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William H. Behrenfeld

Andrew R. Biebl

THE ACCOUNTANT'S BUSINESS MANUAL

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THE ACCOUNTANT'S BUSINESS MANUAL

Volume 2

THE ACCOUNTANT'S BUSINESS MANUAL

A Two-Volume Service

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FEDERAL INDIVIDUAL TAX NOTES

1. INCOME ISSUES

1.1 Legislative Developments

1.1.1 Principal residence exclusion

It was unclear under the 1997 legislation how a prorated gain exclusion was computed if a sale of a principal residence occurred by reason of a change in place of employment, health, or other unforeseen circumstances, where the taxpayer failed to qualify for the full two-year ownership and occupancy tests. The Internal Revenue Service (IRS) Restructuring and Reform Act of 1998 (1998 Tax Act) clarified that the full $250,000/$500,000 exclusion is prorated, not merely the taxpayer's actual gain on the residence sale.

Observation

The IRS had already reflected this provision in the 1997 Form 2119, so amended returns are not required.

> *Example:* Lucy, a single taxpayer, sold a residence on June 30, 1998, and used the $250,000 gain exclusion. The next day, on July 1, 1998, Lucy purchased a replacement residence in Philadelphia. One year later, on June 30, 1999, Lucy sold that residence at a $60,000 gain, due to a job transfer. Lucy is entitled to 12/24ths of the $250,000 gain exclusion because the sale of the home, even though failing the two-year holding requirement, is attributable to a change in employment. Lucy's $125,000 gain exclusion entirely eliminates any taxable reporting of the Philadelphia residence sale.
>
> Prior to the clarification in the 1998 Tax Act, some commentators had argued that Lucy was entitled to exclude only 12/24ths of the $60,000 gain.

Several transition rules were built into the 1997 legislation to assure eligibility for sales within the first two years of the 1997 legislation:

1. For purposes of the provision disallowing the gain exclusion where it was used within the prior two years, any sale before May 7, 1997 is not taken into account [Internal Revenue Code (IRC) Sec. 121(b)(3)(B)].
2. If the residence which is sold was acquired in a (former law) Section 1034 rollover, the holding period of the former residence is counted in determining whether the taxpayer met the two-of-five-year ownership test and two-of-five-year use test [IRC Sec. 121(g)].

> *Example:* On April 1, 1997, Al sold a home (which he had acquired in 1980) at a gain of $200,000. He purchased a replacement residence on

April 1, 1997, at a greater cost than the sale price of the former residence, deferring the $200,000 gain under former IRC Sec. 1034.

On September 1, 1998, Al sold this replacement residence for the same amount as its acquisition cost. Al's $200,000 deferred gain is fully excludable, because Al is considered to have owned and used this home for more than two years. His ownership and occupancy of the previous home counts in meeting the two-of-five-year tests. Additionally, Al meets the one-sale-every-two-years test because the former residence which was sold prior to May 7, 1997, is disregarded.

If a sale of a residence occurs from August 5, 1997, through August 4, 1999 (that is, within the first two years of the 1997 legislation), a taxpayer is allowed a prorated portion of the $250,000/$500,000 gain exclusion, if the taxpayer held the property as of August 5, 1997, but fails to meet the two-year ownership and use tests.

Example: On March 1, 1997, Archie and Edith, a retired couple, sold their principal residence in St. Paul and eliminated the taxable gain by electing the former Section 121 one-time $125,000 gain exclusion. Archie and Edith now reside part of each year in an apartment in Bloomington, and part of the year in a condominium which they own in Duluth. Archie and Edith, desiring to sell the Duluth condo, relocate to Duluth on March 1, 1998, with Duluth becoming their principal residence. They reside at Duluth until March 1, 1999, at which time they sell the property for a gain of $200,000.

Because Archie and Edith owned this property as of August 5, 1997, and because they sold this property prior to August 5, 1999, having occupied it for twelve months as their principal residence, they are entitled to 12/24ths of the $500,000 gain exclusion, or $250,000. Because the $250,000 amount exceeds their actual gain of $200,000, the entire gain on the Duluth condo is tax-free.

Taxpayers age fifty-five or older who reported a taxable gain when they were eligible for the age fifty-five exclusion under prior law should amend those returns to obtain refunds of the tax previously paid, using the prior law Section 121 age fifty-five one-time exclusion.

1. These taxpayers may have paid tax on a small gain under prior law in order to preserve the one-time prior law age fifty-five exclusion or they may have "deferred gain pending reinvestment" rather than using the prior law age fifty-five exclusion.
2. In these cases, practitioners should now file amended returns to use the prior law age fifty-five exclusion because the "one-time" restriction no longer applies.

A bankruptcy trustee was allowed to use the new Section 121 exclusion to the same extent as the individual debtor, as if the debtor had sold the residence personally (*In re Popa*, Bktcy. Ct., N.D. IL., 98-1 USTC 50,276, 3/10/98).

1. The Bankruptcy Court rejected the reasoning in two cases dealing with the prior law Section 121 exclusion, determining the age requirement (age fifty-five) within the prior law applied to a natural person and no longer existed under the new IRC Sec. 121.

1.2 Case and Ruling Developments

1.2.1 Taxation of Social Security benefits under U.S.-Canada treaty

The United States and Canada have agreed to a 1997 Protocol associated with a cross-border Treaty agreement with respect to the taxation of Social Security benefits (IRS Notice 98-23, IRB No. 1998-18).

The 1997 Protocol relates to a residence-based system, under which Social Security benefits are taxable exclusively in the country where the recipient resides.

The changes made by the 1997 Protocol are generally retroactive to January 1, 1996, with restrictions limiting the taxation of benefits paid during 1996 and 1997 to the highest rate of tax previously imposed under a 1995 Protocol (which taxed Social Security benefits under a source-based system).

Individuals who received benefits during 1996 and 1997 subject to a lower rate of tax under the 1997 Protocol than under the 1995 Protocol may be eligible for refunds, with details on claiming the refunds contained within the IRS guidance. The guidance also details rules for Canadian residents who receive U.S. Social Security benefits.

