. Approximately $17,000 per year will buy a whole life, second to die, insurance policy with a $1 million face value. If the life insurance earns 8 percent, the policy will carry itself after 14 years.

Death tax consequences

The income tax effects may favor the charitable remainder trust, however, the death tax consequences are quite significant. Two hypothetical cases have been developed to compare and contrast planning with and without the CRT based upon the previous $3.5 million gross estate examples. In the first case, no contributions to a CRT have been made, but both of the life insurance policies have been removed from the family's estate in a gifting program implemented 6 years prior to death. As previously noted, the estates have used basic planning techniques in order to equalize the estate between the husband and wife and ensure the unified transfer credit is transferred to the children at the first death while shielding the remaining assets from tax under the marital deduction. At the first death, the stock is transfer to the children along with a 10.9 percent interest in a limited partnership which holds all the timber assets. The husband's interest in the personal residence is transferred to the wife and all expenses reduce the value of the residence.

The removal of the life insurance reduces the present value of the estate tax burden to 9.4 percent of the original gross estate (Table 8-5). No death taxes are experienced at the first death for any of the three states, due to effective implementation of the basic planning techniques. As experienced previously, the death tax burden, attributed to tax at the second death, is the same for all of the selected Western states. The tax burden is $330,000 which is $147,000 less than the tax experienced in case 1.

Table 8-5. Case 3: Death tax calculations with a gifting program designed to remove the life insurance from hypothetical family's $3.5 million gross estate in selected Western states after a basic estate planning.

State:	Tax payable at 1st death			Tax payable at 2nd death			PV of tax payable (7.6%)		
	Federal ($)	State ($)	Total ($)	Federal ($)	State ($)	Total ($)	Federal ($)	State ($)	Total ($)
California	0	0	0	571,200	114,800	686,000	274,578	55,185	329,763
Montana	0	0	0	571,200	114,800	686,000	274,578	55,185	329,763
Oregon	0	0	0	571,200	114,800	686,000	274,578	55,185	329,763

In the final case, $1,000,000 of timber and stock are transferred into a charitable remainder trust as previously illustrated. The life insurance is removed from the estate with a gifting program started 6 years prior to death. The estates are equalized and a limited partnership is formed holding the remaining timber assets. The husband and wife are equal partners and the husband owns the stock and 19.6 percent of the house. The wife owns the remaining 80.4 percent of the house. This unusual arrangement may not be practical, especially in community property states, but it was permitted here to facilitate the calculations according to the assumed conditions. All asset in excess of the $600,000 exclusion equivalent are transferred to the surviving spouse, at the first death. All of the stock and 28.9 percent of the limited partnership are transferred to the children at the first death. The debt and expenses are deducted from the wife's portion of the value of the residence. The husband's interest in the residence is transferred to the wife.

Assuming that the husband dies in the same year as the charitable remainder trust is formed, the gross estate is reduced to $1,950,722. No tax is due at the first death in any of the three states because of the basic plan. Since the timber continuity was disrupted by the CRT, the timber assets increase in value by $76,499 in 10 years. The gross estate grows to $1,355,096, at the second death, because 71.1 percent of the timber assets are

owned by the wife. This corresponds to a present value tax burden of $134,000 in each of the three states. The tax burden is only 3.8 percent of the original gross estate. The CRT and gifting program saves more than $196,000 than the same gifting program without the CRT, in present value terms.

Table 8-6. Case 4: Death tax calculations with a charitable remainder trust and a gifting program for a hypothetical family with a $3.5 million gross estate in selected Western states.

State:	Tax payable at 1st death			Tax payable at 2nd death			PV of tax payable (7.6%)		
	Federal ($)	State ($)	Total ($)	Federal ($)	State ($)	Total ($)	Federal ($)	State ($)	Total ($)
California	0	0	0	227,265	51,926	279,191	109,247	24,961	134,208
Montana	0	0	0	227,265	51,926	279,191	109,247	24,961	134,208
Oregon	0	0	0	227,265	51,926	279,191	109,247	24,961	134,208

The gifting and charitable remainder unitrust did not reduce the death tax burden as much as the combination program (case 2), which also included IRC § 2032A and minority discounts. In this case, however, the estate may still qualify for special use valuation and/or deferral and extension of installment payments. These provisions can further reduce the tax burden. However, careful planning is required before death to ensure the estate will meet the qualifications for the various estate planning techniques.

