

THE EFFECT OF THE ECONOMIC RECOVERY TAX ACT OF 1981 AND  
THE TAX EQUITY AND FISCAL RESPONSIBILITY ACT OF 1982  
ON THE FORM OF DISPOSITION BY INDIVIDUALS OF  
NONRESIDENTIAL REAL PROPERTY

By

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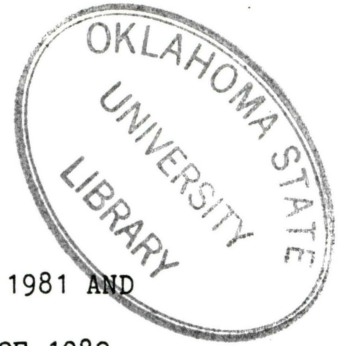
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Submitted to the Faculty of the Graduate College  
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in partial fulfillment of the requirements  
for the Degree of  
Doctor of Philosophy  
December, 1985

Thesis  
19850  
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## ACKNOWLEDGEMENTS

I want to express my sincere appreciation to the members of my dissertation committee, Dr. Dale E. Armstrong, Dr. Lawrence H. Hammer, Dr. P. Larry Claypool, and Dr. Michael R. Edgmand, for their guidance and assistance throughout my doctoral program at Oklahoma State University.

I also want to extend my thanks to the faculty and staff of Wichita State University for their continued interest in and support of my efforts.

The completion of a doctoral degree requires a strong commitment by the candidate's family. My family made that commitment. My children, Kevin, Michelle, Daniel, Christy, Dana, Michael and Jennifer, have been exceptionally understanding, helpful, encouraging and sacrificing so that I could accomplish this goal.

To my husband, Michael, I want to express a very special note of appreciation. His love, patience, understanding, encouragement, advice and suggestions have sustained me and enabled me to complete this study.



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## CHAPTER I

### INTRODUCTION

Individuals continually seek methods, within the tax law, which enable them to shield income from taxation and to defer the recognition of taxable income. The Internal Revenue Code contains several provisions which provide such taxpayers with the ability to achieve these objectives by acquiring, holding, and disposing of investments in real or depreciable property. First, the ownership of such property, other than land, provides the owner with depreciation deductions. In addition, if certain requirements are met, the owner may claim an investment credit on some types of property. Second, gain recognized on the subsequent disposition of the property, to the extent that such gain exceeds certain depreciation recapture, may be eligible for taxation at favorable capital gain rates. If, on the other hand, a loss is realized on the sale, the loss may qualify as a deduction from ordinary income. Third, in addition to capital gain treatment, the recognition of certain gains realized upon such sale may be deferred until the proceeds are collected by means of the installment sale provisions of the Internal Revenue Code. Fourth, the disposition of property, in a like-kind exchange, enables the investor to defer the recognition of any gain realized on the exchange until the newly acquired property is sold.

The disposition of investment property, when accompanied by the acquisition of similar property, requires a decision, by the taxpayer,

as to whether to sell the property currently owned and purchase similar property or, alternatively, to structure the transaction as a like-kind exchange. The form of disposition that is selected by the taxpayer may have a significant impact on the tax liability in the year of sale or exchange as well as on the tax liability for each year during which the property is held.

The sale alternative requires the taxpayer to recognize the gain realized on the sale of the property in the year of the sale and to pay the income tax associated with such gain. This alternative, however, does enable the taxpayer to use the full purchase price of the newly acquired property as that property's basis for the purposes of depreciation, investment credit, the expense election, and the reduction of gain on the subsequent disposition of the property. The use of the sale alternative may permit the taxpayer to defer the recognition of gain by means of the installment method provisions of the Internal Revenue Code.

The exchange alternative allows the taxpayer to dispose of property owned and to acquire similar property without recognizing an immediate gain if all conditions are met. The tax on the gain indicated in a like-kind exchange is deferred until the newly acquired property is disposed of in a sale or a nonqualifying exchange. This deferral, in effect, amounts to a tax-free loan from the government to the investor. In addition, if the investor continues to defer the gain until death, the unrealized gain will escape income taxation entirely because the property will pass to the heirs at its fair market value at date of death.

The exchange alternative is not without its disadvantages. The disadvantages arise from the requirement that the adjusted basis, rather than the fair market value, of the previously owned property be used in the determination of the basis (Table I) of the newly acquired property. The basis of the property acquired is also affected by the recognition of gain or loss (Table II) on the exchange, the assumption or relief of liabilities, or by nonqualifying property or cash given or received on the exchange. Due to the carry-over basis rule, property acquired by means of an exchange will usually have a smaller depreciable base than property acquired by purchase. Therefore, subsequent depreciation deductions will be smaller. Further, a realized loss on qualifying property is not recognized when a like-kind exchange occurs.

The acquisition of real estate normally includes the acquisition of land, building, and personal property (such as movable partitions, carpeting, drapery, office furniture, or display fixtures). An allocation of basis to the land, building, and personal property must be made on the basis of the relative fair market value of these components. The extent of the personal property acquired in conjunction with the acquisition of real property which may qualify for the expense election under Section 179 or for the investment tax credit (ITC) often depends upon the nature of the real property acquired (office building, warehouse, etc.). In addition, a significant portion of real property may represent Section 38 property (such as elevators; escalators; plumbing and electrical connections; and refrigeration, special air conditioning, and special heating needed for



TABLE I  
DETERMINATION OF BASIS OF PROPERTY RECEIVED  
UPON EXCHANGE OF LIKE-KIND PROPERTY

---

Basis of All Property Received:

1. Adjusted Basis of Qualifying Property Given
2. Brokerage Commissions Paid on Exchange
3. Adjusted Basis of Nonqualifying Property Given
4. Cash Given
5. Debt Attached to Property Received
6. Gain Recognized on Qualifying and Nonqualifying Property (Line 21 plus Line 24 from Table II)
7. Sum of Lines 1-6
  
8. Cash Received
9. Debt Attached to Property Given
10. Loss Recognized on Nonqualifying Property (Line 25 from Table II)
11. Sum of Lines 8-10
  
12. Basis of All Property Received (Line 7 less Line 11)

Basis of Nonqualifying Property Received:

13. Line 12, to the Extent of the Fair Market Value of Nonqualifying Property Received

Basis of Qualifying Property Received:

14. Line 12 less Line 13
-

TABLE II  
 DETERMINATION OF GAIN OR LOSS RECOGNIZED  
 UPON EXCHANGE OF LIKE-KIND PROPERTY

---

Realized Gain or Loss:

1. Fair Market Value of Qualifying Property Received
2. Fair Market Value of Nonqualifying Property Received
3. Cash Received
4. Debt Attached to Property Given
5. Total Consideration Received (Sum of Lines 1-4)
6. Adjusted Basis of All Property Given
7. Cash Given
8. Debt Attached to Property Received
9. Total Consideration Given (Sum of Lines 6-8)
10. Gain or (Loss) Realized (Line 5 less Line 9)

Boot Received:

11. Debt Attached to Property Given
12. Debt Attached to Property Received
13. Line 11 less Line 12  
If Line 13 is Negative, Enter Zero on Line 13
14. Cash Given
15. Fair Market Value of Nonqualifying Property Given
16. Total (Sum of Lines 14 & 15)
17. Line 13 less Line 16  
If Line 17 is Negative, Enter Zero on Line 17
18. Fair Market Value of Nonqualifying Property Received
19. Cash Received
20. Boot Received (Sum of Lines 17-19)

Gain or Loss Recognized:

Loss on Qualifying Property Is Not Recognized

Gain on Qualifying Property:

21. If Line 10 is a Gain, Enter Line 10 or Line 20, Whichever is Less  
If Line 10 is a Loss, Enter Zero on Line 21

Gain or Loss on Nonqualifying Property Given:

22. Fair Market Value of Nonqualifying Property Given
  23. Adjusted Basis of Nonqualifying Property Given
  24. Gain on Nonqualifying Property Given (Excess of Line 22 over Line 23)
  25. Loss on Nonqualifying Property Given (Excess of Line 23 over Line 22)
  26. Total Gain or Loss Recognized (Line 21 plus Line 24 minus Line 25)
-

manufacturing). The following table (Heath, 1979) typifies that portion of real property which may qualify as Section 38 property:

PERCENT OF TOTAL COSTS TYPICALLY  
QUALIFYING FOR INVESTMENT CREDIT TREATMENT

<u>TYPE OF BUILDING</u>	<u>MINIMUM PERCENT</u>	<u>MAXIMUM PERCENT</u>
Shopping Center	0 - 5%	5 - 10%
Office Building	0 - 10%	10 - 20%
Lt. Manufacturing Plant	0 - 20%	20 - 35%
Heavy Manufacturing Plant	0 - 30%	30 - 60%
Research Center	0 - 35%	35 - 70%
Processing Plant	0 - 40%	40 - 100%

The benefit of the ITC may be limited when the exchange alternative is used because the carry-over basis of property is not eligible for the investment credit when used property is acquired. However, to the extent that boot given is allocated to Section 38 property, the ITC is available. When new property is acquired in the exchange, the ITC is limited to the sum of the boot given and the carry-over basis which, usually, is less than the fair market value of the property. The Section 179 expense election does not apply to the carry-over basis of property. Thus, the benefit of the expense election is limited in the exchange alternative to the boot given.

For many years, investors and financial advisors have accepted the notion that the exchange alternative materially increases the tax benefits of real estate transactions. Little consideration has been given to the relative benefits of the sale alternative. The acceptance of the exchange as the preferred alternative has led to the development of firms which specialize in real estate exchanges. Real estate exchange groups have been formed in order to facilitate the like-kind exchange. These groups maintain local, regional, and national listing

services which exclusively list exchange properties. They also develop exchange techniques and promote the use of the exchange alternative.

#### Economic Recovery Tax Act of 1981

The Economic Recovery Tax Act (ERTA) of 1981 altered the Internal Revenue Code in a number of ways which directly affect the tax consequences which arise from the disposition of property. The specifics of the relevant provisions of the Tax Code are explained in Appendix A and are contrasted with prior law in Table III.

The ACRS provisions as enacted by ERTA enable real property to be recovered over a minimum of fifteen years. This recovery period is significantly less than the prior requirement that the depreciable basis of an asset be recovered over the estimated useful life of the asset. Under prior law, the guideline life of real property ranged from forty to sixty years. For recovery purposes, ERTA eliminated the distinction between new and used property, altered the depreciation recapture rules, increased the depreciable base of an asset by permitting recovery of salvage value, and eliminated component depreciation.

With respect to real property, ERTA provides that the carry-over basis of property acquired after December 31, 1980 in exchange for property acquired prior to January 1, 1981 may not be recovered under the provisions of the Accelerated Cost Recovery System (ACRS) whereas property purchased after December 31, 1980 may be recovered under the provisions of ACRS. This "anti-churning" provision could materially

TABLE III  
 COMPARISON OF PRE-ERTA TAX LAW TO POST-ERTA TAX LAW  
 AS IT AFFECTED NONRESIDENTIAL REAL PROPERTY

	<u>PRE-ERTA TAX LAW</u>	<u>POST-ERTA TAX LAW</u>
<u>Real Property</u>		
Depreciable Life		
Accelerated Recovery	40-60 years	15 years
Straight-Line Recovery	40-60 years	15, 35, or 45 yrs.
Maximum Recovery Method		
New Property	150% DB	175% DB
Used Property	Straight-Line	175% DB
Recapture of Depreciation		
Accelerated Recovery	Excess Depreciation	All Recovery Taken
Straight-Line Recovery	None	None
Depreciable Base	Basis less Salvage	Basis less 100% of 15% & 20% Qualified Rehab Expenditures
Component Depreciation	Allowed	Not Allowed
<u>Personal Property</u>		
Depreciable Life		
3-year Property		
Accelerated Recovery	4 years or less	3 years
Straight-Line	4 years or less	3, 5, or 12 yrs.
5-year Property		
Accelerated Recovery	Over 4 years	5 years
Straight-Line Recovery	Over 4 years	5, 12, or 25 yrs.
10-year Property		
Accelerated Recovery	More than 18, less	10 years
Straight-Line Recovery	than 26 years.	10, 25, or 35 yrs.
15-year Property		
Accelerated Recovery	More than 25 yrs.	15 years
Straight-Line Recovery	More than 25 yrs.	15, 35, or 45 yrs.
Maximum Recovery Method		
New Property	200% DB	150% DB (175% in 1985) (200% after 1985)
Used Property	150% DB	150% DB (175% in 1985) (200% after 1985)
Recapture of Depreciation	All Recovery Taken	All Recovery Taken
Depreciable Base	Basis less Salvage	Basis

TABLE III (CONTINUED)

	<u>PRE-ERTA TAX LAW</u>	<u>POST-ERTA TAX LAW</u>
<u>Maximum Tax Rates</u>		
Regular Income	70%	50%
Capital Gains	28%	20%
<u>Maximum Alternative Minimum Tax Rate</u>		
	25%	20%
<u>Investment Tax Credit</u>		
Used Property Limitation	\$100,000	\$125,000 (1981-1984) \$150,000 (After 1984)
Carry-over	7 years	15 years
Qualified Rehabilitation Expenditures	10%	15% - 30-yr Building 20% - 40-yr Building 25% - Certified Historic Structure
<u>Qualified Investment Percentage</u>		
Useful Life:		
3 yrs or more, less than 5 yrs	33 1/3%	
5 yrs or more, less than 7 yrs	66 2/3%	
7 yrs or more	100%	
Recovery Property:		
3 yrs		60%
5 yrs, 10 yrs, or 15 yrs		100%
<u>Section 179</u>	Additional First Year Depreciation	Election to Expense

reduce the relative benefit of the exchange alternative for such property.

Basis must be allocated between land, real property, and personal property. Table III summarizes the changes to personal property that could affect the form of disposition of real property. In general, with respect to personal property, ERTA shortened recovery lives and increased the depreciable base of assets by permitting recovery of salvage value.

The reduction in the maximum tax rate on taxable income from 70% to 50% reduced the tax imposed on the gain which is recognized when the sale alternative is utilized. This change in the tax rate structure lowered the effective maximum tax rate on long-term capital gains from 28% to 20%.

The reduction in the maximum alternative minimum tax rate from 25% to 20% reduced the tax imposed on the long-term capital gain deduction and the excess adjusted itemized deductions. Thus, the burden imposed on the taxpayer if the alternative minimum tax is imposed on the sale of property has been reduced.

The investment credit modification of ERTA altered the computation of the credit by changing the percentage used in the computation of qualified investment so that the investment credit would be compatible with the cost recovery periods specified by ACRS. ERTA also replaced the 10% credit for qualified rehabilitation expenditures with a 15% credit for those qualified rehabilitation expenditures associated with 30-year old buildings, a 20% credit for those associated with 40-year old buildings, and a 25% credit for those associated with certified historic structures. A basis adjustment was required for those credits

claimed for rehabilitation expenditures associated with 30-year and 40-year old buildings. In addition, the limitation on the cost of used property eligible for the credit was increased by the Act. This feature of the law increased the benefit of the sale alternative by increasing the amount of credit that the taxpayer might claim on the purchase of replacement property.

The Section 179 bonus depreciation provision of the Tax Code was replaced by ERTA with an election to expense certain depreciable assets. This election allows the taxpayer to increase the amount of deductions in the year of purchase. This election is not available for assets acquired by means of an exchange.

#### Tax Equity and Fiscal Responsibility Act of 1982

The Tax Equity and Fiscal Responsibility Act (TEFRA) of 1982 also affected the tax consequences which arise from the disposition of property. The specifics of the relevant provisions of the Tax Code are explained in Appendix A and are contrasted with prior law in Table IV.

TEFRA reduced the depreciable basis of real property and personal property by requiring a basis adjustment for property placed in service after December 31, 1982 on which the investment credit is claimed. The basis reduction is 50% of (1) the regular ITC, (2) the energy ITC, and (3) the 25% tax credit allowed for qualified rehabilitation expenditures on certified historic structures. The 100% basis reduction for the 15% and 20% tax credit for qualified rehabilitation expenditures was retained. The taxpayer may elect, on a property by property basis, to reduce the ITC rate by 2% in lieu of the basis adjustment. In addition, Section 196 was enacted in order to provide a



TABLE IV  
COMPARISON OF PRE-TEFRA TAX LAW TO POST-TEFRA TAX LAW  
AS IT AFFECTED NONRESIDENTIAL REAL PROPERTY

	<u>PRE-TEFRA TAX LAW</u>	<u>POST-TEFRA TAX LAW</u>
<u>Real Property</u>		
<u>Depreciable Basis</u>	Basis less 100% of 15% & 20% Qualified Rehab Expenditures	Basis less 100% of 15% & 20% Qualified Rehab Exp less 50% of other credits or Basis less 100% of 15% & 20% Qualified Rehab Exp (No Basis Adj for other credits if credits are reduced by 2%)
<u>Personal Property</u>		
<u>Maximum Recovery Method Depreciable Basis</u>	200% DB (After 1985) Basis	150% DB Basis less 50% of ITC or Basis if ITC rate is reduced by 2%
Section 196		Deduction for Unused Investment Credits
<u>Minimum Tax</u>		
Add-on Minimum Tax	In Effect	Repealed
Alternative Minimum Tax Tax Rate	10% of Alt Min Tax Inc in excess of \$20,000 but not greater than \$60,000 plus 20% of Alt Min Tax Inc in excess of \$60,000	20% of Alt Min Tax Inc in excess of exemption amount
Tax Preference Items		Expanded
Alternative Minimum Taxable Income		Redefined
<u>Investment Tax Credit</u>		
<u>Limitation on Tax Liability in Excess of \$25,000</u>	90% (After 1981)	85% (After 1982)

deduction for ITC which could not be used during the carry-over period provided by Sec. 39 in an amount equal to 50% of such unused credits to the extent attributable to property whose basis has been reduced by the ITC. A deduction under Sec. 196 for any unused ITC associated with qualified rehabilitation expenditures for 30-year and 40-year old buildings is equal to the amount of the unused credit.

TEFRA restructured the minimum tax provisions of the tax code by repealing the add-on minimum tax and by expanding the alternative minimum tax. Previously, the add-on minimum tax was 15% of the taxpayer's tax preference items in excess of the greater of one-half of the regular income tax paid or \$10,000. The alternative minimum tax was computed by applying a graduated tax rate to the alternative minimum taxable income. Alternative minimum taxable income was defined as taxable income plus the long-term capital gains deduction and adjusted itemized deductions. Currently, taxpayers, other than corporations are subject to the minimum tax to the extent it exceeds the regular tax. Alternative minimum taxable income in excess of \$30,000 (\$40,000 for married taxpayers filing a joint return), is taxed at a rate of 20%. Alternative minimum taxable income is now defined as adjusted gross income plus the tax preference items less specified itemized deductions. The tax preference items include those previously used to compute the add-on minimum tax (except for the amortization of child care facilities), the long-term capital gains deduction and three new preference items.

TEFRA altered the investment tax credit provisions of the tax code by reducing the amount of the ITC that may be claimed in any one year. Prior to the enactment of TEFRA, a taxpayer was allowed, for years

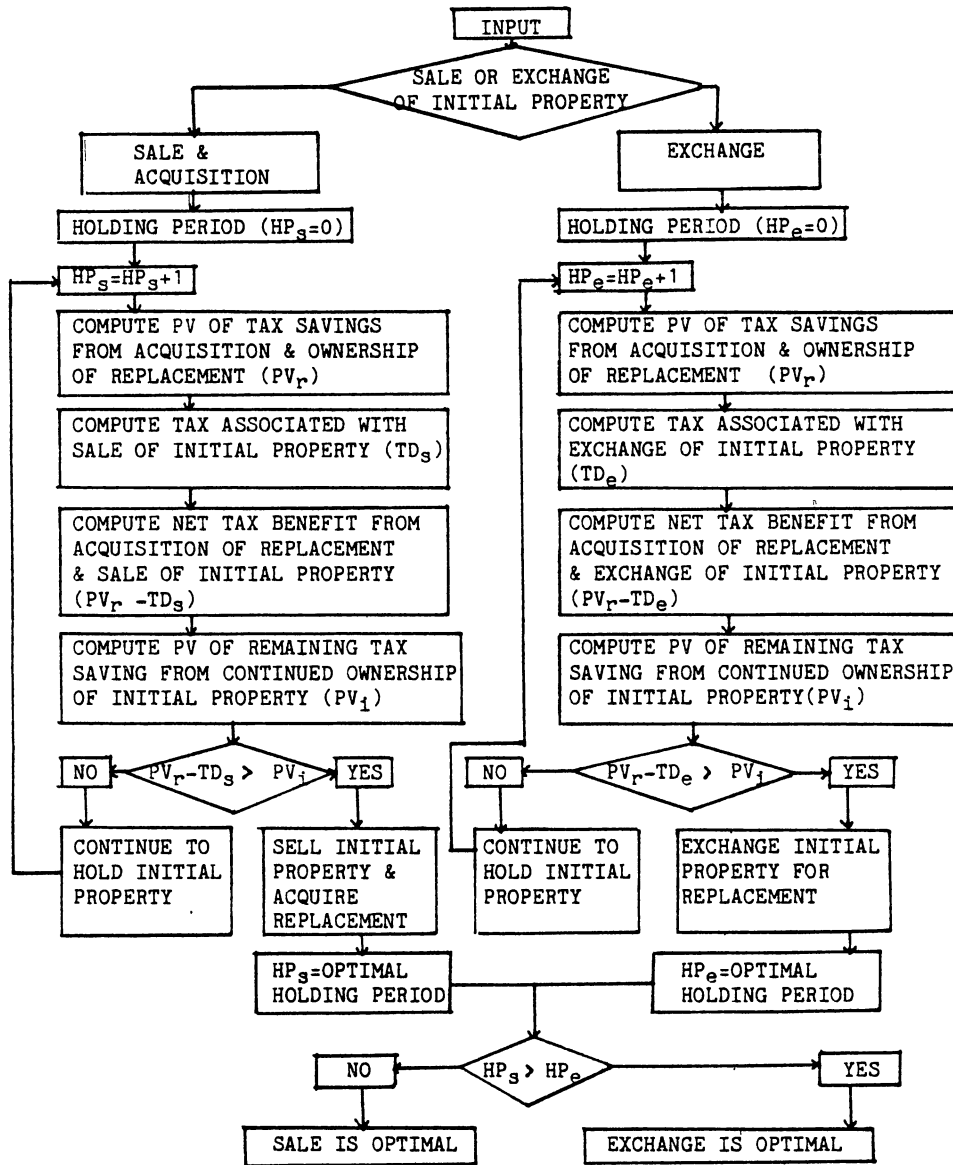
after 1981, to claim an investment credit equal to \$25,000 plus 90% of the tax liability in excess of \$25,000. TEFRA reduced the percentage limit to 85% for years after 1982.

The changes made in the tax law in 1981 and 1982 may tend to increase the taxpayer's incentive to engage in a sale, rather than to engage in an exchange. The complexity of the Tax Code, however, hampers the investor's assessment of the impact of ERTA and TEFRA on the optimal form of disposition for the profit maximizing taxpayer. The existing literature provides the investor and financial advisors with little guidance as to the optimal form of disposition. No decision model currently exists which may be used to assess the relative tax implications of the alternatives. The wide-spread use of the exchange method of disposition and the possible change in incentive toward the sale alternative has created a concern among investors, accountants, and exchange realtors as to whether or not the exchange remains the most beneficial alternative to the taxpayer.

#### Purpose of the Study

The purpose of the study was to determine the impact of ERTA and TEFRA on the form of disposition of nonresidential real property and to develop a computer based model which would aid investors in determining the form of disposition which would maximize the present value of their tax benefits.

A deterministic computer simulation model was developed. The model (Figure 1) could be used by a taxpayer upon acquisition of nonresidential property. It calculates the optimal holding period of that initial property. The optimal holding period for the sale



THIS PROCEDURE WAS PERFORMED FOR EACH TIME PERIOD AND EACH PERMUTATION

Figure 1. General Form of the Model

alternative and the exchange alternative would be indicated by determining the year in which the future tax benefit of potential replacement property would exceed the remaining tax benefit of currently owned property. The optimal form of disposition would be that alternative for which the optimal holding period is shortest.

The optimal form of disposition was determined for each of the following time periods (Table V):

1. Property acquired and disposed of prior to January 1, 1981 (the date of the implementation of ACRS).

2. Property acquired prior to January 1, 1981, but disposed of after December 31, 1982 (the date of the implementation of basis adjustment for investment credit).

3. Property acquired and disposed of after December 31, 1982.

Period 1 includes initial property and replacement property which is subject to pre-ERTA tax law. Period 2 includes initial property which is subject to pre-ERTA tax law and replacement property which is subject to post-TEFRA tax law. With respect to Period 2 replacement property acquired by means of an exchange, the anti-churning rules of ERTA apply. With respect to Period 2 replacement property acquired by means of a purchase, the basis adjustment rules of TEFRA apply. Period 3 includes initial property and replacement property which is subject to post-TEFRA tax law. Only two years elapsed between the implementation of the Accelerated Cost Recovery System (ACRS) of ERTA and the implementation of the basis adjustment of TEFRA. Therefore, this interval, which represents the effect of ERTA on the decision to be made, was not considered as a time period. Rather, the combined

TABLE V  
TIME PERIODS TO BE CONSIDERED BY THE MODEL

<u>TIME PERIOD 1</u>	<u>TIME PERIOD 2</u>	<u>TIME PERIOD 3</u>
Acquisition of Initial Property		
Sale or Exchange of Initial Property & Acquisition of Replacement Property		
Sale of Replacement Property	Acquisition of Initial Property	
DECEMBER 31, 1980		
-----		
JANUARY 1, 1983		
	Sale or Exchange Initial Property & Acquisition of Replacement Property	Acquisition of of Initial Property
	Sale of Replacement Property	Sale or Exchange of Initial Property & Acquisition of Replacement Property
		Sale of Replacement Property

impact of ERTA and TEFRA, which represents current tax law, was compared to prior law.

The variables that were manipulated are discussed on pages 32 through 35.

The following questions were addressed:

1. What is the optimal form of disposition in Period 1? Given a particular fact situation prior to the enactment of ERTA and TEFRA, the optimal decision for Period 1 reflects what was, in fact, the alternative requiring payment of the least tax. This makes it possible to ascertain whether the belief of taxpayers as to the relative benefit of the exchange alternative was justified.

2. What is the optimal form of disposition in Period 2? Given the same fact situation as in Period 1, the optimal decision for Period 2 reflects the optimal alternative for property that is subject to the "anti-churning" provisions of ERTA. In addition, replacement property acquired by means of the sale and purchase alternative would be subject to the basis adjustment provisions of TEFRA.

3. What is the optimal form of disposition in Period 3? Given the same fact situation as in Period 1 and Period 2, the optimal decision for Period 3 reflects the optimal alternative for property which falls completely within the guidelines of ERTA and TEFRA.

4. Did the optimal form of disposition change between Period 1 and Period 2? Given the same fact situation, a comparison of the optimal decision for Period 2 to that for Period 1 indicates whether ERTA and TEFRA altered the optimal decision. Because Period 2 reflects the effect of the "anti-churning" provisions on an exchange and the use of ACRS and the investment credit basis adjustment on a sale and Period

1 reflects the effect of the Tax Code prior to the enactment of ERTA and TEFRA, a comparison of decisions between Period 2 and Period 1 reflects the full impact of ERTA and TEFRA on the sale alternative and only the partial impact of ERTA on the exchange alternative.

5. Did the optimal form of disposition change between Period 2 and Period 3? Given the same fact situation, a comparison of the optimal decision for Period 3 to that of Period 2 indicates whether ERTA and TEFRA altered the optimal decision between these periods. Period 3 fully reflects the impact of ERTA and TEFRA on both alternatives but Period 2 fully reflects the impact of ERTA and TEFRA only on the sale alternative. Period 2 does not fully reflect the impact of ERTA on the exchange alternative due to the "anti-churning" provisions.

6. Did the optimal form of disposition change between Period 1 and Period 3? Given the same fact situation, a comparison of the optimal decision for Period 3 to that of Period 1 indicates the full effect of ERTA and TEFRA on both the sale alternative and the exchange alternative when compared with prior law.

The conclusions reached with respect to the above questions will assist investors in structuring the disposition of real property so as to minimize the present value of their future tax and to determine the optimal holding period for such property. If the incentives have changed, investors need to know this so that they may direct their interests away from the complex, time-consuming exchange and toward the straight-forward sale. Policy makers also may profit from this knowledge. If the sale alternative has, in fact, become optimal, then the Treasury Department might experience a change in the timing of tax



collections because taxes will be paid upon disposition rather than deferred until a subsequent disposition. If the number of exchanges declines, tax negotiations, appeals, and litigation may also decline. Furthermore, if the benefits of the exchange have declined, the effort and resources expended in searching for appropriate exchanges could be redirected into more productive pursuits.

### Organization of the Study

Chapter II contains a review of the real estate literature which focuses on computer based decision models, issues of tax policy, and the comparative advantages of the sale and exchange alternatives.

Chapter III describes the research methodology used in this study. The study is based upon a constructed case. The parameter values of the case, the variables of interest, and the alternative variable values are identified and discussed. In addition, the approach used in analyzing the data is described.

Chapter IV presents the results of the study. The results indicate the effect of the change in tax law on the optimal form of disposition of nonresidential real property. The sensitivity of the results to changes in the variables is discussed.

Chapter V indicates the impact of the Tax Reform Act of 1984 on the optimal form of disposition of nonresidential real property.

Chapter VI summarizes the results of the study and indicates the policy implications of these results. It also describes several limitations of the research procedure and offers several suggestions for further research.

## CHAPTER II

### REVIEW OF THE LITERATURE

The purpose of this chapter is to review the studies related to the taxation of real estate and to relate the present study to the existing body of knowledge.

The objective of real estate investment analysis is to assist the real estate investor in selecting the optimal alternative from among those choices available. The decision to be made is dependent upon the analysis, the techniques, and the information used. Because real estate investments are costly, the financial well-being of the investor is greatly influenced by the decision to be made. Once made, the decision requires an allocation of resources that may not be reversible. When confronted with a decision, the investor may ignore the facts, may use a random-choice process, or may use a rational process to arrive at a decision. If the rational process approach is chosen, then judgment, experience, intuition, or systematic analysis may be used in order to arrive at a decision (Paranka, 1975).

The computer based decision model has been used extensively in the field of real estate, particularly as a means of evaluating the relative merits of alternative investment proposals (Wurtzebach and Kim, 1979; Wofford, 1979; Wendt and Cerf, 1979; Cooper and Phyr, 1973; Messner and Findlay, 1975; Gau and Kohlhelpp, 1976). The decision model approach has also been used to demonstrate the effect of

inflation on real estate investment value (Lusht, 1978; Rystrom, 1980), to assess alternative depreciation methods (Sirmans, 1980; Beranek and Selby, 1981; Brueggeman, Fisher and Stern, 1981, 1982; Hite and Sanders, 1981), to assess the recapture of excess depreciation (Brannon and Sunley, 1976), to assess tax leveraging (Fisher, 1980), and to determine the optimum asset life of an asset (Byars, 1979). Decision models have also been used to determine the effect of a change in tax policy on real estate investment and to ascertain the benefits of a like-kind exchange.

#### Tax-Policy Decision Model Studies

In 1969, the House of Representatives passed a tax bill which affected real estate investment. While the Senate Finance Committee was considering the bill, the Realtor's Washington Committee requested that Soelberg and Stefaniak (1970) determine the expected impact of the bill on real estate investment. Their analysis represents the first time that a computer model was used to analyze the effect of a potential tax law on an investor's decision making process. The study constructed a simple investment case. Although most of the facts of the case remained constant throughout the analysis, three alternative marginal tax rates, three depreciation schedules, and five investor's capital discount rates were used. The internal rate of return for each of the possible combinations of variables was computed under both the existing tax law and the proposed tax law. Soelberg and Stefaniak concluded that the proposed tax law would significantly reduce the internal rate of return of investors in real property.

Brannon and Sunley (1976) used mathematical analysis to determine whether the rationale behind the recapture of depreciation was sound. Section 1250, which deals with the recapture of depreciation with respect to real property, was enacted because it was believed that the deduction of depreciation, computed at accelerated rates, against ordinary income and the subsequent recovery of those deductions as a capital gain upon sale, reduced the tax revenue received by the government. Brannon and Sunley stated an important policy objective is to formulate tax law which is neutral with respect to decision making. That is, tax law should not discriminate in favor of nor against, an investor who sells property or one who holds such property. Brannon and Sunley found that the effective tax rate on the gain resulting from the sale of nonresidential property was higher when the property was sold soon after purchase than when it is sold after a long holding period. For tax neutrality, the opposite situation should exist. Thus, the recapture of depreciable property discouraged the turnover of real property, encouraged longer holding periods, and reduced the revenue flowing to the Treasury. The authors concluded that the Section 1250 recapture rule should be modified.

Dorr (1979) assessed the impact of the Tax Reform Act of 1976, the Revenue Act of 1978, and a number of other potential legislative provisions on the internal rate of return, the profitability index, the modified internal rate of return, the payback period, and average rate of return of new multi-dwelling housing projects and new "net lease" commercial projects. In addition, Dorr determined the effect of using component/straight-line depreciation rather than accelerated depreciation. Dorr concluded that the Tax Reform Act of 1976 had a

significant negative effect on the internal rate of return of real estate investments, while the Revenue Act of 1978 had a slight mixed effect on real estate investments. In addition, it was found that after 1976, the use of straight-line depreciation with component useful lives produced higher rates of return than the use of accelerated depreciation.

Sirmans (1980) assessed the effect of tax legislation which required the recapture of depreciation and the imposition of a minimum tax on tax preference items on the investor's choice of depreciation methods. The author used a net present value model to maximize the tax savings generated by depreciation while considering the impact of the minimum tax and depreciation recapture. The model incorporated seven variables: the marginal tax rate, the proportion of excess depreciation subject to the minimum tax, the minimum tax rate, the depreciation method, the asset's life, the expected holding period, and the investor's discount rate. Simulation results indicated that accelerated depreciation would maximize the investor's wealth when long holding periods and high discount rates exist.

Brueggeman, Fisher, and Stern (1981) used a present value model to simulate a sample case to ascertain the optimal holding period for an investment and to determine the effect of depreciation method and inflation on that holding period. The model included a consideration of the maximum tax and minimum tax. The authors concluded that there are tax-induced holding periods for real property.

Hite and Sanders (1981) developed a present value model to assess the tax savings which result from the use of an accelerated method of depreciation. The model used a sample case which assumed that the

taxpayer was in the highest tax bracket and considered three alternative declining balance rates, two discount rates, and the minimum tax. The authors concluded that the interaction between excess depreciation, the maximum tax, and the recapture of depreciation reduced the tax benefits of accelerated depreciation.

Brueggeman, Fisher, and Stern (1982) used an internal rate of return model to assess the effect of the Economic Recovery Tax Act (ERTA) on the internal rate of return of a sample case. The facts of the sample case were used to determine the internal rate of return using pre-ERTA tax law and then to determine the internal rate of return using post-ERTA tax law. The study considered the minimum tax, two holding periods, and two methods of depreciation. The analysis was performed for residential and nonresidential real property. The authors concluded that, with respect to both residential and nonresidential real property, the after-tax rate of return was higher under post-ERTA tax law. A number of relationships between holding period, method of depreciation, and rates of return due to the enactment of ERTA were cited.

Dolben (1982) used an internal rate of return model to determine the effect of ERTA on real estate investment. The model included a consideration of financial leverage and inflation. The author concluded that the after-tax rate of return increased due to ERTA.

Kendall (1982) compared the present value of depreciation deductions and recapture prior to the implementation of the Accelerated Cost Recovery System (ACRS) to the present value of recovery deductions and recapture under the provisions of ACRS. The author concluded that,

for most circumstances, there was a significant advantage of ACRS over Section 167 depreciation when a positive discount rate was used.

Fisher and Stern (1982) developed a present value model of the incremental tax benefit of the ACRS method of cost recovery over the optional straight-line method of cost recovery in order to determine the optimal recovery method for real estate. Simulation techniques were used to generate a series of decision charts which contain the depreciation method decision rule in the form of indifference curves which compare various discount rates with various holding periods.

#### Sale or Exchange Studies

Butler and Henderson (1977) developed a present value model to determine whether an exchange was beneficial to the taxpayer. The model compared the present value of the benefits received from the exchange in the form of tax shelter, additional income, and change in terminal value to the present value of the costs incurred on the exchange.

Barrett (1980) analyzed the pre-exchange and post-exchange cash-flow statements of a hypothetical exchange to determine the benefits of an exchange to each of the parties. He then suggested that investors consider alternatives to an exchange. Such a review would include a consideration of a direct sale. Barrett recommended that the exchange be restructured if the terms of the exchange were not beneficial to both parties.