1.2.2 Nontaxability of flood relocation payments

The IRS has ruled that a payment made to an individual to move from a flood-damaged residence to another residence was in the nature of general welfare and therefore not taxable. This ruling is consistent with a previous IRS ruling (Rev. Rul. 76-373, 1976-2 CB 16), in which the IRS determined that relocation payments under the 1974 Housing and Community Development Act were nontaxable (Rev. Rul. 98-19, IRB No. 1998-15).

1.2.3 Indemnification payment for incorrect tax planning advice

The IRS has ruled that a taxpayer who received an indemnification payment from an attorney because of incorrect tax planning advice was taxable on the payment. The IRS distinguished between an indemnification payment for incorrectly reporting a transaction on a tax return (tax-free) and an indemnification payment for incorrectly giving tax planning advice (taxable) (PLR 9833007).

> *Example:* Clair, the winner of a substantial amount in a lottery drawing, sought the advice of Cathy, a tax attorney. Cathy failed to advise Clair to prepay the estimated state tax within the year of the lottery winnings. Accordingly, when the state tax was paid in the following year, the deduction provided little benefit in Clair's return because of the imposition of the alternative minimum tax (AMT).
>
> Clair's receipt of an indemnification amount from Cathy would be taxable in such a situation. The IRS ruling distinguished that Clair did not pay more in federal taxes because of the error made by Cathy on the return itself, but rather, the additional tax was paid as a result of an omission to provide proper tax advice associated with the transaction.

2. DEDUCTIONS AND LOSSES

2.1 Legislative Developments

2.1.1 Increased standard deduction for dependents

Prior to 1998, the standard deduction of a taxpayer for whom a dependency exemption was allowed on another taxpayer's return was limited to the *lesser* of: (1) the standard deduction for an individual ($4,150 for 1997), or (2) the *greater* of $650 (for 1997), or the dependent's earned income.

Effective for 1998, this formula was altered to add $250 to the last component. Accordingly, after considering the inflation adjustments, a dependent's standard deduction for 1998 is the *lesser* of: (1) the standard deduction for an individual ($4,250 for 1998), or (2) the greater of $700 (for 1998), or the individual's earned income plus $250 [IRC Sec. 63(c)].

2.1.2 Increases in deductible amounts

The deduction for health insurance of self-employed individuals under IRC Sec. 162(l) was increased for 1998 to 45 percent (from 40 percent in 1997). The deductible percentage of meals for employees subject to Department of Transportation hours of service rules increased to 55 percent for 1998 (from 50 percent in 1997).

2.1.3 Interest expense on student loans

Beginning in 1998, taxpayers who pay interest on qualified education loans are allowed to deduct interest "above the line" up to $1,000, subject to adjusted gross income (AGI) phase-out ranges of $60,000 to $75,000 for joint filers and $40,000 to $55,000 for single filers. Interest is only deductible during the first sixty months for which interest payments are required under the loan [IRC Sec. 221].

Under the IRS Restructuring and Reform Act of 1998, Congress amended the statute to require that the qualified education loan must have been incurred by the taxpayer *solely* to pay qualified higher education expenses [IRC Sec. 221(e)(1)].

Observation
As a result of this change, revolving lines of credit generally will not constitute qualified education loans unless the borrower agreed to use the line of credit solely to pay qualified education expenses.

The 1998 legislation also amended the statute to direct the IRS to prescribe regulations to assist in measuring the sixty-month time limit, and in dealing with multiple loans which are refinanced or consolidated [IRC Sec. 221(d)]. The Committee Report suggests that the regulations should mirror the guidance previously established by the IRS in IRS Notice 98-7 (IRB No. 1998-3).

2.1.4 Roth IRAs

Modified AGI for purposes of Roth individual retirement account (IRA) eligibility is AGI with *additions* for any excluded foreign earned income or foreign housing costs, excluded employer-provided adoption assistance, excluded Series EE bond interest income expended for higher education, and addback of any traditional IRA deduction, and with *deduction* of any income from conversion of a traditional IRA to a Roth IRA [IRC Sec. 408A(c)(3)(C)].

Observation
The IRS Restructuring and Reform Act of 1998 changed the definition of modified AGI by inserting the addback of the regular IRA deduction to the definition.

2.1.5 Roth IRA conversions

The IRS Restructuring and Reform Act of 1998 enacted a number of provisions associated with rollovers from traditional IRAs to Roth IRAs: Taxpayers may *elect* to have the amount converted includable in income entirely in the year of conversion, rather than pro rata over four years.

Taxpayers have until the due date (including extensions) to "unconvert" a Roth rollover via a trustee-to-trustee transfer (for example, when AGI exceeds $100,000) [IRC Sec. 408A(d)(6)].

Example: Ann converts $50,000 of traditional IRA funds to Roth IRA funds by December 31, 1998. In the course of preparing Ann's 1998 Form 1040 in July, 1999 (the return is under extension until August 15, 1999), it is discovered that Ann's 1998 AGI exceeds $100,000.

While Ann and her tax advisor had expected modified AGI to be under $100,000 prior to the Roth conversion, Ann now has until the extended August 15, 1999, due date to contact her Roth IRA trustee and recharacterize the IRA by either transferring the funds back to a traditional IRA account or changing the designation on the Roth IRA account to traditional IRA status.

If a taxpayer elects application of the four-year spread and withdraws amounts before the entire amount of the conversion has been included in income, the amount withdrawn is includable in income in addition to any amount required to be included under the four-year spread (not to exceed the total amount converted).

If converted amounts are withdrawn within the five-year period beginning with the year of conversion, then to the extent attributable to amounts that were includable in income due to the conversion, the amount withdrawn is subject to the 10 percent early withdrawal penalty.

In the event of death of the taxpayer, any deferred amounts remaining to be included in income as a result of a 1998 Roth conversion are includable in income on the final return of the taxpayer.

Contributions to a SEP or a SIMPLE IRA are not taken into account in determining the $2,000 maximum amount of a Roth IRA contribution.

Ordering rules apply for determining the character of withdrawals from Roth IRAs (that is, amounts come first from regular Roth contributions and then from rollover contributions).