The income tax deduction may or may not favor a charitable remainder trust donation. However, the death tax reductions due to a CRT are quite significant. The favorable death tax outcomes can easily make up for a small income tax discrepancy. Additionally, life insurance, which can be transferred estate tax-free in a ILIT, may be purchased to recapture the reduced estate value resulting from the contribution. Certainly, for landowners who wish to donate to charities, the CRT should be seriously considered.

The impact on forest continuity, however, can be severely impacted by a CRT contribution, so the landowner must weigh all of the considerations.

CHAPTER 9

Miscellaneous Death Tax Considerations

Planning for death taxes should include several considerations which were not previously addressed. The impact of inflation can have a significant impact on the death tax burden, especially because the unified transfer credit and tax rates are not indexed for inflation. The tax burden in the previous hypothetical examples was very specific to the assumptions. Discount rates and the time between a husband's and wife's death can have a substantial impact on the tax burden. Although the deferral of the tax associated with an asset was emphasized under the marital deduction, some assets will have a smaller present value tax burden if they are taxed at the first death. Under IRC § 2013 of the Internal Revenue Code, a credit may be allowed for the estate taxes paid on a previously taxed transfer. Additionally, the unique ownership rules in community property states can have an impact on estate planning.

Inflationary effects on the estate tax burden

Even estates that benefit from the basic and advanced planning techniques may find death taxes burdening due to the effects of inflation. Higher tax rates are imposed at higher gross estate levels. Therefore, a higher tax burden is experienced for property values that increase solely due to inflation. Because the tax rate schedule is not adjusted for inflation, it acts as an implicit tax increase. As a result, the tax burden can increase due to inflation, but fortunately the inflationary rate of increase is currently low.

The effects of inflation are shown by allowing the assets in the previously discussed $3.5 million hypothetical examples to inflate between the first and second death of the parents. The deaths are separated by a ten year interval. The wife's living expenses, as the

surviving spouse, were assumed to offset the real growth in the estate assets. North Carolina, Virginia and Mississippi are the selected Southern states used for this illustration.

This example follows the basic plan which consisted of the equalization of the estates between spouses, utilization of the unified transfer credit, and the deferral of tax under the marital deduction. The assets were identical to the $3.5 million gross estate in the previous hypothetical examples (Chapter 6). However, $350,000 of the husband's life insurance and $250,000 of the stock were specifically transferred to the children under the unified transfer credit, at the first death. The remaining $50,000 of the husband's life insurance was used to cover the husband's debt, funeral and administrative expenses.

The residual estate assets were subjected to a constant inflation rate. The $30,000 of debt and the $200,000 of the wife's life insurance were held constant since they are unaffected by inflationary increases. For this example, inflation rates of 2 and 3 percent were used. The gross estate at the second death grew from $2,850,000 to $3,430,000 and $3,761,000 with an inflation rate of 2 and 3 percent, respectively.

The total tax burden increased significantly even with the conservative 2 percent inflation rate (Table 9-1). The tax payable at the second death increased by $313,000, solely due to inflation, and the total present value of the tax burden increased by $150,000. A one percentage point increase in the inflation rate from 2 to 3 percent translates into an additional $181,000 in taxes at the second death, and an $87,000 increase in the present value tax burden.

Inflation has a profound impact on the tax associated with the estate. The higher gross estate level, due to inflation, subjects the estate valuation to a higher absolute tax, even if the highest marginal tax rate was constant. Inflation also has an additional effect of

further increasing the estate's total tax burden through what is the "so-called bracket creep." Because the unified transfer credit is cumulative, a higher gross estate will increase the marginal tax rates. Although estate planning should include inflation, the previous planning techniques will reduce the tax burden whether or not inflation is considered.

Table 9-1. Death tax calculations for a hypothetical family with a $3.5 million gross estate in the South when inflation is included.

State:	Total tax payable at 1st death ($)	Total tax payable at 2nd death ($)	Total PV of tax payable at 7.6% ($)
Basic estate plan:			
Without Inflation:			
North Carolina	0	992,000	476,858
Virginia	0	992,000	476,858
Mississippi	0	992,000	476,858
Inflation equal to 2 percent:			
North Carolina	0	1,304,775	627,210
Virginia	0	1,304,775	627,210
Mississippi	0	1,304,775	627,210
Inflation equal to 3 percent:			
North Carolina	0	1,485,475	714,073
Virginia	0	1,485,475	714,073
Mississippi	0	1,485,475	714,073

Discount rate sensitivity

The tax burden, for all the hypothetical examples, was calculated using a 7.6 percent discount rate, based upon 120 percent of the federal mid-term interest rate for valuations of gifts and estates. Although the 7.6 percent is a current rate (including inflation), a 7.6 real discount rate is not unreasonable, especially if risk is included in the interest rate. Federal Landbank loans can be as high as 10 percent, which is similar to the real 7.6 percent interest rate. Additionally, the one-thinning forest management regime, outlined

in Chapter 5, had an IRR of 8.58 percent.