Auster (1982) developed a formula to compute the present value of the tax savings generated by the additional depreciation which results from the sale of real property. The following general decision rule

resulted from the derived formula: "Sell and repurchase if the annual tax savings is greater than the current tax on the sale (p. 68)."

Solomon (1983) used internal rate of return analysis to compare the like-kind exchange to a sale/purchase of commercial property and of residential property subject to the anti-churning provisions of ERTA. The author concluded that the taxpayer's incentive to engage in a like-kind exchange of property acquired prior to 1981 decreased due to the enactment of the anti-churning provisions.

O'Dell and Duncan (1984) used a discounted present value of after-tax cash flows model to assess the relative benefits of a like-kind exchange, sale/purchase and reciprocal installment sales for property acquired prior to the enactment of ERTA and for property acquired subsequent to the enactment of ERTA. The authors concluded that the preferred method of disposition was affected by the parameters examined. These parameters were depreciable ratio, exchange gain deferral ratio, holding period, useful life and discount rate.

#### Present Study

The present study utilizes a decision model based upon present value techniques to determine the effect of the change in tax law on the optimal form of disposition of nonresidential real property. The decision model developed within the framework of this study may be used by taxpayers for tax planning purposes. The model enables taxpayers to determine the optimal form of disposition for a given fact situation and to assess the sensitivity of that form to changes in various parameters.



Although the use of computer based decision models has been widely used in real estate analysis and the use of present value techniques have been used frequently to assess the impact of a change in tax law on the decision making process, these techniques have not been used to assess the effect of ERTA and TEFRA on the optimal form of disposition. In addition, no computer based decision model has been developed which is capable of assisting the taxpayer in this area of tax planning. The present study seeks to fill this void.

## CHAPTER III

### RESEARCH METHODOLOGY

The objective of this study was to determine the effect of ERTA and TEFRA on the form of disposition of nonresidential real property. This chapter will discuss the research methodology used to make that determination.

According to Ackoff (1962), research problems can be classified as either evaluative or developmental. Evaluative problems are those problems for which alternative courses of action are specified in advance and the solution requires a determination of the best alternative from among those available. Developmental problems are those problems which involve the search for a new course of action that is superior to any currently available. The idea which serves as the basis for this study may be identified as an evaluative problem.

This study developed a present value decision model to assist the real estate investor in selecting the optimal alternative from among those choices available. Little research has been done to assist the decision maker in choosing from among the alternatives with respect to the form of disposition.

#### Computer Simulation Models

For many years, real estate investment analysis relied upon generalized guidelines, single-period measures, and intuition. These

indicators have been found to be deficient because they ignore the time value of money and the ultimate disposition of the property. Pellatt (1972) observed that because the cost of the acquisition and disposition of real property is high, real property must be held for several years in order to earn a reasonable return. Thus, "all methods of analysis which ignore the benefits and costs of property over the entire holding period must be rejected as they are at a minimum simplistic and unrealistic" (p. 460).

Real estate investment analysis has been facilitated by the use of computer based decision models. The modeling process of this study is comprised of two phases. The first phase develops a deterministic decision model. The deterministic model provides a single point estimate of the variables and assumes that the best possible estimates exist at the time of decision. The second phase determines the responsiveness of the model's output to changes in certain variables.

A decision model was developed which identifies the optimal form of disposition by determining the optimal holding period of nonresidential real property. The optimal holding period is defined as the period of time which extends from the date of acquisition to the year in which the present value of the future tax benefit of potential replacement property exceeds the present value of the remaining tax benefit of the currently owned property. The optimal form of disposition would be that alternative for which the optimal holding period is shortest. The model is based upon present value techniques. Only the tax effects of two alternative forms of disposition were computed, i.e., sale or exchange.

The model (Appendix B) was written in Microsoft BASIC, using a CP/M disk operating system. Microsoft BASIC and CP/M are widely used in the microcomputer field. Thus, the models may be run on most microcomputers. The models consist of the 2 main calculation programs and a data input program. The calculation programs were constructed to be flexible so that a wide variety of cases could be analyzed. They contain the relevant tax law for the period prior to the enactment of ERTA as well as the relevant tax law as enacted by ERTA and TEFRA. Those provisions of the Internal Revenue Code, included in the model, which impact on the disposition decision follow:

1. Section 1: Tax Imposed
2. Sections 38, 46, 47, & 48: Investment Credit
3. Section 167: Depreciation
4. Section 168: Accelerated Cost Recovery System
5. Section 179: Election to Expense Certain Depreciable Assets
6. Subchapter P: Capital Gains and Losses
7. Section 1031: Exchange of Property Held for Productive Use or Investment
8. Section 1231: Property Used in the Trade or Business
9. Section 1245: Gain from Dispositions of Certain Depreciable Property
10. Section 1250: Gain from Dispositions of Certain Depreciable Property

These provisions of the Internal Revenue Code are explained in Appendix A.

The validity of the models were assessed by comparing hand calculated results in the sample cases to computer calculated results. Experienced tax practitioners (Appendix C) were consulted to determine whether all relevant variables had been included in the models. The models were also carefully analyzed to assure that they accurately reflect the Tax Code prior to and subsequent to the enactment of ERTA and TEFRA.

### Simulation Model Parameters

This study used the simulation approach to data gathering. The simulation approach does not involve the collection of empirical data. It is based upon the use of synthetic data. It is particularly useful when it is not possible to collect empirical data in a given situation, when empirical data is confidential and when empirical data is not standardized (Paranka, 1975). Generally, simulation studies require that a model be developed for each specific situation:

A simulation study begins with the development of this custom-made model and continues with its processing or "operation" in order to determine the behavior of the system under examination. There is no practical restriction on what the system may be (Chorafas, 1965, p. 15).

For the purposes of this study, three parameters of interest were selected to be manipulated. These variables were selected because they have been identified by accountants and realtors (Appendix C) as those variables which would tend to affect the decision as to the form of disposition for nonresidential real property. These variables are:

1. Method of Depreciation
2. Discount Rate
3. Percentage of Basis Allocable to Real Depreciable Property, Section 38 Real Property, Personal Property, and Land

A discussion of these variables and their alternative values follows:

- |                           |   |
|---------------------------|---|
| 1. METHOD OF DEPRECIATION |   |
|                           | <u>Initial Property</u> <u>Replacement Property</u> |
| A. Accelerated            | Accelerated   |
| B. Straight-Line          | Straight-Line                                       |
| C. Accelerated            | Straight-Line                                       |
| D. Straight-Line          | Accelerated   |

The method of depreciation used may affect the optimal form of disposition because of its effect on the timing of the depreciation deductions, the recapture of depreciation as ordinary income, the minimum tax, the gain realized and recognized, and the adjusted basis

of the property. The computation of depreciation was in accordance with the tax law in effect for the time period considered. Salvage value was assumed to be 10% of the basis. The accelerated method used was the most accelerated method permitted by the relevant tax law. For property acquired prior to 1981; it was assumed that only new property was acquired. Therefore, the 200% declining balance method of depreciation, with a switch to the straight-line method when optimal, was used for Section 38 property and for personal property. The 150% declining balance method of depreciation, with a switch to the straight-line method when optimal, was used for real property. These accelerated methods, however, are not available for used property acquired in an exchange. Used depreciable real property may be recovered using the straight-line method only. Used depreciable Section 38 real property and personal property may be recovered using a 150% declining balance method of depreciation. Thus, the alternatives using the accelerated method of recovery would be limited if used property was acquired in Period 1.

For property acquired after 1980, the statutory percentage method of the accelerated cost recovery system as set forth in the regulations was used. This method is based upon a 150% declining balance method, with a switch to the straight-line method when optimal, for personal property and Section 38 property and a 175% declining balance method, with a switch to the straight-line method when optimal, for real property. ACRS makes no distinction between new and used property. For property acquired by exchange, Proposed Reg. Sec. 1.168-5 requires that the basis of the replacement property which represents the adjusted basis of the initial property be recovered over the remaining

recovery period of the initial property using the same recovery method. Therefore, Method of Depreciation C and Method of Depreciation D may not be used in Period 3 for the exchange alternative. Thus, Method A was used in place of Method C and Method B was used in place of Method D. When the basis of the replacement property exceeded the adjusted basis of the initial property, the excess was treated as new property and was recovered under the rules of ACRS (Proposed Reg. Sec. 1.168-5(f)(2)(1)). When the adjusted basis of the initial property exceeded the unadjusted basis of the replacement property, the unadjusted basis of the replacement property was redetermined in accordance with Proposed Reg. Sec. 1.168-5 (Appendix A) and the change in basis was recovered over the remaining recovery period.

The period of recovery for property which falls under the guidelines of Section 167 (Depreciation) is based upon the estimated useful life of the property. An estimated useful life of fifteen years was used for personal property, thirty years was used for Section 38 real property, and forty years was used for real property. The period of recovery for property which falls under the guidelines of Section 168 (ACRS) is the minimum allowable recovery period. A recovery period of five years was used for personal property and Section 38 real property and a recovery period of fifteen years was used for real property. The optional recovery periods permitted under the straight-line method for recovery property were not used because they would result in a smaller deduction in early years and, consequently, have a smaller present value of tax benefits. The Section 179 bonus depreciation provision and the Section 179 expense election were used when appropriate and the depreciation computation reflects this. The

Section 179 deduction was not calculated when the exchange alternative was used because such deduction is limited to boot given and it was assumed that no boot was given in this simulation.

2. DISCOUNT RATE
  - A. 5%
  - B. 10%
  - C. 15%
  - D. 20%

The discount rate was varied from 5% to 20% in increments of 5%. This range reflects the variation in the investor's cost of capital for the holding period prior to and subsequent to ERTA and TEFRA. In addition, these rates were considered to be appropriate by experienced practitioners (Appendix C). The discount rate may affect the optimal form of disposition because of its impact on the present value of the tax liability.

3. PROPORTION OF BASIS ALLOCABLE TO DIFFERENT KINDS OF PROPERTY:

	Depreciable Real Property	Section 38 Real Property	Personal Property	Land
A.	70%	5%	5%	20% (Shopping Center)
B.	60%	15%	15%	10% (Lt Manufacturing)
C.	40%	30%	15%	15% (Hvy Manufacturing)
D.	30%	10%	10%	50% (Farm)

The proportion of basis allocable to depreciable real property, Section 38 real property, personal property, and land was varied to reflect the effect of the nature of the property on the optimal form of disposition. The percentage allocations are based upon an allocation suggested by Heath (1979) and are considered by experienced practitioners (Appendix C) to be appropriate for each type of property indicated.

This study was based upon a constructed case. The parameter values of the case include:



1. Acquisition Price - Initial Property \$1,000,000

2. Selling Price - Initial Property

It was assumed that the selling price of the property increased at a rate of 3.5% per year, compounded annually. The implicit price deflator for purchases of nonresidential used structures for the period 1960-1979 (United States Department of Commerce, July, 1981; United States Department of Commerce, September, 1981) was used to calculate this rate of growth. The selling price of the property has been rounded to the nearest ten thousand dollars.

3. Acquisition Price - Replacement

It was assumed that the selling price of the initial property and the acquisition price of the replacement property were equal so that there was a direct continuation of the ownership interest without an increment in or a liquidation of the ownership interest. It was also assumed that any tax levied on the sale was paid by the investor with additional resources. These assumptions were made so that the tax impact on the sale and exchange alternatives could be effectively isolated.

4. Selling Price - Replacement

It was assumed that the selling price of the second property also increased at a rate of 3.5% per year, compounded annually.

5. Selling Costs 6%

Real estate commissions are generally assessed at 6% of the selling price or market price. Although legal, accounting, and title insurance fees would generally be incurred, these fees would, most likely, not be material and were ignored.

6. Boot on Exchange None

It was assumed that no boot was exchanged on the transaction so that the sale and exchange alternatives would be as distinct as possible. The introduction of boot would tend to make the exchange alternative more closely approximate the sale alternative. Boot received would require that gain be recognized on the qualifying property to the extent of the gain realized or the boot received, whichever was less. In addition, gain or loss may be recognized on the nonqualifying property given. Boot given would allow the use of the ACRS, Section 179, and investment credit provisions of the Tax Code for that boot as if a purchase of an asset had been made.

7. Estimated Useful Life of Real Property 40 years

The guideline life of real property ranges from forty to sixty years, depending on the nature of the property. Typically a forty year useful life is used for real property. For ACRS purposes, a fifteen year recovery period was used. An estimated useful life of 30 years was used for Section 38 real property. For ACRS purposes, a 5 year recovery period was used. This estimated useful life was considered appropriate by experienced practitioners (Appendix C).

8. Estimated Useful Life of Personal Property 15 years

Experienced practitioners (Appendix C) have expressed the view that personal property most likely to be associated with a purchase of real property would have an estimated useful life of fifteen years. For ACRS purposes, a five year recovery period was used. The five year recovery period is the minimum recovery period allowed for property with an estimated useful life of fifteen years.

9. Tax Rate

Maximum

It was assumed the taxpayer would be taxed at the maximum marginal rate. Prior to ERTA, the maximum ordinary income tax rate was 70% and the maximum effective capital gains rate was 28%. Subsequent to ERTA, the maximum ordinary income tax rate was 50% and the maximum effective capital gains rate was 20%.

#### 10. Investment Credit

Claimed

It was assumed that Section 46(e)(3) was applicable so that the investment credit was computed for all Section 38 property. Recapture of the credit and any associated increase in basis was determined when property was disposed of prior to the end of its estimated useful life. Because it was assumed that all property acquired was new property, the investment tax credit was calculated on the basis of the replacement property when the exchange alternative was considered. Rehabilitation and energy credits were not considered because such expenditures would not result in differential treatment under the sale and exchange alternatives.

Sixty-four different variable combinations across each of the three different time periods were developed. These combinations result from a consideration of all possible permutations of the specified variables. The present value of the tax savings which would result from the acquisition of replacement property and the tax imposed on the gain resulting from the disposition of the initial property was computed. The difference between the tax savings and the tax cost represents the net tax benefit associated with the disposition of the first property and the acquisition of the replacement property. The present value of the remaining tax savings from the continued ownership of the initial property was computed and was compared to the net tax

benefit. If the net tax benefit exceeded the present value of the remaining tax savings, it would be optimal for the taxpayer to dispose of the initial property in that year and the optimal holding period would be ascertained. If the present value of the remaining tax savings exceeded the net tax benefit, it would be optimal for the taxpayer to continue to hold the initial property. The calculations were repeated each year until the net benefit exceeded the present value of the remaining tax savings and the optimal holding period was determined. This procedure was performed for the sale alternative and the exchange alternative in each of the three time periods and for each of the sixty-four variable combinations. The optimal form of disposition for a particular variable combination and time period would be that alternative which resulted in the shortest optimal holding period. When the optimal holding period for the two alternatives was equal, the optimal form of disposition was that alternative with the greatest net tax benefit. A comparison between time periods of the optimal form of disposition for a given combination indicates the effect of ERTA and TEFRA on the optimal decision.

The responsiveness of the decision is evaluated in Chapter IV by comparing the optimal decisions for the variable combinations which result when one variable assumes each of its various alternative values and the remaining variables remain constant. This analysis is presented for each of the three previously identified variables.

## CHAPTER IV

### RESULTS OF THE STUDY

The decision model described in Chapter III was used to evaluate the impact of the Economic Recovery Tax Act (ERTA) of 1981 and the Tax Equity and Fiscal Responsibility Act (TEFRA) of 1982 on the optimal form of disposition of four types of nonresidential real property. For each of three time periods, the optimal form of disposition was determined for sixty-four (4X4X4) different variable combinations. The variable combinations represent four different values of each of the three parameters (discount rate, recovery method and property allocation ratio) of interest. The three time periods, the three parameters and their values are presented in Table VI. The resulting one-hundred ninety-two different cases were input into the computerized decision model. Appendix D identifies each of the cases.

For each case and for each alternative form of disposition, the decision model calculated the present value of the remaining tax benefits of the initial property ( $PV_i$ ), the present value of the tax benefits of the replacement property ( $PV_r$ ) and the tax that would be levied upon disposition of the initial property (TD). The net present value (NPV) is the difference between the present value of the tax benefits of the replacement property ( $PV_r$ ) and the present value of the sum of the remaining tax benefits of the initial property and the tax imposed upon disposition, i.e.,  $NPV = PV_r - (PV_i + TD)$ . For each period

TABLE VI  
SUMMARY OF TIME PERIODS AND VARIABLES

	TIME PERIODS					
	<u>PERIOD 1</u>		<u>PERIOD 2</u>		<u>PERIOD 3</u>	
	PRE ERTA	POST TEFRA	PRE ERTA	POST TEFRA	PRE ERTA	POST TEFRA
ACQUISITION OF INITIAL PROPERTY	X		X			X
SALE OR EXCHANGE OF INITIAL PROPERTY	X			X		X
SALE OF REPLACEMENT PROPERTY	X			X		X
<u>VARIABLE</u>	<u>VARIABLE VALUE</u>					
Discount Rate				5%		
				10%		
				15%		
				20%		
Proportion of Basis Allocable to Various Types of Property	<u>Depreciable Real Property</u>	<u>Section 38 Property</u>	<u>Personal Property</u>	<u>Land</u>		
Shopping Center	70%	5%	5%	20%		
Light Manufacturing	60%	15%	15%	10%		
Heavy Manufacturing	40%	30%	15%	15%		
Farm	30%	10%	10%	50%		
Method of Cost Recovery	<u>Initial Property</u>		<u>Replacement Property</u>			
	Accelerated		Accelerated			
	Straight-Line		Straight-Line			
	Accelerated		Straight-Line			
	Straight-Line		Accelerated			

that NPV was negative, the initial property was held and the program computed and evaluated NPV for the next subsequent year. The optimal holding period (HP) was reached when the present value of the tax benefits of the replacement property exceeded the present value of the remaining tax benefits of the initial property ( $(PV_r - TD) PV_i$ ).

In order to maximize the distinction between the sale and the exchange alternatives, it was assumed that no boot was given or received upon exchange. Other than the recapture of investment tax credit, no tax was imposed on the disposition of the initial property when the exchange alternative was considered. The optimal holding period was calculated for the sale alternative ( $HP_s$ ) and for the exchange alternative ( $HP_e$ ) for each of the one-hundred ninety-two cases. The optimal form of disposition is that alternative (sale or exchange) which resulted in the shortest holding period. When both alternatives produced equal optimal holding periods, the optimal alternative was the alternative with the greatest net present value of tax benefits. Table VII indicates the optimal form of disposition for each of the sixty-four cases considered in each of the three time periods. This table indicates the impact of ERTA and TEFRA on the optimal form of disposition. Appendix E presents the output of the decision model for each case. The results of the simulations are discussed by first comparing the results within each time period and then between time periods.

#### Period 1

The results of the study indicate the impact of the change in tax law on the decision making process. Specifically, Table VIII indicates

TABLE VII  
SUMMARY OF RESULTS

RECOVERY METHOD	DISCT RATE	--SHOPPING CENTER--			-LIGHT MANUFACTURING--			--HEAVY MANUFACTURING--			-----FARM-----		
		PERIOD			PERIOD			PERIOD			PERIOD		
		1	2	3	1	2	3	1	2	3	1	2	3
SL-SL	.05	SALE	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	SALE	SALE	SALE
	.10	SALE	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	SALE	SALE	EXCHANGE
	.15	SALE	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	SALE	SALE	EXCHANGE
	.20	SALE	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	SALE	SALE	EXCHANGE
AC-AC	.05	SALE	SALE	EXCHANGE	SALE	SALE	EXCHANGE	SALE	SALE	EXCHANGE	SALE	SALE	SALE
	.10	SALE	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	SALE	SALE	EXCHANGE
	.15	SALE	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	SALE	SALE	EXCHANGE
	.20	EXCHANGE	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	SALE	SALE	EXCHANGE
SL-AC	.05	SALE	SALE	SALE	SALE	SALE	SALE	SALE	SALE	SALE	SALE	SALE	SALE
	.10	SALE	SALE	SALE	SALE	SALE	SALE	SALE	SALE	SALE	SALE	SALE	SALE
	.15	SALE	SALE	SALE	SALE	SALE	SALE	SALE	SALE	SALE	SALE	SALE	SALE
	.20	SALE	SALE	SALE	SALE	SALE	SALE	SALE	SALE	EXCHANGE	SALE	SALE	SALE
AC-SL	.05	EXCHANGE	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE
	.10	EXCHANGE	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE
	.15	EXCHANGE	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE
	.20	EXCHANGE	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE

ALLOCATION RATIO	DEPRECIABLE REAL PROPERTY	SECTION 38 REAL PROPERTY	PERSONAL PROPERTY	LAND
SHOPPING CENTER	70%	5%	5%	20%
LIGHT MANUFACTURING	60%	15%	15%	10%
HEAVY MANUFACTURING	40%	30%	15%	15%
FARM	30%	10%	10%	50%



TABLE VIII  
OPTIMAL FORM OF DISPOSITION  
PERIOD 1

	<u>SALE</u>	<u>EXCHANGE</u>
<u>STRAIGHT-LINE/STRAIGHT-LINE RECOVERY</u>		
SHOPPING CENTER	5%-20%	
LIGHT MANUFACTURING		5%-20%
HEAVY MANUFACTURING		5%-20%
FARM	5%-20%	
<u>ACCELERATED/ACCELERATED RECOVERY</u>		
SHOPPING CENTER	5%-15%	20%
LIGHT MANUFACTURING	5%	10%-20%
HEAVY MANUFACTURING	5%	10%-20%
FARM	5%-20%	
<u>STRAIGHT-LINE/ACCELERATED RECOVERY</u>		
SHOPPING CENTER	5%-20%	
LIGHT MANUFACTURING	5%-20%	
HEAVY MANUFACTURING	5%-20%	
FARM	5%-20%	
<u>ACCELERATED/STRAIGHT-LINE RECOVERY</u>		
SHOPPING CENTER		5%-20%
LIGHT MANUFACTURING		5%-20%
HEAVY MANUFACTURING		5%-20%
FARM		5%-20%

that prior to ERTA and TEFRA (Period 1), the optimal form of disposition was dependent upon the allocation ratio, the recovery method, and the discount rate.

#### Straight-Line/Straight-Line Recovery

The optimal form of disposition for the straight-line/straight-line recovery combination varied according to the allocation ratio. The optimal form of disposition was sale for the allocation ratio of a farm and a shopping center at all discount rates. The allocation ratios of a shopping center and a farm are weighted heavily toward depreciable real property and land. When these properties are disposed of by means of a sale, any gain on the sale attributed to the real property and to the land would be Section 1231 in nature because of the use of the straight-line method of depreciation. The recapture of depreciation would be restricted to the personal property and to the Section 38 property, which are minimal in amount for these allocation ratios. In addition, the use of the straight-line method does not produce large depreciation deductions. Therefore, the realized gain and the tax associated with the disposition by sale would not significantly reduce the net tax benefits of the property relative to the exchange.

The optimal form of disposition was exchange for the allocation ratio of a heavy manufacturing and a light manufacturing facility at all discount rates. The allocation ratios of the heavy manufacturing and light manufacturing facilities are weighted more heavily toward personal property and Section 38 property, which are subject to the

recapture of depreciation. For these two types of nonresidential real property, the deferral of gain had an impact on the disposition decision.

#### Accelerated/Accelerated Recovery

The optimal form of disposition for the accelerated/accelerated recovery combination varied according to allocation ratio and discount rate. The optimal form of disposition was sale for the allocation ratio typical of a farm at all discount rates. The allocation ratio of the farm is weighted heavily toward land which is not depreciable. Thus, the gain on disposition would be limited and the majority of the gain realized would be Section 1231, rather than ordinary income in nature. If this gain received capital gain treatment, the tax levied on disposition by sale would be reduced. For that portion of the property that is depreciable, the basis of the replacement property would be the purchase price of that property when the sale alternative is considered. Although the depreciation taken on the initial property would be subject to recapture, the increase in basis associated with the sale alternative would increase the net tax benefits of the sale alternative. When the exchange alternative is considered, the use of the accelerated method for the initial property produces larger depreciation deductions on the depreciable portion of the property. This reduces the adjusted basis of the initial property, which is also the carry-over basis of the replacement property. Thus, the net tax benefits of the replacement property would tend to be smaller. These factors would tend to increase the benefit of the sale alternative relative to that of the exchange.

For the allocation ratio typical of a heavy manufacturing and a light manufacturing facility, the optimal form of disposition was sale when a 5% discount rate was used. The optimal alternative changed to exchange at the 10% discount rate. The change from sale to exchange indicates the effect of the discount rate on the present value of the tax benefits. As the discount rate increases, present value of future depreciation deductions declines and the deferral of gain recognition and the deferral of the associated tax liability of the exchange alternative becomes more important in the decision making process. In this period, since the tax law did not change, it appears that the disposition decision, independent of the change in the tax law, was responsive to the discount rate.

For the allocation ratio typical of a shopping center, the optimal form was sale for the 5%, 10% and 15% discount rates and was exchange at the 20% discount rate. The change in the optimal form of disposition again indicates the effect of the discount rate on the disposition decision. The change in the optimal decision at the 20% discount rate (as compared to the 10% discount rate for manufacturing facilities) could be attributed to the concentration of basis in depreciable real property (70%) and land (20%) and a reduction in the recapture of the investment tax credit. With respect to the sale alternative, only a small portion of the gain realized on the initial property would be recaptured as ordinary income. Thus, the tax imposed on the sale would be less than that imposed upon the manufacturing facilities. In addition, the replacement property would acquire a basis equal to the fair market value of that property. Thus, the tax benefits of the depreciation of the replacement property acquired by

means of sale and purchase would be greater than those benefits when property is acquired by means of exchange. At higher discount rates, however, the present value of the depreciation benefits would be diminished relative to the present value of the current tax on disposition.

#### Straight-Line/Accelerated Recovery

The optimal form of disposition for the straight-line/accelerated recovery combination was sale for all discount rates and all allocation ratios. The use of the straight-line method for the initial property produces small depreciation deductions, reduces the realized gain and decreases the amount of income subject to recapture. Thus, upon disposition by sale, a small gain would be realized and recognized and a small tax would be levied. Further, the use of the accelerated method of depreciation for the replacement property is restricted when used property is received and the exchange alternative is considered. These factors would tend to increase the relative benefit of the sale alternative when compared to the exchange.

#### Accelerated/Straight-Line Recovery

When the accelerated/straight-line recovery combination was used, the optimal form of disposition was exchange for all discount rates and all allocation ratios. The use of an accelerated method produces large depreciation deductions which reduce basis and increase the realized gain. The exchange alternative enables the taxpayer to defer the recognition of the gain realized and the associated tax. The disposition by sale triggers the recapture of depreciation, the

recognition of that recapture as ordinary income at high marginal rates and the recognition of a large realized gain. This tax would be significant when compared to the present value of the tax benefits of the replacement property which would be limited because of the use of the straight-line method of recovery. These factors act to reduce the tax benefit of the sale relative to the exchange.

#### Period 2

The enactment of the anti-churning provision of ERTA altered the optimal form of disposition of nonresidential real property. Table IX indicates that for Period 2, the optimal form of disposition was independent of the allocation ratio, the recovery method, and the discount rate. The optimal alternative was sale for all cases. The anti-churning provisions of ERTA prevent a taxpayer from using ACRS for the carry-over basis of property acquired by exchange. The present value of the tax benefits that can be obtained when property is acquired by purchase and when ACRS is used outweigh the required recognition of gain associated with the sale alternative. In addition, ERTA reduced the marginal tax rate and, therefore, the tax levied on any gain realized upon sale. The anti-churning provisions of ERTA and the reduction in the marginal tax rate both serve to increase the comparative advantage of the sale alternative. Thus, for property subject to these provisions, the tax benefits of the like-kind exchange were effectively eliminated from real estate transactions.

TABLE IX  
OPTIMAL FORM OF DISPOSITION  
PERIOD 2

	<u>SALE</u>	<u>EXCHANGE</u>
<u>STRAIGHT-LINE/STRAIGHT-LINE RECOVERY</u>		
SHOPPING CENTER	5%-20%	
LIGHT MANUFACTURING	5%-20%	
HEAVY MANUFACTURING	5%-20%	
FARM	5%-20%	
<u>ACCELERATED/ACCELERATED RECOVERY</u>		
SHOPPING CENTER	5%-20%	
LIGHT MANUFACTURING	5%-20%	
HEAVY MANUFACTURING	5%-20%	
FARM	5%-20%	
<u>STRAIGHT-LINE/ACCELERATED RECOVERY</u>		
SHOPPING CENTER	5%-20%	
LIGHT MANUFACTURING	5%-20%	
HEAVY MANUFACTURING	5%-20%	
FARM	5%-20%	
<u>ACCELERATED/STRAIGHT-LINE RECOVERY</u>		
SHOPPING CENTER	5%-20%	
LIGHT MANUFACTURING	5%-20%	
HEAVY MANUFACTURING	5%-20%	
FARM	5%-20%	

## Period 3

Table X indicates that for property acquired subsequent to the enactment of ERTA and TEFRA (Period 3), the optimal form of disposition was dependent upon the recovery method, the allocation ratio, and the discount rate.

Straight-Line/Straight-Line Recovery

With respect to the straight-line/straight-line recovery combination, the optimal form of disposition was exchange for all discount rates and all allocation ratios except for the allocation ratio typical of a farm when a 5% discount rate was used. For this case, the optimal alternative was sale. The allocation ratio of the farm is weighted heavily toward real property. Therefore, the majority of gain recognized upon sale would be Section 1231 and may receive capital gain treatment. Thus, the tax imposed on a sale of such property would be small. In addition, at lower discount rates, the present value of the future cost recovery deductions are greater when compared to the current imposition of the tax on disposition. At higher discount rates, the current tax represents a greater burden when compared to the present value of future benefits and tax deferral is more desirable.

Accelerated/Accelerated Recovery

When the accelerated/accelerated recovery combination was considered, the optimal form of disposition was exchange for all discount rates and all allocation ratios except for the allocation



TABLE X  
OPTIMAL FORM OF DISPOSITION  
PERIOD 3

	<u>SALE</u>	<u>EXCHANGE</u>
<u>STRAIGHT-LINE/STRAIGHT-LINE RECOVERY</u>		
SHOPPING CENTER		5%-20%
LIGHT MANUFACTURING		5%-20%
HEAVY MANUFACTURING		5%-20%
FARM	5%	10%-20%
<u>ACCELERATED/ACCELERATED RECOVERY</u>		
SHOPPING CENTER		5%-20%
LIGHT MANUFACTURING		5%-20%
HEAVY MANUFACTURING		5%-20%
FARM	5%	10%-20%
<u>STRAIGHT-LINE/ACCELERATED RECOVERY</u>		
SHOPPING CENTER	5%-20%	
LIGHT MANUFACTURING	5%-20%	
HEAVY MANUFACTURING	5%-15%	20%
FARM	5%-20%	
<u>ACCELERATED/STRAIGHT-LINE RECOVERY</u>		
SHOPPING CENTER		5%-20%
LIGHT MANUFACTURING		5%-20%
HEAVY MANUFACTURING		5%-20%
FARM		5%-20%

ratio typical of a farm when a 5% discount rate was used. For this case, the optimal alternative was sale. As noted previously, the statutory percentage method of cost recovery requires gain, to the extent of all depreciation taken on the initial property, to be recaptured as ordinary income. This recapture significantly reduces the tax benefit of the sale alternative relative to the exchange. This effect was not evident for the allocation ratio typical of a farm at the 5% discount rate. This could be attributed to the concentration of basis in nondepreciable land. Thus, the gain on disposition, the recapture potential, and the associated tax would be limited in amount when the sale alternative is considered. However, at high discount rates, the present value of the future tax benefits associated with the cost recovery of the replacement property would be reduced and would not outweigh the tax imposed on disposition. Thus, at those higher discount rates, the exchange would become optimal.

#### Straight-Line/Accelerated Recovery

With respect to the straight-line/accelerated recovery combination, the sale alternative was optimal for the shopping center, the light manufacturing facility and the farm for all discount rates. The use of the straight-line method for the initial property produces small depreciation deductions, reduces the realized gain and decreases the amount of income subject to recapture. Thus, upon disposition by sale a small gain would be realized and recognized and a small tax would be levied. In addition, Proposed Reg. 1.168-5 requires that property received in a like-kind exchange be recovered over the same period and in the same manner as the property exchanged. Thus, for the

exchange alternative, the replacement property must be recovered using the straight-line method. The sale alternative would, therefore, provide greater tax benefits on a present value basis because the accelerated method could be used.

The sale alternative was optimal for heavy manufacturing at the 5%, 10% and 15% discount rates. The optimal alternative changed the exchange at the 20% discount rate. The change in the optimal alternative indicates the effect of the discount rate on the disposition decision. The higher discount rates reduce the tax benefit of the cost recovery deductions relative to the current imposition of the tax levied upon disposition. Thus, at higher discount rates, the exchange alternative is the optimal form of disposition. The change from sale to exchange occurred only with respect to the heavy manufacturing facility. This could be attributable to the high concentration of basis in Section 38 property and personal property which require the recognition of gain as ordinary income to the extent of all recovery deductions. Thus, the tax imposed upon disposition by sale would be greater for this type of property than for the other types of property considered.

#### Accelerated/Straight-Line Recovery

With respect to the accelerated/straight-line recovery combination, the optimal form of disposition was exchange for all discount rates and all allocation ratios. As indicated above, the use of an accelerated method produces large depreciation deductions which reduce basis and increase the realized gain. The exchange alternative enables the taxpayer to defer the recognition of the gain realized and

the associated tax. The disposition by sale triggers the recapture of depreciation. During Period 3, all depreciation deductions taken on the initial property, including real property, would be recaptured as ordinary income. These factors reduce the tax benefit of the sale relative to the exchange.

### Summary

#### A Comparison of Period 1 and Period 2

The optimal form of disposition in Period 2 was sale for all cases analyzed. Thus, the optimal form of disposition either remained sale or changed from exchange to sale between Period 1 and Period 2. This is indicated by the increase in the optimal holding period of the exchange alternative in Period 2. The holding period for the sale alternative, however, changed only for those cases in which the exchange alternative had been optimal in Period 1. In those cases, the holding period of the sale alternative declined in Period 2. When compared to Period 1, the provisions of ERTA, as they apply to Period 2, decrease the net present value of the tax benefits of the exchange alternative and increase the net present value of the sale alternative. This effect of ERTA on the relative tax benefits acts to change the optimal alternative from exchange to sale or to reinforce the benefits of the sale alternative. The decrease in the net present value of the tax benefits of the exchange alternative can be attributed to the decrease in the marginal tax rate. A decrease in the marginal tax rate reduces the tax benefit of the depreciation deduction. The increase in the net present value of the sale alternative in Period 2, relative to Period 1, can be attributed to the introduction of ACRS and the

reduction in the marginal tax rate. The shorter asset lives associated with ACRS increase the present value of an asset's cost recovery deductions. These increased cost recovery deductions are available in Period 2 only when the sale alternative is selected. The reduction in the marginal tax rate reduces the tax benefit of each dollar of cost recovery deduction but also reduces the burden of the tax imposed upon the sale of the initial property.

#### A Comparison of Period 2 and Period 3

Since the optimal form of disposition in Period 2 was sale for all cases analyzed, the optimal form of disposition either remained sale or changed from sale to exchange between Period 2 and Period 3. This is indicated by the decrease in the optimal holding period of the exchange alternative in Period 3. The optimal holding period of the sale alternative, however, either did not change or increased between Period 2 and Period 3. When compared to Period 2, the provisions of ERTA and TEFRA, as they apply to Period 3, decreased the net present value of the sale and increased the net present value of the exchange. The decrease in the net present value of the sale can be attributed to the increase in the present value of the tax benefits of the initial property and the increase in the tax on disposition. The present value of the tax benefits of the initial property increased in Period 3, when compared to Period 2. In Period 2, the initial property was recovered using the depreciation rules of Section 167, but in Period 3, the initial property as recovered using the ACRS rules of Section 168. The tax on disposition also increased in Period 3, when compared to Period 2 because the cost recovery provisions of ACRS result in a smaller

adjusted basis for the initial property, a larger realized gain and, therefore, a larger tax.

The increase in the net present value of the exchange can be attributed to an increase in the present value of the tax benefits of the replacement property and the initial property and a decline in the tax imposed on disposition (the recapture of the investment tax credit). When compared to Period 2, the present value of the tax benefits of the initial and replacement properties in Period 3 increase under the exchange alternative because the use of ACRS is permitted in Period 3 for both properties. ACRS was not available for the initial property during Period 2 and its use was prohibited for the replacement property by the anti-churning provisions of ERTA under the exchange alternative. The tax on disposition declined between Period 2 and Period 3 because recapture of the investment tax credit was modified in Period 3 to conform to the provisions of ACRS.