The $100,000 modified AGI limit is applied to the year during which funds come out of a traditional IRA, and not a later year when they go into a Roth IRA, in a case where the withdrawal and Roth rollover span year end [IRC Sec. 408A(c)(3)(B)].

Example: Lee, a single taxpayer, has modified AGI of approximately $80,000 in 1998 and $110,000 in 1999. During the last week of December 1998, Lee withdraws $50,000 from a traditional IRA and invests this amount in a Roth IRA during the first week of January 1999.

Because Lee's 1998 modified AGI is less than $100,000, and because he converted the amount into a Roth IRA within sixty days, a valid Roth conversion occurred. It is irrelevant that his 1999 modified AGI exceeds

> $100,000. The $100,000 modified AGI limit for rollovers applies to the year the funds come out of the traditional IRA and not, if different, the year when the funds transfer into the Roth IRA.

Effective for taxable years beginning after December 31, 2004, minimum required distributions are excluded from the definition of modified AGI solely for purposes of determining eligibility for Roth conversions.

The IRS has also issued proposed regulations dealing with Roth IRAs (Prop. Regs. 1.408A-1 through 1.408A-9, REG-115393-98, 9/3/98):

Amounts held in a SEP or a SIMPLE IRA may be converted to a Roth IRA, but in the case of a SIMPLE IRA, the conversion should only be made after the expiration of the two-year period from commencement of participation to avoid the 25 percent penalty of IRC Sec. 72(t)(6).

Amounts held in retirement plans other than IRAs cannot be directly converted to a Roth IRA, but must first be rolled over to a traditional IRA before being converted to a Roth IRA.

Observation

A transfer from a qualified plan should occur via a trustee-to-trustee transfer in order to avoid the 20 percent income tax withholding on qualified plan distributions.

A taxpayer's notification to a trustee to recharacterize an IRA or Roth IRA cannot be revoked or modified after the recharacterization has been made (Prop. Reg. 1.408A-5).

Observation

However, IRC Sec. 408A(d)(6)(A) allows a recharacterization to negate any earlier contribution, and does not limit the number or frequency of recharacterizations, apparently allowing a taxpayer to convert and "uncovert" several times during the year.

> *Example:* Expecting his 1998 AGI to be under $100,000, Tom converts $50,000 of traditional IRA funds to a Roth IRA on May 1, 1998. Because of market declines during the summer of 1998, the Roth IRA declines in value to $40,000. Accordingly, on September 15, 1998, Tom notifies the trustee and unconverts the Roth IRA to traditional IRA status. Several days later, Tom again notifies the trustee and accomplishes a conversion from traditional IRA status to Roth IRA status. As a result of these multiple recharacterizations, Tom will only report approximately $40,000 of income from the conversion rather than the original $50,000 amount.

The five-taxable-year period for determining whether a distribution is a qualified distribution is not recalculated when a Roth IRA owner dies (Prop. Reg. 1.408A-6).

2.1.6 Education IRAs

The IRS Restructuring and Reform Act of 1998 made a number of substantive changes regarding education IRAs:

— Any balance remaining in an education IRA must be distributed within thirty days after the beneficiary reaches age thirty; failure to do so subjects the education IRA to inclusion in the taxable income of the taxpayer [IRC Sec. 530(b)(1)(E) and (d)(8)].

— For purposes of the special rule regarding tax-free rollovers and changes of designated beneficiaries within a family, the new beneficiary must be under age thirty.

— The 6 percent excess contribution penalty applies to each year that an excess contribution remains in an education IRA.

— The 10 percent penalty on a taxable distribution does not apply if the taxpayer waives the education IRA distribution exclusion (for example, elects to report the education IRA withdrawal as taxable to be eligible for the Hope or Lifetime Learning credit).

— The legislation clarifies that any partial distributions from education IRAs are treated as representing a pro rata share of the basis in earnings in the account.

2.1.7 Expanded IRA deductibility

Beginning in 1998, an individual is not considered to be an active participant in an employer-sponsored retirement plan merely because the individual's spouse is an active participant. However, this rule only applies if combined AGI is less than $150,000; from $150,000 to $160,000 of AGI, the deductible IRA gradually phases out [IRC Sec. 219(g)(7)].

2.1.8 Increase in IRA AGI phaseout limits for active participants

With respect to an individual's personal $2,000 deductible IRA contribution (but not that of a spouse), the AGI phaseout limits for active participants in a qualified plan are increased for 1998 to $50,000 to $60,000 on a joint return and $30,000 to $40,000 for single taxpayers [IRC Sec. 219(g)(3)].

2.1.9 IRA investments in coins and bullion

Beginning in 1998, IRA assets may be invested in specified platinum coins, and also in gold, silver, platinum, or palladium bullion. Previously, only specified gold and silver coins, and coins issued by a state, were permitted IRA investments [IRC Sec. 408(m)].

2.1.10 Hardship distributions not eligible for rollover

The IRS Restructuring and Reform Act of 1998 prevents hardship distributions from a Section 401(k) or 403(b) plan from being eligible for rollover to an IRA, effective for distributions occurring after 1998 [IRC Secs. 402(c)(4)(C) and 403(b)(8)(B)].

Observation
As a result of this change, hardship distributions under age 59½ will be subject to the 10 percent penalty, unless attributable to the employee's death, disability, retirement after age 55, or as part of a series of equal periodic payments, or expended as a part of medical costs.

2.2 Case and Ruling Developments

2.2.1 Active participation test on condo rentals

The Tax Court determined that a taxpayer failed to meet the active participation test on a condo rental, disallowing the $25,000 rental real estate loss exception. The court determined the taxpayer had not personally approved of tenants, decided rental terms, approved of expenditures, or in any way participated in a significant manner in the activity (*Madler v. Comm.*, TC Memo 1998-112, 3/18/98).

Observation
The 1986 Committee Report requires taxpayers to participate in the making of management decisions or to arrange for others to provide services such as repairs, in a significant and bona fide sense. The court apparently interpreted this requirement to require the taxpayer to *personally* establish policies on rentals and tenant approval; in this case, the court determined the policy authority rested with the management company because it pooled all income and expenses of the condo unit with other condo properties and then allocated each owner a pro rata share of income and expenses, independent of whether the unit was actually rented.