The tax burden was represented as an absolute number in order to equate the taxes incurred in two different years. Although the discount rate will affect the importance of the second death on the tax burden, comparisons between alternatives, that defer all taxes until the second death, will not change in relative terms. However, the value of the tax burdens are very sensitive to the discount rate and the period between deaths.

A higher discount rate will reduce the present value of the tax burden as long as all other assumptions are held constant and the same tax is experienced. This tends to favor the deferral of taxable assets until the second death. Correspondingly, a lower interest rate will increase the total tax burden, and it favors the taxation of assets at the first death. A longer time period expected between deaths lowers the tax burden, and a shorter period increases the tax burden. This may affect the relative ranking of the limited planning techniques. However, it usually has a minimal effect on limited versus basic planning techniques. Remember, however, that deferral of tax allows additional planning and tax saving opportunities that could not be quantified. The impact of the discount rate and interval between deaths also has a bearing on the timing of an asset's transfer, as discussed below.

Taxable transfers at the first death

In some instances, the lowest combined death tax burden may be experienced by transferring taxable assets at the first death instead of following the basic plan. Any asset that is taxed at the first death, instead of deferring it under the marital deduction, reduces the surviving spouse's tax corresponding to the marginal tax rate on his/her estate. This premature transfer would be preferred, if the asset in question is appreciating in value at an average rate greater than the difference between the marginal tax rate at the first

death and the marginal tax rate at the second death, after discounting. Additionally, the second tax rate will be affected by the discount rate and the time between deaths. The lower the discount rate, the shorter the period between deaths, the greater the difference between tax rates at the first and second death, and the greater the appreciation of the asset, the more likely an asset will be beneficially transferred at the first death.

To illustrate this concept, consider a $100 asset that is transferred in year 0. As long as the unified transfer credit is fully used, the marginal tax rate is 37 percent and the current tax is $37 (case 1, Table 9-2). If this asset grew to $150 in 10 years and the surviving spouse in the 37 percent bracket, the tax in 10 years is 55.5 dollars. The $55.5 tax corresponds to a present value tax of $27 at a 7.6 percent discount rate. The asset should be transferred at the second death.

Now assume the $100 asset is always transferred, tax-free, to the wife at the first death. If the surviving spouse is in the 55 percent tax bracket (case 2), the present value tax burden of the asset is $40. Similarly, if the asset grows to $250 in the 37 percent bracket, the present value is $45 (case 3). Again assuming the asset grows to $150 and the deaths are separated by 10 years, a 4 percent discount rate would render a tax burden of 38 dollars (case 4). The $150 asset at a 7.6 percent discount rate separated by 5 years has a $39 tax burden (case 5).

Assuming the asset was valued at $100 at the first death, a transfer just above the unified transfer credit, at 37 percent, would cost $37 in year 0. In each case (case 2 through case 5) the present value tax burden experienced from deferring the tax on the asset until the second death would be more expensive than transferring the asset in year 0.

Note, however, that this analysis has did not include the impact of income taxes. The higher value of the asset, experienced at the second death would increase the asset's

basis. The lower basis, from a transfer at the first death, would be subject to more income taxes.

Table 9-2. Illustration of the optimal transfer timing for a $100 asset.

Initial assumptions:

--The unified transfer credit of $600,000 is used in each death without the asset.

--Asset value in year 0 = $100
--Tax burden of taxable transfer in year 0 = $100(.37) = $37.0

Case	Asset value @ 2nd death ($)	Marginal tax rate (%)	Discount rate (%)	years between deaths (#)	Present value of tax burden ($)	Recommended transfer occurs at:
1.	150	37	7.6	10	26.7	2nd death
2.	150	55	7.6	10	39.7	1st death
3.	250	37	7.6	10	44.5	1st death
4.	150	37	4	10	37.5	1st death
5.	150	37	7.6	5	38.5	1st death

For example, consider the same $100 asset. Following case 3, the asset is valued at $250 at the second death, and would have a present value tax of $44.5 assuming the deaths are separated by 10 years, the asset is in the 37 percent marginal tax bracket at the second death, and a 7.6 percent discount rate is used. Now assume the asset is subject to income tax in year 10. No income tax is experienced on the asset if it is transferred after the second death. The death tax burden is $92.5 in year 10, so the asset is worth $157.5 ($250 - $92.5). When this is discounted to year 0, the asset is worth 75.7 dollars.