Forty-seven of the sixty-four cases changed from sale to exchange between Period 2 and Period 3. For these cases, the impact of ERTA and TEFRA on the exchange alternative outweighed the effect of the change in law on the sale alternative. Thus, the optimal alternative was affected by the change in law. These cases included all cases using the accelerated/straight-line recovery combination, all cases using the accelerated/accelerated recovery combination except for the allocation ratio typical of a farm at the 5% discount rate, all cases using the straight-line/straight-line recovery combination except for the allocation ratio typical of a farm at the 5% discount rate and one case using the straight-line/accelerated recovery combination at the 20% discount rate. These cases impose a large tax upon disposition by sale

due to the use of the accelerated method of cost recovery for the initial property and/or produce small tax benefits on a present value basis on the replacement property because of a high discount rate or the use of the straight-line method of cost recovery. The two exceptions (the accelerated/accelerated recovery combination case and the straight-line/straight-line recovery combination case at the 5% discount rate) to the general results could be attributed to the low discount rate and the high concentration of basis in nondepreciable real property. A low discount rate will increase the present value of the tax benefit of the cost recovery deductions relative to the tax imposed on a sale. Therefore, at low discount rates, a sale may be optimal for property whose basis is concentrated in nondepreciable property.

Seventeen of the sixty-four cases remained a sale between Period 2 and Period 3. For these cases, the impact of ERTA and TEFRA on the exchange alternative was not sufficient to outweigh the tax benefits of the sale. Thus, the optimal decision was not affected by the change in tax law and remained a sale. These cases consisted primarily of cases using the straight-line/accelerated recovery combination. This result could be attributed to the fact that the large cost recovery deductions that can be taken on the replacement property when the statutory percentage method of cost recovery is used would more than compensate for the small tax that would be imposed upon disposition by sale when straight-line recovery is used for the initial property. Only one straight-line/accelerated recovery combination case examined did not remain a sale between Period 2 and Period 3. Rather, it changed from sale to exchange. This could be attributed to the large depreciable

base of the property and the high discount rate. The large depreciable base would produce larger tax relative to the smaller present value of the tax benefits of cost recovery associated with high discount rates.

#### A Comparison of Period 1 and Period 3

Between Period 1 and Period 3, the optimal form of disposition either remained sale, remained exchange, or changed from sale to exchange (Table XI). In no case did the optimal alternative change from exchange to sale. The change in tax law increased the desirability of the exchange. However, in several cases, the increase in the present value of the benefits of the exchange did not outweigh the benefits of the sale and the optimal alternative did not change. Of the cases examined, seventeen cases remained sale and thirty-one cases remained exchange between Period 1 and Period 3. Thus, for these cases, the optimal decision was not affected by the change in tax law. The optimal alternative of the remaining sixteen cases changed from sale to exchange and, therefore, were affected by the change in the law. The effect of the change in tax law is also evident in the optimal holding period of the initial property. In general, the optimal holding period of the exchange alternative did not change or decreased between Period 1 and Period 3. The optimal holding period of the sale alternative either stayed the same or decreased when the optimal decision did not change between the two periods. However, when the optimal decision changed from sale to exchange, the optimal holding period of the sale alternative increased.



TABLE XI  
SUMMARY OF THE OPTIMAL FORM OF DISPOSITION  
PERIOD 1 AND PERIOD 3

PERIOD 1 3 SALE-SALE			PERIOD 1 3 SALE-EXCHANGE			PERIOD 1 3 EXCHANGE-EXCHANGE		
SC SL/AC 5%-20%			SC SL/SL 5%-20%	SC AC/AC 5%-15%		SC AC/AC 20%		
						SC AC/SL 5%-20%		
LM SL/AC 5%-20%			LM AC/AC 5%			LM SL/SL 5%-20%		
						LM AC/AC 10%-20%		
						LM AC/SL 5%-20%		
HM SL/AC 5%-15%			HM AC/AC 5%	HM SL/AC 20%		HM SL/SL 5%-20%		
						HM AC/AC 10%-20%		
						HM AC/SL 5%-20%		
F SL/SL 5%			F SL/SL 10%-20%					
F AC/AC 5%			F AC/AC 10%-20%					
F SL/AC 5%-20%								
						F AC/SL 5%-20%		

SC = SHOPPING CENTER  
LM = LIGHT MANUFACTURING  
HM = HEAVY MANUFACTURING  
F = FARM

### Straight-Line/Straight-Line Recovery

The optimal alternative for the light manufacturing and heavy manufacturing facility remained exchange for all discount rates. For the allocation ratio typical of a farm, the optimal form of disposition was sale in Period 1 and Period 3 when a 5% discount rate was used. At the 10%, 15% and 20% discount rates, however, the change in tax law in Period 3 changed the optimal form of disposition from sale to exchange. For the allocation ratio typical of a shopping center, the change in tax law changed the optimal alternative for all discount rates.

When compared to Period 1, the provisions of ERTA and TEFRA, as they apply to Period 3 increased the net present value of both the sale alternative and the exchange alternative when the straight-line method of cost recovery was used for the initial and the replacement properties. This result could be attributed to the shorter recovery period that is allowable under ACRS and which is available in Period 3 for property acquired by sale and by exchange. In summary, the change in tax law increased the desirability of the exchange alternative and was optimal for all cases except for the allocation ratio of a farm when a 5% discount rate was used. This exception could be attributed to the increase in the present value of the tax benefit of the replacement property relative to the tax imposed upon disposition by sale when a low discount rate is used.

### Accelerated/Accelerated Recovery

With respect to the allocation ratio typical of a shopping center, the optimal decision was sale in Period 1 and exchange in Period 3 at

the 5%, 10% and 15% discount rate. At the 20% discount rate, the optimal decision was exchange in Period 1 and Period 3. The change in the optimal alternative could be attributed to the change in the recapture provisions of ACRS. ACRS requires the recapture of all depreciation deductions. Therefore, the tax liability associated with the sale alternative is greater in Period 3 than in Period 1. This factor would make the exchange preferable to the sale in Period 3. For the manufacturing facilities, the optimal form of disposition was sale in Period 1 and exchange in Period 3 for the 5% discount rate only. For the remaining discount rates, the optimal decision was exchange in Period 1 and Period 3. For the allocation ratio typical of a farm, the optimal form of disposition was sale in Period 1 and Period 3 when the 5% discount rate was used. When the 10%, 15% and 20% discount rates were used, however, the optimal decision changed to sale in Period 1 and exchange in Period 3. As indicated above, these changes in the optimal alternative (from sale to exchange) could be attributed to the change in the rules regarding the recapture of depreciation. The change in the optimal alternative is also responsive to changes in the discount rate. At higher discount rates, the present value of future depreciation deductions declines relative to the present value of the tax imposed upon disposition. Thus, the deferral of tax associated with the exchange alternative becomes more important in the decision making process as discount rates rise. Thus, the exchange would tend to be the preferred method of disposition.

### Straight-Line/Accelerated Recovery

For the allocation ratio typical of a shopping center, a light manufacturing facility and a farm, the optimal alternative was sale in both Period 1 and Period 3 for all discount rates. For the heavy manufacturing facility, the optimal form of disposition was sale in Period 1 and Period 3 when low discount rates were used. However, the optimal decision changed to exchange in Period 3 at the 20% discount rate. The desirability of the sale alternative could be attributable to the non-availability of the accelerated method under the exchange alternative in Period 3. When compared to Period 1, the provisions of ERTA and TEFRA, as they apply to Period 3 decreased the net present value of the sale alternative and increased the net present value of the exchange alternative. Although the change in tax law increased the desirability of the exchange, relative to the sale, the relative change in net present values was not sufficient to bring about a change in the decision for the shopping center, the light manufacturing facility and the farm at any of the discount rates considered and only affected the heavy manufacturing facility at the 20% discount rate. The responsiveness of the decision to the discount rate could be attributed to the concentration of basis in depreciable property. At high discount rates, the benefits of cost recovery diminish relative to the tax imposed when property is disposed of by sale.

### Accelerated/Straight-Line Recovery

The optimal decision for all allocation ratios and all discount rates was exchange in Period 1 and Period 3. This result could be

attributed to the large tax that would be imposed upon disposition by sale when the initial property is recovered by an accelerated method and to the small present value of the tax benefits of the replacement property when the straight-line method of recovery is used. These factors would favor the deferral of gain associated with the exchange alternative in Period 1 and in Period 3. Thus, the disposition decision was unaffected by the change in tax law for the accelerated/straight-line recovery combination.

## CHAPTER V

### IMPACT OF RECENT CHANGES IN TAX LAW

The Tax Reform Act (TRA) of 1984 increased the recovery period of depreciable real property, other than low-income housing, placed in service after March 15, 1984, to 18 years. In addition, the Act required the use of the mid-month convention for depreciable real property placed in service after June 22, 1984.

To assess the impact of the change in recovery period and the introduction of the mid-month convention on the optimal form of disposition, the decision model was modified to reflect this change in tax law. The optimal form of disposition was determined for each of the sixty-four previously identified variable combinations in each of four time periods (Table XII):

1. Property acquired and disposed of prior to January 1, 1981.
2. Property acquired and disposed of prior to January 1, 1981 but disposed of after June 22, 1984.
3. Property acquired and disposed of after June 22, 1984.
4. Property acquired after December 31, 1982 but prior to June 22, 1984 and disposed of after June 22, 1984.

Period 1 includes property which is subject to pre-ERTA tax law and which was unaffected by TRA.

Period 2 includes initial property which is subject to pre-ERTA tax law and replacement property which is subject to post-TRA tax law.

TABLE XII  
COMPARISON OF RECOVERY PERIODS OF DEPRECIABLE REAL PROPERTY

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PRE-ERTA & POST TEFRA (ORIGINAL RESULTS)		
	INITIAL PROPERTY	REPLACEMENT PROPERTY
PERIOD 1	PRE-ERTA	PRE-ERTA
SALE	40 YEARS	40 YEARS
EXCHANGE	40 YEARS	40 YEARS
PERIOD 2	PRE-ERTA	POST-TEFRA
SALE	40 YEARS	15 YEARS
EXCHANGE	40 YEARS	40 YEARS
PERIOD 3	POST-TEFRA	POST-TEFRA
SALE	15 YEARS	15 YEARS
EXCHANGE	15 YEARS	15 YEARS
PRE-ERTA & POST-TRA (REVISED RESULTS)		
	INITIAL PROPERTY	REPLACEMENT PROPERTY
PERIOD 1	PRE-ERTA	PRE-ERTA
SALE	40 YEARS	40 YEARS
EXCHANGE	40 YEARS	40 YEARS
PERIOD 2	PRE-ERTA	POST-TRA
SALE	40 YEARS	18 YEARS
EXCHANGE	40 YEARS	40 YEARS
PERIOD 3	POST-TRA	POST-TRA
SALE	18 YEARS	18 YEARS
EXCHANGE	18 YEARS	18 YEARS
PERIOD 4	PRE-TRA	POST-TRA
SALE	15 YEARS	18 YEARS
EXCHANGE	15 YEARS	15 YEARS

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With respect to Period 2 replacement property acquired by means of an exchange, the anti-churning rules of ERTA apply and the recovery period of the replacement property is that property's estimated useful life. With respect to Period 2 replacement property acquired by means of a purchase, the recovery period of the asset is 18 years.

Period 3 includes initial and replacement property which is subject to post-TRA tax law. The recovery period for both properties is 18 years.

Period 4 includes initial property which is subject to post-TEFRA but pre-TRA tax law and replacement property which is subject to post-TRA tax law. With respect to Period 4 replacement property acquired by means of an exchange, the recovery period of that property is 15 years. With respect to Period 4 replacement property acquired by means of a purchase, the recovery period of that property is 18 years.

Table XIII indicates the optimal form of disposition for each of the sixty-four cases considered in Period 2, Period 3 and Period 4. Period 1 is not included in the table because the optimal form of disposition for that time period was unaffected by the enactment of TRA.

#### Period 2

The results of the study indicate that for Period 2 property, the optimal form of disposition was sale for all allocation ratios, recovery methods and discount rates considered. These results are identical to those obtained under pre-TRA tax law. The lengthening of the recovery period to 18 years and the introduction of the mid-month convention did not affect the optimal form of disposition.



TABLE XIII

SUMMARY OF RESULTS USING 18 YEAR RECOVERY PERIOD FOR DEPRECIABLE REAL PROPERTY

RECOVERY METHOD	DISCT RATE	---SHOPPING CENTER---			-LIGHT MANUFACTURING-			--HEAVY MANUFACTURING--			-----FARM-----		
		PERIOD 2	PERIOD 3	PERIOD 4	PERIOD 2	PERIOD 3	PERIOD 4	PERIOD 2	PERIOD 3	PERIOD 4	PERIOD 2	PERIOD 3	PERIOD 4
SL-SL	.05	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	EXCHANGE	SALE	SALE	EXCHANGE
	.10	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	EXCHANGE
	.15	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	EXCHANGE
	.20	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	EXCHANGE
AC-AC	.05	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	EXCHANGE	SALE	SALE	EXCHANGE
	.10	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	EXCHANGE
	.15	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	EXCHANGE
	.20	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	EXCHANGE
SL-AC	.05	SALE	SALE	EXCHANGE	SALE	SALE	EXCHANGE	SALE	SALE	EXCHANGE	SALE	SALE	SALE
	.10	SALE	SALE	EXCHANGE	SALE	SALE	EXCHANGE	SALE	SALE	EXCHANGE	SALE	SALE	EXCHANGE
	.15	SALE	SALE	EXCHANGE	SALE	SALE	EXCHANGE	SALE	*EXCHANGE	EXCHANGE	SALE	SALE	EXCHANGE
	.20	SALE	SALE	EXCHANGE	SALE	SALE	EXCHANGE	SALE	EXCHANGE	EXCHANGE	SALE	SALE	EXCHANGE
AC-SL	.05	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	EXCHANGE
	.10	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	EXCHANGE
	.15	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	EXCHANGE
	.20	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	EXCHANGE

PERIOD 2 = PRE-ERTA & POST-TRA

PERIOD 3 = POST-TRA & POST-TRA

PERIOD 4 = POST-TEFRA/PRE-TRA & POST-TRA

\*OPTIMAL FORM OF DISPOSITION CHANGED WHEN COMPARED TO PRE-TRA TAX LAW

ALLOCATION RATIO	DEPRECIABLE REAL PROPERTY	SECTION 38 REAL PROPERTY	PERSONAL PROPERTY	LAND
SHOPPING CENTER	70%	5%	5%	20%
LIGHT MANUFACTURING	60%	15%	15%	10%
HEAVY MANUFACTURING	40%	30%	15%	15%
FARM	30%	10%	10%	50%

## Period 3

The results of the study indicate that for Period 3 property, the optimal form of disposition was dependent upon the recovery method, the allocation ratio and the discount rate. When compared to the results of the study under pre-TRA tax law, the increased recovery period changed the optimal form of disposition in only one case. That case was the variable combination in which the straight-line/accelerated recovery method, the allocation ratio typical of a heavy manufacturing facility and a 15% discount rate was used. Under pre-TRA tax law, the optimal form of disposition for that case was sale whereas the optimal form of disposition under post-TRA tax law was exchange. The lengthening of the recovery period reduced, on a yearly basis, the tax benefit of cost recovery deductions. Higher discount rates also serve to reduce the present value of the future tax benefits of those deductions. When compared to the current imposition of tax upon disposition by sale, the exchange alternative became the optimal form of disposition.

## Period 4

The results of the study indicate that for Period 4 property, the optimal form of disposition was exchange for all recovery methods, allocation ratios and discount rates except for the allocation ratio typical of a farm whose depreciable base is recovered using the straight-line/accelerated recovery method and a 5% discount rate. The tax law, as it applies to Period 4, requires the recovery of the basis of replacement property acquired by means of a sale over 18 years.

However, property acquired by means of an exchange during Period 4 would be recovered over the remaining recovery period using the same recovery method as the initial property. This would mean that property acquired by means of an exchange would be recovered over a shorter time period than property acquired by means of a sale and could provide greater tax benefits through recovery deductions in the earlier years of the holding period. Thus, the exchange alternative would tend to be optimal for property which falls within this time period. The case for which the sale alternative was optimal used an allocation ratio typical of a farm. Because the change in tax law affected only depreciable real property and the allocation ratio of a farm allocated only 30% of the property's base to depreciable real property, the change in tax law did not have a significant impact on the optimal form of disposition. In addition, lower discount rates tend to favor the sale alternative because of their effect on the present value of the tax benefits of recovery deductions. Lower discount rates increase the present value of the tax benefits of recovery deductions relative to the tax imposed on the gain realized upon sale.

## CHAPTER VI

### SUMMARY AND CONCLUSIONS

#### Summary

Individuals continually seek methods, within the tax law, which enable them to shield income from taxation and to defer the recognition of taxable income. The Internal Revenue Code contains several provisions which provide taxpayers with the ability to achieve these objectives by acquiring, holding, and disposing of investments in real or depreciable property. The disposition of investment property, when accompanied by the acquisition of similar property, requires a decision, by the taxpayer, as to whether to sell the property currently owned and purchase similar property or, alternatively, to structure the transaction as a like-kind exchange.

The form of disposition that is selected by taxpayers may have a significant impact on their tax liability in the year of sale or exchange as well as on the tax liability for each year during which the property is held. When a taxpayer disposes of property by means of an exchange, the tax on disposition is deferred until the replacement property is disposed of in a nonqualifying transaction. In addition, the basis of the initial property and its tax attributes carry over to the replacement property. Further, if the initial property is acquired prior to 1981 and is exchanged for another property at any time after

1980, the accelerated cost recovery system (ACRS) may not be used to recover the basis of the replacement property.

Alternatively, when a taxpayer disposes of property by means of a sale, a tax is levied on any gain realized. The basis of the replacement property acquired by purchase will be the purchase price of that property. Therefore, the basis of property acquired by purchase is usually larger than that acquired by exchange. Further, if property is acquired prior to 1981 and is replaced by a sale of that property and the purchase of another property, the basis of the replacement property may be recovered through ACRS.

To summarize, the exchange alternative allows taxpayers to decrease their current tax liability due to the deferral of gain recognition, but may increase future tax liabilities due to reduced cost recovery deductions and the recognition of the deferred gain when the replacement property is ultimately sold. The sale alternative requires a current recognition of gain and therefore, an increase in the taxpayer's current tax liability. However, future tax liabilities, when compared to the exchange alternative, may decrease due to larger cost recovery deductions. The recovery deductions may increase because the asset has a larger depreciable base and/or because the ACRS system of cost recovery is used.

For many years, investors and financial advisors have accepted the notion that the exchange alternative materially increases the tax benefits of real estate transactions. The Economic Recovery Tax Act (ERTA) of 1981 and the Tax Equity and Fiscal Responsibility Act (TEFRA) of 1982 altered the Internal Revenue Code in a number of ways which directly affect the tax consequences which arise from the disposition

of property. Table XIV summarizes the two major provisions of ERTA which affect the disposition decision and which altered the decision making process of taxpayers. Prior to ERTA, the cost of nonresidential real property was recovered through depreciation deductions over the estimated useful life of that property. The estimated useful life of nonresidential real property often exceeds thirty years. In addition, prior to the enactment of ERTA, the maximum tax rate levied on individuals was 70% (28% on long term capital gains). The enactment of ERTA introduced a radically new system of cost recovery (ACRS) based upon a fifteen year recovery period for real property. ACRS is used for property acquired after 1980. However, the prior depreciation rules continue to apply to property acquired by exchange after 1980 if the property given in the exchange was acquired prior to 1981. ERTA also reduced the maximum marginal tax rate to 50% (20% on long term capital gains).

The objective of this study was to determine the impact of ERTA and TEFRA on the optimal form of disposition (sale or exchange) of four types nonresidential real property (a shopping center, light manufacturing, heavy manufacturing and a farm). A computer present value decision model was developed to ascertain this effect.

The decision model was written in Microsoft Basic using a CP/M disk operating system. The study used the simulation approach to data gathering. Three parameters of interest were selected: the discount rate, the method of depreciation and the type of nonresidential real property. Three time periods were examined. Period 1 considered property acquired and disposed of prior to January 1, 1981. This property was subject to pre-ERTA tax law. Period 2 considered property

TABLE XIV  
SUMMARY OF PRE-ERTA AND POST-TEFRA TAX LAW

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PRE-ERTA TAX LAW (1981) - PERIOD 1

	SALE ALTERNATIVE	EXCHANGE ALTERNATIVE
COST RECOVERY	Depreciation	Depreciation
MAXIMUM TAX RATE	70%	70%

ANTI-CHURNING RULES - PERIOD 2

	SALE ALTERNATIVE	EXCHANGE ALTERNATIVE
COST RECOVERY	ACRS	Depreciation
MAXIMUM TAX RATE	50%	50%

POST-ERTA & POST-TEFRA TAX LAW (1983) - PERIOD 3

	SALE ALTERNATIVE	EXCHANGE ALTERNATIVE
COST RECOVERY	ACRS	ACRS
MAXIMUM TAX RATE	50%	50%

---

acquired prior to January 1, 1981, but disposed of after December 31, 1982. Period 2 included initial property which was subject to the pre-ERTA tax law and replacement property which was subject to post-TEFRA tax law. With respect to Period 2 replacement property acquired by means of an exchange, the anti-churning rules of ERTA apply. Period 3 included initial property and replacement property which was subject to post-TEFRA tax law.

The decision model identified the optimal form of disposition by determining the optimal holding period of property. The optimal holding period is the period of time which extends from the date of acquisition to the year in which the present value of the future tax benefit of the potential replacement property exceeds the present value of the remaining tax benefit of the currently owned property. The optimal form of disposition would be the alternative for which the optimal holding period is shortest.

A comparison of the optimal decision for Period 2 to that for Period 1 indicates the effect of ERTA and TEFRA on the optimal decision. Because Period 2 reflects the effect of the anti-churning provisions on the exchange and the use of ACRS on a sale and Period 1 reflects the effect of the Tax Code prior to the enactment of ERTA and TEFRA, a comparison of decisions between Period 2 and Period 1 reflects the full impact of ERTA and TEFRA on the sale alternative and only the partial impact of ERTA on the exchange alternative. This differential treatment of the disposition alternatives is indicated by Table XIV. The sale alternative between Period 1 and Period 2 is affected by the change in the maximum tax rate and by the change in cost recovery



methods. The exchange alternative, however, is affected only by the change in the maximum tax rate.

A comparison of the optimal decision for Period 3 to that of Period 2 indicates the impact of ERTA on the optimal decision between these periods. Period 3 fully reflects the impact of ERTA and TEFRA on the sale alternative. Period 2 does not fully reflect the impact of ERTA on the exchange because of the anti-churning provisions. Table XIV indicates that the sale alternative is not affected by the change in tax law between Period 2 and Period 3. For the exchange alternative, the method of cost recovery is affected by the change in tax law but the maximum tax rate is unaffected.

A comparison of the optimal decision for Period 3 to that of Period 1 indicates the full effect of ERTA and TEFRA on both the sale and the exchange alternatives, when compared to prior law. The change in cost recovery method and the maximum tax rate affect both the sale alternative and the exchange alternative.

Table XV summarizes the results of the study, indicating the optimal form of disposition for each of three time periods. Tables XVI, XVII, and XVIII summarize the parameters of a given optimal pattern of disposition.

For property which is subject to the anti-churning rules of ERTA (Period 2), the sale alternative is optimal in all cases examined. For these properties, the present value of the tax benefits of the accelerated cost recovery (ACRS) provisions of ERTA, which can be obtained by means of a sale and acquisition, exceeds the benefits of the deferral of gain recognition which can be obtained by means of an exchange. In addition, the reduction in the maximum tax rate reduces

TABLE XV  
SUMMARY OF RESULTS

RECOVERY METHOD	DISCT RATE	--SHOPPING CENTER--			-LIGHT MANUFACTURING-			-HEAVY MANUFACTURING-			-----FARM-----		
		PERIOD 1	PERIOD 2	PERIOD 3	PERIOD 1	PERIOD 2	PERIOD 3	PERIOD 1	PERIOD 2	PERIOD 3	PERIOD 1	PERIOD 2	PERIOD 3
SL-SL	.05	SALE	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	SALE	SALE	SALE
	.10	SALE	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	SALE	SALE	EXCHANGE
	.15	SALE	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	SALE	SALE	EXCHANGE
	.20	SALE	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	SALE	SALE	EXCHANGE
AC-AC	.05	SALE	SALE	EXCHANGE	SALE	SALE	EXCHANGE	SALE	SALE	EXCHANGE	SALE	SALE	SALE
	.10	SALE	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	SALE	SALE	EXCHANGE
	.15	SALE	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	SALE	SALE	EXCHANGE
	.20	EXCHANGE	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	SALE	SALE	EXCHANGE
SL-AC	.05	SALE	SALE	SALE	SALE	SALE	SALE	SALE	SALE	SALE	SALE	SALE	SALE
	.10	SALE	SALE	SALE	SALE	SALE	SALE	SALE	SALE	SALE	SALE	SALE	SALE
	.15	SALE	SALE	SALE	SALE	SALE	SALE	SALE	SALE	SALE	SALE	SALE	SALE
	.20	SALE	SALE	SALE	SALE	SALE	SALE	SALE	SALE	SALE	EXCHANGE	SALE	SALE
AC-SL	.05	EXCHANGE	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE
	.10	EXCHANGE	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE
	.15	EXCHANGE	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE
	.20	EXCHANGE	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE	EXCHANGE	SALE	EXCHANGE

ALLOCATION RATIO	DEPRECIABLE REAL PROPERTY	SECTION 38 REAL PROPERTY	PERSONAL PROPERTY	LAND
SHOPPING CENTER	70%	5%	5%	20%
LIGHT MANUFACTURING	60%	15%	15%	10%
HEAVY MANUFACTURING	40%	30%	15%	15%
FARM	30%	10%	10%	50%

TABLE XVI  
 PARAMETERS FOR WHICH THE OPTIMAL FORM OF DISPOSITION IS  
 SALE-SALE-SALE

PERIOD 1	PERIOD 2	PERIOD 3
SALE	SALE	SALE
<u>STRAIGHT-LINE/STRAIGHT-LINE RECOVERY</u>		
FARM		5%
<u>ACCELERATED/ACCELERATED RECOVERY</u>		
FARM		5%
<u>STRAIGHT-LINE/ACCELERATED RECOVERY</u>		
SHOPPING CENTER		5%-20%
LIGHT MANUFACTURING		5%-20%
HEAVY MANUFACTURING		5%-15%
FARM		5%-20%
<u>ACCELERATED/STRAIGHT-LINE RECOVERY</u>		
NONE		

TABLE XVII  
 PARAMETERS FOR WHICH THE OPTIMAL FORM OF DISPOSITION IS  
 SALE-SALE-EXCHANGE

PERIOD 1	PERIOD 2	PERIOD 3
SALE	SALE	EXCHANGE
<u>STRAIGHT-LINE/STRAIGHT-LINE RECOVERY</u>		
SHOPPING CENTER		5%-20%
FARM		10%-20%
<u>ACCELERATED/ACCELERATED RECOVERY</u>		
SHOPPING CENTER		5%-15%
LIGHT MANUFACTURING		5%
HEAVY MANUFACTURING		5%
FARM		10%-20%
<u>STRAIGHT-LINE/ACCELERATED RECOVERY</u>		
HEAVY MANUFACTURING		20%
<u>ACCELERATED/STRAIGHT-LINE RECOVERY</u>		
NONE		

TABLE XVIII

PARAMETERS FOR WHICH THE OPTIMAL FORM OF DISPOSITION IS  
EXCHANGE-SALE-EXCHANGE

PERIOD 1	PERIOD 2	PERIOD 3
EXCHANGE	SALE	EXCHANGE
<u>STRAIGHT-LINE/STRAIGHT-LINE RECOVERY</u>		
LIGHT MANUFACTURING		5%-20%
HEAVY MANUFACTURING		5%-20%
<u>ACCELERATED/ACCELERATED RECOVERY</u>		
SHOPPING CENTER		20%
LIGHT MANUFACTURING		10%-20%
HEAVY MANUFACTURING		10%-20%
<u>STRAIGHT-LINE/ACCELERATED RECOVERY</u>		
NONE		
<u>ACCELERATED/STRAIGHT-LINE RECOVERY</u>		
SHOPPING CENTER		5%-20%
LIGHT MANUFACTURING		5%-20%
HEAVY MANUFACTURING		5%-20%
FARM		5%-20%

the burden of the tax levied upon disposition. Both tax changes increase the comparative advantage of the sale alternative. Thus, for Period 2 property, ERTA and TEFRA altered the disposition decision of the taxpayer and made the sale alternative preferable to the exchange. The change in tax law also affected the change in the optimal holding period of property. When compared to Period 1, the optimal holding period of the exchange alternative increased in Period 2 whereas the optimal holding period of the sale alternative either remained constant or declined.

For Period 1 and Period 3, however, the optimal form of disposition was dependent upon the cost recovery combination, allocation ratio and discount rate. All of these factors interacted to produce varying results although patterns can be detected from analysis of Table XV and were discussed in detail in Chapter IV. In general, the exchange alternative is optimal in both Period 1 and Period 3 when high discount rates and the accelerated/straight-line recovery combination are used. The sale alternative is optimal when lower discount rates and the straight-line/accelerated recovery combination is used. In addition, the change in tax law tended to change the optimal form of disposition from sale in Period 1 to exchange in Period 3 when the straight-line/straight-line and the accelerated/accelerated recovery methods are used.

The enactment of the Tax Reform Act (TRA) of 1984 increased the recovery period of depreciable real property and introduced the mid-month convention for such property. The study examined the impact of TRA on the optimal form of disposition. For Period 2 property, the enactment of TRA had no effect on the optimal form of disposition.

That is, the optimal form of disposition remained sale for all cases examined. For Period 3 property, the enactment of TRA affected only one of the cases examined. For that case, the optimal form of disposition changed from sale to exchange. An additional period (Period 4) was identified. This period includes property acquired after the enactment of TEFRA but prior to TRA and disposed of subsequent to TRA. For Period 4 property, the optimal form of disposition was exchange in all but one case.

This knowledge is of interest to taxpayers who continually seek methods by which they can reduce their tax burden. Individuals who specialize in exchange transactions may experience a decline in interest in the exchange as individuals become aware of the benefits of the sale. This knowledge also may be of interest to policy makers. The Treasury Department may currently experience an increase in current tax revenues due to the current recognition of gains. However, it may also experience a decline in future tax revenues as investors acquire property which will produce the larger ACRS deductions.

#### Contribution of the Study

Taxation is a major tool of social and economic policy. The goals of taxation are to raise revenue, to distribute the cost of government equitably, to encourage economic growth, stability, efficiency, and to promote a variety of social objectives (Pechman, 1966). Taxes act to distort private choices. Pigou (1947, p. 55) observed that "the announcement of a tax, as a rule, causes people to modify their conduct with a view, in some measure, to avoid the pressures of the tax." To the extent that taxpayers alter their behavior to coincide with the

intent of the policy makers, the tax policy could be said to be effective. The Committee on Federal Income Taxes (1974, p. 180) of the American Accounting Association expressed the belief that it is the accountant's role to understand and determine the "behavioral implications of tax policy in order to assist in keeping our social and economic systems under reasonable control." Crumbley (1973, p. 759) stated that "once a tax law is enacted for a desired goal (or social objective), measurements should be made periodically in order to determine whether or not the goal is being achieved."

With respect to ERTA, Senator Robert Dole, Chairman of the Senate Finance Committee (127 Congressional Record S7640, July 15, 1981) stated that "overall, this bill is designed to reduce tax considerations as a factor in economic decisions, not to use the Tax Code as a tool for structuring those decisions." In addition, he noted that the reduction in the tax rate would allow individuals to sell appreciated property rather than to hold it to defer or avoid tax and that ACRS would provide a major stimulus to business investment which would be essential for rapid economic growth. In their general explanation of the act, the Joint Committee on Taxation stated that inflation had reduced the real value of depreciation deductions and, therefore, had reduced the profitability of investment and discouraged the replacement of old equipment and structures with more modern facilities. Thus, Congress concluded that a new capital cost recovery system was required. The present study will assist policy makers in determining whether ERTA has fulfilled these expectations by considering the effect of the change in tax law on optimal holding periods.



In addition, the present study will assist investors in determining whether or not the Economic Recovery Tax Act of 1981 and the Tax Equity and Fiscal Responsibility Act of 1982 have affected the optimal form of disposition of nonresidential real property. The computer decision model developed by this study can be used by taxpayer in making investment decisions. Further, the decision model will provide a basis for assessing the effect of additional legislation or proposed legislation on the taxpayer's decisions. The results of this study may assist the Treasury in assessing future tax revenues and audit priorities for the following reasons: The increased preference of taxpayers to engage in a like-kind exchange in Period 3 would tend to reduce the current flow of tax revenue due to the deferment of the gain realized on the exchange and to increase the future flow of tax revenue due to reduced depreciation deductions. The increased use of the sale alternative in Period 2, however, would tend to increase current tax revenue as the gain on the sale is recognized currently and to decrease future tax revenue because of increased depreciation deductions. To the extent that the change in tax law has increased the incentive to engage in a sale, this may be judged to be desirable from society's point of view because it would tend to decrease the time and effort currently committed to nonproductive activities solely to reduce or defer taxes. In addition, the associated decrease in the use of the exchange alternative could reduce the number of audits that the Internal Revenue Service performs on tax returns which report like-kind exchange transactions.

To the extent that the change in tax law has increased the incentive to engage in an exchange or to lengthen the holding period of

nonresidential real property, policy makers may seek to modify the tax law to conform to their objectives.

#### Limitations

The conclusions reached by this study are subject to limitations. This study assumed that the investor's utility function is one of profit maximization. The utility function of some investors may differ from that of profit maximization. Some investors may seek to minimize current tax payments, irrespective of the long-run tax consequences of an action. The solution is dependent upon TEFRA, ERTA and pre-ERTA tax law, which is subject to change. In addition, not all possible combinations of investment parameters were investigated.

#### Extensions

Future research could focus on the use of a third alternative, the installment sale. The installment method would enable the taxpayer to defer the recognition of income while avoiding the carry-over requirements of the like-kind exchange. The tax benefits provided by the installment sale could then be compared to those provided by the sale and the exchange to determine the optimum form of disposition.

Future research could also explore the effect of boot on the optimal form of disposition. Such research could consider the exchange of one type of property for another type (i.e., shopping center for a farm) or the exchange of properties subject to a mortgage. This study assumed that no boot was given or received so that the distinction between the sale and the exchange would be maximized. The receipt of boot and the recognition of gain upon receipt of that boot would tend

to reduce the benefits of the exchange. A sensitivity analysis of the effect of boot could be performed to assess the impact of boot on the decision.

Future study could also explore alternative allocation ratios and discount rates to determine whether ratios and rates not currently considered would affect the general conclusions of this study.

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## APPENDIX A

### RELEVANT PROVISIONS OF THE TAX CODE

#### The Internal Revenue Code, As It Applied to Nonresidential Real Property Prior to The Enactment of The Economic Recovery Tax Act of 1981

##### Section 1231. Property Used in the Trade or Business.

The taxation of the gain realized upon the sale of property which has been held for more than one year is provided for in Section 1231 of the Internal Revenue Code. This code section provides that, although depreciable property or real estate used by a taxpayer in his trade or business, is not a capital asset, such property may be treated as if it were a capital asset if the gains from the sale of such property in a particular taxable year exceed the losses. However, when the losses from the sale of such assets exceed the gains, those assets are not treated as capital assets. This special treatment was adopted by Congress in 1942 to eliminate the hardship imposed upon businessmen when, due to wartime conditions, they were forced to sell their property. The gain realized upon the sale of that property was taxed at high ordinary income rates, rather than at lower capital gains rates. Therefore, the Revenue Act of 1942 enacted 1939 Code Section 117(j), the forerunner of the current Code Section 1231. When the gains from the sale of Section 1231 assets exceed the losses from such assets, those assets are treated as capital assets and fall under the provisions of Section 1202. This provision provides businesses with a

special tax advantage. That is, the net gain is taxed at low capital gains rates. However, when the losses from the sale of Section 1231 assets exceed the gains from such assets, the resulting net loss is treated as an ordinary loss and is deductible from ordinary taxable income. This provision reduces the income that is taxable at higher ordinary income rates. Thus, Section 1231 has been structured to provide the taxpayer with the maximum tax benefit. It provides favorable capital gains treatment, while avoiding unfavorable capital loss treatment.