2.2.2 Interplay of passive loss and capital loss rules

The IRS has issued guidance on the prioritization of various categories of capital losses where they are restricted by the passive loss rules. The IRS guidance indicates that the current year allowable portion of each loss should be determined proportionately between the categories of capital losses (for example, 20, 25, and 28 percent) and that one rate category of loss does not have priority over another (IRS Ann. 98-12, IRB No. 1998-8).

2.2.3 Home office deductibility allowed

A professional musician, who served as both lead singer and manager of a band and who spent an average of thirty hours per week in her studio-office in booking performances, negotiating contracts, and conducting other management duties, was found to qualify under the *Soliman* criteria for a home office deduction (*Genck v. Comm.*, TC Memo 1998-105, 3/16/98).

Observation
Under 1997 legislative, effective for tax years beginning *after 1998,* a residence qualifies as the taxpayer's principal place of business if the office is used by the taxpayer to conduct administrative or management activities of the business, and there is no other fixed location where the taxpayer conducts substantial administrative or management activities of the business [IRC Sec. 280A(c)].

2.2.4 Deductibility of interest expense in a divorce settlement

The Tax Court has ruled that interest paid to an ex-spouse in a divorce settlement should be categorized based on the assets received by the payor spouse. The IRS had argued that the transfer of property was nontaxable under the Section 1041 divorce rules, and therefore any interest in connection with the transfer should be nondeductible personal interest expense. However, the court concluded the interest should be allocated by the payor among the assets received from the payee, in proportion to their fair market value (*Seymour v. Comm.*, 109 TC No. 14, 11/5/97).

2.2.5 Appraisal requirements for contributions of nonpublicly traded stock

A taxpayer who contributed closely held stock to a charity was limited to a charitable deduction equal to basis in the stock, even though other stock of the corporation was sold in arm's-length transactions for similar value to that claimed as the contribution value. Reg. 1.170A-13 and Form 8283 require a qualified appraisal, along with an appraisal signature on Form 8283. Because these requirements were not met, the charitable contribution was reduced by the Tax Court from fair market value to adjusted basis (*Hewitt v. Comm.*, 109 TC No. 12, 10/29/97).

2.2.6 Alimony recharacterized as child support

Alimony payments which terminate upon the occurrence of a contingency related to a child are recharacterized as nondeductible child support. A husband who signed a divorce decree which required him to pay "$2,000 per month as alimony commencing (date) and ending on a son's 18th birthday, or at the time of remarriage of (ex-spouse), whichever comes first" had the amount recharacterized as nondeductible child support (*Hammond v. Comm.*, TC Memo 1998-53, 2/10/98).

2.2.7 Capitalization of demolition costs

Under IRC Sec. 280B, demolition costs of a building are not deductible, but rather must be added to land basis. A taxpayer who had withdrawn a building from use during a prior year was denied a loss deduction in the tax year during which a demolition occurred, claiming the building had become worthless. The court determined that no significant tax event had occurred between the year the building was withdrawn from use and the year of its demolition, ruling that any loss occurring on the building was due to the demolition itself (*Gates v. U.S.*, 98-1 USTC 50,353, U.S. Dist. Ct., MD Pa., 3/27/98).

Observation

The court distinguished this ruling from *DeCou* (103 TC No. 80, 7/27/94), where the court determined a loss was deductible because it arose from a sudden and unexpected termination of the usefulness of the property (as through a casualty or extraordinary obsolescence), which arose prior to the demolition.

2.2.8 Improper IRA rollover deemed taxable

The Tax Court has ruled that an individual who withdrew about $500,000 cash from Keogh and IRA accounts and used the proceeds to purchase stock did not complete a proper IRA rollover, where, within sixty days of the distributions, the newly purchased stock was rolled over to an IRA. The court agreed with the IRS in determining that the qualified rollover language of IRC Sec. 402(c) and the IRA rollover provisions of IRC Sec. 408(d)(3) require the same money or property obtained from a distribution to be rolled over to the IRA (*Lemishow v. Comm.*, 110 TC No. 11, 2/18/98).

3. TAX CALCULATIONS AND CREDITS

3.1 Legislative Developments

3.1.1 Capital gain provisions (IRS Restructuring and Reform Act of 1998)

Effective for taxable years ending after December 31, 1997, property held more than one year (rather than more than eighteen months) is eligible for the 10-, 20-, and 25-percent capital gain rates.

Observation
Although the twelve-month holding period was restored for the capital gain rates for sales on or after January 1, 1998, practitioners will still need to worry about mid-term capital gains (28-percent rate) for 1998 because of fiscal year entities. Additionally, many mutual funds use fiscal year ends, so mid-term gains will be passed through on mutual fund Forms 1099-DIV for sales after their fiscal year end but prior to January 1, 1998, where the holding period exceeds twelve months but not eighteen months.

With respect to capital loss and capital gain netting, each long-term rate category (28, 25, and 20 percent) is first grouped together to determine whether the category contains a net gain or loss. Any group with a net loss then first offsets net gain of the highest rate group (for example, a net capital loss in the 20-percent rate group first offsets net gains taxable at 28 percent before offsetting any net gains taxable at 25 percent).

Both prior year long-term capital loss carryovers, as well as any net short-term capital loss, are first applied to offset the net long-term gain group of the highest rate (for example, offsets the 28-percent rate group, then the 25-percent rate group, and finally the 20-percent rate group).

Observation
Both of these prior two changes were already reflected by the IRS in the 1997 Schedule D and instructions.

Observation
The new statute failed to address the order of reporting of an installment sale that has mixed 25-percent rate and 20-percent rate taxation. Without any prioritizing spelled out in the law, it is the author's opinion that each installment gain collection should be prorated between the 25-percent portion and the 20-percent portion. While it is clear from the statute that within a *single year* any mixture of both 25-percent and

20-percent gains requires consideration of the 25-percent gain first in terms of filling the lower tax bracket, there is no authority in the statute, Committee Reports, or Blue Book addressing the order of recognition from *year-to-year* under an installment sale. Note that the 1997 Schedule D and Form 6252 forced taxpayers to recognize any 25-percent rate gain in full on an installment sale, before any gain taxed at the 10-percent or 20-percent rates could be recognized.