If the asset was transferred at the first death and grew to $250 in year 10, $150 dollars ($250 - $100 basis) would be subject to income tax. Assuming a 28 percent income tax rate, the asset's value is reduced by $42.0 of income tax. Remember, the $37 from the death tax paid in year 0 must be subtracted in year 10 terms. Therefore, the tax burden

is increased to 77.0 dollars at 7.6 percent interest. The asset is worth now worth $131 ($250 - $42 - $77) after the income and death taxes have been paid, in year 10. The discounted present value of the asset is worth $63 in year 0. In this case ($75.7 > $63), the asset should be transferred at the second death, if income tax consequences are considered. In fact, the asset value must be greater than $544.44 by year 10, when considering a 28 percent marginal income tax rate, in order for the transfer to be optimal at the first death, following the assumptions outlined in case 3.

As with asset appreciation, state death taxes may affect the timing of the financially optimal transfer. If a state tax is experienced when $600,000 of assets are transferred under the unified transfer credit, the tax burden may not be minimized. In such cases, the cost of deferring some of the unified transfer credit must outweigh the increased tax burden experienced at the second death. The state tax rate at the first death must be greater than the increased federal and state tax rates at the second death, as reduced by the discount rate. Once again, the tax rates, discount rate, and the time between deaths will affect the decision.

Credit for prior transfers

For the hypothetical cases, husbands were assumed to be 3 years older than their wives, who had a 7 year longer life expectancy, thus an initial death transfer occurred in year 0 followed by a 10 year interval. Although this time difference was loosely based on family statistics, many husbands and wives die within 10 years of one another. When two death transfers occur within a 10 year period, the federal tax code allows a credit for the tax on prior transfers (IRC § 2013). Generally, a 100 percent credit is allowed for taxable transfers, that were previously subject to the estate tax, within a 2 year period. After two years, the credit is reduced by 20 percent in 2 year increments. Therefore, a 20 percent credit is allowed within 9 or 10 years and no credit is allowed

after 10 years. All piggy-back states allow this provision to flow thorough to the state level, but other states may handle consecutive deaths quite differently.

This provision may substantially affect the total tax burden, when a non-spousal heir dies within 10 years of the decedent. The planning techniques, however, would still be effective in relative terms, because this provision has no effect in the previous hypothetical examples where the basic plan eliminated the federal tax at the first death.

Community property states

One final consideration deals with the community property states. Although forms of ownership are unique in many states, community property states are substantially different from the other states.

There are nine community property states: Wisconsin, Louisiana, Texas, Arizona, California, Idaho, Nevada, New Mexico, and Washington. In these states, one-half of the earnings and property of each spouse is considered to be owned by the each spouse, except for gifts and inheritances that are not commingled (Black 1990). However, the specific state laws of intestate succession will determine exactly how the decedent's one-half interest is distributed. In the case where all of the decedent's interest is transferred to the children, a lower tax is experienced, relative to other states, since a large portion is already owned by the surviving spouse.

The community property laws have effectively equalized the estates between the husband and wife. This effectively accomplishes one of the basic planning techniques, but may cause other problems if each asset is owned jointly. Many assets need to be separated between the husband and wife for liquidity reasons, even if the respective estates are equal. One-half ownership in every asset precludes selective ownership.

CHAPTER 10

Conclusion

Forestry assets are unique because of their long-term investment periods and timber, which acts as both capital and income. Planning for such assets calls for special care. Fortunately, the financial optima for forest investments permits flexibility for management decisions. A decision window allows harvesting of timber within plus or minus 5 years of the optimal harvest age, with minimal sacrifice of potential financial returns on the timber revenue. Other considerations, such as market trends, liquidity, and personal needs will dictate exactly when the timber should be harvested. Estate planners must thoroughly understand the factors that drive a forestry asset in order to effectively plan forested estates.