#### Subchapter P. Capital Gains and Losses.

Code Section 1222 of Subchapter P provides that the gains and losses from capital assets be segregated into those gains and losses which are short-term and those that are long-term. Short-term capital gains and losses are those gains and losses which result from the sale or exchange of capital assets which have been held for a period of time which is equal to or less than one year. Long-term capital gains and losses are those gains and losses which result from the sale or exchange of capital assets which have been held for more than one year. The short-term gains and losses are netted against each other to determine the net short-term capital gain or loss. The long-term capital gains and losses are netted in order to determine the net long-term capital gain or loss. The net short-term capital gain (or loss) is then combined with or netted against the net long-term capital loss (or gain). If an overall net short-term gain results, the short-term gain is treated as ordinary income and does not receive the favorable tax treatment available to capital assets. If an overall net long-term capital gain results, the excess of the net long-term capital gain over



net short term capital loss is called a net capital gain. Code Section 1202 provides that for individual taxpayers, this net capital gain is subject to an exclusion from taxable income equal to 60% of the net capital gain. This deduction has the effect of including only 40% of the long-term capital gain in taxable income. Thus, the net capital gain is taxed at approximately 40% of the tax rate which would have been applied if the gain had been treated as ordinary income.

Code Section 1211 provides that if an overall net loss results, the capital loss deduction is limited to the amount of the capital gain. Any remaining loss is deductible against ordinary income, but only to a limited degree. The capital loss deduction against ordinary income is limited to the lesser of \$3,000 per year or ordinary taxable income computed without the personal exemption and reduced by the zero bracket amount. Short-term capital losses are deducted directly against ordinary income, subject to the \$3,000 per year or taxable income limitation. A long-term capital loss requires that two dollars of loss be used to offset one dollar of ordinary income. Because the deductibility of capital losses are limited, the tax treatment of a capital loss is unfavorable in comparison to that treatment accorded to an ordinary loss. It is important to remember that the capital asset treatment applicable to depreciable business assets as provided for in Section 1231 applies only when gains exceed losses. Therefore, Section 1231 assets receive the favorable tax treatment applicable to capital gains and the favorable tax treatment applicable to ordinary losses.

#### Section 1. Tax Imposed.

The effective tax rate imposed upon a capital gain is dependent upon the tax rate structure and the taxpayer's taxable income. Prior

to the enactment of ERTA, the tax rates for married individuals filing a joint return ranged from a marginal rate of 14%, imposed on taxable income of \$3,400 to a marginal rate of 70%, imposed on a taxable income of \$215,400. The capital gains exclusion resulted in effective tax rates for capital gains which ranged from 5.6% to 28%.

Section 1250. Gain from Dispositions of Certain Depreciable Property.

Although the gain on the sale of depreciable real property results in capital gain treatment if the Section 1231 transactions produce an overall gain, part of this gain may be treated as ordinary income under Section 1250. Section 1250 came into existence with the passage of the Revenue Act of 1964. Section 1250 was designed to restrict the ability of taxpayers to acquire real estate, to depreciate it rapidly using an accelerated method of depreciation and then to sell it at a large profit which would be taxed at favorable capital gains rates under Section 1231. As enacted in 1964, Section 1250 permitted Section 1231 treatment only when real property was depreciated at a straight-line rate or held for a substantial period of time before being sold. Section 1250 provides that the gain on the sale, exchange, or other disposition of real property is taxable as ordinary income to the extent of the depreciation recaptured. Any gain to be recognized in excess of the depreciation recapture is treated as Section 1231 gain. Section 1250, as enacted by the Revenue Act of 1964, stated that when assets are depreciated using an accelerated method, the excess of the depreciation claimed after 1963 over that which would have been claimed if the straight-line method had been used, was to be recaptured in full, as ordinary income, if the property had not been held more than

twenty months. For assets held for more than twenty months, Section 1250 provided that the amount of depreciation recaptured as ordinary income was to be reduced by 1% for each full month the property was held beyond twenty months. Thus, property held for ten years, was not subject to the recapture of depreciation. The Tax Reform Act of 1969 modified Section 1250 to require greater depreciation recapture, with respect to nonresidential real property. This Act provided that the excess of the accelerated depreciation claimed over the straight-line depreciation allowable after 1969 was to be recaptured before any recapture attributable to the 1964-1969 period and that such post-1969 excess depreciation was to be recaptured in full. The following components of real property are considered to be Section 1250 property: "the building shell, roof cover, interior partitions, floor cover, building power, electric lighting system, light fixtures, comfort air-conditioning equipment, air-conditioning ducts, fire sprinklers, plumbing supply and waste piping, plumbing fixtures and parking lots (Heath, 1979, p. 65)."

Section 1245. Gain from Dispositions of Depreciable Personal Property.

Section 1245 was enacted in 1962 to prevent taxpayers from obtaining the benefits of a depreciation deduction which would reduce ordinary income, while obtaining favorable long-term capital gain treatment upon the disposition of the depreciated property. Thus, Section 1245 requires that the gain realized on the sale of 1245 property be taxed as ordinary income to the extent of the depreciation taken on the property after 1961. Any gain which exceeds such depreciation is treated as a Section 1231 gain. Although the recapture

provisions do not require that ordinary income be recognized in a like-kind exchange, unless gain is to be recognized due to the receipt of boot, the recapture potential of the prior property does carry over to the acquired property.

Section 1245 applied to personal property, elevators and escalators, and other property used as an integral part of manufacturing, production, or extraction or of furnishing transportation, communication, electrical energy, gas, water or sewage disposal or any research or storage facility used in connection with the above activities.

#### Section 167. Depreciation.

The Internal Revenue Code permits taxpayers to deduct from income, a reasonable allowance for the exhaustion, wear and tear of property used in a trade or business or held for the production of income. This deduction has been allowed since the tax law was first established in 1913. At that time, taxpayers were allowed a significant amount of freedom in determining the estimated useful life of their property. The Internal Revenue Service (IRS) permitted taxpayers to depreciate property quickly because they reasoned that the loss of later deductions offset the benefits of the rapid deductions. In 1934, in order to raise additional tax revenue, the IRS required taxpayers to prove that the useful life they selected was appropriate and reasonable. This requirement resulted in the use of unrealistically long asset lives. In 1942, Bulletin F, a listing of acceptable property lives, was issued. It was the intent of Bulletin F to specify long asset lives in order to reduce depreciation deductions. The 1954 Code, however, liberalized depreciation deductions by permitting the

use of accelerated methods of depreciation. In 1962, Revenue Procedure (Rev. Proc.) 62-21 (1962-2 CB 418) was issued by the IRS. This Rev. Proc. replaced Bulletin F with a system of industry asset classes which allowed substantially shorter asset lives. The 1971 Revenue Act established the Class Life Asset Depreciation Range System (ADR) which established class lives for various asset classes and a range of acceptable asset lives. It also established a Class Life System (CLS) which was applicable to the post-1970 depreciation of assets which were placed in service before 1971. The guideline life of real property, as provided by the Code, ranged from 40 to 60 years.

Section 167 permits the depreciation of real and personal property, placed into service before January 1, 1981, by means of the straight-line method and the accelerated method, but restricts the use of the accelerated methods. The Revenue Act of 1969 limited the use of accelerated depreciation for real property in order to reduce the ability of taxpayers to benefit from the rapid write-off, against ordinary income, of an asset using accelerated depreciation and the subsequent recognition of a capital gain upon sale of the asset. With respect to new nonresidential real property, constructed after July 24, 1969, the 150% declining balance method or any method which does not produce greater allowances in the first two-thirds of useful life than those which would be obtained using the 150% declining balance method may be used. The 150% declining balance method requires that a rate equal to 150% of the straight line rate be applied each year to the unrecovered basis of the property. Although the depreciable base of the property is not reduced by its salvage value, the property may not be depreciated below salvage value. The sum of the years-digits method

and the 200% declining balance method are not allowed for such property. With respect to used nonresidential real property acquired after July 24, 1969, the use of accelerated depreciation is not allowed unless expressly permitted by the Commissioner of the Internal Revenue Service. The straight-line method requires that the basis of a property be reduced by the property's salvage value and the remaining balance be allocated to income evenly over the economic life of the asset.

New personal property with a useful life of at least three years may be depreciated using a rate which does not exceed that of the 200% declining balance method. Used personal property with a useful life of at least three years may use a rate which does not exceed that of the 150% declining balance method.

#### Sections 56 & 57. Minimum Tax for Tax Preferences.

The Tax Reform Act of 1969 enacted Code Section 56 which imposes a minimum tax on tax preference items. Prior to 1969, taxpayers could shield all of their income from tax by taking advantage of various provisions of the tax code. These provisions include tax-exempt state and local bond interest, long-term capital gains, accelerated depreciation, percentage depletion, the charitable contribution of appreciated property and certain special farm accounting rules. Congress believed that these provisions resulted in an unfair distribution of the tax burden. A limit on these tax preferences was enacted so that those high income individuals who paid little or no tax would be unable to avoid paying at least some taxes in the future and so that financially able individuals would include in taxable income at least one-half of their economic income (West Publishing Co., 1971).

The Tax Reform Act of 1969 set the minimum tax rate at 10% on preferences in excess of a generous exemption. The Tax Reform Act of 1976 raised the minimum tax rate to 15%, expanded the list of preference items and reduced the exemption from the tax. The Revenue Act of 1978 restructured the minimum tax. It modified the add-on minimum tax of Section 56 and created Section 55 to provide for the alternative minimum tax.

Section 57 enumerates the following tax preference items:

1. Adjusted itemized deductions
2. Accelerated depreciation on real estate
3. Accelerated depreciation on leased personal property
4. Amortization of certified pollution control facilities
5. Amortization of railroad rolling stock
6. Stock options
7. Reserves for losses on bad debts of financial institutions
8. Depletion
9. Capital gains
10. Amortization of child care facilities
11. Intangible drilling costs
12. Accelerated cost recovery deduction

The minimum tax on tax preferences, often called the add-on minimum tax, is equal to 15% of the amount by which the sum of the tax preference items, not including preferences for adjusted itemized deductions and the long-term capital gain deduction, exceeds the greater of \$10,000 or one-half of the income tax for the year. The add-on minimum tax may be deferred when a taxpayer sustains a net operating loss.

#### Section 55. Alternative Minimum Tax.

The alternative minimum tax for taxpayers other than corporations was enacted by the Revenue Act of 1978 to modify the add-on minimum tax because Congress felt that the minimum tax did not sufficiently aid in the attainment of an equitable tax system nor did it encourage capital investment. Congress believed that these goals would be attained by

means of the alternative minimum tax because taxpayers paying high regular taxes would not be subject to a minimum tax on capital gains and would not be induced to avoid capital gain producing or other preferentially treated investments. On the other hand, the law would tax those high income individuals who paid low regular taxes. The alternative minimum tax is an alternative to the regular tax. It is not an add-on tax; nor is it merely a tax on sheltered income.

The alternative minimum tax is imposed if an individual's alternative minimum tax is greater than his regular tax plus the add-on minimum tax. The alternative minimum tax is applicable to the taxpayers alternative minimum taxable income which is computed by adding the taxpayer's long-term capital gain deduction and his excess adjusted itemized deductions to his taxable income. Prior to ERTA, the alternative minimum tax rate was 10% of the alternative minimum taxable income in excess of \$20,000 and through \$60,000; 20% of amounts in excess of \$60,000 and through \$100,000; and 25% of amounts over \$100,000. The first \$20,000 of alternative minimum taxable income is exempt from the tax.

Sections 38, 46, 47, & 48. Investment Credit.

The investment tax credit was originally enacted in 1962 in order to encourage investment in machinery and equipment and, therefore, to promote economic expansion. The credit was suspended in 1966 because it was believed that the credit was a source of inflation. The credit was restored in 1967 after it had been suspended for only five months. The Tax Reform Act of 1969 then repealed the credit in an effort to control inflation. The Revenue Act of 1971 again reinstated the



credit. The Tax Reduction Act of 1975 increased the credit from 7% to 10%. The 10% rate was made permanent by the Revenue Act of 1978.

Code Section 38. Investment in Certain Depreciable Property provides that a tax credit shall be allowed for investment in certain depreciable property. The amount of this credit is specified in Code Section 46. The regular investment credit is 10% of the qualified investment in Section 38 property placed in service during the tax year. Additional investment credit may be claimed for contributions to tax credit employee stock ownership plans. In addition, energy property placed in service prior to January 1, 1986 may qualify for a tax credit which varies from 10% to 15%, depending on the form of energy produced by the property. Rehabilitation expenditures are eligible for the 10% investment credit. Alternatively, rehabilitation expenditures for certified historic structures may be amortized over a 5-year period. Limitations, based on the taxpayer's tax liability are placed on the credit. Any investment credit which exceeds the limitations established by Section 46 was carried back three years and carried over seven years.

The Code provides that the amount of qualified investment be determined by applying a percentage, based upon the property's useful life as determined for depreciation, to the basis of each new Section 38 property and to the cost of each used Section 38 property. The applicable percentage for property with a life of three years or more, but less than five years was 33 1/3%; for property with a life of five years or more, but less than seven years, the applicable percentage was 66 2/3%; for property with a life of seven years or more, the applicable percentage was 100%.

Code Section 47 establishes rules which provide for the recapture of the investment credit when Section 38 property is disposed of or ceases to be Section 38 property.

Section 48 defines Section 38 property. In general, Section 38 property is tangible personal property and other tangible property (not including a building or its structural components) if that property is used in manufacture, production, or extraction, in furnishing transportation, communications, electrical energy, gas, water, or sewage disposal services; elevators and escalators; single purpose horticultural or agricultural structures; and the basis of the rehabilitated building attributable to qualified rehabilitation expenditures. The following components of real property are deemed to be Section 38 property: "machinery connections, electrical and piping, machinery foundations, various types of process supply and waste piping systems, process temperature controls, humidity and exhaust systems, process environmental chambers and roads used solely for shipping and receiving of goods (Heath, 1979, pp. 65-66)." A significant portion of real property may qualify for Section 38 treatment (Table III).

Section 48 states that the cost of used Section 38 property does not include "the basis of such property as is determined by reference to the adjusted basis of other property held at any time by the person acquiring such property (Internal Revenue Code Section 48(c)(3)(B))." Thus, in a like-kind exchange of used property for used property, the carry-over basis of the previously owned property is not eligible for the investment credit. Because the investment credit applies to property such as movable partitions, loading docks, elevators, escalators, and concrete machinery pads, a substantial portion of the

acquisition price of nonresidential real property may be eligible for investment credit. Due to the rules of Section 48(c)(3)(B), however, the investment credit may be substantially reduced if property is acquired in a like-kind exchange.

Section 453. Installment Method.

When an asset is sold, the gain recognized on the sale is reported, under the accrual method, in the year of sale. However, Section 453 of the Internal Revenue Code permits the use of the installment method to defer the recognition of income to the year of collection. The amount of taxable income to be reported in a particular year is dependent upon the gross profit ratio of the sale and the installment receipts of that taxable year. Section 453 does not change the nature of the gain realized on the sale of the asset. Thus, the capital gain realized on the sale of real property remains a capital gain even though the gain may be realized on the installment basis. However, if real property is sold and part of the gain is to be treated as ordinary income due to the application of the recapture of depreciation provisions of Section 1250, the gain to be recognized under the installment method will first be reported as ordinary income, to the extent of the required recapture. Only when all of the ordinary income is recognized, will the Section 1231 gain be recognized.

In addition to spreading the tax imposed on a sale over several years, the installment gain provisions may enable the taxpayer to eliminate or reduce the minimum tax which might be imposed on the long-term capital gain deduction (Englebrecht, 1978, p. 24).

The Installment Sales Revision Act of 1980 affected the disposition of real property by changing the requirements that must be

met in order for a transaction to qualify as an installment sale and by changing the rules regarding installment sales as they apply to like-kind exchanges. The Act eliminated the requirement that no more than 30% of the sales price be received in the taxable year of sale and the requirement that two or more installments be received in two or more taxable years. Thus, the installment method may be used even if the proceeds from the sale are to be received in only one payment in a year subsequent to the year of sale. With respect to like-kind exchanges, under the old law, the value of like-kind property was included in the determination of the selling price and in the payments received in the year of sale. Currently, like-kind property is not included in the contract price or in the payments received in the year of sale. In addition, the gross profit to be recognized does not include the gain which is deferred by reason of the provisions of Section 1031. This change does not alter the total amount of gain to be recognized, but does alter the timing of the recognition of that gain.

Prior to the enactment of the Installment Sales Revision Act of 1980, the installment method could be used only if the taxpayer elected to report on the installment basis. Currently, the installment method of reporting gain is automatic unless the taxpayer elects otherwise by reporting the entire gain in gross income for the year in which the disposition occurs.

Section 1031. Exchange of Property Held for Productive Use or Investment.

The like-kind exchange provisions of the Internal Revenue Code can be traced to the 1921 Revenue Act. Prior to the enactment of that law, the Revenue Code required the recognition of gain or loss on any sale

or exchange of property. The fair market value of the property received in an exchange was treated as the proceeds of the exchange for the determination of the realized gain or loss. The difficulty in properly valuing property received in an exchange transaction prompted Congress to enact Section 202(c) of the 1921 Revenue Act. This code section provided that no gain or loss was to be recognized on the exchange of property unless the property had a realizable market value. Further, when property was to be held for investment or for productive use in a trade or business, no gain or loss would be recognized on an exchange even if the property had a readily realizable market value (Revenue Act of 1921 P. L. No. 98, 42 Stat. 227 (1921)). These provisions enabled taxpayers to defer the recognition of gain on all property except for stock in trade or property held primarily for sale by means of an exchange transaction. These provisions also enabled taxpayers to recognize any loss on those assets by selling them. The like-kind exchange treatment quickly led to abuse with respect to investment securities and obligations. Thus, in 1923, "stocks, bonds, notes, choses in action, certificates of trust or beneficial interest or other securities or evidences of indebtedness or interest" were excluded from like-kind exchange treatment (House Rept No. 1432 67th Cong. 4th Sess. (1923)).

An investor who desires to dispose of property that he currently owns and to acquire similar property, may structure the transaction as a like-kind exchange. Prior to the passage of ERTA, the like-kind exchange was a very popular method of deferring the recognition of the gain realized upon disposition of real property. This popularity arose because the Internal Revenue Code acted to shield from tax and to defer

from taxation, the dramatic increase in the value of real estate. The like-kind exchange provisions of the Internal Revenue Code are included in Code Section 1031. Section 1031 provides an exception to the rule established by Code Section 1002 that a realized gain or loss is to be recognized on the sale or exchange of property. Code Section 1031 provides that no gain or loss shall be recognized if property held for productive use in a trade or business or for investment purposes is exchanged solely for property of a like-kind. The term, like-kind, refers to the character of the property exchanged. Thus, real property may be exchanged for real property or personal property may be exchanged for personal property. However, an exchange of personal property for real property or an exchange of real property for personal property would not qualify as a like-kind exchange. The application of Code Section 1031 is automatic, not elective if a transaction meets the requirements of this provision of the tax law. In the event the taxpayer receives nonqualifying property (boot), such as cash or unlike property, the realized gain will be recognized to the extent of the fair market value of the nonqualifying property received. A realized loss on the exchange, however, may not be recognized even if boot is received. In the event the taxpayer gives nonqualifying property in a like-kind exchange, his basis in the property received will be increased by the nonqualifying property given. If property is acquired in a like-kind exchange and no gain is recognized on the exchange, the unadjusted basis of the property acquired is the adjusted basis of the property given up. If property is acquired in a like-kind exchange and gain is recognized due to the receipt of nonqualifying property, the basis of the acquired like-kind property is equal to the basis of the

property given up, minus the money received, plus the recognized gain or minus the recognized loss. Loss is recognized, however, on the boot that is given up in the exchange. If the property acquired in a like-kind exchange includes nonqualifying property, the basis of the property must be allocated between the properties received on the basis of their fair market value at the date of the exchange. If a like-kind exchange involves mortgaged property, the amount of any mortgage released in the exchange is treated as nonqualifying property received. The amount of any mortgage assumed is treated as nonqualifying property given up in the exchange and increases the basis of the property. The expenses incurred in arranging a like-kind exchange also serve to increase the basis of the like-kind property..

The most important aspect of Section 1031 is its exchange requirement. It is this requirement which also creates most of the difficulties in the application of this portion of the tax code. In the Estate of Grant (CCH Dec 9898, 36 BTA 1233, 1245 (1937); acq., 1938-1 CB 12) an exchange was defined as "the reciprocal transfer of property without the intervention of money." Unfortunately, an exchange is only rarely so simple. It would be extremely unusual to find a situation where both parties to an exchange are willing to exchange properties directly, without the involvement of nonqualifying property. In most cases, a successful exchange requires a series of transactions, involving several parties and the exchange of nonqualifying property. As a result, like-kind exchanges are often extremely complex, time-consuming, and expensive to arrange. Further, many well-intentioned like-kind exchanges are challenged by the Internal Revenue Service and result in considerable litigation.

Current litigation has revolved around the use of nonsimultaneous exchanges and multiparty exchanges. Careful planning and execution of an exchange transaction are extremely important.

The Internal Revenue Code as It Applied to Nonresidential Real Property Due to the Enactment of The Economic Recovery Tax Act of 1981

Section 1. Tax Imposed.

ERTA provided that all income tax brackets be reduced over a 3 year period. For the year 1981, the Act reduced all income tax brackets by 5% by means of a 1.25% tax credit. The Act also provided that additional 10% tax cuts would take place on July 1, 1982 and July 1, 1983. After 1984, the individual income tax brackets, the zero bracket amount, and the personal exemptions are to be adjusted for inflation. In addition, as of January 1, 1982, the maximum tax rate on investment income was reduced to 50%. In 1982, the tax rates applicable to a married couple, filing a joint return will range from 12% at a taxable income level of \$3400 to 50% at a taxable income of \$85,600. In 1983, the tax rates applicable to a married couple, filing a joint return will range from 11% at a taxable income level of \$3400 to 50% at a taxable income of \$109,400. In 1984, the tax rates applicable to a married couple, filing a joint return will range from 11% at a taxable income level of \$3400 to 50% at a taxable income of \$162,400. This reduction in the marginal tax rates has resulted in a reduction of the effective capital gains rates. The long-term capital gains deduction of 60% results in a capital gains rate of 40% of the marginal tax rate. The maximum capital gains rate, as of June 10, 1981 was reduced from 28% to 20%.



Section 55. Alternative Minimum Tax.

ERTA reduced the maximum alternative minimum tax rate from 25% to 20% in order to conform to the reduction in the maximum regular tax on long-term capital gains. The Act also provided a special transitional rule for 1981.

Section 168. Accelerated Cost Recovery System.

Section 168 of the Internal Revenue Code was enacted by ERTA. Section 168 initiated the Accelerated Cost Recovery System (ACRS) This system replaces the depreciation deduction provided by Section 167. Section 168 only applies to property acquired after December 31, 1980. ACRS permits real property to be recovered over a fifteen year period if the property has an economic life of more than 12.5 years. Property which has an economic life of 12.5 years or less is to be recovered over ten years. Alternatively, the taxpayer may elect, on a property by property basis to recover the basis in fifteen year property over a period of either 35 or 45 years. Personal property with a class life of four years or less or machinery or equipment used for research or experimental purposes may be recovered over three years. The taxpayer may elect to recover three year property over a five or twelve year period. Personal property that is not three year, ten year or fifteen year public utility property, which has an class life of over four years, or which is a single agricultural or horticultural structure or petroleum storage facility may be recovered over five years. The taxpayer may elect to recover five year property over a twelve or twenty-five year period. Personal property with a class life of more than eighteen but less than twenty-six years may be recovered over ten

years although public utility property with a class life of more than twenty-five years may be recovered over fifteen years. The taxpayer may elect to recover ten year property over twenty-five or thirty-five years and to recover fifteen year property over thirty-five or forty-five years. If the extended period is elected, the straight line method of recovery must be used.

ACRS eliminated the concept of salvage value from the computation of the recovery deduction. The entire cost of the property is eligible for recovery.

The method of recovery under ACRS is an accelerated method which uses the 175% declining balance method during the early years of an asset's life, but switches to the straight line method, when most advantageous to do so, for the remaining recovery period. In the year of acquisition and in the year of disposition, the recovery deduction is based upon the actual number of months that the property was in service during that year. If the taxpayer so desires, he may elect to use the straight line method of recovery, rather than the accelerated method.

For personal property, the ACRS method uses the 150% declining balance method and switches to straight-line when advantageous to do so. The half-year convention is reflected in the ACRS tables. If the straight-line method is elected, the half-year convention is used and no deduction is allowed in the year of disposition. ERTA provided that the ACRS rate applicable to personal property increase to 175% in 1985 and to 200% for taxable years beginning after December 31, 1985.

Upon disposition, all gain to be recognized on nonresidential real property is recaptured as ordinary income under Section 1245 to the

extent of all recovery deductions taken on the property. However, if the straight line method was elected by the taxpayer and if the property has been held for more than one year, none of the gain realized will be treated as ordinary income. In this instance, all of the gain will be treated as a Section 1231 gain and no minimum tax liability will be incurred.

Upon disposition, all gain to be recognized on personal property is recaptured as ordinary income under Section 1245 to the extent of all recovery deductions taken on the property, regardless of the method of recovery used.

Since the ACRS deduction is a tax preference item with respect to nonresidential real property, the utilization of the ACRS method may result in the imposition of the add-on minimum tax.

ACRS eliminates the use of component depreciation on buildings, which had been acceptable under prior law. ACRS requires that the entire parcel of real property utilize the same recovery period and method.

ACRS is a radically new system of cost recovery which enables taxpayers to recover the cost of real property over a period of time that is one-third to one-half as long as that which was allowable prior to 1981. This substantially faster write off is permitted on property acquired on or after January 1, 1981 and is not available for property acquired prior to that time or for property acquired in a transaction which does not require the recognition of gain or loss, as in a like-kind exchange. The anti-churning rules of Section 168 require that such property continue to use the depreciation methods and asset lives

as provided for in Section 167. However, boot given on the exchange is eligible for ACRS treatment.

Proposed Reg. Sec. 1.168-5(f)(2) provides that when property is acquired and disposed of in a like-kind exchange, that portion of the basis of replacement property which does not exceed the adjusted basis of the initial property is recovered over the remaining recovery period using the same recovery method as the initial property. Any excess of the unadjusted basis of the replacement property over the adjusted basis of the initial property is treated as newly acquired ACRS property. Any excess of the adjusted basis of the initial property over the unadjusted basis of the replacement property is recovered in accordance with the principles of redeterminations (Proposed Reg. Sec. 1.168-2(d)(3)). The principles of redeterminations state that the recovery deduction is determined by multiplying the redetermined adjusted basis by the redetermined recovery percentage. The redetermined adjusted basis is the unadjusted basis reduced by all recovery deductions taken and adjusted to reflect the redetermination. The redetermined recovery percentage is computed by dividing the recovery percentage of the recovery year by the percentage of basis that had not been recovered prior to the redetermination.

Section 179. Election to Expense Certain Depreciable Business Assets.

The Economic Recovery Tax Act of 1981 replaced the additional first year depreciation provisions of Section 179 with an "election to expense certain depreciable business assets." Although the bonus depreciation provisions were repealed as of December 31, 1980, the election to expense did not become effective until January 1, 1982.

Thus, neither the bonus depreciation nor the election to expense was permitted in 1981.

The maximum asset cost that may be expensed in a taxable year is \$5,000 in 1982 and 1983, \$7,500 in 1984 and 1985, and \$10,000 in 1986 and thereafter. The investment credit is not permitted for items that have been expensed in accordance with the provisions of Section 179. The election to expense applies to Section 38 property acquired by purchase and for use in a trade or business. It does not apply to the cost of property whose basis is determined by reference to the basis of other property held by the person acquiring the property. Thus, the election to expense is not available for property acquired in a like-kind exchange.

Sections 38, 46, 47, & 48. Investment Credit.

In order to conform to ACRS, the computation of the investment credit and the recapture of the credit were changed by ERTA. The applicable percentage to be applied to the basis of the qualified property was changed to 60% for three year property and to 100% for five, ten, and fifteen year property. For five, ten, and fifteen year property, the percentage of the credit to be recaptured decreases 20% per year for each full year that the property is held. For three year property, the recapture percentage decreases 33 1/3% per year for each full year that the property is held.

In addition, the Economic Recovery Tax Act of 1981 increased the limitation on the cost of used property which is eligible for the investment credit. The limitation was raised from \$100,000 to \$125,000 for the years 1981 through 1984 and to \$150,000 in 1985. ERTA also

increased the carry-over of unused investment credit from seven years to fifteen years.

Further, ERTA eliminated the 5-year amortization election for historic structures and replaced the 10% credit for qualified rehabilitation expenditures with a 15% credit for such expenditures associated with 30-year buildings, a 20% credit for such expenditures associated with 40-year buildings, and a 25% credit for qualified rehabilitation expenditures associated with certified historic structures. When the 15% and 20% credits are claimed, the basis of the property must be reduced by an equivalent amount.

The Act also changed the investment credit provisions of the Code by providing an at-risk limitation so that the basis of property available for the investment credit may not exceed the amount for which the taxpayer is at risk, at the end of the taxable year, in accordance with Section 465.

Section 1245. Gain from Dispositions of Depreciable Personal Property.

Prior to the passage of the Economic Recovery Tax Act of 1981, Section 1245 dealt with the recapture of the depreciation associated with personal property. At that time, Section 1250 dealt with the recapture of depreciation with respect to real property. ERTA has changed the provisions which govern the recapture of depreciation. Currently, Section 1245 applies to the recapture of the depreciation associated with nonresidential real property, located in the United States which has used the ACRS method of cost recovery. Thus, the gain recognized on the sale of nonresidential real property recovered under the ACRS percentage method is treated as ordinary income to the extent

of the entire recovery deduction taken on the property. Any gain in excess of the recovery deduction will be treated as a Section 1231 gain.

The Internal Revenue Code as It Applied to Nonresidential Real Property  
Due to the Enactment of The Tax Equity and Fiscal Responsibility Act of  
1982

Sections 55-58. Minimum Tax.

TEFRA repealed the add-on minimum tax and expanded the alternative minimum tax. Taxpayers, other than corporations, are subject to the alternative minimum tax to the extent that it exceeds the regular tax. Alternative minimum taxable income in excess of \$30,000 (\$40,000 for married taxpayers filing a joint return) is taxed at a rate of 20%. Alternative minimum taxable income is the taxpayer's adjusted gross income increased by certain tax preference items and reduced by the alternative tax net operative loss deduction, the alternative tax itemized deductions, and amounts included in income and deemed to have been distributed by a trust in a preceding year. The tax preference items are:

1. Interest and dividends excluded from gross income under the \$100 dividend exclusion, the All-Savers exclusion, and the 15% net interest exclusion.
2. The excess of the accelerated depreciation deduction on real property and leased personal property over that allowable under the straight-line method.
3. The excess of the depletion deduction over the adjusted basis of the property.
4. Amortization of railroad rolling stock.
5. Mining and exploration development costs.
6. Circulation and research and experimental expenditures.
7. Reserves for losses on bad debts of financial institutions.
8. The long-term capital gain deduction.
9. Incentive stock options.
10. The amount by which intangible drilling costs exceed the net income of the taxpayer from oil, gas, and geothermal properties.

11. The excess of the ACRS deduction over the straight-line method for 15-year real property and leased recovery property.

The alternative tax net operating loss deduction takes into account the differences between the regular tax base and the minimum tax base. The alternative tax itemized deductions are:

1. Medical expenses
2. Charitable contributions
3. Qualified interest
4. Wagering and casualty losses
5. Estate tax

The provisions of TEFRA, with respect to the minimum tax, apply to taxable years beginning after December 31, 1982.

Sections 46 & 48. Investment Credit.

TEFRA amended Section 46 to reduce the limitation on the amount of tax liability in excess of \$25,000 that may be offset by the investment tax credit to 85% for taxable years beginning after December 31, 1982.

In addition, TEFRA enacted Code Section 48(q) Basis Adjustment to Section 38 Property which requires that the basis of Section 38 property be reduced by 50% of the amount of the regular investment credit, the energy investment credit, and the credit for qualified rehabilitation expenditures for certified historic structures. Alternatively, the taxpayer may elect to reduce the investment credit by 2%. When such an election is made, no basis adjustment is required. The election is made on a property by property basis. Any reduction in basis due to Section 48(q) is treated as a straight-line depreciation deduction. This provision applies to property placed in service after December 31, 1982.



Section 168. Accelerated Cost Recovery System.

ACRS rates for personal property were scheduled to increase from 150% to 175% for property placed in service in 1985 and to 200% for taxable years beginning after 1985. TEFRA repealed these scheduled increases.

Section 196. Deduction for Certain Unused Investment Credits.

Section 196 was enacted by TEFRA so that the taxpayer could deduct an amount equal to 50% of any unused investment credits, attributable to property whose basis had been reduced under Section 48(q). The deduction is allowed in the first taxable year following the last taxable year in which the unused credit would have been allowed. The deduction for any unused investment credits associated with qualified rehabilitation expenditures for 30-year and 40-year buildings is equal to the amount of the unused credit.

The Internal Revenue Code as It Applied to Nonresidential Real Property Due to the Enactment of The Tax Reform Act of 1984

Section 168. Accelerated Cost Recovery System.

The Tax Reform Act of 1984 (TRA) increased the cost recovery period for real property, other than low-income housing, placed in service after March 15, 1984 to 18 years. The Act also requires the use of the mid-month convention for property placed in service after June 22, 1984.

Section 179. Election to Expense Certain Depreciable Business Assets.

The Tax Reform Act of 1984 delayed the increase in the expense election to \$7,500 until 1988 and the increase to \$10,000 until 1990.

Section 38, 46, 47, & 48. Investment Credit.

The Tax Reform Act of 1984 delayed the increase scheduled for 1985 in the maximum amount of used property eligible for the investment tax credit until 1988.