3.1.2 Exceptions to early withdrawal penalties from IRAs

Effective for distributions after 1997, the 10-percent early withdrawal penalty from an IRA does not apply to distributions used to pay qualified higher education expenses, including graduate level study, for a taxpayer, taxpayer's spouse, or any child or grandchild of the taxpayer or of the taxpayer's spouse. Qualified expenses include tuition, fees, books, supplies, and room and board at a postsecondary educational institution [IRC Sec. 72(t)(2)(E)].

Effective for distributions after 1997, the 10-percent early withdrawal penalty from an IRA does not apply to distributions used to pay expenses incurred by first-time homebuyers, subject to a $10,000 lifetime maximum. The withdrawals must be used within 120 days to buy, build, or rehabilitate a first home that is the principal residence of the taxpayer, spouse, child, grandchild, or ancestor of the taxpayer or of the taxpayer's spouse. To be considered a first-time homebuyer, the individual (and spouse, if married) may not have had an ownership interest in a principal residence during the two-year period ending on the date the new home is acquired [IRC Sec. 72(t)(2)(F)].

3.1.3 Child tax credit

Beginning in 1998, taxpayers with qualifying children under age seventeen (as of December 31) are entitled to a new nonrefundable child tax credit in the amount of $400 per child, increasing to $500 per child in 1999 and thereafter (IRC Sec. 24).

The credit phases out as AGI increases above $110,000 on a joint return and $75,000 for single filers, with the credit reduced by $50 for each $1,000, or fraction thereof, of AGI above the thresholds.

A portion of the child tax credit may become a *refundable supplemental credit* as part of the earned income credit (EIC) in the case of taxpayers with one or two qualifying children, or a *refundable alternative credit* for taxpayers with three or more qualifying children.

The IRS Restructuring and Reform Act of 1998 added IRC Sec. 32(n)(2), holding that the supplemental credit and the reduction of the basic child credit cannot increase any other credit.

Observation

Because of this change, no recharacterization of the child tax credit allows other nonrefundable credits, such as a daycare credit, to be claimed by a taxpayer. From the initial draft of the 1998 Form 1040, it appears the IRS will treat any supplemental credit as a nonrefundable child credit on line 43 of Form 1040; taxpayers will not be required to complete a complex calculation to reclassify a nonrefundable personal credit to a refundable credit for no benefit.

Example: Lisa, a single taxpayer with two qualifying children, is potentially eligible for a child credit of $800 in 1998. However, Lisa has only a $500 regular tax liability with no other personal credits. Lisa also is eligible for an earned income credit of $1,300 and pays FICA tax of $1,000.

Without regard to the supplemental credit, Lisa would receive a child tax credit of $500, limited to her regular tax liability. However, $300 of the child tax credit would be recharacterized as a supplemental credit. This is calculated as the lesser of:

(1) $500, the allowable child credit after the regular tax limit, or
(2) $300, which is the excess of total tax credits of $1,800 ($500 child credit + $1,300 EIC) over $1,500 (regular tax of $500 + $1,000 FICA).

Accordingly, Lisa is allowed a supplemental child credit, added to the EIC of $300, and a nonrefundable child credit of $200. Lisa receives a total refund of $1,300 as follows:

Income tax	$ 500
Less nonrefundable child credit (limited to tax, but reduced by supp. credit)	(200)
Earned income credit	(1,300)
Refundable supplemental credit—EIC	(300)
Total Refund	$(1,300)

3.1.4 Earned income credit

Effective in 1998, a taxpayer who fraudulently claims the EIC is ineligible to claim the EIC for a subsequent period of ten years, while a taxpayer who erroneously claims the EIC due to reckless or intentional disregard of rules or regulations is ineligible to claim the EIC for a subsequent period of two years.

Tax return preparers are required to fulfill due diligence requirements with respect to returns claiming the EIC. If these due diligence requirements are not met, a $100 penalty, in addition to any other penalty, is imposed on the preparer. The IRS has now prescribed the due diligence requirements in IRS Notice 97-65 (IRB No. 1997-51).

The IRS Restructuring and Reform Act of 1998 enacted a technical correction to assure that tax-exempt interest income and nontaxable distributions from pensions, annuities, and IRAs are added to AGI for phasing out the EIC at higher income levels (as originally drafted, the 1997 legislation *excluded* these items from AGI, despite the clear intent in the legislative history to include them).

Starting in 1998, 75 percent of business losses must be added back in calculating AGI for purposes of the EIC phaseout, as opposed to 50 percent in prior years.

3.1.5 Carryover of adoption credit

Beginning in 1997, an adoption credit of up to $5,000 per child ($6,000 for a U.S. child with special needs) is allowed to a taxpayer, subject to an income phaseout, requiring a pro rata reduction as modified AGI moves from $75,000 to $115,000.

The IRS Restructuring and Reform Act of 1998 clarified that the AGI phaseout only applies in the year the credit is generated, and is not reapplied to reduce any carryforward amounts [IRC Sec. 23(b)(2)(A)].

3.1.6 Increase in individual estimated tax threshold amount

Effective for taxable years beginning after December 31, 1997, individual taxpayers are subject to a penalty for underpayment of estimated tax only where the total tax liability for the year, reduced by withholding and estimated tax payments, is more than $1,000 (previously, $500) [IRC Sec. 6654(e)].

3.1.7 Higher income taxpayer estimated tax safe harbor

Individuals with AGI of more than $150,000 in the prior tax year needed to only remit quarterly tax estimates or withholding of at least 100 percent of the prior year tax liability for 1998 estimates. For 1999 estimates (based on 1998 tax return results), the safe harbor percentage is increased to 105 percent.