The federal tax code imposes an excise tax on all lifetime or testamentary asset transfers. The code, however, is quite complex and requires a thorough knowledge of federal provisions in order to plan properly for estate transfers. The unified federal estate and gift taxes are only part of the transfer taxes experienced at death. Each state imposes a transfer tax to ensure the state collects money when a resident dies. The state death taxes, which are sometimes overlooked in planning, often vary from the federal estate tax. All together, 29 states impose a piggy-back death tax system, 5 states impose a separate estate tax, and 16 impose an inheritance tax. Unfortunately, the estate and inheritance tax states may impose unique provisions that prevent effective federal planning from passing to the state level. Even the piggy-back states, which are designed to follow the federal provisions, may vary from the federal provisions. The piggy-back states especially vary from the federal in terms of the interest rates charged on extended or installment payments. A clear understanding of all the state provisions is necessary to ensure effective estate planning.

A substantial tax savings occurs by applying basic estate planning. This involves a will that not only ensures the proper distribution of assets, but also allows for the equalization of the estate between the husband and wife, the maximization of the unified transfer credit and the deferral of tax under the marital deduction. For an unplanned estate, the individual state laws dictate asset distribution within each state. Examples from the Southern region illustrate the severe penalties of using limited planning techniques on an estate. An average present value total tax burden of 21 percent of the $3.5 million gross estate is experienced with intestate succession. The lowest tax burden, using basic planning techniques, is 14 percent of the $3.5 million gross estate when following the basic plan. A high tax burden may be experienced if the basic plan is used, when the taxable estate exceeds $1.2 million.

Generally, the time value of money encourages the deferral of tax under the marital deduction, in order to produce the lowest tax burden. Deferral, under the marital deduction, also permits additional time for planning. Using basic planning, a properly drawn will can distribute $1.2 million of taxable estate value without federal estate tax due to the unified transfer credit and marital deduction. Most of the time a state tax is not experienced, but many states do tax transfers below $600,000.

Examples from the Southern region show the impacts of the limited and basic planning techniques on the management continuity of the forestry assets. The reduction of death taxes may reduce disruptions in forest continuity, with careful planning. The choice of assets that are distributed under the unified transfer credit, at the first death, have a primary impact on forest continuity. The second estate must have sufficient liquid asset, other than forested assets, to pay death taxes. Due to potential disruptions in management continuity by tax reducing planning techniques, forest estate planning requires additional considerations.

Although basic planning techniques significantly reduce the death tax burdens, approximately $1,000,000 in taxes are due at the second death for heirs to a hypothetical $3.5 million gross estate in all of the regions. Life insurance covers some of this tax, but timber may need to be harvested in order to pay the full tax burden.

The proper utilization of special forestry provisions (i.e., gifting, special use valuation, deferral and extension of installment payments, and minority discounts), as illustrated by hypothetical examples, can greatly reduce the death tax burden on a forested estate. The investment in estate planning permits the relatively small tax burden to be paid with available resources, in the advanced cases. When used jointly, the special forestry provisions were able to reduce the present value death tax burden to approximately 2.6 percent of the $3.5 original gross estate. Not all forested estates, however, have the marketable timber resources to completely cover estate taxes, and excessively heavy or premature harvesting may result in severe disruptions in management continuity.

The special forestry provisions were enacted to help reduce death tax burdens, but relatively few estates benefit because the federal rules are restrictive, and in many states they are prohibited. For estates that do benefit from the special provisions the death taxes may be especially burdening, because of inflation. The inflationary increase of the estate's value will cause the estate tax to rise even within a tax bracket. The progressive nature of the rates, however, allow a relative tax burden increase due to "bracket creep."

In the hypothetical examples, some simplifying assumptions were made in order to show the effects of the special provisions. Realistically, many estates are not able to meet the pre- and post-death qualifications for special use valuation, deferral and extension, and/or minority discounts. For example, the estates may lack enough forested assets, or the families may be unable to manage their forestry operations as active, closely-held businesses. As a result, tax burdens may be heavy and may force the premature

harvesting of forestry assets.

Conservation easement donations offer an alternative to forest landowners. For estates with developmental pressures, death taxes may be very high if some of the special forestry provisions are not used, or perhaps not allowed. Landowners, who wish to retain their land as forest land in perpetuity, may sell or donate a conservation easement. A conservation easement donation may eliminate the high estate values caused by developmental pressures. If the developmental pressures are removed with an easement, the landowner benefits from a considerable reduction in the death tax burden, and he/she gets an income tax deduction, if a charitable donation is made during the decedent's lifetime. The hypothetical example that incorporated a gifting program and a conservation easement donation reduced the average present value tax burden below 6 percent of the original $3.5 million gross estate.