APPENDIX B

COMPUTER PROGRAM OF TAX MODEL

Input Program

```

10 ' INPUT.BAS      Input program variables
20 '
30 ' This program modified to keep most variables constant during
40 ' calculations program execution.
50 '
60 ON ERROR GOTO 10730
80 BELL$=CHR$(7)
90 CL$=CHR$(27)+"E":'      Clear screen
100 PRINT CL$
110 P$="Input new variables":PRINT TAB(40-LEN(P$)/2);P$
120 DIM RRI(40),CE(40),IRM2(40),IA(40),IR(40),TP(40),DR(40)
125 PRINT:PRINT "CASE NUMBER ";:INPUT CN
130 DIM TID(40),FS$(40),NE(40),OI(40),TC(40),AID(40),MP2(40)
140 PRINT:PRINT "Data relating to acquisition of Property #1"
150 PRINT
160 PRINT "Date acquired (MM/DD/YY)                ";;GOSUB 10050
170 DAM1=C1:DAD1=C2:DAY1=C3
180 PRINT "Discount rate (in percent)                ";;INPUT DR
185 IF DR>1 THEN DR=DR/100
190 FS$="M"
200 B1=1E+06
210 MORT=.8*B1
220 TERM=25:'          TERM OF MORTGAGE
230 GOSUB 10230
240 PRINT
250 PRINT "% of basis allocable to building          ";;INPUT PBl
260 IF PBl>1 THEN PBl=PBl/100
270 PRINT "% of basis allocable to personal property ";;INPUT PP1
280 IF PP1>1 THEN PP1=PP1/100
290 PRINT "% of basis allocable to S38 property      ";;INPUT P38RP1
300 IF P38RP1>1 THEN P38RP1=P38RP1/100
310 PRINT "% of basis allocable to land                ";;INPUT PL1
320 IF PL1>1 THEN PL1=PL1/100
330 IF PBl+PP1+P38RP1+PL1>1.05 THEN PRINT BELL$;"Error - percentages
add up to more than 100%":GOTO 250
340 PRINT
350 LB1=40
360 PRINT "Method of depr. - bldg (SL, DB or ACRS)    ";;INPUT MDB1$
370 IF MDB1$="AC" THEN MDB1$="ACRS"

```

```

380 IF MDB1$<>"ACRS" AND MDB1$<>"SL" AND MDB1$<>"DB" THEN PRINT
    BELL$;"INVALID OPTION":PRINT:GOTO 360
400 MDB1.DBP=1.5
410 LPP1=15
420 PRINT "Method of depreciation - personal property ";:INPUT PPD1$
430 IF PPD1$="AC" THEN PPD1$="ACRS"
440 IF PPD1$<>"ACRS" AND PPD1$<>"SL" AND PPD1$<>"DB" THEN
    PRINT BELL$;"INVALID OPTION":PRINT:GOTO 420
460 PPD1.DBP=2
470 L38RP1=30
480 PRINT "Method of depreciation of S38 real property";:INPUT M38RP1$
490 IF M38RP1$="AC" THEN M38RP1$="ACRS"
500 IF M38RP1$<>"ACRS" AND M38RP1$<>"SL" AND M38RP1$<>"DB" THEN PRINT
    BELL$;"INVALID OPTION":PRINT:GOTO 480
520 S38RPD1.DBP=2
530 NUS38RP1$="N"
540 NUB1$="N"
550 SVB1=.1*B1*PB1
560 PPSV1=.1*B1*PP1
570 SV38RP1=.1*B1*P38RP1
580 NUPP1$="N"
590 PRINT CL$:PRINT
600 PRINT "Data relating to Sale/Exchange of Property #1"
610 PRINT
620 SP1=1.19E+06
630 SE1=.06*SP1
640 PSB1=PB1
650 PPS1=PP1
660 PS38RP1=P38RP1
670 PRINT "Date sold (MM/DD/YY)                                ";;GOSUB 10050
680 DSM1=C1:DSD1=C2:DSY1=C3
690 IS1$="N"
700 DP1=0
710 ADB1=0
720 PPAD1=0
730 FMVNQG=0
740 FMVNQR=0
750 BNQG=0
760 BNQR=0
770 CR=0
780 CG=0
800 '
810
820 '
830 PRINT CL$
840 PRINT:PRINT "Data relating to acquisition of Property #2"
850 PRINT
860 DAM2=DSM1:DAD2=DSD1:DAY2=DSY1
880 B2=1.19E+06
890 PRINT
900 PB2=PB1
910 PP2=PP1
920 P38RP2=P38RP1

```

```

930 PL2=PL1
940 PRINT
950 LB2=40
960 PRINT "Method of depr. - bldg (SL, DB or ACRS)      ";;INPUT MDB2$
970 IF MDB2$="AC" THEN MDB2$="ACRS"

980 IF MDB2$<>"ACRS" AND MDB2$<>"SL" AND MDB2$<>"DB" THEN
    PRINT BELL$;"INVALID OPTION":PRINT:GOTO 960
1000 MDB2.DBP=1.5
1010 LPP2=15
1020 PRINT "Method of depreciation - personal property ";;INPUT PPD2$
1030 IF PPD2$="AC" THEN PPD2$="ACRS"
1040 IF PPD2$<>"ACRS" AND PPD2$<>"SL" AND PPD2$<>"DB" THEN PRINT
    BELL$;"INVALID OPTION":PRINT:GOTO 1020
1060 PPD2.DBP=2
1070 L38RP2=30
1080 PRINT "Method of depreciation of S38 real property";;INPUT M38RP2$
1090 IF M38RP2$="AC" THEN M38RP2$="ACRS"
1100 IF M38RP2$<>"ACRS" AND M38RP2$<>"SL" AND M38RP2$<>"DB" THEN PRINT
    BELL$;"INVALID OPTION":PRINT:GOTO 1080
1120 S38RPD2.DBP=2
1130 NUS38RP2$="N"
1140 NUB2$="N"
1150 SVB2=.1*B2*PB2
1160 PPSV2=.1*B2*PP2
1170 SV38RP2=.1*B2*P38RP2
1180 NUPP2$="N"
1190 PRINT CL$:PRINT
1200 PRINT "Data relating to Sale/Exchange of Property #2"
1210 PRINT
1220 SP2=1.41E+06
1230 SE2=.06*SP2
1240 PSB2=PB2
1250 PPSP2=PP2
1260 PS38RP2=P38RP2
1270 PRINT "Date sold (MM/DD/YY)      ";;GOSUB 10050
1280 DSM2=C1:DSD2=C2:DSY2=C3
1290 IS2$="N"
1300 FOR IH=1 TO DSY2-DAY2+1
1310 RRI(IH)=150000!
1320 CE(IH)=40000!
1330 IRM2(IH)=DR
1340 IA(IH)=0
1350 TP(IH)=0
1360 TID(IH)=10000
1370 FS$(IH)=FS$
1380 NE(IH)=4
1390 OI(IH)=300000!
1400 TC(IH)=0
1410 AID(IH)=0
1420 MP2(IH)=PMT
1430 NEXT IH
1435 IH=IH-1:          Correct IH after loop exit

```

```

1440 '
1450 ' OUTPUT ROUTINE TO SAVE VARIABLES
1460 '
1470 OPEN"O",1,"INPUT.DAT"
1480 P$="Saving INPUT variables to disk":GOSUB 15000
1490 WRITE #1,CN,DAM1,DAD1,DAY1
1500 WRITE #1,DR,FS$
1510 WRITE #1,B1,PB1,PP1,P38RP1,PL1,LB1,MDB1$,MDB1.DBP,NUB1$,SVB1,LPP1,
    PPD1$,PPD1.DBP,PPSV1,NUPP1$,L38RP1,M38RP1$,S38RPD1.DBP,NUS38RP1$,
    SV38RP1
1520 WRITE #1,SP1,SE1,PSB1,PPSP1,PS38RP1
1530 WRITE #1,DSM1,DSD1,DSY1
1540 WRITE #1,IS1$,DP1,ADB1,PPAD1,FMVNQG,FMVNQR,BNQG,BNQR,CR,CG,SOX$
1550 WRITE #1,DAM2,DAD2,DAY2
1560 WRITE #1,B2,PB2,PP2,P38RP2,PL2,LB2,MDB2$,MDB2.DBP,NUB2$,SVB2,LPP2,
    PPD2$,PPD2.DBP,PPSV2,NUPP2$,L38RP2,M38RP2$,S38RPD2.DBP,NUS38RP2$,
    SV38RP2
1570 WRITE #1,SP2,SE2,PSB2,PPSP2,PS38RP2
1580 WRITE #1,DSM2,DSD2,DSY2
1590 WRITE #1,IS2$,IH
1600 FOR I=1 TO IH
1610 WRITE #1, RRI(I),CE(I),IRM2(I),IA(I),TP(I)$TID(I),FS$(I),NE(I),
    OI(I),TC(I),AID(I),MP2(I)
1620 NEXT I
1630 CLOSE
1640 P$="LINKING TO CALCULATION MODULE #1:GOSUB 15000
1650 RUN"SALE1"
1670 END
10000 '
10010 ' Support Subroutine
10020 '
10030 ' Date Input Checking Routine
10040 '
10050 INPUT C$
10060 IF INSTR(1,C$,"/")=0 THEN PRINT BELL$;"Error - use format
    MM/DD/";:GOTO 10050
10070 P=INSTR(1,C$,"/")
10080 C1=VAL(LEFT$(C$,P))
10090 P1=INSTR(P+1,C$,"/")
10100 C2=VAL(MID$(C$,P+1,P1-P))
10110 C3=VAL(RIGHT$(C$,LEN(C$)-P1))
10120 IF C1>12 OR C1<1 THEN PRINT "Illegal month...try again...";:GOTO
    10050
10130 IF C2>31 OR C1<1 THEN PRINT "Illegal date...try again...";:GOTO
    10050
10135 IF C3<100 AND C3>30 THEN C3=C3+1900
10136 IF C3<100 AND C3<30 THEN C3=C3+2000
10140 RETURN
10150 '
10160 ' Yes/No Checking Routine
10170 '
10180 INPUT E$
10190 IF LEFT$(E$,1)="Y" OR LEFT$(E$,1)="y" THEN E$="Y":RETURN

```

```

10200 IF LEFT$(E$,1)="N" OR LEFT$(E$,1)="n" THEN E$="N":RETURN
10210 IF E$="" THEN E$="N":RETURN
10220 PRINT "Please answer Yes or No. Try again...";GOTO 10180
10230 '
10240 CALCULATE MORTGAGE PRINCIPAL, INTEREST AND MORT BAL FOR EACH YEAR
10250 '
10260 OPEN"I",1,"AMORT.TBL"
10270 INPUT #1,PV,NRYRS,RATE
10280 CLOSE #1
10290 '
10300 ' CHECK MORTGAGE TABLE FILE TO SEE IF UPDATE NECESSARY
10310 '
10320 IF PV=MORT AND NRYRS=TERM AND RATE=DR THEN RETURN:' TABLE OK
10330 '
10340 ' RECALCULATE TABLE
10350 '
10380 P$="Recalculating Amortization Table":GOSUB 15000
10390 PV=MORT
10400 I=DR
10410 N=TERM
10420 I=I/1200:# CORRECT INTEREST TO PERCENT PER MONTH
10430 N=N*12:' CORRECT N TO NUMBER OF MONTHS
10440 '
10450 OBAL=PV
10460 I1=(1+I)
10470 PMT=(PV*I)/(1-I1^(-N))
10480 '
10490 OPEN"O",1,"AMORT.TBL"
10500 WRITE #1,MORT,TERM,LR
10510 '
10520 FOR J=0 TO N-12 STEP 12
10530 K=J+12
10540 GOSUB 10640
10550 GOSUB 10690
10570 PRINT TERM-J/12;
10580 WRITE '1,J/12+1,PRIN,IJK,RBAL
10590 OBAL=RBAL
10600 NEXT J
10610 CLOSE #1
10620 PRINT:PRINT
10630 RETURN
10640 ' CALCULATE INTEREST FROM PMT J TO PMT K
10650 C1=I1^(K-N)/I
10660 C2=(1-I1^(J-K))
10670 IJK=PMT*(K%J%C1*C2)
10680 RETURN
10690 ' CALCULATE REMAINING BALANCE AT PMT K
q0700 C1=1-I1^(K-N)
10710 RBAD=PMT/I*C1
10320 RETURN
90730 ' ERROR TRAPPING
10740 IF ERL=10260 AND ERR=53 THEN CLOSE #1:RESUME 10360
10750 PRINT CHR$(7)3"MBasic error number";ERR;"encountered on line";ERL

```

```
10760 PRINT "           Execution Terminating"
10770 STOP
15000 '
15010 '           Clear screen and print P$ in middle
15020 '
15030 PRINT AHR$(27)+"E"
15040 FOR TEMP=1 TO 11:PRINT:NEXT TEMP
15050 PRINT TAB(40-LEN(P$)/2)9P$;
15060 RETURN
```



## Sale Program

```

10 ' SALE-APL.BAS      Sale alternate approach
20 '
35 P$="SALE-AP1 now running. . .":GOSUB 15000
50 DIM AID(40),BDEP1(40),CE(40),CGIIP1(40),DR(40),GI(40),BDEP2(40)
60 DIM IGPl(40),INSTINTINC(40),IP(40),IP1(40),IRM2(40),MI(40)
70 DIM MORTINTEXP(40),MP2(40),OI(40),OIIP1(40),PPDED(40)
80 DIM PPDEP1(40),PVTTAX(40),RI(40),RMT(40),RRI(40),PPDEP2(40)
90 DIMS38RPDEP1(40),TAX(40),TC(40),TGSP1(40),TGSP2(40),TI(40),
    S38RPDEP2(40)
100 DIM TID(40),TP(40),TR(40),TTAX(40),TX(40),TAXBENEFIT2(40)
110 DIM PVTAXBENEFIT2(50),PVTAXBENEFIT1(50),TAXBENEFIT1(40)
135 '
140 ' Get variables from INPUT program
150 '
160 OPEN"I",1,"INPUT.DAT"
170 INPUT #1,CN,DAM1,DAD1,DAY1
180 INPUT #1,DR,FS$
190 INPUT #1,B1,PB1,PP1,P38RP1,PL1,LB1,MDB1$,MDB1.DBP,NUB1$,SVB1,LPP1,
    PPD1$,PPD1.DBP,PPSV1,NUPP1$,L38RP1,M38RP1$,S38RPD1.DBP,NUS38RP1$,
    SV38RP1
200 INPUT #1,SP1,SE1,PSB1,PPSP1,PS38RP1
210 INPUT #1,DSM1,DSD1,DSY1
220 INPUT #1,IS1$,DPI,ADB1,PPAD1,FMVNOG,FMVNOQ,BNQG,BNOQ,CR,CG,SOX$
230 INPUT #1,DAM2,DAD2,DAY2
240 INPUT #1,B2,PB2,PP2,P38RP2,PL2,LB2,MDB2$,MDB2.DBP,NUB2$,SVB2,LPP2,
    PPD2$,PPD2.DBP,PPSV2,NUPP2$,L38RP2,M38RP2$,S38RPD2.DBP,NUS38RP2$,
    SV38RP2
250 INPUT #1,SP2,SE2,PSB2,PPSP2,PS38RP2
260 INPUT #1,DSM2,DSD2,DSY2
270 INPUT #1,IS2$,IH
275 IH=40
280 FOR I=1 TO IH
300 NEXT I
310 CLOSE
500 '
600 LPRINT"CASE NUMBER ";CN;"          SALE ALTERNATIVE"
1000 J=0:HP=0:ADB2=0:SLADB2=0:PPAD2=0:S38RPAD2=0
1010 J=J+1:HP=HP+1:B2=1E+06*(1.035)^J:PV2=0
1012 IF J>LB1 THEN OPTHPS=HP:GOTO 8000
1016 IF DR>1 THEN DR=DR/100
1020 '
1030 ' Allocation of selling price and basis to bldg, land and
1040 '          personal property - Property 2
1050 GOTO 2830
1060 B38RP2=B2*P38RP2
1070 ITCB38RP2=B38RP2
1080 IF DAY2<1981 THEN GOTO 1180
1090 IF NUS38RP2$<>"U" THEN GOTO 1120
1100 IF DAY2<=1984 AND B38RP2=>125000! THEN ITCB38RP2=125000!
1110 IF DAY2>1984 AND B38RP2=>150000! THEN ITCB38RP2=150000!

```

```

1120 IF L38RP2<3 THEN QI38RP2=0
1130 IF L38RP2=3 THEN QI38RP2=.6*ITCB38RP2
1140 IF L38RP2>3 THEN QI38RP2=ITCB38RP2
1150 ITC38RP2=.1*QI38RP2
1160 '
1170 GOTO 1250
1180 IF NUS38RP2$<>"U" THEN GOTO 1200
1190 IF B38RP2=>100000! THEN ITCB38RP2=100000!
1200 IF L38RP2<3 THEN QI38RP2=0
1210 IF L38RP2=>3 AND L38RP2<5 THEN QI38RP2=.33*ITCB38RP2
1220 IF L38RP2=>5 AND L38RP2<7 THEN QI38RP2=.667*ITCB38RP2
1230 IF L38RP2=>7 THEN QI38RP2=ITCB38RP2
1240 ITC38RP2=.1*QI38RP2
1250 IF DAY2<1983 THEN GOTO 1270
1260 B38RP2=B38RP2-.5*ITC38RP2
1270 BPP2=B2*PP2
1280 IF DAY2=1981 THEN DEDS179P2=0
1290 IF DAY2>1981 AND DAY2<1984 THEN DEDS179P2=BPP2:IF DEDS179P2>5000
THEN DEDS179P2=5000:GOTO 1360
1300 IF DAY2>1983 AND DAY2<1986 THEN DEDS179P2=BPP2:IF DEDS179P2>5000
THEN DEDS179P2=5000:GOTO 1360
1310 IF DAY2>1985 THEN DEDS179P2=BPP2:IF DEDS179P2>5000! THEN DEDS179P2=
5000:GOTO 1360
1320 IF DAY2<1981 AND LPP2<6 THEN DEDS179P2=0:GOTO 1360
1330 IF DAY2<1981 AND LPP2>5 THEN DEDS179P2=.2*BPP2
1340 IF FS$="S" AND DEDS179P2>2000 THEN DEDS179P2=2000
1350 IF FS$="M" AND DEDS179P2>4000 THEN DEDS179P2=4000
1360 IF DAY2>1981 THEN ITCBPP2=BPP2-DEDS179P2 ELSE ITCBPP2=BPP2
1370 IF DAY2<1981 THEN GOTO 1460
1380 IF NUPP2$<>"U" THEN GOTO 1410
1390 IF DAY2<=1984 AND BPP2=>125000! THEN ITCBPP2=125000!
1400 IF DAY2>1984 AND BPP2=>150000! THEN ITCBPP2=150000!
1410 IF LPP2<3 THEN QIPP2=0
1420 IF LPP2=3 THEN QIPP2=.6*ITCBPP2
1430 IF LPP2>3 THEN QIPP2=ITCBPP2
1440 ITCPP2=.1*QIPP2
1450 GOTO 1530
1460 IF NUPP2$<>"U" THEN GOTO 1480
1470 IF BPP2=>100000! THEN BPP2=100000!
1480 IF LPP2<3 THEN QIPP2=0
1490 IF LPP2=>3 AND LPP2<5 THEN QIPP2=.33*ITCBPP2
1500 IF LPP2=>5 AND LPP2<7 THEN QIPP2=.667*ITCBPP2
1510 IF LPP2=>7 THEN QIPP2=ITCBPP2
1520 ITCPP2=.1*QIPP2
1530 IF DAY2<1983 THEN GOTO 1550
1540 BPP2=BPP2-.5*ITCPP2-DEDS179P2
1550 BB2=B2*PB2
1560 BL2=B2*(1-PB2-PP2-P38RP2)
1566 SVB2=.1*BB2:SV38RP2=.1*B38RP2:PPSV2=.1*BPP2
1570 '
1580 ' Calc of adjusted salvage value in Section 179 Deduction
1590 '
1600 IF DAY2>1980 THEN GOTO 1650