3.1.8 Household employment taxes

Effective in 1998, household employment taxes (Schedule H) must be considered when measuring the adequacy of withholding or estimated tax payments in order to avoid an underpayment penalty at the time of filing the 1998 Form 1040 [IRC Sec. 3510(b) and (d)].

3.1.9 Sixty-five-day distribution rule for estates

An executor may elect to treat distributions paid by an estate within sixty-five days after the close of the estate's taxable year as having been paid on the last day of the prior taxable year, effective for taxable years beginning after August 5, 1997 [IRC Sec. 663(b)].

3.1.10 Repeal of throwback rules

Effective for distributions made in taxable years beginning after August 5, 1997, distributions by a domestic trust are exempt from the throwback rules (which test the impact of accumulated trust income distributions against the beneficiary's tax rates for prior accumulation years) [IRC Sec. 665(c)].

3.2 Case and Ruling Developments

3.2.1 Farm income averaging

The IRS has released Schedule J, "Farm Income Averaging," to be used for the computation of income averaging for farmers.

3.2.2 AMT triggered solely by personal exemptions

A couple was subject to the AMT, even though they had no tax preferences, because of their large family (twelve personal exemptions). The taxpayers argued that the AMT was unconstitutional, as the large number of exemptions resulted from their religion's encouragement of large families. However, the Tax Court noted that a law is constitutional even if it makes the observance of some religious beliefs more expensive (*Klaassen v. Comm.*, TC Memo 1998-241, 7/2/98).

3.2.3 Disallowance of hobby loss amounts for AMT

Taxpayers had deductions associated with a horse breeding and raising activity limited to income from the activity, as both the Tax Court and the Third Circuit ruled that the horse operation was subject to the hobby loss rules. The deductions associated with the activity then subjected the taxpayers to the AMT, because of the disallowance of deductibility of miscellaneous itemized deductions for the AMT. The Court of Federal Claims agreed that hobby loss deductions allowed under IRC Sec. 183(b)(2) cannot be claimed for AMT purposes because they are miscellaneous itemized deductions (*Purdey v. U.S.*, 97-2 USTC 50,894, Ct. of Fed. Cl., 10/31/97).

3.2.4 Hope and Lifetime Learning credits

Two new nonrefundable tax credits, the Hope credit and the Lifetime Learning credit, may be elected by taxpayers for tuition and related expenses incurred by students attending postsecondary educational institutions (IRC Sec. 25A).

Both the Hope and Lifetime Learning credits are only available to the extent of tuition and fee expenditures; room, board, books, and supplies are ineligible. Additionally, any tuition and similar fees must be reduced by scholarships received which are excludable under IRC Sec. 117, or similar educational assistance payments which are tax-free.

> *Example:* Vicki is a single parent with two children, earning approximately \$30,000 per year. One of her children is a freshman at a state university, and incurs tuition costs of \$3,000, room and board costs of \$4,000, and book and supply costs of \$500. The student qualifies for a Pell Grant of \$2,600 and a state-sponsored scholarship of \$400. The Hope credit is calculated as follows:

Tuition and fees	\$ 3,000
Less tax-free grants and scholarships	(3,000)
Eligible costs for Hope credit	\$ 0

> Vicki and her child must pay for the entire \$4,500 in room, board, and books, and do not receive any Hope tax credit.

Observation

Pell grants, as well as other scholarships, could be expended for books, and thus, in the previous example, increase the amount of tuition available for the tax credit. Under IRC Sec. 117(b)(2), scholarships and grants are tax-free if expended on tuition, fees, books, supplies, and equipment required for course work.

The IRS has released the information reporting requirements applicable to the Hope and Lifetime Learning credits, describing who is required to file Forms 1098 and what information must be included for 1998 (IRS Notice 97-73, IRB No. 1997-51).

Observation

For 1998, educational institutions are not required to report the amount of qualified tuition and related expenses received and/or reimbursed; rather, the Form 1098-T must only identify the student and indicate that the student is enrolled at least half-time in a degree program.

3.2.5 SE tax on LLC members

The IRS previously issued proposed regulations to clarify when a limited partner or limited liability company (LLC) member would be subject to self-employment (SE) tax [Prop. Reg. 1.1402(a)-2, REG-209824-96, 1/16/97]. Congress then declared a moratorium on these regulations in the Taxpayer Relief Act of 1997, stating that the IRS is prohibited from issuing either temporary or final regulations relating to the definition of a limited partner for self-employment tax purposes (Act Sec. 935, P.L. 105-34, 8/5/97).

An IRS representative, speaking before the AICPA Tax Division on June 8, 1998, has now indicated that despite the expiration of the moratorium, the Treasury is unlikely to finalize any regulations until Congress acts to provide further clarification. Accordingly, practitioners are left without any guidance, other than the Proposed Regulations issued in January 1997.

Observation

One of the tests within the proposed regulations imposes self-employment tax if a limited partner or LLC member participates for more than 500 hours, and matches the Section 469 passive activity participation test. This represents the first linkage and coordination between the Section 469 passive status and Section 1402 self-employment status of a business activity, although only associated with those business activities conducted in limited partnership or LLC form.

3.2.6 Interplay of passive losses and SE income

A farmer operating both as a sole proprietor and as a general partner in a partnership incurred self-employment income (loss) from both activities. For purposes of the Section 469 passive activity rules, the farmer materially participated in the proprietorship but did not materially participate in the partnership. The proprietorship produced net income, but the partnership produced a net loss.

The IRS ruled that the partnership loss could only be taken into account for SE tax purposes when the losses became allowable for income tax purposes (for example, against future passive income or upon sale) (TAM 9750001).

3.2.7 Capital gains within charitable remainder trust

The IRS has issued guidance on the ordering and taxation of distributions of capital gains from a charitable remainder trust (CRT) in light of the changes made to the capital gains tax rates. The guidance applies the same rules for CRT distributions associated with capital gains as apply for the ordering rules dealing with trust distributions under IRC Sec. 664(b) (that is, CRT distributions are deemed to consist first of income subject to the highest federal income tax rate and then to income subject to progressively lower [or no] federal income tax rates in effect at the time of distribution) (IRS Notice 98-20, IRB No. 1998-13).