Another alternative available to families with a charitable intent is the use of the charitable remainder trust (CRT). The CRT has the distinct advantage of significantly reducing the death tax burden as well as offering a charitable income tax deduction. Although the income tax implications are inconclusive, they are not likely to be outweighed by the CRT's death tax advantages. A hypothetical example that incorporated a gifting program and a CRT was able to reduce the average present value tax burden to 3.8 percent of the original $3.5 million gross estate. Additionally, savings from the income tax deduction can be used to purchase second to die life insurance within an irrevocable life insurance trust. There is a cost for this savings, however, the donated forested assets can have a severe impact on forest continuity. A careful analysis of all the relevant factors is essential.

Effective planning for forest landowners requires more that simply writing a will. The basic planning techniques protect $1.2 million, on the federal level, for the family. More

importantly, however, it defers the tax to allow for additional planning. For large estates, special forestry provisions can significantly ease the financial burden imposed by death taxes, but careful planning is necessary to avoid disruptions in forest management efficiency and continuity. A considerable amount of tax can be deferred or eliminated by using an aggressive combination of gifting, special use valuation, deferral and extension, and minority discounts. Although the price of tax savings sometimes causes the loss of control, quite a bit of savings can be achieved by diffusing control with a limited partnership or other forms of organization. The qualifications for these special provisions are very restrictive and require careful planning to meet landowner objectives while avoiding severe financial burdens.

Many of the federal estate and gift tax saving provisions do not flow through to the states as illustrated by the hypothetical case examples from each region. Thus, effective estate planning on the federal level does not always assure satisfactory results on the state level. Estate planning should be done with a thorough knowledge of both federal and state death and gift tax laws as alternative courses of action are analyzed. Of course, both state and federal provisions are subject to change so they must be monitored. Estate planning is a continual process, which must be kept up to date to achieve the family's goals as the economy, tax law and family situation evolve.

Planning, prior to death, ensures that heirs receive assets according to the decedent's wishes and other goals of the decedent are meet satisfactorily. Forest management and family financial security can only be guaranteed if the landowner considers and plans for all of the relevant factors prior to death. Additionally, the decedent can be rewarded with a substantial tax savings while maintaining his/her goals.

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APPENDIX A: LETTER TO STATE REVENUE DEPARTMENTS

June 15, 1995

FIELD(Name)
FIELD(add1)
FIELD(add2)
FIELD(city), **FIELD**(st) **FIELD**(zip)

SUBJECT: Estate and Gift Taxes

Dear **FIELD**(contact):

I am working on a cooperative research project between the Department of Forestry, Virginia Polytechnic Institute and State University and the USDA Forest Service, Southern Research Station. The project will analyze the impact of state gift and death tax transfers on forested estates. It will cover how **FIELD**(state) taxes the lifetime and/or death transfers of forest lands in terms of the basic death and gift tax statutes, special use valuation, deferral and extension of tax payments, forms of business ownership, and other special forestry provisions. The objective is to discover what estate planning techniques are effective in **FIELD**(state) in order to preserve forest sustainability and continuity of management. A comparison of state provisions and death tax impacts among the states will be prepared.

Please send a copy of **FIELD**(state)'s current statutes and regulations on death and gift taxes, special use valuations, deferral and extension of tax payments, and the treatment of different forms of business ownership. Please include all applicable forms necessary to file a complete gift or death tax return for a forested estate. If there is pending legislation on death and gift taxes or any special taxes related to forestry, please advise us of them.

The project's results will form the basis of my Master of Science thesis. The principal investigators on the project are Dr. Harry Haney for Virginia Tech and Dr. John Green for the USDA Forest Service. If you have any questions regarding this request or the overall project, please call me or Dr. Haney at (703) 231-5212. If you would like a copy of the final results or publications form this work, please indicate on the enclosed form.

Thank you for your cooperation.

Sincerely yours,

Daniel M. Peters,
Graduate Research Assistant

Enclosure

FIELD(st)

FIELD(contact)

I would like a copy of the final results on the Impact of State Death Tax Transfers on Forest Landowners:

YES _____ NO _____

Name _____

Address _____

Address _____

City _____ State _____

Zip Code _____

Telephone _____ Extension _____

**Please return this completed form with the requested information.

Thank you for your cooperation.