```

```

1610 APPSV2=PPSV2-(.1*BPP2)
1620 IF APPSV2<0 THEN APPSV2=0
1630 '
1640 ' Acquisition of Property 2 before 1981
1650 '
1660 ' Calculation of yearly depr - SL - Building - Property 2
1670 '
1680 FOR I=1 TO 40
1685 IF DAY2>1980 THEN GOTO 2140
1690 IF I>LB2 THEN BDEP2(I)=0:GOTO 1760
1710 IF MDB2$<>"SL" THEN GOTO 1910
1730 BDEP2(I)=(BB2-SVB2)/(LB2)
1740 NEXT I
1750 ' CALC OF YEARLY DEPRECIATION - SL - PERS PROP - PROPERTY 2
1760 FOR I=1 TO 40
1780 IF DAY2>1980 THEN GOTO 2190
1785 IF I>LPP2 THEN PPDEP2(I)=0:GOTO 1828
1790 IF PPD2$<>"SL" THEN GOTO 2000
1810 IF I=1 THEN PPDEP2(I)=(BPP2-APPSV2-DEDS179P2)/(LPP2)+DEDS179P2
1820 IF I<>1 THEN PPDEP2(I)=(BPP2-APPSV2-DEDS179P2)/(LPP2)
1825 NEXT I
1828 FOR I=1 TO 40
1829 IF DAY2>1980 THEN GOTO 2280
1830 IF I>L38RP2 THEN S38RPDEP2(I)=0:GOTO 2780
1850 IF M38RP2$<>"SL" THEN GOTO 2060
1870 S38RPDEP2(I)=(B38RP2-SV38RP2)/(L38RP2)
1872 NEXT I
1875 GOTO 2780
1880 '
1890 ' Calculation of Yearly Bldg Depreciation - Declining balance -
      Property 2
1900 '
1910 IF I=1 THEN ADB2=0:D=0
1920 BDEP2(I)=MDB2.DBP*(BB2-ADB2)/(LB2)
1921 SLB2=(BB2-SVB2-ADB2)/(LB2-D)
1922 IF SLB2>BDEP2(I) THEN BDEP2(I)=SLB2
1930 ADB2=BDEP2(I)+ADB2
1940 IF BB2-ADB2<SVB2 THEN BDEP2(I)=BB2-SVB2-ADB2+BDEP2(I):ADB2=BB2-SVB2
1946 D=D+1
1950 GOTO 1740
1960 '
1970 ' Calculation of yearly pers prop depreciation - Declining Balance
1980 '           and Sect 179 Deduction - Property 2
1990 '
2000 IF I=1 THEN PPAD2=0:D=0
2010 IF I=1 THEN PPDEP2(I)=PPD2.DBP*(BPP2-PPAD2-DEDS179P2)/(LPP2)+
      DEDS179P2
2020 IF I<>1 THEN PPDEP2(I)=PPD2.DBP*(BPP2-PPAD2)/(LPP2)
2021 SLPP2=(BPP2-APPSV2-PPAD2)/(LPP2-D)
2022 IF SLPP2>PPDEP2(I) THEN PPDEP2(I)=SLPP2
2030 PPAD2=PPAD2+PPDEP2(I)
2040 IF BPP2-PPAD2<APPSV2 THEN PPDEP2(I)=BPP2-APPSV2-PPAD2+PPDEP2(I):
      PPAD2=BPP2-APPSV2

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2046 D=D+1
2050 GOTO 1825
2060 IF I=1 THEN S38RPAD2=0:D=0
2070 S38RPDEP2(I)=S38RPD2.DBP*(B38RP2-S38RPAD2)/(L38RP2)
2071 SL38RP2=(B38RP2-SV38RP2-S38RPAD2)/(L38RP2-D)
2072 IF SL38RP2>S38RPDEP2(I) THEN S38RPDEP2(I)=SL38RP2
2080 S38RPAD2=S38RPAD2+S38RPDEP2(I)
2090 IF B38RP2-S38RPAD2<SV38RP2 THEN S38RPDEP2(I)=B38RP2-SV38RP2-
      S38RPAD2+S38RPDEP2(I):S38RPAD2=B38RP2-SV38RP2
2096 D=D+1
2100 GOTO 1872
2110 '
2120 ' Calculation of Yearly Bldg Depreciation - SL - Property 2
2130 '
2140 LB2=15
2150 IF I>LB2 THEN BDEP2(I)=0:GOTO 1760
2160 IF MDB2$<>"SL" THEN GOTO 2530
2180 BDEP2(I)=(BB2)/(LB2)
2185 GOTO 1740
2190 IF LPP2<5 THEN LPP2=3 ELSE LPP2=5
2200 IF PPD2$<>"SL" THEN GOTO 2580
2210 Z=LPP2+1
2230 IF I=1 THEN PPDEP2(I)=BPP2/(LPP2*2)+DEDS179P2
2240 IF I=Z THEN PPDEP2(I)=BPP2/(LPP2*2)
2250 IF I>Z THEN PPDEP2(I)=0:GOTO 1828
2270 IF I>1 AND I<Z THEN PPDEP2(I)=BPP2/LPP2
2275 GOTO 1825
2280 IF L38RP2<5 THEN L38RP2=3 ELSE L38RP2=5
2290 IF M38RP2$<>"SL" THEN GOTO 2370
2300 Q=L38RP2+1
2320 IF I=1 THEN S38RPDEP2(I)=B38RP2/(L38RP2*2)
2325 IF I=Q THEN S38RPDEP2(I)=B38RP2/(L38RP2*2)
2330 IF I>Q THEN S38RPDEP2(I)=0:GOTO 2780
2350 IF I>1 AND I<Q THEN S38RPDEP2(I)=B38RP2/L38RP2
2360 GOTO 1872
2370 IF L38RP2>3 THEN GOTO 2440
2380 IF I=1 THEN ACRS=.25
2390 IF I=2 THEN ACRS=.38
2400 IF I=3 THEN ACRS=.37
2410 IF I=>4 THEN ACRS=0:GOTO 2780
2420 S38RPDEP2(I)=ACRS*B38RP2
2430 GOTO 1872
2440 IF I=1 THEN ACRS=.15
2450 IF I=2 THEN ACRS=.22
2460 IF I>2 AND I<6 THEN ACRS=.21
2470 IF I=>6 THEN ACRS=0:GOTO 2780
2480 S38RPDEP2(I)=ACRS*B38RP2
2490 GOTO 1872
2500 '
2510 ' Calculation of Yearly Bldg Depreciation - ACRS - Property 2
2520 '
2530 IF I=1 THEN ACRS=.12
2531 IF I=2 THEN ACRS=.1

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2532 IF I=3 THEN ACRS=.09
2533 IF I=4 THEN ACRS=.08
2534 IF I=5 THEN ACRS=.07
2535 IF I=6 THEN ACRS=.06
2536 IF I=7 THEN ACRS=.06
2537 IF I=8 THEN ACRS=.06
2538 IF I=9 THEN ACRS=.06
2539 IF I=10 THEN ACRS=.05
2540 IF I=11 THEN ACRS=.05
2541 IF I=12 THEN ACRS=.05
2542 IF I=13 THEN ACRS=.05
2543 IF I=14 THEN ACRS=.05
2544 IF I=15 THEN ACRS=.05
2545 IF I>15 THEN ACRS=0
2546 BDEP2(I)=ACRS*BB2
2548 GOTO 1740
2550 '
2560 ' Calc of yearly pers prop depr - 3-yr life - Property 2
2570 '
2580 IF LPP2>3 THEN GOTO 2710
2600 IF I=1 THEN ACRS=.25
2610 IF I=2 THEN ACRS=.38
2620 IF I=3 THEN ACRS=.37
2630 IF I>=4 THEN ACRS=0:GOTO 1828
2640 IF I=1 THEN PPDEP2(I)=DEDS179P2+(ACRS*BPP2)
2660 IF I<>1 THEN PPDEP2(I)=ACRS*BPP2
2670 GOTO 1825
2680 '
2690 ' Calc of yearly pers prop depr - 5-yr life - Property 2
2700 '
2710 IF I=1 THEN ACRS=.15
2720 IF I=2 THEN ACRS=.22
2730 IF I>2 AND I<6 THEN ACRS=.21
2740 IF I>=6 THEN ACRS=0:GOTO 1828
2760 IF I=1 THEN PPDEP2(I)=DEDS179P2+(ACRS*BPP2)
2765 IF I<>1 THEN PPDEP2(I)=ACRS*BPP2
2770 GOTO 1825
2780 IF DAY2<1981 THEN MARGTAXRATE=.7 ELSE MARGTAXRATE=.5
2785 FOR I=1 TO 40
2790 IF I=1 THEN TAXBENEFIT2(I)=MARGTAXRATE*(PPDEP2(I)+BDEP2(I)+
S38RPDEP2(I))+ITCPP2+ITC38RP2 ELSE TAXBENEFIT2(I)=MARGTAXRATE*
(PDEP2(I)+BDEP2(I)+S38RPDEP2(I))
2800 PVTAXBENEFIT2(I)=TAXBENEFIT2(I)/(1+DR)^I
2802 PV2=PVTAXBENEFIT2(I)+PV2
2806 IF PVTAXBENEFIT2(I)<.01 THEN GOTO 2812
2810 NEXT I
2812 DIFFPVSALE=PV2-TAXONDISP-PV1
2814 LPRINT "2814 DIFFPVSALE ";DIFFPVSALE;" PV2 ";PV2;
" TAXONDISP ";TAXONDISP;" PV1 ";PV1
2820 IF PV2-TAXONDISP=>PV1 THEN OPTHPS=HP:GOTO 8000 ELSE GOTO 1010
2830 IF J=1 THEN GOTO 2880
2835 IF J<>1 THEN PV1=PV1-PVTAXBENEFIT1(J-1)
2838 GOTO 4750

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2840 '
2850 ' Allocation of selling price and basis to bldg, land and
2860 '           personal property - Property 1
2870 '
2880 B1=1E+06
2890 B38RP1=B1*P38RP1
2900 ITCB38RP1=B38RP1
2910 IF DAY1<1981 THEN GOTO 3010
2920 IF NUS38RP1$<>"U" THEN GOTO 2950
2930 IF DAY1<=1984 AND B38RP1=>125000! THEN ITCB38RP1=125000!
2940 IF DAY1>1984 AND B38RP1=>150000! THEN ITCB38RP1=150000!
2950 IF L38RP1<3 THEN QI38RP1=0
2960 IF L38RP1=3 THEN QI38RP1=.6*ITCB38RP1
2970 IF L38RP1>3 THEN QI38RP1=ITCB38RP1
2980 ITC38RP1=.1*QI38RP1
3000 GOTO 3080
3010 IF NUS38RP1$<>"U" THEN GOTO 3030
3020 IF B38RP1=>100000! THEN ITCB38RP1=100000!
3030 IF L38RP1<3 THEN QI38RP1=0
3040 IF L38RP1=>3 AND L38RP1<5 THEN QI38RP1=.33*ITCB38RP1
3050 IF L38RP1=>5 AND L38RP1<7 THEN QI38RP1=.667*ITCB38RP1
3060 IF L38RP1=>7 THEN QI38RP1=ITCB38RP1
3070 ITC38RP1=.1*QI38RP1
3080 IF DAY1<1983 THEN GOTO 3100
3090 B38RP1=B38RP1-.5*ITC38RP1
3100 BPP1=B1*PP1
3110 IF DAY1=1981 THEN DEDS179P1=0
3120 IF DAY1>1981 AND DAY1<1984 THEN DEDS179P1=BPP1:IF DEDS179P1>5000
THEN DEDS179P1=5000:GOTO 3190
3130 IF DAY1>1983 AND DAY1<1986 THEN DEDS179P1=BPP1:IF DEDS179P1>7500
THEN DEDS179P1=7500:GOTO 3190
3140 IF DAY1>1985 THEN DEDS179P1=BPP1:IF DEDS179P1>10000 THEN DEDS179P1=
10000:GOTO 3190
3150 IF DAY1<1981 AND LPP1<6 THEN DEDS179P1=0:GOTO 3190
3160 IF DAY1<1981 AND LPP1>5 THEN DEDS179P1=.2*BPP1
3170 IF FS$="S" AND DEDS179P1>2000 THEN DEDS179P1=2000
3180 IF FS$="M" AND DEDS179P1>4000 THEN DEDS179P1=4000
3190 IF DAY1>1981 THEN ITCBPP1=BPP1-DEDS179P1 ELSE ITCBPP1=BPP1
3200 IF DAY1<1981 THEN GOTO 3290
3210 IF NUPP1$<>"U" THEN GOTO 3240
3220 IF DAY1<=1984 AND BPP1=>125000! THEN ITCBPP1=125000!
3230 IF DAY1>1984 AND BPP1=>150000! THEN ITCBPP1=150000!
3240 IF LPP1<3 THEN QIPPI=0
3250 IF LPP1=3 THEN QIPPI=.6*ITCBPP1
3260 IF LPP1>3 THEN QIPPI=ITCBPP1
3270 ITCPP1=.1*QIPPI
3280 GOTO 3360
3290 IF NUPP1$<>"U" THEN GOTO 3310
3300 IF BPP1=>100000! THEN BPP1=100000!
3310 IF LPP1<3 THEN QIPPI=0
3320 IF LPP1=>3 AND LPP1<5 THEN QIPPI=.33*ITCBPP1
3330 IF LPP1=>5 AND LPP1<7 THEN QIPPI=.667*ITCBPP1
3340 IF LPP1=>7 THEN QIPPI=ITCBPP1

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3350 ITCPP1=.1*QIP1
3360 IF DAY1=>1983 THEN BPP1=BPP1-.5*ITCPP1-DEDS179P1
3370 IF DAY1=1982 THEN BPP1=BPP1-DEDS179P1
3380 BBl=B1*PBl
3390 BL1=B1*(1-PBl-PP1-P38RP1)
3400 '
3410 ' Calc of adjusted salvage value in Section 179 Deduction
3420 '
3430 IF DAY1>1980 THEN GOTO 3470
3440 APPSV1=PPSV1-(.1*BPP1)
3450 IF APPSV1<0 THEN APPSV1=0
3460 '
3470 ' Acquisition of Property 2 before 1981
3480 '
3490 ' Calculation of yearly depr - SL - Building - Property 1
3500 '
3510 FOR I=1 TO 40
3520 IF I>LB1 THEN BDEP1(I)=0:GOTO 3580
3530 IF DAY1>1980 THEN GOTO 4000
3540 IF MDB1$<>"SL" THEN GOTO 3770
3560 BDEP1(I)=(BBl-SVBl)/(LB1)
3580 NEXT I
3590 ' CALC OF YEARLY DEPRECIATION - SL - PERS PROP - PROPERTY 1
3600 FOR I=1 TO 40
3620 IF DAY1>1980 THEN GOTO 4060
3625 IF I>LPP1 THEN PPDEP1(I)=0:GOTO 3680
3630 IF PPD1$<>"SL" THEN GOTO 3860
3650 IF I=1 THEN PPDEP1(I)=(BPP1-APPSV1-DEDS179P1)/(LPP1)+DEDS179P1
3660 IF I<>1 THEN PPDEP1(I)=(BPP1-APPSV1-DEDS179P1)/(LPP1)
3680 NEXT I
3685 FOR I=1 TO 40
3690 IF DAY1>1980 THEN GOTO 4160
3695 IF I>L38RP1 THEN S38RPDEP1(I)=0:GOTO 4700
3700 IF M38RP1$<>"SL" THEN GOTO 3920
3720 S38RPDEP1(I)=(B38RP1-SV38RP1)/(L38RP1)
3725 NEXT I
3730 GOTO 4700
3740 '
3750 ' Calculation of Yearly Bldg Depreciation - Declining balance -
      Property 2
3760 '
3770 IF I=1 THEN DBADBl=0:D=0
3780 BDEP1(I)=MDB1.DBP*(BBl-DBADBl)/(LB1)
3781 SLBl=(BBl-SVBl-DBADBl)/(LB1-D)
3782 IF SLBl>BDEP1(I) THEN BDEP1(I)=SLBl
3790 DBADBl=BDEP1(I)+DBADBl
3800 IF BBl-DBADBl<SVBl THEN BDEP1(I)=BBl-SVBl-DBADBl+BDEP1(I):
      DBADBl=BBl-SVBl
3806 D=D+1
3810 GOTO 3580
3820 '
3830 'Calculation of yearly pers prop depreciation - Declining Balance
3840 '          and Sect 179 Deduction - Property 1

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3850 '
3860 IF I=1 THEN DBPPAD1=0:D=0
3870 IF I=1 THEN PPDEP1(I)=PPDL*DBP*(BPP1-DBPPAD1-DEDS179P1)/(LPP1)+
    DEDS179P1
3880 IF I<>1 THEN PPDEP1(I)=PPDL*DBP*(BPP1-DBPPAD1)/(LPP1)
3881 SLPP1=(BPP1-APPSV1-DBPPAD1)/(LPP1-D)
3882 IF SLPP1>PPDEP1(I) THEN PPDEP1(I)=SLPP1
3890 DBPPAD1=DBPPAD1+PPDEP1(I)
3900 IF BPP1-DBPPAD1<APPSV1 THEN PPDEP1(I)=BPP1-APPSV1-
    DBPPAD1+PPDEP1(I):DBPPAD1=BPP1-APPSV1
3906 D=D+1
3910 GOTO 3680
3920 IF I=1 THEN DBS38RPAD1=0:D=0
3930 S38RPDEP1(I)=S38RPDL*DBP*(B38RP1-DBS38RPAD1)/(L38RP1)
3931 SL38RP1=(B38RP1-SV38RP1-DBS38RPAD1)/(L38RP1-D)
3932 IF SL38RP1>S38RPDEP1(I) THEN S38RPDEP1(I)=SL38RP1
3940 DBS38RPAD1=DBS38RPAD1+S38RPDEP1(I)
3950 IF B38RP1-DBS38RPAD1<SV38RP1 THEN S38RPDEP1(I)=B38RP1-SV38RP1-
    DBS38RPAD1+S38RPDEP1(I):DBS38RPAD1=B38RP1-SV38RP1
3956 D=D+1
3960 GOTO 3725
3970 '
3980 ' Calculation of Yearly Bldg Depreciation - SL - Property 2
3990 '
4000 LBL=15
4010 IF I>LBL THEN BDEP1(I)=0:GOTO 3580
4020 IF MDBL$<>"SL" THEN GOTO 4430
4040 BDEP1(I)=(BBL)/(LBL)
4050 GOTO 3580
4060 IF LPP1<5 THEN LPP1=3 ELSE LPP1=5
4070 IF PPD1$<>"SL" THEN GOTO 4480
4080 Z=LPP1+1
4100 IF I=1 THEN PPDEP1(I)=BPP1/(LPP1*2)+DEDS179P1
4110 IF I=Z THEN PPDEP1(I)=BPP1/(LPP1*2)
4120 IF I>Z THEN PPDEP1(I)=0:GOTO 3685
4140 IF I>1 AND I<Z THEN PPDEP1(I)=BPP1/LPP1
4150 GOTO 3680
4160 IF L38RP1<5 THEN L38RP1=3 ELSE L38RP1=5
4170 IF M38RP1$<>"SL" THEN GOTO 4250
4180 Q=L38RP1+1
4200 IF I=1 OR I=Q THEN S38RPDEP1(I)=B38RP1/(L38RP1*2)
4210 IF I>Q THEN S38RPDEP1(I)=0:GOTO 4700
4230 IF I>1 AND I<Q THEN S38RPDEP1(I)=B38RP1/L38RP1
4240 GOTO 3725
4250 IF L38RP1>3 THEN GOTO 4340
4270 IF I=1 THEN ACRS=.25
4280 IF I=2 THEN ACRS=.38
4290 IF I=3 THEN ACRS=.37
4300 IF I=>4 THEN ACRS=0:GOTO 4700
4310 S38RPDEP1(I)=ACRS*B38RP1
4330 GOTO 3725
4340 IF I=1 THEN ACRS=.15
4350 IF I=2 THEN ACRS=.22

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4360 IF I>2 AND I<6 THEN ACRS=.21
4370 IF I=>6 THEN ACRS=0:GOTO 4700
4380 S38RPDEP1(I)=ACRS*B38RP1
4400 GOTO 3725
4410 ' Calculation of Yearly Bldg Depreciation - ACRS - Property 1
4420 '
4430 IF I=1 THEN ACRS=.12
4431 IF I=2 THEN ACRS=.1
4432 IF I=3 THEN ACRS=.09
4433 IF I=4 THEN ACRS=.08
4434 IF I=5 THEN ACRS=.07
4435 IF I=6 THEN ACRS=.06
4436 IF I=7 THEN ACRS=.06
4437 IF I=8 THEN ACRS=.06
4438 IF I=9 THEN ACRS=.06
4439 IF I=10 THEN ACRS=.05
4440 IF I=11 THEN ACRS=.05
4441 IF I=12 THEN ACRS=.05
4442 IF I=13 THEN ACRS=.05
4443 IF I=14 THEN ACRS=.05
4444 IF I=15 THEN ACRS=.05
4445 IF I>15 THEN ACRS=0
4446 BDEP1(I)=ACRS*BB1
4448 GOTO 3580
4450 '
4460 ' Calc of yearly pers prop depr - 3-yr life - Property 1
4470 '
4480 IF LPP1>3 THEN GOTO 4620
4500 IF I=1 THEN ACRS=.25
4510 IF I=2 THEN ACRS=.38
4520 IF I=3 THEN ACRS=.37
4530 IF I>=4 THEN ACRS=0:GOT 3685
4540 IF I=1 THEN PPDEP1(I)=DEDS179P1+(ACRS*BPP1)
4560 IF I<>1 THEN PPDEP1(I)=ACRS*BPP1
4580 GOTO 3680
4590 '
4600 ' Calc of yearly pers prop depr - 5-yr life - Property 1
4610 '
4620 IF I=1 THEN ACRS=.15
4630 IF I=2 THEN ACRS=.22
4640 IF I>2 AND I<6 THEN ACRS=.21
4650 IF I>=6 THEN ACRS=0:GOTO 3685
4670 IF I=1 THEN PPDEP1(I)=DEDS179P1+(ACRS*BPP1)
4680 IF I<>1 THEN PPDEP1(I)=ACRS*BPP1
4690 GOTO 3680
4700 IF DAY1<1981 THEN MARGTAXRATE=.7 ELSE MARGTAXRATE=.5
4705 FOR I=1 TO 40
4710 IF I=40 THEN TAXBENEFIT1(I)=0 ELSE TAXBENEFIT1(I)=(PPDEP1(I+1)+
    BDEP1(I+1)+S38RPDEP1(I+1))*MARGTAXRATE
4720 PVTAXBENEFIT1(I)=TAXBENEFIT1(I)/(1+DR)^I
4722 PV1=PVTAXBENEFIT1(I)+PV1
4726 IF PVTAXBENEFIT1(I)<.01 THEN GOTO 4750
4730 NEXT I

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4750 SP1=1E+06*(1.035)^J
4760 SPB1=SP1*PSB1
4770 SP38RP1=SP1*PS38RP1
4780 SPPP1=SP1*PPSP1
4790 SPL1=SP1*(1-PSB1-PPSP1-PS38RP1)
4800 SEB1=SPB1*.06
4810 SE38RP1=SP38RP1*.06
4820 SEPP1=SPPP1*.06
4830 SEL1=SPL1*.06
4831 ADB1=BDEP1(J)+ADB1
4832 IF J=1 AND DAY1>1980 THEN PPAD1=PPAD1+PPDEP1(J)-DEDS179P1 ELSE
PPAD1=PPDEP1(J)+PPAD1
4833 S38RPAD1=S38RPAD1+S38RPDEP1(J)
4838 GOTO 5240
4840 '
4850 ' Calc of gain - Property 1 - Bldg - Prior to 1981
4860 '
4870 IF DAY1>1980 AND MDB1$="ACRS" THEN GOTO 5340
4880 IF DAY1>1980 AND MDB1$="SL" THEN GOTO 5430
4890 SLADB1=J*(BB1-SVB1)/LB1
4910 ABB1=BB1-ADB1
4920 RGB1=SPB1-SEB1-ABB1
4930 IF RGB1<=0 THEN GOTO 4960 ELSE OIB1=ADB1-SLADB1
4940 IF OIB1=0 THEN CGB1=RGB1
4950 IF OIB1>0 AND RGB1>OIB1 THEN CGB1=RGB1-OIB1
4955 IF OIB1>0 AND RGB1<OIB1 THEN OIB1=RGB1:CGB1=0
4956 GOTO 5010
4960 IF RGB1=0 THEN OIB1=0:CGB1=0:ELSE OIB1=RGB1:CGB1=0
4970 '
4980 ' Calculation of Gain - Pers Prop - Property 2
4990 '
5010 ABPP1=BPP1-PPAD1
5020 RGPP1=SPPP1-SEPP1-ABPP1
5030 IF RGPP1<=0 THEN GOTO 5070
5040 IF DAY1>1982 THEN OIPPI=PPAD1+.5*ITCPP1 ELSE OIPPI=PPAD1
5050 IF OIPPI=0 THEN CGPPI=RGPP1
5060 IF OIPPI>0 AND RGPP1>OIPPI THEN CGPPI=RGPP1-OIPPI
5065 IF OIPPI>0 AND RGPP1<OIPPI THEN OIPPI=RGPP1:CGPPI=0
5066 GOTO 5120
5070 IF RGPP1=0 THEN OIPPI=0:CGPPI=0:ELSE OIPPI=RGPP1:CGPPI=0
5080 '
5090 ' Calculation of Gain ==> S38RP1
5100 '
5120 AB38RP1=B38RP1-S38RPAD1
5130 RG38RP1=SP38RP1-SE38RP1-AB38RP1
5140 IF RG38RP1=0 THEN GOTO 5180
5150 IF DAY1>1982 THEN OI38RP1=S38RPAD1+.5*ITC38RP1 ELSE OI38RP1=
S38RPAD1
5160 IF OI38RP1=0 THEN CG38RP1=RG38RP1
5170 IF OI38RP1>0 AND RG38RP1>OI38RP1 THEN CG38RP1=RG38RP1-OI38RP1
5175 IF OI38RP1>0 AND RG38RP1<OI38RP1 THEN OI38RP1=RG38RP1:CG38RP1=0
5176 GOTO 5220
5180 IF RG38RP1=0 THEN OI38RP1=0:CG38RP1=0 ELSE

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      OI38RP1=RG38RP1:CG38RP1=0
5190 '
5200 ' CALCULATION OF GAIN - LAND - PROPERTY 1
5210 '
5220 RGL1=SPL1-SEL1-BL1
5230 CGL1=RGL1
5238 GOTO 5275
5240 IF DAY1<1981 THEN GOTO 5254
5241 IF LPP1<3 THEN GOTO 5266
5243 IF LPP1=3 THEN GOTO 5250
5244 IF J=1 THEN RITCP1=.08*ITCBP1
5245 IF J=2 THEN RITCP1=.06*ITCBP1
5246 IF J=3 THEN RITCP1=.04*ITCBP1
5247 IF J=4 THEN RITCP1=.02*ITCBP1
5248 IF J>4 THEN RITCP1=0
5249 GOTO 5270
5250 IF J=1 THEN RITCP1=.04*ITCBP1
5251 IF J=2 THEN RITCP1=.02*ITCBP1
5252 IF J>2 THEN RITCP1=0
5253 GOTO 5270
5254 IF LPP1<3 THEN GOTO 5266
5255 IF J=1 OR J=2 THEN RITCP1=ITCP1
5256 IF LPP1=>3 AND LPP1<5 THEN GOTO 5264
5257 IF LPP1=>5 AND LPP1<7 THEN GOTO 5262
5258 IF J=3 OR J=4 THEN RITCP1=.67*ITCP1
5259 IF J=5 OR J=6 THEN RITCP1=.33*ITCP1
5260 IF J>6 THEN RITCP1=0
5261 GOTO 5270
5262 IF J=3 OR J=4 THEN RITCP1=.33*ITCP1
5263 IF J>4 THEN RITCP1=0:GOTO 5270
5264 IF J=3 OR J=4 THEN RITCP1=0
5265 GOTO 5270
5266 RITCP1=0
5270 GOTO 6000
5272 '
5273 GOTO 4870
5275 TCGP1=CGB1+CGL1+CGPP1+CG38RP1
5280 TOIP1=OIB1+OIPP1+OI38RP1
5290 IF DSY1<1981 THEN MARGTAXRATE=.7
5295 IF DSY1=>1981 THEN MARGTAXRATE=.5
5300 IF TCGP1<0 THEN TAXONDISP=((TCGP1+TOIP1)*MARGTAXRATE)+RITCP1+
      RITC38RP1 ELSE TAXONDISP=((.4*TCGP1+TOIP1)*MARGTAXRATE)+RITCP1+
      RITC38RP1
5320 GOTO 1060
5330 ' Calculation of gain - Bldg - Property 1 - ACRS - after 1980
5340 '
5360 ABB1=BB1-ADB1
5370 RGB1=SPB1-SEB1-ABB1
5375 OIB1=ADB1
5380 IF RGB1<=0 THEN CGB1=RGB1:OIB1=0
5385 IF RGB1>0 AND RGB1<OIB1 THEN OIB1=RGB1:CGB1=0
5390 IF RGB1>OIB1 THEN OIB1=ADB1:CGB1=RGB1-OIB1
5400 GOTO 5510

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5410 '
5420 ' Calculation of gain - Property 1 - Bldg - SL - After 1980
5430 '
5450 ABB1=BB1-ADB1
5460 RGB1=SPB1-SEB1-ABB1
5470 CGB1=RGB1:OIB1=0
5480 '
5490 ' Calculation of gain - Property 1 - Pers Prop - ACRS - after 1980
5500 '
5510 IF DAY1>1982 THEN BARITCPP1=.5*RITCPP1 ELSE BARITCPP1=0
5520 ABPP1=BPP1-PPAD1+BARITCPP1
5530 RGP1=SPP1-ABPP1-SEPP1
5540 IF RGP1<=0 THEN GOTO 5570
5550 IF DAY1>1982 THEN OIPP1=PPAD1+.5*ITCPP1+DEDS179P1-.5*RITCPP1
ELSE OIPP1=PPAD1+DEDS179P1
5560 IF OIPP1>=0 AND RGP1>OIPP1 THEN CGPP1=RGP1-OIPP1 ELSE OIPP1=
RGP1:CGPP1=0
5570 IF RGP1<0 THEN CGPP1=RGP1:OIPP1=0
5580 '
5590 ' Calculation of Gain - S38RP1 - after 1980
5600 '
5610 IF DAY1>1982 THEN BARITC38RP1=.5*RITC38RP1 ELSE BARITC38RP1=0
5620 AB38RP1=B38RP1-S38RPAD1+BARITC38RP1
5630 RG38RP1=SP38RP1-SE38RP1-AB38RP1
5640 IF RG38RP1<=0 THEN GOTO 5680
5650 IF DAY1>1982 THEN OI38RP1=S38RPAD1+.5*ITC38RP1-.5*RITC38RP1
ELSE OI38RP1=S38RPAD1
5660 IF OI38RP1=0 THEN CG38RP1=RG38RP1
5670 IF OI38RP1>0 AND RG38RP1>OI38RP1 THEN CG38RP1=RG38RP1-OI38RP1
ELSE OI38RP1=RG38RP1:CG38RP1=0
5680 IF RG38RP1=0 THEN OI38RP1=0:CG38RP1=0
5690 IF RG38RP1<0 THEN CG38RP1=RG38RP1:OI38RP1=0
5700 GOTO 5220
6000 IF DAY1<1981 THEN GOTO 6110
6010 IF L38RP1<3 THEN GOTO 6230
6020 IF L38RP1=3 THEN GOTO 6080
6030 IF J=1 THEN RITC38RP1=.08*ITCB38RP1
6040 IF J=2 THEN RITC38RP1=.06*ITCB38RP1
6050 IF J=3 THEN RITC38RP1=.04*ITCB38RP1
6060 IF J=4 THEN RITC38RP1=.02*ITCB38RP1
6065 IF J>4 THEN RITC38RP1=0
6070 GOTO 5272
6080 IF J=1 THEN RITC38RP1=.04*ITCB38RP1
6090 IF J=2 THEN RITC38RP1=.02*ITCB38RP1
6095 IF J>2 THEN RITC38RP1=0
6100 GOTO 5272
6110 IF L38RP1<3 THEN GOTO 6230
6120 IF J=1 OR J=2 THEN RITC38RP1=ITC38RP1
6130 IF L38RP1=>3 AND L38RP1<5 THEN GOTO 6210
6140 IF L38RP1=>5 AND L38RP1<7 THEN GOTO 6190
6150 IF J=3 OR J=4 THEN RITC38RP1=.67*ITC38RP1
6160 IF J=5 OR J=6 THEN RITC38RP1=.33*ITC38RP1
6170 IF J>6 THEN RITC38RP1=0

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6180 GOTO 5272
6190 IF J=3 OR J=4 THEN RITC38RP1=.33*ITC38RP1
6200 IF J>4 THEN RITC38RP1=0
6210 IF J=3 OR J=4 THEN RITC38RP1=0
6220 GOTO 5272
6230 RITC38RP1=0
6240 GOTO 5272
8000 '
8010 ' Print results
8020 '
8060 PRINT:PRINT"CASE NUMBER ";CN
8070 PRINT"Results for program SALE-AP1:"
8080 PRINT "Discount rate: ";TAB(20);DR
8090 PRINT"Basis allocation:";TAB(20);"Bldg";TAB(30);"Pers";TAB(40);
      "S38";TAB(50);"Land"
8100 PRINT TAB(20);PBl;TAB(30);PPl;TAB(40);P38RP1;TAB(50);PLl
8110 PRINT
8120 PRINT"Method of depr:";TAB(20);"Bldg";TAB(30);"Pers";TAB(40);"S38"
8130 PRINT"PROPERTY 1";TAB(20);MDB1$;TAB(30);PPD1$;TAB(40);M38RP1$
8135 PRINT"PROPERTY 2";TAB(20);MDB2$;TAB(30);PPD2$;TAB(40);M38RP2$
8140 PRINT"PROPERTY 1 ACQUIRED ";TAB(20);DAM1;"/";DAD1;"/";DAY1
8150 PRINT"PROPERTY 1 SOLD      ";TAB(20);DSM1;"/";DSD1;"/";DSY1
8152 PRINT"PROPERTY 2 ACQUIRED ";TAB(20);DAM2;"/";DAD2;"/";DAY2
8153 PRINT"PROPERTY 2 SOLD      ";TAB(20);DSM2;"/";DSD2;"/";DSY2
8160 PRINT"Optimum holding period";TAB(20);OPTHPS
8170 PRINT:PRINT
8180 '
8185 LPRINT"CASE NUMBER ";CN
8190 LPRINT"Results for program SALE-AP1:"
8200 LPRINT "Discount rate: ";TAB(20);DR
8210 LPRINT"Basis allocation:";TAB(20);"Bldg";TAB(30);"Pers";TAB(40);
      "S38";TAB(50);"Land"
8220 LPRINT TAB(20);PBl;TAB(30);PPl;TAB(40);P38RP1;TAB(50);PLl
8230 LPRINT
8240 LPRINT"Method of depr:";TAB(20);"Bldg";TAB(30);"Pers";TAB(40);"S38"
8250 LPRINT"PROPERTY 1";TAB(20);MDB1$;TAB(30);PPD1$;TAB(40);M38RP1$
8255 LPRINT"PROPERTY 2";TAB(20);MDB2$;TAB(30);PPD2$;TAB(40);M38RP2$
8260 LPRINT"PROPERTY 1 ACQUIRED ";TAB(20);DAM1;"/";DAD1;"/";DAY1
8270 LPRINT"PROPERTY 1 SOLD      ";TAB(20);DSM1;"/";DSD1;"/";DSY1
8272 LPRINT"PROPERTY 2 ACQUIRED ";TAB(20);DAM2;"/";DAD2;"/";DAY2
8273 LPRINT"PROPERTY 2 SOLD      ";TAB(20);DSM2;"/";DSD2;"/";DSY2
8280 LPRINT"Optimum holding period";TAB(20);OPTHPS
8290 LPRINT:LPRINT
8291 OPEN"O",1,"SALE-AP1.DAT"
8292 WRITE #1,OPTHPS,DIFFPVSALE
8293 CLOSE
8310 RUN"EXCHM-SH"
15000 '
15010 '          Clear screen and print P$ in middle
15030 PRINT CHR$(27)+"E"
15040 FOR TEMP=1 TO 11:PRINT:NEXT TEMP
15050 PRINT TAB(40-LEN(P$)/2);P$;
15060 RETURN

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## Exchange Program

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10 ' EXCHM-AP.BAS  EXCHANGE ALTERNATE APPROACH
20 '
35 P$="EXCHM-AP now running. . .":GOSUB 15000
50 DIM AID(40),BDEP1(40),CE(40),CGIIP1(40),DR(40),GI(40),BDEP2(40)
70 DIM MORTINTEXP(40),MP2(40),OI(40),OIIP1(40),PPDED(40)
80 DIM PPDEP1(40),PVTTAX(40),RI(40),RMT(40),RRI(40),PPDEP2(40)
90 DIM S38RPDEP1(40),TAX(40),TC(40),TGSP1(40),TGSP2(40),TI(40),
  S38RPDEP2(40)
100 DIM TID(40),TP(40),TR(40),TTAX(40),TX(40),TAXBENEFIT2(40)
110 DIM PVTAXBENEFIT2(50),PVTAXBENEFIT1(50),TAXBENEFIT1(40)
120 DIM NPPDEP2(40),N38RPDEP2(40),NBDEP2(40)
135 '
140 ' Get variables from INPUT program
150 '
160 OPEN"I",1,"INPUT.DAT"
170 INPUT #1,CN,DAM1,DAD1,DAY1
180 INPUT #1,DR,FSS$
190 INPUT #1,B1,PB1,PP1,P38RP1,PL1,LB1,MDB1$,MDB1.DBP,NUB1$,SVB1,LPP1,
  PPD1$,PPD1.DBP,PPSV1,NUPP1$,L38RP1,M38RP1$,S38RPD1.DBP,NUS38RP1$,
  SV38RP1
200 INPUT #1,SP1,SE1,PSB1,PPSP1,PS38RP1
210 INPUT #1,DSM1,DSD1,DSY1
220 INPUT #1,IS1$,DP1,ADB1,PPAD1,FMVNQG,FMVNQR,BNQG,BNQR,CR,CG,SOX$
230 INPUT #1,DAM2,DAD2,DAY2
240 INPUT #1,B2,PB2,PP2,P38RP2,PL2,LB2,MDB2$,MDB2.DBP,NUB2$,SVB2,LPP2,
  PPD2$,PPD2.DBP,PPSV2,NUPP2$,L38RP2,M38RP2$,S38RPD2.DBP,NUS38RP2$,
  SV38RP2
250 INPUT #1,SP2,SE2,PSB2,PPSP2,PS38RP2
260 INPUT #1,DSM2,DSD2,DSY2
270 INPUT #1,IS2$,IH
275 IH=40
280 FOR I=1 TO IH
300 NEXT I
310 CLOSE
320 OPEN"I",1,"SALE-APL.DAT"
330 INPUT #1,OPHPS,DIFFPVSALE
340 CLOSE
500 '
600 LPRINT"CASE NUMBER ";CN;" EXCHANGE ALTERNATIVE"
1000 J=0:HP=0:ADB2=0:SLADB2=0:PPAD2=0:S38RPAD2=0
1010 J=J+1:HP=HP+1:PV2=0:M=J+1
1012 IF J>LB1 THEN OPHPE=HP:GOTO 8000
1016 IF DR>1 THEN DR=DR/100
1020 '
1030 ' Allocation of selling price and basis to bldg, land and
1040 '         personal property - Property 2
1050 GOTO 2830
1065 '
1068 IF NUS38RP2$<>"N" THEN GOTO 1072
1070 ITCB38RP2=B38RP2

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1071 GOTO 1075
1072 ITCB38RP2=BOOTGIVEN*P38RP2
1075 '
1080 IF DAY2<1981 THEN GOTO 1180
1090 IF NUS38RP2$<>"U" THEN GOTO 1120
1100 IF DAY2<=1984 AND B38RP2=>125000! THEN ITCB38RP2=125000!
1110 IF DAY2>1984 AND B38RP2=>150000! THEN ITCB38RP2=150000!
1120 IF L38RP2<3 THEN QI38RP2=0
1130 IF L38RP2=3 THEN QI38RP2=.6*ITCB38RP2
1140 IF L38RP2>3 THEN QI38RP2=ITCB38RP2
1150 ITC38RP2=.1*QI38RP2
1160 '
1170 GOTO 1250
1180 IF NUS38RP2$<>"U" THEN GOTO 1200
1190 IF B38RP2=>100000! THEN ITCB38RP2=100000!
1200 IF L38RP2<3 THEN QI38RP2=0
1210 IF L38RP2=>3 AND L38RP2<5 THEN QI38RP2=.33*ITCB38RP2
1220 IF L38RP2=>5 AND L38RP2<7 THEN QI38RP2=.667*ITCB38RP2
1230 IF L38RP2=>7 THEN QI38RP2=ITCB38RP2
1240 ITC38RP2=.1*QI38RP2
1250 IF DAY2<1983 THEN GOTO 1270
1260 B38RP2=B38RP2-.5*ITC38RP2
1270 '
1280 IF DAY2=1981 THEN DEDS179P2=0
1290 IF DAY2>1981 AND DAY2<1984 THEN DEDS179P2=NETBGPP:IF DEDS179P2>5000
THEN DEDS179P2=5000:GOTO 1360
1300 IF DAY2>1983 AND DAY2<1986 THEN DEDS179P2=NETBGPP:IF DEDS179P2>5000
THEN DEDS179P2=5000:GOTO 1360
1310 IF DAY2>1985 THEN DEDS179P2=NETBGPP:IF DEDS179P2>5000 THEN
DEDS179P2=5000:GOTO 1360
1320 IF DAY2<1981 AND LPP2<6 THEN DEDS179P2=0:GOTO 1360
1330 IF DAY2<1981 AND LPP2>5 THEN DEDS179P2=.2*NETBGPP
1340 IF FS$="S" AND DEDS179P2>2000 THEN DEDS179P2=2000
1350 IF FS$="M" AND DEDS179P2>4000 THEN DEDS179P2=4000
1351 IF NUPP2$<>"N" THEN GOTO 1360
1352 ITCBPP2=BPP2
1353 GOTO 1365
1360 IF DAY2>1981 THEN ITCBPP2=(BOOTGIVEN*PP2)-DEDS179P2 ELSE ITCBPP2=
BOOTGIVEN*PP2
1365 '
1370 IF DAY2<1981 THEN GOTO 1460
1380 IF NUPP2$<>"U" THEN GOTO 1410
1390 IF DAY2<=1984 AND BPP2=>125000! THEN ITCBPP2=125000!
1400 IF DAY2>1984 AND BPP2=>150000! THEN ITCBPP2=150000!
1410 IF LPP2<3 THEN QIPP2=0
1420 IF LPP2=3 THEN QIPP2=.6*ITCBPP2
1430 IF LPP2>3 THEN QIPP2=ITCBPP2
1440 ITCPP2=.1*QIPP2
1450 GOTO 1530
1460 IF NUPP2$<>"U" THEN GOTO 1480
1470 IF BPP2=>100000! THEN BPP2=100000!
1480 IF LPP2<3 THEN QIPP2=0
1490 IF LPP2=>3 AND LPP2<5 THEN QIPP2=.33*ITCBPP2

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1500 IF LPP2=>5 AND LPP2<7 THEN QIPP2=.667*ITCBPP2
1510 IF LPP2=>7 THEN QIPP2=ITCBPP2
1520 ITCPP2=.1*QIPP2
1530 IF DAY2<1983 THEN GOTO 1550
1540 BPP2=BPP2-.5*ITCPP2-DEDS179P2
1550 SVB2=.1*BB2:SV38RP2=.1*B38RP2:PPSV2=.1*BPP2
1570 '
1580 ' Calc of adjusted salvage value
1590 '
1600 IF DAY1>1980 AND DAY2>1980 THEN GOTO 1650
1610 APPSV2=PPSV2-(.1*BPP2)
1620 IF APPSV2<0 THEN APPSV2=0
1630 '
1640 ' Acquisition of Property 2 before 1981
1650 '
1660 ' Calculation of yearly depr - SL - Building - Property 2
1670 '
1680 FOR I=1 TO 40
1685 IF DAY2>1980 AND DAY1>1980 THEN GOTO 2140
1690 IF I>LB2 THEN BDEP2(I)=0:GOTO 1760
1710 IF MDB2$<>"SL" THEN GOTO 1910
1730 BDEP2(I)=(BB2-SVB2)/(LB2)
1735 LPRINT "1735 BDEP2(I)";BDEP2(I)
1740 M=M+1
1742 NEXT I
1750 ' CALC OF YEARLY DEPRECIATION - SL - PERS PROP - PROPERTY 2
1760 M=J+1
1770 FOR I=1 TO 40
1780 IF DAY2>1980 AND DAY1>1980 THEN GOTO 2190
1785 IF I>LPP2 THEN PPDEP2(I)=0:GOTO 1827
1790 IF PPD2$<>"SL" THEN GOTO 2000
1810 IF I=1 THEN PPDEP2(I)=(BPP2-APPSV2-DEDS179P2)/(LPP2)+DEDS179P2
1820 IF I<>1 THEN PPDEP2(I)=(BPP2-APPSV2-DEDS179P2)/(LPP2)
1822 '
1825 M=M+1
1826 NEXT I
1827 M=J+1
1828 FOR I=1 TO 40
1829 IF DAY2>1980 AND DAY1>1980 THEN GOTO 2280
1830 IF I>L38RP2 THEN S38RPDEP2(I)=0:GOTO 2780
1850 IF M38RP2$<>"SL" THEN GOTO 2060
1870 S38RPDEP2(I)=(B38RP2-SV38RP2)/(L38RP2)
1872 M=M+1
1873 NEXT I
1875 GOTO 2780
1880 '
1910 IF I=1 THEN ADB2=0:D=0
1920 BDEP2(I)=MDB2.DEP*(BB2-ADB2)/(LB2)
1921 SLB2=(BB2-SVB2-ADB2)/(LB2-D)
1922 IB2>BDEP2(I) THEN BDEP2(I)2
1930 ADB2=BDEP2(I)+ADB2
1940 IF BB2-ADB2<SVB2 THEN BDEP2(I)=BB2-SVB2-DBADB2+BDEP2(I):DBADB2=
    BB2-SVB2

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1946 D=D+1
1950 GOTO 1740
1970 'CALCULATION OF PERS PROP DEPR - DECLINING BALANCE
1980 '           and Sect 179 Deduction - Property 2
1990 '
2000 IF I=1 THEN PPAD2=0:D=0
2010 IF I=1 THEN PPDEP2(I)=PPD2.DBP*(BPP2-PPAD2-DEDS179P2)/(LPP2)+
      DEDS179P2
2020 IF I<>1 THEN PPDEP2(I)=PPD2.DBP*(BPP2-PPAD2)/(LPP2)
2021 SLPP2=(BPP2-APPSV2-PPAD2)/(LPP2-D)
2022 IF SLPP2>PPDEP2(I) THEN PPDEP2(I)=SLPP2
2030 PPAD2=PPAD2+PPDEP2(I)
2040 IF BPP2-PPAD2<APPSV2 THEN PPDEP2(I)=BPP2-APPSV2-PPAD2+PPDEP2(I):
      PPAD2=BPP2-APPSV2
2046 D=D+1
2050 GOTO 1825
2060 IF I=1 THEN S38RPAD2=0:D=0
2070 S38RPDEP2(I)=S38RPD2.DBP*(B38RP2-S38RPAD2)/(L38RP2)
2071 SL38RP2=(B38RP2-SV38RP2-S38RPAD2)/(L38RP2-D)
2072 IF SL38RP2>S38RPDEP2(I) THEN S38RPDEP2(I)=SL38RP2
2080 S38RPAD2=S38RPAD2+S38RPDEP2(I)
2090 IF B38RP2-S38RPAD2<SV38RP2 THEN S38RPDEP2(I)=B38RP2-SV38RP2-
      S38RPAD2+S38RPDEP2(I):S38RPAD2=B38RP2-SV38RP2
2096 D=D+1
2100 GOTO 1872
2110 '
2120 ' Calculation of Yearly Bldg Depreciation - SL - Property 2
2130 '
2140 LB2=15
2150 IF I>LB2 THEN BDEP2(I)=0:GOTO 1760
2160 IF MDB2$<>"SL" THEN GOTO 2491
2161 IF BB2=>ABB1 THEN NBB2=BB2-ABB1
2162 IF I>0 AND I<15 THEN ACRS=.06667
2163 IF I=15 THEN ACRS=.06662
2164 IF I>15 THEN ACRS=0
2165 NBDEP2(I)=ACRS*NBB2
2166 IF MDB1$<>"SL" THEN GOTO 2502
2167 IF M>0 AND M<15 THEN ACRS=.06667
2168 IF M=15 THEN ACRS=.06662
2169 IF M>15 THEN ACRS=0
2170 BDEP2(I)=ACRS*BB1
2185 GOTO 1740
2190 IF LPP2<5 THEN LPP2=3 ELSE LPP2=5
2200 IF PPD2$<>"SL" THEN GOTO 2580
2210 Z=LPP2+1
2211 IF BPP2=>ABPP1 THEN NPP2=BPP2-ABPP1
2212 IF I=1 OR I=Z THEN NPPDEP2(I)=NPP2/(LPP2*2)
2213 IF I>1 AND I<Z THEN NPPDEP2(I)=NPP2/LPP2
2214 IF PPD1$<>"SL" AND LPP2=3 THEN GOTO 2600
2215 IF PPD1$<>"SL" AND LPP2>3 THEN GOTO 2710
2240 IF M=1 OR M=Z THEN PPDEP2(I)=BPP1/(LPP1*2)
2250 IF M>Z THEN PPDEP2(I)=0:GOTO 1827
2270 IF M>1 AND M<Z THEN PPDEP2(I)=BPP1/LPP1

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2275 GOTO 1825
2280 IF L38RP2<5 THEN L38RP2=3 ELSE L38RP2=5
2290 IF M38RP2$<>"SL" THEN GOTO 2370
2300 Q=L38RP2+1
2301 IF B38RP2=>AB38RP1 THEN N38RP2=B38RP2-AB38RP1
2302 IF I=1 OR I=Q THEN N38RPDEP2(I)=N38RP2/(L38RP2*2)
2303 IF I>1 AND I<Q THEN N38RPDEP2(I)=N38RP2/L38RP2
2304 IF M38RP2$<>"SL" AND L38RP2=3 THEN GOTO 2380
2305 IF M38RP2$<>"SL" AND L38RP2>3 THEN GOTO 2440
2325 IF M=1 OR M=Q THEN S38RPDEP2(I)=B38RP1/(L38RP1*2)
2330 IF M>Q THEN S38RPDEP2(I)=0:GOTO 2780
2350 IF M>1 AND M<Q THEN S38RPDEP2(I)=B38RP1/L38RP1
2360 GOTO 1872
2370 IF L38RP2>3 THEN GOTO 2431
2371 IF B38RP2<AB38RP1 THEN REDETAMT38RP=AB38RP1-B38RP2:GOTO 2413
2372 IF B38RP2=>AB38RP1 THEN N38RP2=B38RP2-AB38RP1
2373 IF I=1 THEN ACRS=.25
2374 IF I=2 THEN ACRS=.38
2375 IF I=3 THEN ACRS=.37
2376 IF I=>4 THEN ACRS=0
2377 N38RPDEP2(I)=ACRS*N38RP2
2378 IF M38RP1$<>"ACRS" THEN GOTO 2325
2380 IF M=1 THEN ACRS=.25
2390 IF M=2 THEN ACRS=.38
2400 IF M=3 THEN ACRS=.37
2410 IF M=>4 THEN ACRS=0:GOTO 2780
2411 S38RPDEP2(I)=ACRS*B38RP1
2412 GOTO 1872
2413 IF M=1 THEN SUMACRS=0
2414 IF M=2 THEN SUMACRS=.25
2415 IF M=3 THEN SUMACRS=.63
2416 IF M=>4 THEN SUMACRS=1!:GOTO 2780
2417 IF M=1 THEN ACRS=.25
2418 IF M=2 THEN ACRS=.38
2419 IF M=3 THEN ACRS=.37
2420 IF M=>4 THEN ACRS=0
2421 S38RPDEP2(I)=(B38RP1-S38RPAD1-REDETAMT38RP)(ACRS)/(1-SUMACRS)
2430 GOTO 1872
2431 IF B38RP2<AB38RP1 THEN REDETAMT38RP=AB38RP1-B38RP2:GOTO 2473
2432 IF B38RP2=>AB38RP1 THEN N38RP2=B38RP2-AB38RP1
2433 IF I=1 THEN ACRS=.15
2434 IF I=2 THEN ACRS=.22
2435 IF I>2 AND I<6 THEN ACRS=.21
2436 IF I=>6 THEN ACRS=0
2437 N38RPDEP2(I)=ACRS*N38RP2
2438 IF M38RP1$<>"ACRS" THEN GOTO 2325
2440 IF M=1 THEN ACRS=.15
2450 IF M=2 THEN ACRS=.22
2460 IF M>2 AND M<6 THEN ACRS=.21
2470 IF M=>6 THEN ACRS=0:GOTO 2780
2471 S38RPDEP2(I)=ACRS*B38RP1
2472 GOTO 1872
2473 IF M=1 THEN SUMACRS=0

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2474 IF M=2 THEN SUMACRS=.15
2475 IF M=3 THEN SUMACRS=.37
2476 IF M=4 THEN SUMACRS=.58
2477 IF M=5 THEN SUMACRS=.79
2478 IF M=6 THEN SUMACRS=1:GOTO 2780
2479 IF M=1 THEN ACRS=.15
2480 IF M=2 THEN ACRS=.22
2481 IF M>2 AND M<6 THEN ACRS=.21
2482 IF M=>6 THEN ACRS=0
2483 S38RPDEP2(I)=(B38RP1-S38RPAD1-REDETAMT38RP)*(ACRS)/(1-SUMACRS)
2490 GOTO 1872
2491 IF BB2<ABB1 THEN GOTO 2514
2492 IF BB2=>ABB1 THEN NBB2=BB2-ABB1
2493 IF I=1 THEN ACRS=.12
2494 IF I=2 THEN ACRS=.1
2495 IF I=3 THEN ACRS=.09
2496 IF I=4 THEN ACRS=.08
2497 IF I=5 THEN ACRS=.07
2498 IF I=6 OR I=7 OR I=8 OR I=9 THEN ACRS=.06
2499 IF I=10 OR I=11 OR I=12 OR I=13 OR I=14 OR I=15 THEN ACRS=.05:IF
I>15 THEN ACRS=0
2500 NBDEP2(I)=ACRS*NBB2
2501 IF MDB1$<>"ACRS" THEN GOTO 2167
2502 IF M=1 THEN ACRS=.12
2503 IF M=2 THEN ACRS=.1
2504 IF M=3 THEN ACRS=.09
2505 IF M=4 THEN ACRS=.08
2506 IF M=5 THEN ACRS=.07
2507 IF M=6 OR M=7 OR M=8 OR M=9 THEN ACRS=.06
2508 IF M=10 OR M=11 OR M=12 OR M=13 OR M=14 OR M=15 THEN ACRS=.05
2509 IF M>15 THEN ACRS=0
2510 BDEP2(I)=ACRS*BB1
2512 GOTO 1740
2514 REDETAMTB=ABB1-BB2
2515 IF M=1 THEN SUMACRS=0
2516 IF M=2 THEN SUMACRS=.12
2517 IF M=3 THEN SUMACRS=.22
2518 IF M=4 THEN SUMACRS=.31
2519 IF M=5 THEN SUMACRS=.39
2520 IF M=6 THEN SUMACRS=.46
2521 IF M=7 THEN SUMACRS=.52
2522 IF M=8 THEN SUMACRS=.58
2523 IF M=9 THEN SUMACRS=.64
2524 IF M=10 THEN SUMACRS=.7
2525 IF M=11 THEN SUMACRS=.75
2526 IF M=12 THEN SUMACRS=.8
2527 IF M=13 THEN SUMACRS=.85
2528 IF M=14 THEN SUMACRS=.9
2529 IF M=15 THEN SUMACRS=.95
2530 IF M=1 THEN ACRS=.12
2531 IF M=2 THEN ACRS=.1
2532 IF M=3 THEN ACRS=.09
2533 IF M=4 THEN ACRS=.08

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2534 IF M=5 THEN ACRS=.07
2535 IF M=6 THEN ACRS=.06
2536 IF M=7 THEN ACRS=.06
2537 IF M=8 THEN ACRS=.06
2538 IF M=9 THEN ACRS=.06
2539 IF M>9 AND M<16 THEN ACRS=.05
2540 IF M=>16 THEN ACRS=0
2541 IF M=>16 THEN SUMACRS=1:GOTO 1760
2546 BDEP2(I)=(BBI-ADBI-REDETAMTB)*(ACRS)/(1-SUMACRS)
2548 GOTO 1740
2550 '
2560 ' Calc of yearly pers prop depr - 3-yr life - Property 2
2570 '
2580 IF LPP2>3 THEN GOTO 2691
2581 IF BPP2<ABPP1 THEN REDETAMTPP=ABPP1-BPP2: GOTO 2643
2582 IF BPP2=>ABPP1 THEN NPP2=BPP2-ABPP1
2583 IF I=1 THEN ACRS=.25
2584 IF I=2 THEN ACRS=.38
2585 IF I=3 THEN ACRS=.37
2586 IF I=4 THEN ACRS=0
2587 NPPDEP2(I)=ACRS*NPP2
2588 IF PPD1$<>"ACRS" THEN GOTO 2240
2600 IF M=1 THEN ACRS=.25
2610 IF M=2 THEN ACRS=.38
2620 IF M=3 THEN ACRS=.37
2630 IF M=>4 THEN ACRS=0:GOTO 1828
2640 IF I=1 THEN PPDEP2(I)=DEDS179P2+(ACRS*BPP1)
2641 IF I<>1 THEN PPDEP2(I)=ACRS*BPP1
2642 GOTO 1825
2643 IF M=1 THEN SUMACRS=0
2644 IF M=2 THEN SUMACRS=.25
2645 IF M=3 THEN SUMACRS=.63
2646 IF M=>4 THEN SUMACRS=1:GOTO 1828
2647 IF M=1 THEN ACRS=.25
2648 IF M=2 THEN ACRS=.38
2649 IF M=3 THEN ACRS=.37
2650 IF M=>4 THEN ACRS=0
2651 PPDEP2(I)=(BPP1-PPAD1-REDETAMTPP)*(ACRS)/(1-SUMACRS)
2670 GOTO 1825
2680 '
2690 ' Calc of yearly pers prop depr - 5-yr life - Property 2
2691 IF BPP2<ABPP1 THEN REDETAMTPP=ABPP2-BPP2: GOTO 2745
2692 IF BPP2=>ABPP2 THEN NPP2=BPP2-ABPP1
2693 IF I=1 THEN ACRS=.15
2694 IF I=2 THEN ACRS=.22
2695 IF I>2 AND I<6 THEN ACRS=.21
2696 IF I>6 THEN ACRS=0
2697 NPPDEP2(I)=ACRS*NPP2
2699 IF PPD1$<>"ACRS" THEN GOTO 2240
2700 '
2710 IF M=1 THEN ACRS=.15
2720 IF M=2 THEN ACRS=.22
2730 IF M>2 AND M<6 THEN ACRS=.21
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2740 IF M>=6 THEN ACRS=0:GOTO 1827
2741 IF I=1 THEN PPDEP2(I)=DEDS179P2+(ACRS*BPP1)
2742 IF I<>1 THEN PPDEP2(I)=ACRS*BPP1
2743 GOTO 1825
2745 IF M=1 THEN SUMACRS=0
2746 IF M=2 THEN SUMACRS=.15
2747 IF M=3 THEN SUMACRS=.37
2748 IF M=4 THEN SUMACRS=.58
2749 IF M=5 THEN SUMACRS=.79
2750 IF M=>6 THEN SUMACRS=1:GOTO 1828
2751 IF M=1 THEN ACRS=.15
2752 IF M=2 THEN ACRS=.22
2753 IF M>2 AND M<6 THEN ACRS=.21
2754 IF M=>6 THEN ACRS=0
2755 PPDEP2(I)=(BPP1-PPAD1-REDETAMTPP)*(ACRS)/(1-SUMACRS)
2770 GOTO 1825
2780 IF DAY2<1981 THEN MARGTAXRATE=.7 ELSE MARGTAXRATE=.5
2785 FOR I=1 TO 40
2790 IF I=1 THEN TAXBENEFIT2(I)=MARGTAXRATE*(PPDEP2(I)+BDEP2(I)+
S38RPDEP2(I)+NPPDEP2(I)+N38RPDEP2(I)+NBDEP2(I))+ITCPP2+ITC38RP2
ELSE TAXBENEFIT2(I)=MARGTAXRATE*(PPDEP2(I)+BDEP2(I)+S38RPDEP2(I)+
NPPDEP2(I)+N38RPDEP2(I)+NBDEP2(I))
2800 PVTAXBENEFIT2(I)=TAXBENEFIT2(I)/(1+DR)^I
2802 PV2=PVTAXBENEFIT2(I)+PV2
2806 IF PVTAXBENEFIT2(I)<.01 THEN GOTO 2812
2810 NEXT I
2812 DIFFPVEXCH=PV2-PV1-TDE
2814 LPRINT "2814 DIFFPVEXCH ";DIFFPVEXCH;" PV2 ";PV2;" PV1 ";
PV1;"TAXONDISP ";TDE
2820 IF PV2-TDE=>PV1 THEN OPTHPE=HP:GOTO 8000 ELSE GOTO 1010
2830 IF J=1 THEN GOTO 2880
2835 IF J<>1 THEN PV1=PV1-PVTAXBENEFIT1(J-1)
2838 GOTO 4750
2840 '
2850 ' Allocation of selling price and basis to bldg, land and
2860 ' personal property - Property 1
2870 '
2880 B1=1E+06
2890 B38RP1=B1*P38RP1
2900 ITCB38RP1=B38RP1
2910 IF DAY1<1981 THEN GOTO 3010
2920 IF NUS38RP1$<>"U" THEN GOTO 2950
2930 IF DAY1<=1984 AND B38RP1=>125000! THEN ITCB38RP1=125000!
2940 IF DAY1>1984 AND B38RP1=>150000! THEN ITCB38RP1=150000!
2950 IF L38RP1<3 THEN QI38RP1=0
2960 IF L38RP1=3 THEN QI38RP1=.6*ITCB38RP1
2970 IF L38RP1>3 THEN QI38RP1=ITCB38RP1
2980 ITC38RP1=.1*QI38RP1
3000 GOTO 3080
3010 IF NUS38RP1$<>"U" THEN GOTO 3030
3020 IF B38RP1=>100000! THEN ITCB38RP1=100000!
3030 IF L38RP1<3 THEN QI38RP1=0
3040 IF L38RP1=>3 AND L38RP1<5 THEN QI38RP1=.33*ITCB38RP1

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3050 IF L38RP1=>5 AND L38RP1<7 THEN QI38RP1=.667*ITCB38RP1
3060 IF L38RP1=>7 THEN QI38RP1=ITCB38RP1
3070 ITC38RP1=.1*QI38RP1
3080 IF DAY1<1983 THEN GOTO 3100
3090 B38RP1=B38RP1-.5*ITC38RP1
3100 BPP1=B1*PP1
3110 IF DAY1=1981 THEN DEDS179P1=0
3120 IF DAY1>1981 AND DAY1<1984 THEN DEDS179P1=BPP1:IF DEDS179P1>5000
THEN DEDS179P1=5000:GOTO 3190
3130 IF DAY1>1983 AND DAY1<1986 THEN DEDS179P1=BPP1:IF DEDS179P1>7500
THEN DEDS179P1=7500:GOTO 3190
3140 IF DAY1>1985 THEN DEDS179P1=BPP1:IF DEDS179P1>10000 THEN
DEDS179P1=10000:GOTO 3190
3150 IF DAY1<1981 AND LPP1<6 THEN DEDS179P1=0:GOTO 3190
3160 IF DAY1<1981 AND LPP1>5 THEN DEDS179P1=.2*BPP1
3170 IF FS$="S" AND DEDS179P1>2000 THEN DEDS179P1=2000
3180 IF FS$="M" AND DEDS179P1>4000 THEN DEDS179P1=4000
3190 IF DAY1>1981 THEN ITCBPP1=BPP1-DEDS179P1 ELSE ITCBPP1=BPP1
3200 IF DAY1<1981 THEN GOTO 3290
3210 IF NUPP1$<>"U" THEN GOTO 3240
3220 IF DAY1<=1984 AND BPP1=>125000! THEN ITCBPP1=125000!
3230 IF DAY1>1984 AND BPP1=>150000! THEN ITCBPP1=150000!
3240 IF LPP1<3 THEN QIP1=0
3250 IF LPP1=3 THEN QIP1=.6*ITCBPP1
3260 IF LPP1>3 THEN QIP1=ITCBPP1
3270 ITCPP1=.1*QIP1
3280 GOTO 3360
3290 IF NUPP1$<>"U" THEN GOTO 3310
3300 IF BPP1=>100000! THEN BPP1=100000!
3310 IF LPP1<3 THEN QIP1=0
3320 IF LPP1=>3 AND LPP1<5 THEN QIP1=.33*ITCBPP1
3330 IF LPP1=>5 AND LPP1<7 THEN QIP1=.667*ITCPP1
3340 IF LPP1=>7 THEN QIP1=ITCBPP1
3350 ITCPP1=.1*QIP1
3360 IF DAY1=>1983 THEN BPP1=BPP1-.5*ITCPP1-DEDS179P1
3370 IF DAY1=1982 THEN BPP1=BPP1-DEDS179P1
3380 BBl=B1*PBl
3390 BL1=B1*(1-PBl-PP1-P38RP1)
3400 '
3410 ' Calc of adjusted salvage value in Section 179 Deduction
3420 '
3430 IF DAY1>1980 THEN GOTO 3470
3440 APPSV1=PPSV1-(.1*BPP1)
3450 IF APPSV1<0 THEN APPSV1=0
3460 '
3470 ' Acquisition of Property 2 before 1981
3480 '
3490 ' Calculation of yearly depr - SL - Building - Property 1
3500 '
3510 FOR I=1 TO 40
3520 IF I>LBl THEN BDEP1(I)=0:GOTO 3580
3530 IF DAY1>1980 THEN GOTO 4000
3540 IF MDB1$<>"SL" THEN GOTO 3770

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3560 BDEP1(I)=(BB1-SVB1)/(LB1)
3580 NEXT I
3590 ' CALC OF YEARLY DEPRECIATION - SL - PERS PROP - PROPERTY 1
3600 FOR I=1 TO 40
3620 IF DAY1>1980 THEN GOTO 4060
3625 IF I>LPP1 THEN PPDEP1(I)=0:GOTO 3680
3630 IF PPD1$<>"SL" THEN GOTO 3860
3650 IF I=1 THEN PPDEP1(I)=(BPP1-APPSV1-DEDS179P1)/(LPP1)+DEDS179P1
3660 IF I<>1 THEN PPDEP1(I)=(BPP1-APPSV1-DEDS179P1)/(LPP1)
3680 NEXT I
3685 FOR I=1 TO 40
3690 IF DAY1>1980 THEN GOTO 4160
3695 IF I>L38RP1 THEN S38RPDEP1(I)=0:GOTO 4700
3700 IF M38RP1$<>"SL" THEN GOTO 3920
3720 S38RPDEP1(I)=(B38RP1-SV38RP1)/(L38RP1)
3725 NEXT I
3730 GOTO 4700
3740 '
3750 ' Calculation of Yearly Bldg Depreciation - Declining balance
      - Property 2
3760 '
3770 IF I=1 THEN DBADB1=0:D=0
3780 BDEP1(I)=MDB1.DBP*(BB1-DBADB1)/(LB1)
3781 SLB1=(BB1-SVB1-DBADB1)/(LB1-D)
3782 IF SLB1>BDEP1(I) THEN BDEP1(I)=SLB1
3790 DBADB1=BDEP1(I)+DBADB1
3800 IF BB1-DBADB1<SVB1 THEN BDEP1(I)=BB1-SVB1-DBADB1+BDEP1(I):
      DBADB1=BB1-SVB1
3806 D=D+1
3810 GOTO 3580
3820 '
3830 'Calculation of yearly pers prop depreciation - Declining Balance
3840 '          and Sect 179 Deduction - Property 1
3850 '
3860 IF I=1 THEN DBPPAD1=0:D=0
3870 IF I=1 THEN PPDEP1(I)=PPD1.DBP*(BPP1-DBPPAD1-DEDS179P1)/
      (LPP1)+DEDS179P1
3880 IF I<>1 THEN PPDEP1(I)=PPD1.DBP*(BPP1-DBPPAD1)/(LPP1)
3881 SLPP1=(BPP1-APPSV1-DBPPAD1)/(LPP1-D)
3882 IF SLPP1>PPDEP1(I) THEN PPDEP1(I)=SLPP1
3890 DBPPAD1=DBPPAD1+PPDEP1(I)
3900 IF BPP1-DBPPAD1<APPSV1 THEN PPDEP1(I)=BPP1-APPSV1-DBPPAD1+
      PPDEP1(I):DBPPAD1=BPP1-APPSV1
3906 D=D+1
3910 GOTO 3680
3920 IF I=1 THEN DBS38RPAD1=0:D=0
3930 S38RPDEP1(I)=S38RPD1.DBP*(B38RP1-DBS38RPAD1)/(L38RP1)
3931 SL38RP1=(B38RP1-SV38RP1-DBS38RPAD1)/(L38RP1-D)
3932 IF SL38RP1>S38RPDEP1(I) THEN S38RPDEP1(I)=SL38RP1
3940 DBS38RPAD1=DBS38RPAD1+S38RPDEP1(I)
3950 IF B38RP1-DBS38RPAD1<SV38RP1 THEN S38RPDEP1(I)=B38RP1-SV38RP1-
      DBS38RPAD1+S38RPDEP1(I):DBS38RPAD1= B38RP1-SV38RP1
3956 D=D+1

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3960 GOTO 3725
3970 '
3980 ' Calculation of Yearly Bldg Depreciation - SL - Property 2
3990 '
4000 LB1=15
4010 IF I>LB1 THEN BDEP1(I)=0:GOTO 3580
4020 IF MDB1$<>"SL" THEN GOTO 4430
4040 BDEP1(I)=(BB1)/(LB1)
4050 GOTO 3580
4060 IF LPP1<5 THEN LPP1=3 ELSE LPP1=5
4070 IF PPD1$<>"SL" THEN GOTO 4480
4080 Z=LPP1+1
4100 IF I=1 THEN PPDEP1(I)=BPP1/(LPP1*2)+DEDS179P1
4110 IF I=Z THEN PPDEP1(I)=BPP1/(LPP1*2)
4120 IF I>Z THEN PPDEP1(I)=0:GOTO 3685
4140 IF I>1 AND I<Z THEN PPDEP1(I)=BPP1/LPP1
4150 GOTO 3680
4160 IF L38RP1<5 THEN L38RP1=3 ELSE L38RP1=5
4170 IF M38RP1$<>"SL" THEN GOTO 4250
4180 Q=L38RP1+1
4200 IF I=1 OR I=Q THEN S38RPDEP1(I)=B38RP1/(L38RP1*2)
4210 IF I>Q THEN S38RPDEP1(I)=0:GOTO 4700
4230 IF I>1 AND I<Q THEN S38RPDEP1(I)=B38RP1/L38RP1
4240 GOTO 3725
4250 IF L38RP1>3 THEN GOTO 4340
4270 IF I=1 THEN ACRS=.25
4280 IF I=2 THEN ACRS=.38
4290 IF I=3 THEN ACRS=.37
4300 IF I=>4 THEN ACRS=0:GOTO 4700
4310 S38RPDEP1(I)=ACRS*B38RP1
4330 GOTO 3725
4340 IF I=1 THEN ACRS=.15
4350 IF I=2 THEN ACRS=.22
4360 IF I>2 AND I<6 THEN ACRS=.21
4370 IF I=>6 THEN ACRS=0:GOTO 4700
4380 S38RPDEP1(I)=ACRS*B38RP1
4400 GOTO 3725
4410 ' Calculation of Yearly Bldg Depreciation - ACRS - Property 1
4420 '
4430 IF I=1 THEN ACRS=.12
4431 IF I=2 THEN ACRS=.1
4432 IF I=3 THEN ACRS=.09
4433 IF I=4 THEN ACRS=.08
4434 IF I=5 THEN ACRS=.07
4435 IF I=6 THEN ACRS=.06
4436 IF I=7 THEN ACRS=.06
4437 IF I=8 THEN ACRS=.06
4438 IF I=9 THEN ACRS=.06
4439 IF I=10 THEN ACRS=.05
4440 IF I=11 THEN ACRS=.05
4441 IF I=12 THEN ACRS=.05
4442 IF I=13 THEN ACRS=.05
4443 IF I=14 THEN ACRS=.05
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4444 IF I=15 THEN ACRS=.05
4445 IF I>15 THEN ACRS=0
4446 BDEP1(I)=ACRS*BB1
4448 GOTO 3580
4450 '
4460 ' Calc of yearly pers prop depr - 3-yr life - Property 1
4470 '
4480 IF LPP1>3 THEN GOTO 4620
4500 IF I=1 THEN ACRS=.25
4510 IF I=2 THEN ACRS=.38
4520 IF I=3 THEN ACRS=.37
4530 IF I>=4 THEN ACRS=0:GOT 3685
4540 IF I=1 THEN PPDEP1(I)=DEDS179P1+(ACRS*BPPI)
4560 IF I<>1 THEN PPDEP1(I)=ACRS*BPPI
4580 GOTO 3680
4590 '
4600 ' Calc of yearly pers prop depr - 5-yr life - Property 1
4610 '
4620 IF I=1 THEN ACRS=.15
4630 IF I=2 THEN ACRS=.22
4640 IF I>2 AND I<6 THEN ACRS=.21
4650 IF I>=6 THEN ACRS=0:GOTO 3685
4670 IF I=1 THEN PPDEP1(I)=DEDS179P1+(ACRS*BPPI)
4680 IF I<>1 THEN PPDEP1(I)=ACRS*BPPI
4690 GOTO 3680
4700 IF DAY1<1981 THEN MARGTAXRATE=.7 ELSE MARGTAXRATE=.5
4705 FOR I=1 TO 40
4710 IF I=40 THEN TAXBENEFIT1(I)=0 ELSE TAXBENEFIT1(I)=(PPDEP1(I+1)+
BDEP1(I+1)+S38RPDEP1(I+1))*MARGTAXRATE
4720 PVTAXBENEFIT1(I)=TAXBENEFIT1(I)/(1+DR)^I
4722 PV1=PVTAXBENEFIT1(I)+PV1
4726 IF PVTAXBENEFIT1(I)<.01 THEN GOTO 4750
4730 NEXT I
4750 SP1=1E+06*(1.035)^J
4760 SPB1=SP1*PSB1
4770 SP38RP1=SP1*PS38RP1
4780 SPPP1=SP1*PPSP1
4790 SPL1=SP1*(1-PSB1-PPSP1-PS38RP1)
4800 SEB1=SPB1*.06
4810 SE38RP1=SP38RP1*.06
4820 SEPP1=SPPP1*.06
4830 SEL1=SPL1*.06
4831 ADB1=BDEP1(J)+ADB1
4832 IF J=1 AND DAY1>1980 THEN PPAD1=PPAD1+PPDEP1(J)-DEDS179P1 ELSE
PPAD1=PPDEP1(J)+PPAD1
4833 S38RPAD1=S38RPAD1+S38RPDEP1(J)
4837 ABB1=BB1-ADB1
4838 ABPP1=BPPI-PPAD1
4839 AB38RP1=B38RP1-S38RPAD1
4841 BPP2=ABPP1+SEPP1
4842 BB2=ABB1+SEB1
4843 BL2=BL1+SEL1
4844 B38RP2=AB38RP1+SE38RP1

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4850 ' Calc of RECAPTURE OF ITC AND TAX ON DISPOSITION
4851 NETBGPP=0
4853 BOOTGIVEN=0
5240 IF DAY1<1981 THEN GOTO 5254
5241 IF LPP1<3 THEN GOTO 5266
5243 IF LPP1=3 THEN GOTO 5250
5244 IF J=1 THEN RITCPP1=.08*ITCBPP1
5245 IF J=2 THEN RITCPP1=.06*ITCBPP1
5246 IF J=3 THEN RITCPP1=.04*ITCBPP1
5247 IF J=4 THEN RITCPP1=.02*ITCBPP1
5248 IF J>4 THEN RITCPP1=0
5249 GOTO 6000
5250 IF J=1 THEN RITCPP1=.04*ITCBPP1
5251 IF J=2 THEN RITCPP1=.02*ITCBPP1
5252 IF J>2 THEN RITCPP1=0
5253 GOTO 6000
5254 IF LPP1<3 THEN GOTO 5266
5255 IF J=1 OR J=2 THEN RITCPP1=ITCPP1
5256 IF LPP1=>3 AND LPP1<5 THEN GOTO 5264
5257 IF LPP1=>5 AND LPP1<7 THEN GOTO 5262
5258 IF J=3 OR J=4 THEN RITCPP1=.67*ITCPP1
5259 IF J=5 OR J=6 THEN RITCPP1=.33*ITCPP1
5260 IF J>6 THEN RITCPP1=0
5261 GOTO 6000
5262 IF J=3 OR J=4 THEN RITCPP1=.33*ITCPP1
5263 IF J>4 THEN RITCPP1=0:GOTO 5270
5264 IF J=3 OR J=4 THEN RITCPP1=0
5265 GOTO 6000
5266 RITCPP1=0
6000 IF DAY1<1981 THEN GOTO 6110
6010 IF L38RP1<3 THEN GOTO 6230
6020 IF L38RP1=3 THEN GOTO 6080
6030 IF J=1 THEN RITC38RP1=.08*ITCB38RP1
6040 IF J=2 THEN RITC38RP1=.06*ITCB38RP1
6050 IF J=3 THEN RITC38RP1=.04*ITCB38RP1
6060 IF J=4 THEN RITC38RP1=.02*ITCB38RP1
6065 IF J>4 THEN RITC38RP1=0
6070 GOTO 6240
6080 IF J=1 THEN RITC38RP1=.04*ITCB38RP1
6090 IF J=2 THEN RITC38RP1=.02*ITCB38RP1
6095 IF J>2 THEN RITC38RP1=.02*ITCB38RP1
6100 GOTO 6240
6110 IF L38RP1<3 THEN GOTO 6230
6120 IF J=1 OR J=2 THEN RITC38RP1=ITC38RP1
6130 IF L38RP1=>3 AND L38RP1<5 THEN GOTO 6210
6140 IF L38RP1=>5 AND L38RP1<7 THEN GOTO 6190
6150 IF J=3 OR J=4 THEN RITC38RP1=.67*ITC38RP1
6160 IF J=5 OR J=6 THEN RITC38RP1=.33*ITC38RP1
6170 IF J>6 THEN RITC38RP1=0
6180 GOTO 6240
6190 IF J=3 OR J=4 THEN RITC38RP1=.33*ITC38RP1
6200 IF J>4 THEN RITC38RP1=0
6210 IF J=3 OR J=4 THEN RITC38RP1=0
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6220 GOTO 6240
6230 RITC38RP1=0
6240 TDE=RITCPP1+RITC38RP1
6251 IF DAY1>1982 THEN BPP2=BPP2+.5*RITCPP1
6252 IF DAY1>1982 THEN B38RP2=B38RP2+.5*RITC38RP1
6260 GOTO 1065
8000 '
8010 ' Print results
8020 '
8060 PRINT:PRINT"CASE NUMBER ";CN
8070 PRINT"Results for program EXCHM-AP:"
8080 PRINT "Discount rate: ";TAB(20);DR
8090 PRINT"Basis allocation:";TAB(20);"Bldg";TAB(30);"Pers";TAB(40);
      "S38";TAB(50);"Land"
8100 PRINT TAB(20);PB1;TAB(30);PP1;TAB(40);P38RP1;TAB(50);PL1
8110 PRINT
8120 PRINT"Method of depr:";TAB(20);"Bldg";TAB(30);"Pers";TAB(40);"S38"
8130 PRINT"PROPERTY 1";TAB(20);MDB1$;TAB(30);PPD1$;TAB(40);M38RP1$
8135 PRINT"PROPERTY 2";TAB(20);MDB2$;TAB(30);PPD2$;TAB(40);M38RP2$
8140 PRINT"PROPERTY 1 ACQUIRED ";TAB(20);DAM1;"/";DAD1;"/";DAY1
8150 PRINT"PROPERTY 1 EXCHANGED ";TAB(20);DSM1;"/";DSD1;"/";DSY1
8152 PRINT"PROPERTY 2 ACQUIRED ";TAB(20);DAM2;"/";DAD2;"/";DAY2
8153 PRINT"PROPERTY 2 SOLD      ";TAB(20);DSM2;"/";DSD2;"/";DSY2
8160 PRINT"Optimum holding period";TAB(20);OPTHPE
8170 PRINT:PRINT
8180 '
8185 LPRINT"CASE NUMBER ";CN
8190 LPRINT"Results for program EXCHM-AP:"
8200 LPRINT "Discount rate: ";TAB(20);DR
8210 LPRINT"Basis allocation:";TAB(20);"Bldg";TAB(30);"Pers";TAB(40);
      "S38";TAB(50);"Land"
8220 LPRINT TAB(20);PB1;TAB(30);PP1;TAB(40);P38RP1;TAB(50);PL1
8230 LPRINT
8240 LPRINT"Method of depr:";TAB(20);"Bldg";TAB(30);"Pers";TAB(40);
      "S38"
8250 LPRINT"PROPERTY 1";TAB(20);MDB1$;TAB(30);PPD1$;TAB(40);M38RP1$
8255 LPRINT"PROPERTY 2";TAB(20);MDB2$;TAB(30);PPD2$;TAB(40);M38RP2$
8260 LPRINT"PROPERTY 1 ACQUIRED ";TAB(20);DAM1;"/";DAD1;"/";DAY1
8270 LPRINT"PROPERTY 1 SOLD      ";TAB(20);DSM1;"/";DSD1;"/";DSY1
8272 LPRINT"PROPERTY 2 ACQUIRED ";TAB(20);DAM2;"/";DAD2;"/";DAY2
8273 LPRINT"PROPERTY 2 SOLD      ";TAB(20);DSM2;"/";DSD2;"/";DSY2
8280 LPRINT"Optimum holding period";TAB(20);OPTHPE
8290 LPRINT:LPRINT
8291 NPV=DIFFPVSALE-DIFFPVEXCH
8292 IF OPTHPS-OPTHPE>0 THEN OPTM$="EXCHANGE":GOTO 8297
8293 IF OPTHPS-OPTHPE<0 THEN OPTM$="SALE":GOTO 8297
8294 IF OPTHPS=OPTHPE THEN GOTO 8295
8295 IF NPV>0 THEN OPTM$="SALE"
8296 IF NPV<0 THEN OPTM$="EXCHANGE"
8297 PRINT "OPTIMAL FORM OF DISPOSITION";TAB(20);OPTM$
8298 LPRINT"OPTIMAL FORM OF DISPOSITION";TAB(20);OPTM$
8299 LPRINT "NET PRESENT VALUE OF SALE      ";DIFFPVSALE;"OPTIMAL HOLDING
      PERIOD      ";OPTHPS

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8300 LPRINT "NET PRESENT VALUE OF EXCHANGE      ";DIFFPVEXCH;"OPTIMAL
      HOLDING PERIOD      ";OPTHPE
8301 LPRINT "NET PRESENT VALUE OF SALE AND EXCHANGE IF HOLDING PERIODS
      ARE EQUAL      ";NPV
8302 STOP
8310 PRINT CHR$(7); "CALCULATIONS DONE—RUNNING INPUT PROGRAM";
      :RUN"INPUT"
15000 '
15010 ' CLEAR SCREEN AND PRINT P$ IN MIDDLE
15020 '
15030 PRINT CHR$(27)+"E"
15040 FOR TEMP=1 TO 11:PRINT:NEXT TEMP
15050 PRINT TAB(40-LEN(P$)/2);P$
15060 RETURN
```