3.2.8 Payment of tax by credit card

The IRS has contracted with US Audiotex and with NOVUS, allowing individuals in 1999 to start remitting payment of tax by credit cards. Under the contract with US Audiotex, the individual taxpayer will be able to charge any balance due on most major credit cards via a toll-free call, with the call to be placed after the tax return has been filed with the IRS. Under the contract with NOVUS, individuals using TurboTax or MacInTax software who file electronically from their computers will be able to use any NOVUS card to pay the balance due to the IRS. While the IRS itself will not charge a fee for credit card payments, credit card users will be charged a "convenience fee," fluctuating based upon the amount charged (IRS News Release IR-98-55, 8/20/98).

3.2.9 Failure to file penalty imposed despite overworked staff

The Tenth Circuit has reversed and remanded a Bankruptcy Court decision, allowing the imposition of the failure to file penalty where a taxpayer had insufficient and overworked staff. Despite the fact that the taxpayer was expending over half of its payroll on in-house accounting services, the court determined the failure to timely file was not due to reasonable cause and the failure to file penalty applied (*In re Craddock v. U.S.*, 98-1 USTC 50,392, CA-10, 5/1/98, rev'g. and rem'd. 95-2 USTC 50,475).

3.2.10 Negligence penalty abated where taxpayers sought legal advice

The Fifth Circuit reversed the Tax Court and negated negligence and substantial understatement penalties for two sisters, in their early twenties, who relied on the tax advice of an attorney. The appellate court concluded that due care does not require "young, unsophisticated" individuals to independently examine tax liabilities after securing advice from a tax attorney (*Streber v. Comm.*, 98-1 USTC 50,333, CA-5, 4/15/98, rev'g. TC Memo 1995-601).

4. RESTRUCTURING AND REFORM OF THE IRS

The IRS Restructuring and Reform Act of 1998 was enacted on July 22, 1998. The following summarizes some of the *highlights* of the Act. Unless otherwise indicated, the effective date is July 22, 1998.

4.1 Reorganization of Structure and Management of the IRS

4.1.1 IRS mission statement

The IRS is directed to revise its mission statement to provide greater emphasis on serving the public and meeting the needs of taxpayers.

4.1.2 IRS organizational plan

The IRS Commissioner is directed to restructure the IRS by eliminating or modifying the current three-tier geographic structure (national office, regional offices, and district offices) and replace it with one featuring operating units serving particular groups of taxpayers with similar needs. Also, an independent appeals function must exist within the IRS, prohibiting communication between appeals officers and other IRS employees to the extent the communication compromises the independence of the appeals officers.

4.1.3 IRS Oversight Board

An IRS Oversight Board is established, with specific responsibilities spelled out in the Act, including review and approval of the organizational plan.

4.1.4 Executive branch influence over taxpayer audits

The President, the Vice President, and employees of the executive offices of either the President or Vice President, along with Cabinet-level individuals (except the Attorney General), are prohibited from directly or indirectly requesting that any IRS employee conduct or terminate an audit or investigation of a taxpayer.

4.1.5 IRS personnel flexibilities

The IRS is required to establish a new performance management system for its employees; the IRS is required to terminate employees for certain proven violations committed by the employee (for example, harassment of a taxpayer); the IRS Commissioner is required to implement an employee training program by January 18, 1999, dealing with customer service and conflict management; the IRS is authorized to hire up to forty critical technical and professional employees at higher than normal pay.

4.2 Electronic Filing

4.2.1 Paperless filing

The IRS is to promote paperless filing, with a long-range goal of providing for the filing of at least 80 percent of all tax returns via electronic filing by the year 2007; the IRS is to cooperate with and encourage the private sector by encouraging competition to increase electronic filing; the IRS is to improve its Telefile program and make a comparable program available on the Internet.

4.2.2 Due date for electronically filed 1099s

The due date for electronic filers of information returns is extended from February 28 to March 31, effective for information returns required to be filed after December 31, 1999. The Treasury is to issue a study by June 30, 1999, on the advantages and disadvantages of extending the due date for other information returns (other than Forms W-2) from January 31 to February 15.

4.2.3 Electronic signatures

The Treasury is directed to develop procedures for the acceptance of tax return signatures in digital or other electronic form. Until these procedures are developed, the Treasury is permitted to waive the signature requirement for particular types or classes of returns or provide that returns be subscribed under alternative methods prescribed by the Treasury. The Treasury is also directed to establish procedures, to the extent practicable, to receive all forms electronically for taxable periods beginning after December 31, 1999. In certain cases, return preparers are authorized to communicate with the IRS on matters included on electronically filed returns.

4.2.4 Return-free tax system

The Treasury is directed to study the feasibility of, and to develop procedures for, the implementation of a return-free tax system for appropriate individuals (for example, W-2 with standard deduction and no credits) for taxable years beginning after 2007.

4.2.5 Access to account information

The Treasury is to develop procedures no later than December 31, 2006, under which a taxpayer filing returns electronically can review the taxpayer's own account electronically, assuming all necessary privacy safeguards are in place. An interim report is required to be issued to Congress on the status of the project by December 31, 2003.

4.3 Taxpayer Protection and Rights

4.3.1 Burden of proof

Generally, the burden of proof shifts from the taxpayer to the IRS, as long as taxpayers meet conditions specified in the statute.

4.3.2 Relief for innocent spouse

Generally, innocent spouse relief is easier to obtain and a spouse is permitted to elect to limit liability for unpaid taxes on a joint return to the separate liability of the spouse. This election is only allowed for an individual filing a joint return no longer married to, legally separated from, or who no longer lives with the other spouse for at least the last twelve months.

4.3.3 Suspension of statute of limitations during periods of disability

The statute of limitations is equitably tolled for refund claims of an individual if the individual is unable to manage his or her financial affairs by reason of a medically determinable physical or mental impairment expected to result in death or to last for a continuous period of no less than twelve months.