APPENDIX B: THE FEDERAL ESTATE AND GIFT TAX RATES UNDER §2001 OF THE INTERNAL REVENUE CODE

Taxable estate[1]		Tenative tax before the Unified Transfer Credit		
Over ($)	but not over ($)	Percent rate times (%)	the amount over ($)	Plus ($)
0	10,000	18	0	0
10,000	20,000	20	10,000	1,800
20,000	40,000	22	20,000	3,800
40,000	60,000	24	40,000	8,200
60,000	80,000	26	60,000	13,000
80,000	100,000	28	80,000	18,200
100,000	150,000	30	100,000	23,800
150,000	250,000	32	150,000	38,800
250,000	500,000	34	250,000	70,800
500,000	750,000	37	500,000	155,800
750,000	1,000,000	39	750,000	248,300
1,000,000	1,250,000	41	1,000,000	345,800
1,250,000	1,500,000	43	1,250,000	448,300
1,500,000	2,000,000	45	1,500,000	555,800
2,000,000	2,500,000	49	2,000,000	780,800
2,500,000	3,000,000	53	2,500,000	1,025,800
3,000,000	----------	55	3,000,000	1,290,800

[1] The tentative tax is increased by 5 percent of the amount that exceeds $10,000,000 but does not exceed $21,040,000.

APPENDIX C: THE FEDERAL ESTATE AND GIFT TAXES

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-Part IV-Taxable Estate

§2051. Definition of taxable estate
§2053. Expenses, indebtedness, and taxes
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§2204. Discharge of fiduciary from personal liability
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§2207A. Right of recovery in the case of certain marital deduction property
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§2208. Certain residents of possessions considered citizens of the United States
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IRC CHAPTER 12-GIFT TAX

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§2515. Treatment of generation-skipping transfer tax
§2516. Certain property settlements
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SUBCHAPTER C-DEDUCTIONS

§2522. Charitable and similar gifts
§2523. Gift to spouse
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IRC CHAPTER 13-TAX ON GENERATION-SKIPPING TRANSFERS

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§2602. Amount of tax
§2603. Liability for tax
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SUBCHAPTER B-GENERATION-SKIPPING TRANSFERS

§2611. Generation-skipping transfer defined
§2612. Taxable termination; taxable distribution; direct skip
§2613. Skip person and non-skip person defined

SUBCHAPTER C-TAXABLE AMOUNT

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§2662. Return requirements
§2663. Regulations

IRC CHAPTER 14-SPECIAL VALUATION RULES

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§2703. Certain rights and restrictions disregarded
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HIGHLIGHTS OF SUBTITLE F. PROCEDURE AND ADMINISTRATION

IRC CHAPTER 61-INFORMATION AND RETURNS

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§6001. Notice or regulations requiring records, statements and special returns

-Part II-Tax Returns or Statements
--Subpart A-General Requirement
§6011. General requirement of return, statement, or list

--Subpart B-Income Tax Returns

--Subpart C-Estate and Gift Tax Returns
§6018. Estate tax returns
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--Subpart D-Miscellaneous Provisions

§6020. Returns prepared for or executed by Secretary

§6021. Listing by Secretary of taxable objects owned by nonresidents of internal revenue districts

-Part III-Information Returns

--Subpart A-Information Concerning Persons Subject to Special Provisions

--Subpart B-Information Concerning Transactions with Other Persons

--Subpart C-Information Regarding Wages Paid Employees

--Subpart E-Registration of and Information Concerning Pension, Etc. Plans

--Subpart F-Information Concerning Income Tax Return Preparers

-Part IV-Signing and Verifying of Returns and Other Documents

-Part V-Time for Filing Return and Other Documents

§6071. Time for filing returns and other documents

§6075. Time for filing estate and gift tax returns

-Part VI-Extension of Time for Filing Returns

§6081. Extension for time for filing returns

-Part VII-Place for Filing Returns or Other Documents

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-Part VIII-Designation of Income Tax Payments to Presidential Election Campaign Fund

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IRC CHAPTER 63-ASSESSMENT

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§6202. Establishment by regulations of mode or time of assessment
§6203. Method of assessment
§6204. Supplemental assessments
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SUBCHAPTER B-DEFICIENCY PROCEDURES IN THE CASE OF INCOME, ESTATE, GIFT, AND CERTAIN EXCISE TAXES

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§6212. Notice of deficiency
§6213. Restrictions applicable to deficiencies; petition to Tax Court
§6214. Determinations by Tax Court
§6215. Assessment of deficiency found by Tax Court
§6216. Cross references

SUBCHAPTER C-TAX TREATMENT OF PARTNERSHIP ITEMS
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IRC CHAPTER 64-COLLECTION

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§6302. Mode or time of collection
§6303. Notice and demand for tax
§6305. Collection of certain liability