APPENDIX C

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JERROLD FELDMAN, CENTURY 21 HORIZON REALTY, WICHITA, KANSAS

RICK KOCH, KOCH REALTY, WICHITA, KANSAS

JOEL POLLOCK, JACK SMITH REALTY, INC., WICHITA, KANSAS

ROD M. STEWART, SANDLIAN REALTY, WICHITA, KANSAS

LYNN W. MCCRARY IV, MARSHALL & STEVENS, INC., ST. LOUIS, MISSOURI

APPENDIX D

CASE LISTING

CASE NO.	TIME PERIOD	RECOVERY METHOD	DISCOUNT RATE	ALLOCATION RATIO
1	1	SL-SL	.05	70-05-05-20
2	1	AC-AC	.05	70-05-05-20
3	1	SL-AC	.05	70-05-05-20
4	1	AC-SL	.05	70-05-05-20
5	2	SL-SL	.05	70-05-05-20
6	2	AC-AC	.05	70-05-05-20
7	2	SL-AC	.05	70-05-05-20
8	2	AC-SL	.05	70-05-05-20
9	3	SL-SL	.05	70-05-05-20
10	3	AC-AC	.05	70-05-05-20
11	3	SL-AC	.05	70-05-05-20
12	3	AC-SL	.05	70-05-05-20
13	1	SL-SL	.10	70-05-05-20
14	1	AC-AC	.10	70-05-05-20
15	1	SL-AC	.10	70-05-05-20
16	1	AC-SL	.10	70-05-05-20
17	2	SL-SL	.10	70-05-05-20
18	2	AC-AC	.10	70-05-05-20
19	2	SL-AC	.10	70-05-05-20
20	2	AC-SL	.10	70-05-05-20
21	3	SL-SL	.10	70-05-05-20
22	3	AC-AC	.10	70-05-05-20
23	3	SL-AC	.10	70-05-05-20
24	3	AC-SL	.10	70-05-05-20
25	1	SL-SL	.15	70-05-05-20
26	1	AC-AC	.15	70-05-05-20
27	1	SL-AC	.15	70-05-05-20
28	1	AC-SL	.15	70-05-05-20
29	2	SL-SL	.15	70-05-05-20
30	2	AC-AC	.15	70-05-05-20
31	2	SL-AC	.15	70-05-05-20
32	2	AC-SL	.15	70-05-05-20
33	3	SL-SL	.15	70-05-05-20
34	3	AC-AC	.15	70-05-05-20
35	3	SL-AC	.15	70-05-05-20
36	3	AC-SL	.15	70-05-05-20

CASE NO.	TIME PERIOD	RECOVERY METHOD	DISCOUNT RATE	ALLOCATION RATIO
37	1	SL-SL	.20	70-05-05-20
38	1	AC-AC	.20	70-05-05-20
39	1	SL-AC	.20	70-05-05-20
40	1	AC-SL	.20	70-05-05-20
41	2	SL-SL	.20	70-05-05-20
42	2	AC-AC	.20	70-05-05-20
43	2	SL-AC	.20	70-05-05-20
44	2	AC-SL	.20	70-05-05-20
45	3	SL-SL	.20	70-05-05-20
46	3	AC-AC	.20	70-05-05-20
47	3	SL-AC	.20	70-05-05-20
48	3	AC-SL	.20	70-05-05-20
49	1	SL-SL	.05	60-15-15-10
50	1	AC-AC	.05	60-15-15-10
51	1	SL-AC	.05	60-15-15-10
52	1	AC-SL	.05	60-15-15-10
53	2	SL-SL	.05	60-15-15-10
54	2	AC-AC	.05	60-15-15-10
55	2	SL-AC	.05	60-15-15-10
56	2	AC-SL	.05	60-15-15-10
57	3	SL-SL	.05	60-15-15-10
58	3	AC-AC	.05	60-15-15-10
59	3	SL-AC	.05	60-15-15-10
60	3	AC-SL	.05	60-15-15-10
61	1	SL-SL	.10	60-15-15-10
62	1	AC-AC	.10	60-15-15-10
63	1	SL-AC	.10	60-15-15-10
64	1	AC-SL	.10	60-15-15-10
65	2	SL-SL	.10	60-15-15-10
66	2	AC-AC	.10	60-15-15-10
67	2	SL-AC	.10	60-15-15-10
68	2	AC-SL	.10	60-15-15-10
69	3	SL-SL	.10	60-15-15-10
70	3	AC-AC	.10	60-15-15-10
71	3	SL-AC	.10	60-15-15-10
72	3	AC-SL	.10	60-15-15-10
73	1	SL-SL	.15	60-15-15-10
74	1	AC-AC	.15	60-15-15-10
75	1	SL-AC	.15	60-15-15-10
76	1	AC-SL	.15	60-15-15-10
77	2	SL-SL	.15	60-15-15-10
78	2	AC-AC	.15	60-15-15-10
79	2	SL-AC	.15	60-15-15-10
80	2	AC-SL	.15	60-15-15-10
81	3	SL-SL	.15	60-15-15-10
82	3	AC-AC	.15	60-15-15-10
83	3	SL-AC	.15	60-15-15-10
84	3	AC-SL	.15	60-15-15-10
85	1	SL-SL	.20	60-15-15-10
86	1	AC-AC	.20	60-15-15-10

CASE NO.	TIME PERIOD	RECOVERY METHOD	DISCOUNT RATE	ALLOCATION RATIO
87	1	SL-AC	.20	60-15-15-10
88	1	AC-SL	.20	60-15-15-10
89	2	SL-SL	.20	60-15-15-10
90	2	AC-AC	.20	60-15-15-10
91	2	SL-AC	.20	60-15-15-10
92	2	AC-SL	.20	60-15-15-10
93	3	SL-SL	.20	60-15-15-10
94	3	AC-AC	.20	60-15-15-10
95	3	SL-AC	.20	60-15-15-10
96	3	AC-SL	.20	60-15-15-10
97	1	SL-SL	.05	40-30-15-15
98	1	AC-AC	.05	40-30-15-15
99	1	SL-AC	.05	40-30-15-15
100	1	AC-SL	.05	40-30-15-15
101	2	SL-SL	.05	40-30-15-15
102	2	AC-AC	.05	40-30-15-15
103	2	SL-AC	.05	40-30-15-15
104	2	AC-SL	.05	40-30-15-15
105	3	SL-SL	.05	40-30-15-15
106	3	AC-AC	.05	40-30-15-15
107	3	SL-AC	.05	40-30-15-15
108	3	AC-SL	.05	40-30-15-15
109	1	SL-SL	.10	40-30-15-15
110	1	AC-AC	.10	40-30-15-15
111	1	SL-AC	.10	40-30-15-15
112	1	AC-SL	.10	40-30-15-15
113	2	SL-SL	.10	40-30-15-15
114	2	AC-AC	.10	40-30-15-15
115	2	SL-AC	.10	40-30-15-15
116	2	AC-SL	.10	40-30-15-15
117	3	SL-SL	.10	40-30-15-15
118	3	AC-AC	.10	40-30-15-15
119	3	SL-AC	.10	40-30-15-15
120	3	AC-SL	.10	40-30-15-15
121	1	SL-SL	.15	40-30-15-15
122	1	AC-AC	.15	40-30-15-15
123	1	SL-AC	.15	40-30-15-15
124	1	AC-SL	.15	40-30-15-15
125	2	SL-SL	.15	40-30-15-15
126	2	AC-AC	.15	40-30-15-15
127	2	SL-AC	.15	40-30-15-15
128	2	AC-SL	.15	40-30-15-15
129	3	SL-SL	.15	40-30-15-15
130	3	AC-AC	.15	40-30-15-15
131	3	SL-AC	.15	40-30-15-15
132	3	AC-SL	.15	40-30-15-15
133	1	SL-SL	.20	40-30-15-15
134	1	AC-AC	.20	40-30-15-15
135	1	SL-AC	.20	40-30-15-15
136	1	AC-SL	.20	40-30-15-15



CASE NO.	TIME PERIOD	RECOVERY METHOD	DISCOUNT RATE	ALLOCATION RATIO
137	2	SL-SL	.20	40-30-15-15
138	2	AC-AC	.20	40-30-15-15
139	2	SL-AC	.20	40-30-15-15
140	2	AC-SL	.20	40-30-15-15
141	3	SL-SL	.20	40-30-15-15
142	3	AC-AC	.20	40-30-15-15
143	3	SL-AC	.20	40-30-15-15
144	3	AC-SL	.20	40-30-15-15
145	1	SL-SL	.05	30-10-10-50
146	1	AC-AC	.05	30-10-10-50
147	1	SL-AC	.05	30-10-10-50
148	1	AC-SL	.05	30-10-10-50
149	2	SL-SL	.05	30-10-10-50
150	2	AC-AC	.05	30-10-10-50
151	2	SL-AC	.05	30-10-10-50
152	2	AC-SL	.05	30-10-10-50
153	3	SL-SL	.05	30-10-10-50
154	3	AC-AC	.05	30-10-10-50
155	3	SL-AC	.05	30-10-10-50
156	3	AC-SL	.05	30-10-10-50
157	1	SL-SL	.10	30-10-10-50
158	1	AC-AC	.10	30-10-10-50
159	1	SL-AC	.10	30-10-10-50
160	1	AC-SL	.10	30-10-10-50
161	2	SL-SL	.10	30-10-10-50
162	2	AC-AC	.10	30-10-10-50
163	2	SL-AC	.10	30-10-10-50
164	2	AC-SL	.10	30-10-10-50
165	3	SL-SL	.10	30-10-10-50
166	3	AC-AC	.10	30-10-10-50
167	3	SL-AC	.10	30-10-10-50
168	3	AC-SL	.10	30-10-10-50
169	1	SL-SL	.15	30-10-10-50
170	1	AC-AC	.15	30-10-10-50
171	1	SL-AC	.15	30-10-10-50
172	1	AC-SL	.15	30-10-10-50
173	2	SL-SL	.15	30-10-10-50
174	2	AC-AC	.15	30-10-10-50
175	2	SL-AC	.15	30-10-10-50
176	2	AC-SL	.15	30-10-10-50
177	3	SL-SL	.15	30-10-10-50
178	3	AC-AC	.15	30-10-10-50
179	3	SL-AC	.15	30-10-10-50
180	3	AC-SL	.15	30-10-10-50
181	1	SL-SL	.20	30-10-10-50
182	1	AC-AC	.20	30-10-10-50
183	1	SL-AC	.20	30-10-10-50
184	1	AC-SL	.20	30-10-10-50
185	2	SL-SL	.20	30-10-10-50
186	2	AC-AC	.20	30-10-10-50

CASE NO.	TIME PERIOD	RECOVERY METHOD	DISCOUNT RATE	ALLOCATION RATIO
187	2	SL-AC	.20	30-10-10-50
188	2	AC-SL	.20	30-10-10-50
189	3	SL-SL	.20	30-10-10-50
190	3	AC-AC	.20	30-10-10-50
191	3	SL-AC	.20	30-10-10-50
192	3	AC-SL	.20	30-10-10-50

APPENDIX E

RESULTS

CASE NO.	TIME PER	RECOVERY METHOD	DISCT RATE	ALLOCATION RATIO	-----SALE ALTERNATIVE-----					-----EXCHANGE ALTERNATIVE-----					OPTIMAL FORM OF DISPOSITN
					OPT HLD PER	NET PRESENT VALUE	PRESENT VALUE REPLACEMT PROPERTY	PRESENT VALUE INITIAL PROPERTY	TAX ON DISPOSITN	OPT HLD PER	NET PRESENT VALUE	PRESENT VALUE REPLACEMT PROPERTY	PRESENT VALUE INITIAL PROPERTY	TAX ON DISPOSITN	
					HP <sub>s</sub>	NPV <sub>s</sub>	PV <sub>rs</sub>	PV <sub>is</sub>	TD <sub>s</sub>	HP <sub>e</sub>	NPV <sub>e</sub>	PV <sub>re</sub>	PV <sub>ie</sub>	TD <sub>e</sub>	
1	1	SL-SL	.05	70-05-05-20	1	14399	248160	224761	9000	1	10169	244930	224761	10000	SALE
2	1	AC-AC	.05	70-05-05-20	1	13934	280653	246939	19780	3	10006	220975	204268	6700	SALE
3	1	SL-AC	.05	70-05-05-20	1	46892	280653	224761	9000	1	12672	247433	224761	10000	SALE
4	1	AC-SL	.05	70-05-05-20	7	3323	304885	160166	141396	3	7971	218939	204268	6700	EXCHANGE
5	2	SL-SL	.05	70-05-05-20	1	67933	301980	224761	9286	8	2973	145441	142469	0	SALE
6	2	AC-AC	.05	70-05-05-20	1	53906	317831	246939	16986	8	78	129337	129259	0	SALE
7	2	SL-AC	.05	70-05-05-20	1	83784	317831	224761	9286	8	4219	146688	142469	0	SALE
8	2	AC-SL	.05	70-05-05-20	1	38055	301980	246939	16986	9	5433	123631	118198	0	SALE
9	3	SL-SL	.05	70-05-05-20	1	17285	301980	266507	18188	1	18435	292541	266507	7600	EXCHANGE
10	3	AC-AC	.05	70-05-05-20	1	10374	317831	261663	45794	1	19049	288312	261663	7600	EXCHANGE
11	3	SL-AC	.05	70-05-05-20	1	33137	317831	266507	18188	1	19599	293705	266507	7600	SALE
12	3	AC-SL	.05	70-05-05-20	16	-26089	488877	0	514966	1	18784	288047	261663	7600	EXCHANGE
13	1	SL-SL	.10	70-05-05-20	1	8513	150736	133222	9000	1	4295	147517	133222	10000	SALE
14	1	AC-AC	.10	70-05-05-20	1	6269	186603	160553	19780	3	6032	133432	120700	6700	SALE
15	1	SL-AC	.10	70-05-05-20	1	44380	186603	133222	9000	1	7502	150725	133222	10000	SALE
16	1	AC-SL	.10	70-05-05-20	41	-431540	573442	0	1004980	3	3445	130844	120700	6700	EXCHANGE
17	2	SL-SL	.10	70-05-05-20	1	86266	228774	133222	9286	5	4124	95566	88142	3300	SALE
18	2	AC-AC	.10	70-05-05-20	1	74493	252032	160553	16986	6	1489	84264	79476	3300	SALE
19	2	SL-AC	.10	70-05-05-20	1	109524	252032	133222	9286	5	5953	97395	88142	3300	SALE
20	2	AC-SL	.10	70-05-05-20	1	51235	228774	160553	16986	6	98	82874	79476	3300	SALE

CASE NO.	TIME PER	RECOVERY METHOD	DISCT RATE	ALLOCATION RATIO	-----SALE ALTERNATIVE-----					-----EXCHANGE ALTERNATIVE-----					OPTIMAL FORM OF DISPOSITN
					OPT HLD	NET PRESENT	PRESENT VALUE	PRESENT VALUE	TAX ON DISPOSITN	OPT HLD	NET PRESENT	PRESENT VALUE	PRESENT VALUE	TAX ON DISPOSITN	
					PER	VALUE	REPLACMT PROPERTY	INITIAL PROPERTY	TD <sub>s</sub>	PER	VALUE	REPLACMT PROPERTY	INITIAL PROPERTY	TD <sub>e</sub>	
		HP <sub>s</sub>	NPV <sub>s</sub>	PV <sub>rs</sub>	PV <sub>is</sub>		HP <sub>e</sub>	NPV <sub>e</sub>	PV <sub>re</sub>	PV <sub>ie</sub>		OFD			
21	3	SL-SL	.10	70-05-05-20	1	7287	228774	203299	18188	1	13691	224590	203299	7600	EXCHANGE
22	3	AC-AC	.10	70-05-05-20	16	-107026	407940	0	514966	1	14754	229447	207093	7600	EXCHANGE
23	3	SL-AC	.10	70-05-05-20	1	30545	252032	203299	18188	1	15246	226146	203299	7600	SALE
24	3	AC-SL	.10	70-05-05-20	16	-144712	370254	0	514966	1	13784	228477	207093	7600	EXCHANGE
25	1	SL-SL	.15	70-05-05-20	1	6037	107389	92352	9000	1	1943	104295	92352	10000	SALE
26	1	AC-AC	.15	70-05-05-20	1	2331	140833	118721	19780	3	6621	94687	81366	6700	SALE
27	1	SL-AC	.15	70-05-05-20	1	39481	140833	92352	9000	1	5265	107616	92352	10000	SALE
28	1	AC-SL	.15	70-05-05-20	41	-597973	407009	0	1004980	3	3958	92024	81366	6700	EXCHANGE
29	2	SL-SL	.15	70-05-05-20	1	79638	181275	92352	9286	4	3299	69879	59880	6700	SALE
30	2	AC-AC	.15	70-05-05-20	1	72022	207729	118721	16986	5	3201	62595	56094	3300	SALE
31	2	SL-AC	.15	70-05-05-20	1	106092	207729	92352	9286	4	5273	71853	59880	6700	SALE
32	2	AC-SL	.15	70-05-05-20	1	45568	181275	118721	16986	5	1665	61059	56094	3300	SALE
33	3	SL-SL	.15	70-05-05-20	1	1507	181275	161581	18188	1	10518	179699	161581	7600	EXCHANGE
34	3	AC-AC	.15	70-05-05-20	16	-178823	336143	0	514966	1	11780	189428	170048	7600	EXCHANGE
35	3	SL-AC	.15	70-05-05-20	1	27960	207729	161581	18188	1	12227	181407	161581	7600	SALE
36	3	AC-SL	.15	70-05-05-20	16	-221691	293275	0	514966	1	10427	188075	170048	7600	EXCHANGE
37	1	SL-SL	.20	70-05-05-20	1	4602	83803	70200	9000	1	646	80847	70200	10000	SALE
38	1	AC-AC	.20	70-05-05-20	41	-572427	432555	0	1004980	3	7717	73658	59240	6700	EXCHANGE
39	1	SL-AC	.20	70-05-05-20	1	34752	113953	70201	9000	1	3877	84078	70201	10000	SALE
40	1	AC-SL	.20	70-05-05-20	41	-688529	316453	0	1004980	3	5139	71079	59240	6700	EXCHANGE
41	2	SL-SL	.20	70-05-05-20	1	69370	148857	70201	9286	3	954	56128	48473	6700	SALE
42	2	AC-AC	.20	70-05-05-20	1	93840	176362	73853	8669	3	958	57927	50269	6700	SALE
43	2	SL-AC	.20	70-05-05-20	1	96875	176362	70201	9286	3	2961	58134	48473	6700	SALE
44	2	AC-SL	.20	70-05-05-20	1	37505	148857	94366	16986	5	6633	47349	37416	3300	SALE
45	3	SL-SL	.20	70-05-05-20	2	5518	154054	105791	42745	1	8276	148632	132757	7600	EXCHANGE
46	3	AC-AC	.20	70-05-05-20	16	-229662	285304	0	514966	1	9608	160928	143720	7600	EXCHANGE
47	3	SL-AC	.20	70-05-05-20	1	25417	176362	132757	18188	1	10019	150375	132757	7600	SALE
48	3	AC-SL	.20	70-05-05-20	16	-274237	240729	0	514966	1	8051	159371	143720	7600	EXCHANGE
49	1	SL-SL	.05	60-15-15-10	1	11411	323449	275949	36089	1	11731	317680	275949	30000	EXCHANGE
50	1	AC-AC	.05	60-15-15-10	1	10837	363468	299579	53052	3	17869	277593	239623	20100	SALE
51	1	SL-AC	.05	60-15-15-10	1	51431	363468	275949	36089	1	19363	325312	275949	30000	SALE

CASE NO.	TIME PER	RECOVERY METHOD	DISCT RATE	ALLOCATION RATIO	-----SALE ALTERNATIVE-----					-----EXCHANGE ALTERNATIVE-----					OPTIMAL FORM OF DISPOSITN
					OPT HLD	NET PRESENT	PRESENT VALUE	PRESENT VALUE	TAX ON DISPOSITN	OPT HLD	NET PRESENT	PRESENT VALUE	PRESENT VALUE	TAX ON DISPOSITN	
					PER	VALUE	REPLACMT	INITIAL		PER	VALUE	REPLACMT	INITIAL		
					HP <sub>s</sub>	NPV <sub>s</sub>	PV <sub>rs</sub>	PV <sub>is</sub>	TD <sub>s</sub>	HP <sub>e</sub>	NPV <sub>e</sub>	PV <sub>re</sub>	PV <sub>ie</sub>	TD <sub>e</sub>	
52	1	AC-SL	.05	60-15-15-10	5	5086	371058	172874	193098	3	11679	271402	239623	20100	EXCHANGE
53	2	SL-SL	.05	60-15-15-10	1	58698	368996	275949	34349	7	7718	185130	177413	0	SALE
54	2	AC-AC	.05	60-15-15-10	1	38201	384246	299579	46466	7	4167	160860	156693	0	SALE
55	2	SL-AC	.05	60-15-15-10	1	73948	384246	275949	34349	7	11698	189111	177413	0	SALE
56	2	AC-SL	.05	60-15-15-10	1	22951	368996	299579	46466	7	1054	157746	156693	0	SALE
57	3	SL-SL	.05	60-15-15-10	1	18940	368996	308328	41729	1	23102	355029	308328	23600	EXCHANGE
58	3	AC-AC	.05	60-15-15-10	1	12411	384246	300791	71044	1	22972	347363	300791	23600	EXCHANGE
59	3	SL-AC	.05	60-15-15-10	1	34190	384246	308328	41729	1	24647	356574	308328	23600	SALE
60	3	AC-SL	.05	60-15-15-10	3	2169	395285	191680	201437	1	24121	348512	300791	23600	EXCHANGE
61	1	SL-SL	.10	60-15-15-10	1	2842	210840	171909	36089	1	3793	205703	171909	30000	EXCHANGE
62	1	AC-AC	.10	60-15-15-10	3	8751	275235	147977	118508	3	13297	181374	147977	20100	EXCHANGE
63	1	SL-AC	.10	60-15-15-10	1	48996	256994	171909	36089	1	13598	215507	171909	30000	SALE
64	1	AC-SL	.10	60-15-15-10	41	-309419	803363	0	1112780	3	5408	173484	147977	20100	EXCHANGE
65	2	SL-SL	.10	60-15-15-10	1	86250	292509	171909	34349	5	9980	130251	110372	9900	SALE
66	2	AC-AC	.10	60-15-15-10	1	64727	315184	203990	46466	6	7619	110599	93080	9900	SALE
67	2	SL-AC	.10	60-15-15-10	1	108925	315184	171909	34349	5	15554	135826	110372	9900	SALE
68	2	AC-SL	.10	60-15-15-10	1	42052	292509	203990	46466	6	3392	106372	93080	9900	SALE
69	3	SL-SL	.10	60-15-15-10	1	5910	292509	244870	41729	1	17444	285913	244870	23600	EXCHANGE
70	3	AC-AC	.10	60-15-15-10	16	-54803	510164	0	564966	1	17775	287335	245960	23600	EXCHANGE
71	3	SL-AC	.10	60-15-15-10	1	28585	315184	244870	41729	1	19273	287743	244870	23600	SALE
72	3	AC-SL	.10	60-15-15-10	16	-91545	473421	0	564966	1	17698	287258	245960	23600	EXCHANGE
73	1	SL-SL	.15	60-15-15-10	3	1416	168168	90807	75945	1	77	152445	122368	30000	EXCHANGE
74	1	AC-AC	.15	60-15-15-10	41	-344770	768012	0	1112780	3	13319	135731	102311	20100	EXCHANGE
75	1	SL-AC	.15	60-15-15-10	1	43109	201565	122368	36089	1	10251	162619	122368	30000	SALE
76	1	AC-SL	.15	60-15-15-10	41	-515701	597081	0	112780	3	5183	127594	102311	20100	EXCHANGE
77	2	SL-SL	.15	60-15-15-10	1	84006	240723	122368	34349	4	3380	101523	78043	20100	SALE
78	2	AC-AC	.15	60-15-15-10	1	65532	266824	154827	46466	5	10112	88354	68342	9900	SALE
79	2	SL-AC	.15	60-15-15-10	1	110108	266824	122368	34349	3	1146	112054	90807	20100	SALE
80	2	AC-SL	.15	60-15-15-10	1	39430	240723	154827	46466	5	5428	83670	68342	9900	SALE
81	3	SL-SL	.15	60-15-15-10	2	6855	249139	159706	82578	1	13352	238419	201467	23600	EXCHANGE
82	3	AC-AC	.15	60-15-15-10	16	-133166	431801	0	564966	1	13908	244968	207459	23600	EXCHANGE

CASE NO.	TIME PER	RECOVERY METHOD	DISCT RATE	ALLOCATION RATIO	-----SALE ALTERNATIVE-----					-----EXCHANGE ALTERNATIVE-----					OPTIMAL FORM OF DISPOSITN
					OPT HLD	NET PRESENT	PRESENT VALUE	PRESENT VALUE	TAX ON DISPOSITN	OPT HLD	NET PRESENT	PRESENT VALUE	PRESENT VALUE	TAX ON DISPOSITN	
					PER	VALUE	REPLACEMENT PROPERTY	INITIAL PROPERTY	TD <sub>s</sub>	PER	VALUE	REPLACEMENT PROPERTY	INITIAL PROPERTY	TD <sub>e</sub>	
	HP <sub>s</sub>	NPV <sub>s</sub>	PV <sub>rs</sub>	PV <sub>is</sub>		HP <sub>e</sub>	NPV <sub>e</sub>	PV <sub>re</sub>	PV <sub>ie</sub>		OFD				
83	3	SL-AC	.15	60-15-15-10	1	23629	266824	201467	41729	1	15270	240337	201467	23600	SALE
84	3	AC-SL	.15	60-15-15-10	16	-175464	389503	0	564966	1	13054	244113	207459	23600	EXCHANGE
85	1	SL-SL	.20	60-15-15-10	41	-633715	479068	0	1112780	2	9374	117492	78117	30000	EXCHANGE
86	1	AC-AC	.20	60-15-15-10	41	-475596	637187	0	1112780	3	13868	109587	75619	20100	EXCHANGE
87	1	SL-AC	.20	60-15-15-10	1	37062	167446	94295	36089	1	7691	131986	94295	30000	SALE
88	1	AC-SL	.20	60-15-15-10	41	-633715	479068	0	1112780	3	5980	101698	75619	20100	EXCHANGE
89	2	SL-SL	.20	60-15-15-10	1	75242	203886	94295	34349	3	893	85629	64636	20100	SALE
90	2	AC-AC	.20	60-15-15-10	1	59837	231315	125012	46466	5	15642	71819	46277	9900	SALE
91	2	SL-AC	.20	60-15-15-10	1	102670	231315	94295	34349	3	7039	91775	64636	20100	SALE
92	2	AC-SL	.20	60-15-15-10	1	32408	203886	125012	46466	5	11118	67295	46277	9900	SALE
93	3	SL-SL	.20	60-15-15-10	3	135	218382	97021	121227	1	10233	204225	170392	23600	EXCHANGE
94	3	AC-AC	.20	60-15-15-10	16	-190709	374257	0	564966	1	10892	213675	179183	23600	EXCHANGE
95	3	SL-AC	.20	60-15-15-10	1	19194	231315	170392	41729	1	12145	206137	170392	23600	SALE
96	3	AC-SL	.20	60-15-15-10	16	-235162	329804	0	564966	1	9537	212320	179183	23600	EXCHANGE
97	1	SL-SL	.05	40-30-15-15	1	8436	332410	270039	53934	1	11170	326210	270039	45000	EXCHANGE
98	1	AC-AC	.05	40-30-15-15	1	7815	375632	295169	72648	3	22586	285420	232684	30150	SALE
99	1	SL-AC	.05	40-30-15-15	1	51658	375632	270039	53934	1	24039	339079	270039	45000	SALE
100	1	AC-SL	.05	40-30-15-15	5	3163	381340	184622	193555	3	11933	274767	232684	30150	EXCHANGE
101	2	SL-SL	.05	40-30-15-15	1	53075	374496	270039	51382	7	18996	190499	171503	0	SALE
102	2	AC-AC	.05	40-30-15-15	1	26680	386597	295169	64748	7	16047	163440	147393	0	SALE
103	2	SL-AC	.05	40-30-15-15	1	65176	386597	270039	51382	6	5000	205840	185990	14850	SALE
104	2	AC-SL	.05	40-30-15-15	1	14579	374496	295169	64748	7	10546	157939	147393	0	SALE
105	3	SL-SL	.05	40-30-15-15	1	18330	374496	298449	57717	1	23915	357964	298449	35600	EXCHANGE
106	3	AC-AC	.05	40-30-15-15	1	14627	386597	289488	82481	1	23067	348156	289488	35600	EXCHANGE
107	3	SL-AC	.05	40-30-15-15	1	30431	386597	298449	57717	1	25266	359315	298449	35600	SALE
108	3	AC-SL	.05	40-30-15-15	1	2526	374496	289488	82481	1	26785	351874	289488	35600	EXCHANGE
109	1	SL-SL	.10	40-30-15-15	3	11004	239666	136996	91665	1	2712	218401	170689	4500	EXCHANGE
110	1	AC-AC	.10	40-30-15-15	3	7828	293807	147287	138692	3	17858	195295	147287	30150	EXCHANGE
111	1	SL-AC	.10	40-30-15-15	1	49708	274332	170689	53934	1	18764	234453	170689	45000	SALE
112	1	AC-SL	.10	40-30-15-15	41	-303921	852962	0	1156880	3	4643	182081	147287	30150	EXCHANGE
113	2	SL-SL	.10	40-30-15-15	1	85438	307508	170689	51382	5	16280	140282	109151	14850	SALE

CASE NO.	TIME PER	RECOVERY METHOD	DISCT RATE	ALLOCATION RATIO	OPT HLD PER	-----SALE ALTERNATIVE-----				-----EXCHANGE ALTERNATIVE-----				OPTIMAL FORM OF DISPOSITN			
						NET PRESENT VALUE	PRESENT VALUE REPLACMT PROPERTY	PRESENT VALUE INITIAL	TAX ON DISPOSITN	NET PRESENT VALUE	PRESENT VALUE REPLACMT PROPERTY	TAX ON DISPOSITN	OPTIMAL FORM OF DISPOSITN				
						HP <sub>s</sub>	NPV <sub>s</sub>	PV <sub>rs</sub>	PV <sub>is</sub>	TD <sub>s</sub>	HP <sub>e</sub>	NPV <sub>e</sub>	PV <sub>re</sub>		PV <sub>ie</sub>	TD <sub>e</sub>	OFD
114	2	AC-AC	.10	40-30-15-15	1	55396	325811	205667	64748	5	5930	127155	106375	14850	SALE		
115	2	SL-AC	.10	40-30-15-15	1	103740	325811	170689	51382	4	3320	155881	122411	30150	SALE		
116	2	AC-SL	.10	40-30-15-15	1	37093	307508	205667	64748	6	6535	112081	90696	14850	SALE		
117	3	SL-SL	.10	40-30-15-15	1	4438	307508	245353	57717	1	18289	299242	245353	35600	EXCHANGE		
118	3	AC-AC	.10	40-30-15-15	16	-12600	527366	0	539966	1	17835	297003	243567	35600	EXCHANGE		
119	3	SL-AC	.10	40-30-15-15	1	22740	325811	245353	57717	1	19847	300800	245353	35600	SALE		
120	3	AC-SL	.10	40-30-15-15	16	-42265	497702	0	539966	1	19543	298710	243567	35600	EXCHANGE		
121	1	SL-SL	.15	40-30-15-15	3	168	182365	90533	91665	2	9179	159391	105212	45000	EXCHANGE		
122	1	AC-AC	.15	40-30-15-15	41	-320908	835975	0	1156880	3	17306	150537	103081	30150	EXCHANGE		
123	1	SL-AC	.15	40-30-15-15	1	43304	219332	122093	53934	1	14674	181767	122093	45000	SALE		
124	1	AC-SL	.15	40-30-15-15	41	-509104	647779	0	1156880	3	3981	137212	103081	30150	EXCHANGE		
125	2	SL-SL	.15	40-30-15-15	1	86617	260092	122093	51382	4	4670	112588	77768	30150	SALE		
126	2	AC-AC	.15	40-30-15-15	1	58912	281478	157817	64748	5	16336	99173	67987	1485	SALE		
127	2	SL-AC	.15	40-30-15-15	1	108003	281478	122093	51382	3	6794	127476	90533	30150	SALE		
128	2	AC-SL	.15	40-30-15-15	1	37526	260092	157817	64748	5	8532	91369	67987	1485	SALE		
129	3	SL-SL	.15	40-30-15-15	2	892	269186	159175	109120	1	13963	257093	207530	35600	EXCHANGE		
130	3	AC-AC	.15	40-30-15-15	16	-84446	455520	0	539966	1	13724	259378	210053	35600	EXCHANGE		
131	3	SL-AC	.15	40-30-15-15	1	16231	281478	207530	57717	1	15587	258717	207530	35600	EXCHANGE		
132	3	AC-SL	.15	40-30-15-15	16	-119111	420855	0	539966	1	14048	259701	210053	35600	EXCHANGE		
133	1	SL-SL	.20	40-30-15-15	41	-628544	528339	0	1156880	2	6702	129753	78051	45000	EXCHANGE		
134	1	AC-AC	.20	40-30-15-15	41	-454002	702880	0	1156880	3	17256	124095	76689	30150	EXCHANGE		
135	1	SL-AC	.20	40-30-15-15	1	36457	184619	94228	53934	1	11116	150344	94228	45000	SALE		
136	1	AC-SL	.20	40-30-15-15	41	-628544	528339	0	1156880	3	4568	111406	76689	30150	EXCHANGE		
137	2	SL-SL	.20	40-30-15-15	1	79385	224995	94228	51382	3	2277	96996	64569	3015	SALE		
138	2	AC-AC	.20	40-30-15-15	1	54840	247762	64748	128173	5	21433	82657	46374	1485	SALE		
139	2	SL-AC	.20	40-30-15-15	1	102152	247762	94228	51382	3	12039	106758	64569	30150	SALE		
140	2	AC-SL	.20	40-30-15-15	1	32074	224995	128173	64748	5	14023	75247	46374	1485	SALE		
141	3	SL-SL	.20	40-30-15-15	16	-55993	363973	0	419966	1	10490	225498	179408	35600	EXCHANGE		
142	3	AC-AC	.20	40-30-15-15	16	-139087	400880	0	539966	1	10368	230533	184565	35600	EXCHANGE		
143	3	SL-AC	.20	40-30-15-15	1	10637	247762	179408	57717	1	12110	227117	179408	35600	EXCHANGE		
144	3	AC-SL	.20	40-30-15-15	16	-175993	363973	0	539966	1	9724	229889	184565	35600	EXCHANGE		

CASE NO.	TIME PER	RECOVERY METHOD	DISCT RATE	ALLOCATION RATIO	-----SALE ALTERNATIVE-----					-----EXCHANGE ALTERNATIVE-----					OPTIMAL FORM OF DISPOSITN
					OPT HLD	NET PRESENT	PRESENT VALUE	PRESENT VALUE	TAX ON DISPOSITN	OPT HLD	NET PRESENT	PRESENT VALUE	PRESENT VALUE	TAX ON DISPOSITN	
					PER	VALUE	REPLACEMT PROPERTY	INITIAL PROPERTY	TD <sub>s</sub>	PER	VALUE	REPLACEMT PROPERTY	INITIAL PROPERTY	TD <sub>e</sub>	
HP <sub>s</sub>	NPV <sub>s</sub>	PV <sub>rs</sub>	PV <sub>is</sub>	TD <sub>s</sub>	HP <sub>e</sub>	NPV <sub>e</sub>	PV <sub>re</sub>	PV <sub>ie</sub>	TD <sub>e</sub>	OFD					
145	1	SL-SL	.05	30-10-10-50	1	14324	187904	156548	17032	1	6421	182969	156548	20000	SALE
146	1	AC-AC	.05	30-10-10-50	1	13999	210679	169451	27229	3	10969	158649	134280	13400	SALE
147	1	SL-AC	.05	30-10-10-50	1	37099	210679	156548	17032	1	11489	188037	156548	20000	SALE
148	1	AC-SL	.05	30-10-10-50	41	-253936	716746	0	970682	3	6856	154536	134280	13400	EXCHANGE
149	2	SL-SL	.05	30-10-10-50	1	35725	210153	156548	17880	7	6214	105382	99167	0	SALE
150	2	AC-AC	.05	30-10-10-50	1	23535	218149	169451	25163	7	4442	90781	86339	0	SALE
151	2	SL-AC	.05	30-10-10-50	1	43721	218149	156548	17880	7	8860	108027	99167	0	SALE
152	2	AC-SL	.05	30-10-10-50	1	15539	210153	169451	25163	7	2371	88711	86339	0	SALE
153	3	SL-SL	.05	30-10-10-50	1	13433	210153	171933	24788	1	13247	200779	171933	15600	SALE
154	3	AC-AC	.05	30-10-10-50	1	13318	218149	167412	37419	1	13037	196049	167412	15600	SALE
155	3	SL-AC	.05	30-10-10-50	1	21429	218149	171933	24788	1	14148	201681	171933	15600	SALE
156	3	AC-SL	.05	30-10-10-50	1	5323	210153	167412	37419	1	13932	196944	167412	15600	EXCHANGE
157	1	SL-SL	.10	30-10-10-50	1	9181	124994	98781	17032	1	1788	120568	98781	20000	SALE
158	1	AC-AC	.10	30-10-10-50	1	7522	151559	116809	27229	3	8402	105750	83948	13400	SALE
159	1	SL-AC	.10	30-10-10-50	1	35746	151559	98781	17032	1	8293	127074	98781	20000	SALE
160	1	AC-SL	.10	30-10-10-50	41	-495712	474970	0	970682	3	3163	100511	83948	13400	EXCHANGE
161	2	SL-SL	.10	30-10-10-50	1	52137	168798	98781	17880	5	6446	75991	62945	6600	SALE
162	2	AC-AC	.10	30-10-10-50	1	38774	180746	116809	25163	5	588	68141	60952	6600	SALE
163	2	SL-AC	.10	30-10-10-50	1	64085	180746	98781	17880	5	10148	79693	62945	6600	SALE
164	2	AC-SL	.10	30-10-10-50	1	26826	168798	116809	25163	6	2428	61169	52141	6600	SALE
165	3	SL-SL	.10	30-10-10-50	1	5870	168798	138140	24788	1	10055	163794	138140	15600	EXCHANGE
166	3	AC-AC	.10	30-10-10-50	1	5122	180746	138204	37419	1	10093	163897	138204	15600	EXCHANGE
167	3	SL-AC	.10	30-10-10-50	1	17818	180746	138140	24788	1	11086	164826	138140	15600	SALE
168	3	AC-SL	.10	30-10-10-50	16	-91795	273171	0	364966	1	10230	164035	138204	15600	EXCHANGE
169	1	SL-SL	.15	30-10-10-50	1	6539	94338	70767	17032	2	5882	86819	60937	20000	SALE
170	1	AC-AC	.15	30-10-10-50	1	3681	120153	89243	27229	3	8294	80127	58433	13400	SALE
171	1	SL-AC	.15	30-10-10-50	1	32353	120153	70767	17032	1	6287	97055	70767	20000	SALE
172	1	AC-SL	.15	30-10-10-50	41	-613597	357085	0	970682	3	2894	74727	58433	13400	EXCHANGE
173	2	SL-SL	.15	30-10-10-50	1	51745	140392	70767	17880	4	1746	60102	44956	13400	SALE
174	2	AC-AC	.15	30-10-10-50	1	39800	154206	89243	25163	5	6701	52008	38707	6600	SALE
175	2	SL-AC	.15	30-10-10-50	1	65559	154206	70767	17880	3	1138	66927	52389	13400	SALE



CASE NO.	TIME PER	RECOVERY METHOD	DISCT RATE	ALLOCATION RATIO	-----SALE ALTERNATIVE-----					-----EXCHANGE ALTERNATIVE-----					OPTIMAL FORM OF DISPOSITN
					OPT HLD PER	NET PRESENT VALUE	PRESENT VALUE REPLACMT PROPERTY	PRESENT VALUE INITIAL PROPERTY	TAX ON DISPOSITN	OPT HLD PER	NET PRESENT VALUE	PRESENT VALUE REPLACMT PROPERTY	PRESENT VALUE INITIAL PROPERTY	TAX ON DISPOSITN	
					HP <sub>s</sub>	NPV <sub>s</sub>	PV <sub>rs</sub>	PV <sub>is</sub>	TD <sub>s</sub>	HP <sub>e</sub>	NPV <sub>e</sub>	PV <sub>re</sub>	PV <sub>ie</sub>	TD <sub>e</sub>	
176	2	AC-SL	.15	30-10-10-50	1	25985	140392	89243	25163	5	3591	48898	38707	6600	SALE
177	3	SL-SL	.15	30-10-10-50	1	866	140392	114738	24788	1	7696	138035	114738	15600	EXCHANGE
178	3	AC-AC	.15	30-10-10-50	16	-115460	249506	0	364966	1	7860	140913	117453	15600	EXCHANGE
179	3	SL-AC	.15	30-10-10-50	1	14680	154206	114738	24788	1	8762	139100	114738	15600	SALE
180	3	AC-SL	.15	30-10-10-50	16	-137869	227097	0	364966	1	7504	140557	117453	15600	EXCHANGE
181	1	SL-SL	.20	30-10-10-50	1	4810	76550	54708	17032	2	4671	69958	45287	20000	SALE
182	1	AC-AC	.20	30-10-10-50	1	994	100558	72336	27229	3	8474	65230	43356	13400	SALE
183	1	SL-AC	.20	30-10-10-50	1	28818	100558	54708	17032	1	4690	79398	54708	20000	SALE
184	1	AC-SL	.20	30-10-10-50	41	-681975	288707	0	970682	3	3241	59997	43356	13400	EXCHANGE
185	2	SL-SL	.20	30-10-10-50	1	47327	119915	54708	17880	3	387	51223	37437	13400	SALE
186	2	AC-AC	.20	30-10-10-50	1	36989	134488	72336	25163	5	9755	42672	26317	6600	SALE
187	2	SL-AC	.20	30-10-10-50	1	61900	134488	54708	17880	3	4463	55300	37437	13400	SALE
188	2	AC-SL	.20	30-10-10-50	1	22416	119915	72336	25163	5	6752	39668	26317	6600	SALE
189	3	SL-SL	.20	30-10-10-50	16	-81085	193881	0	274966	1	5865	119249	97784	15600	EXCHANGE
190	3	AC-AC	.20	30-10-10-50	16	-147443	217524	0	364966	1	6089	123735	102045	15600	EXCHANGE
191	3	SL-AC	.20	30-10-10-50	1	11916	134488	97784	24788	1	6919	120303	97784	15600	SALE
192	3	AC-SL	.20	30-10-10-50	16	-171085	193881	0	364966	1	5407	123052	102045	15600	EXCHANGE

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VITA

Nancy Joyce Hoffman Foran

Candidate for the Degree of

Doctor of Philosophy

**Thesis:** THE EFFECT OF THE ECONOMIC RECOVERY TAX ACT OF 1981 AND THE TAX EQUITY AND FISCAL RESPONSIBILITY ACT OF 1982 ON THE OPTIMAL FORM OF DISPOSITION BY INDIVIDUALS OF NONRESIDENTIAL REAL PROPERTY

**Major Field:** Business Administration

**Education:**

Bachelor of Science (with highest honors) in Accounting,  
University of California at Los Angeles, 1965.  
Master of Science in Accounting, Wichita State University, 1967.  
Doctor of Philosophy in Business Administration, Oklahoma State  
University, 1985.

**Academic/Professional Experience:**

Wichita State University, Wichita, Kansas 1967-1972, 1979-Present.  
Assistant Professor, School of Accountancy, College of  
Business Administration (1983-Present).  
Instructor, Department of Accounting, College of Business  
Administration (1979-1981).  
Instructor, Department of Economics, College of Business  
Administration (1967-1972).  
Midway-America, Inc., Treasurer, 1973-1978.  
Arthur Young & Co., Staff Accountant, 1965-1967.

**Academic Honors and Recognitions:**

Beta Gamma Sigma - University of California at Los Angeles (1964).  
Phi Beta Kappa - University of California at Los Angeles (1966).  
Gold Key - Wichita State University (1966).  
Elijah Watt Sell Award (1979).  
Gold Key - Kansas CPA Examination (1979).  
Certified Public Accountant (1979).

**Professional Organizations:**

American Accounting Association  
Kansas Society of Certified Public Accountants  
American Taxation Association  
National Association of Accountants  
Beta Alpha Psi  
American Institute of Certified Public Accountants