SUBCHAPTER B-RECEIPT OF PAYMENT

§6311. Payment by check or money order
§6313. Fractional parts of a cent
§6314. Receipt for taxes

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§6321. Lien for taxes
§6322. Period of lien
§6323. Validity and priority against certain persons
§6324. Special liens for estate and gift taxes
§6324A. Special lien for estate tax deferred under section 6166
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SUBCHAPTER A-LIMITATIONS ON ASSESSMENT AND COLLECTION
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SUBCHAPTER C-MITIGATION OF EFFECT OF PERIOD OF LIMITATIONS
SUBCHAPTER D-PERIODS OF LIMITATION IN JUDICIAL PROCEEDINGS

IRC CHAPTER 67-INTEREST

SUBCHAPTER A-INTEREST ON UNDERPAYMENTS

§6601. Interest on underpayment, nonpayment, or extensions of time for payment, of tax
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SUBCHAPTER B-INTEREST ON OVERPAYMENTS

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SUBCHAPTER C-DETERMINATION OF INTEREST RATE; COMPOUNDING OF INTEREST

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IRC CHAPTER 68-ADDITIONS TO THE TAX, ADDITIONAL AMOUNTS, AND ASSESSABLE PENALTIES

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-Part I-General Provisions

§6651. Failure to file tax return or to pay tax

§6652. Failure to file certain information returns, registrations statements, etc.

-Part II-Accuracy-Related and Fraud Penalties

§6662 Imposition of accuracy-related penalty

§6663 Imposition of fraud penalty

§6664 Definitions and special rules

-Part III-Applicable Rules

§6665 Applicable rules

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-Part I-General Provisions

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IRC CHAPTER 70-JEOPARDY, RECEIVERSHIPS, ETC

SUBCHAPTER A-JEOPARDY

-Part I-Termination of Taxable Year

-Part II-Jeopardy Assessments

§6861. Jeopardy assessments of income, estate, gift, and certain excise taxes

-Part III-Special Rule with Respect to Certain Cash

SUBCHAPTER B-RECEIVERSHIPS, ETC.

§6871. Claims for income, estate, gift, and certain excise taxes in receivership proceedings, etc.

§6872. Suspension of period on assessment

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IRC CHAPTER 71-TRANSFEREES AND FIDUCIARIES

APPENDIX D: THE FEDERAL MAXIMUM CREDIT FOR STATE DEATH TAXES UNDER §2011 OF THE INTERNAL REVENUE CODE

Adjusted taxable estate[1]		Maximum tax credit		
Over ($)	but not over ($)	Percent rate times (%)	the amount over ($)	Plus ($)
0	90,000	0.8	40,000	0
90,000	140,000	1.6	90,000	400
140,000	240,000	2.4	140,000	1,200
240,000	440,000	3.2	240,000	3,600
440,000	640,000	4.0	440,000	10,000
640,000	840,000	4.8	640,000	18,000
840,000	1,040,000	5.6	840,000	27,600
1,040,000	1,540,000	6.4	1,040,000	38,800
1,540,000	2,040,000	7.2	1,540,000	70,800
2,040,000	2,540,000	8.0	2,040,000	106,800
2,540,000	3,040,000	8.8	2,540,000	146,800
3,040,000	3,540,000	9.6	3,040,000	190,800
3,540,000	4,040,000	10.4	3,540,000	238,800
4,040,000	5,040,000	11.2	4,040,000	290,800
5,040,000	6,040,000	12.0	5,040,000	402,800
6,040,000	7,040,000	12.8	6,040,000	522,800
7,040,000	8,040,000	13.6	7,040,000	650,800
8,040,000	9,040,000	14.4	8,040,000	786,800
9,040,000	10,040,000	15.2	9,040,000	930,800
10,040,000	----------	16.0	10,040,000	1,082,800

[1] The adjusted taxable estate is the taxable estate minus $60,000

VITA

Daniel M. Peters was born in December of 1971. As the son of Martin Luther Peters, III and Quay McBrier Peters, he grew up in Fairfax County, Virginia. He graduated from South Lakes High School in 1990 and then enrolled at Virginia Polytechnic Institute and State University. In May of 1994, he graduated Summa Cum Laude with a B.S. degree in Forest Resource Management under the Business Option. He returned to Virginia Polytechnic Institute and State University in September of 1994 as a M.S. candidate in Forest Resource Management and Economics. In April of 1996, he was awarded the A.B. Massey award for graduate student excellence in the Department of Forestry.

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