4.3.4 Mitigation of failure to deposit penalty

Taxpayers are allowed to designate the period to which a payroll deposit should be applied, preventing the automatic application of a deposit to an earlier period with resultant cascading of penalties, effective for deposits required to be made after January 18, 1999. Also, effective for deposits required to be made after December 31, 2001, a deposit will be applied to the most recent period(s) to which the deposit relates, unless designated differently by the taxpayer.

4.3.5 Notice of interest charges

Every IRS notice to an individual taxpayer which includes interest amounts must detail the computation of the interest charged and an IRC citation to which the interest applies.

4.3.6 Suspension of interest and penalty charges

Any interest and penalty charges are to be suspended for individual taxpayers filing tax returns by the due date (including extensions), where the IRS fails to issue a notice of deficiency within eighteen months following the later of the original due date or the date of timely filing. For tax years beginning after December 31, 2003, the eighteen-month period is reduced to twelve months.

4.3.7 Abatement of interest on underpayments in Presidentially declared disaster areas

Taxpayers located in a Presidentially declared disaster area do not have to pay interest on taxes due on extended tax returns, effective for disasters declared after December 31, 1997, with respect to taxable years beginning after that date.

4.3.8 Increase in individual refund interest rate

The IRS interest rate on overpayments to noncorporate taxpayers is equalized to match the interest rate charged on underpayments of tax, effective for calendar quarters beginning January 1, 1999.

4.3.9 Interest rate netting

Effective for interest for periods beginning after July 22, 1998, the interest rate on overpayments of tax and underpayments of tax is equalized to the extent of any tax due to and due from the same taxpayer, with the effect being to establish a zero interest rate to the extent of the same amount of tax due to and due from the IRS.

4.3.10 Penalty procedures

With respect to notices and penalty assessments after December 31, 2000, the IRS must disclose the name of the penalty being assessed, the IRC section authorizing the penalty, and a detailed computation of the penalty. Additionally, penalties may not be assessed unless personally approved in writing by the immediate supervisor of the individual making the determination (other than for failure to file or pay penalties and failure to pay estimated tax penalties).

4.3.11 Financial status audit techniques

The IRS is prohibited from using financial status or economic reality audit techniques to determine the existence of unreported income unless the IRS has a reasonable indication that a likelihood of unreported income exists.

4.3.12 Audits prohibited to coerce TRAC agreements

The IRS is required to instruct its employees that they may not threaten to audit any taxpayer in an attempt to coerce the taxpayer to enter into a tip reporting alternative commitment (TRAC) agreement.

4.3.13 Waiver of early withdrawal penalty for IRS levies on retirement plans and IRAs

An exception to the 10 percent penalty for withdrawals from a retirement plan or IRA applies where these amounts are subject to levy by the IRS, effective for distributions after December 31, 1999. The exception only applies if the retirement plan or IRA is levied (that is, it does not apply if the taxpayer withdraws funds to pay taxes in the absence of a levy).

4.3.14 Explanation of joint and several liability

The IRS must establish procedures to clearly alert married taxpayers of their joint and several liability in all tax publications and tax instructions. The IRS is also required to notify taxpayers of the availability of electing separate liability and of the right to relief under the new innocent spouse rules (see paragraph 4.3.2, above).

4.3.15 Taxpayers' rights in IRS interviews

Publication 1 must clearly inform taxpayers of their rights to be represented by a representative, and that if the taxpayer is so represented, the IRS interview may not proceed without the presence of the representative unless the taxpayer consents.

4.3.16 Disclosure of criteria for IRS audit selection

Publication 1 must contain information in simple and nontechnical terms detailing the criteria and procedures for selecting taxpayers for IRS audit.

4.3.17 Attorney-client privilege expanded

With minor exceptions, attorney-client privilege is extended to communication between a taxpayer and CPAs or enrolled agents. The privilege does not extend to criminal tax matters.

4.3.18 IRS employee contacts

Effective September 20, 1998, any manually generated correspondence sent by the IRS must include in a prominent manner the name, telephone number, and unique identifying number of an IRS employee the taxpayer may contact with respect to the correspondence. Any other correspondence or notice sent by the IRS must include a telephone number that the taxpayer may contact.

4.3.19 Identification of return preparers

The IRS is authorized to approve alternatives to Social Security numbers to identify tax return preparers.

4.3.20 Installment payments of tax

The IRS is required to enter into an installment agreement for the payment of tax if the aggregate amount of the liability does not exceed $10,000, the taxpayer has filed all returns and paid all tax within the last five years, the IRS determines the taxpayer is financially unable to pay the liability when due, and the installment agreement requires full payment of the tax liability within three years.

4.4 Congressional Accountability for the IRS

4.4.1 Tax law complexity analysis

The Treasury must issue a report to Congress on the complexity of the tax laws by March 1 of each year. The analysis is to include both recommendations associated with the overall complexity and simplification of the tax laws, and specific comments on tax bills or conference reports that add significant complexities or simplification.

Federal Corporate Tax Notes

FEDERAL CORPORATE TAX NOTES

1. INCOME AND ACCOUNTING METHOD ISSUES

1.1 Legislative Developments

1.1.1 Deductions for vacation and severance pay

Under the 1998 IRS Restructuring and Reform Act, an item of compensation qualifies as deferred compensation and is treated as paid under the two-and-one-half-month rule of Reg. 1.404(b)-1T only when paid or actually received by the employee [Internal Revenue Code (IRC) Sec. 404(a)(11)]. This provision overrules the result in *Schmidt Baking Company, Inc.* (107 TC 271, 11/14/96), in which an accrual basis taxpayer purchased an irrevocable letter of credit for the payment of accrued employee vacation and severance pay liabilities within the two-and-one-half-month period after the end of the employer's tax year. The Tax Court determined this constituted actual payment, allowing a deduction to the employer in its previous tax year. The change is effective for taxable years ending after July 22, 1998. Taxpayers required to change their accounting method because of this statute are allowed a Section 481 three-year spread of the adjustment.

1.1.2 Denial of mark-to-market for accounts receivable

The 1998 IRS Restructuring and Reform Act prevents use of the mark-to-market method for any nonfinancial customer paper, including any accounts receivable or other evidence of indebtedness arising from the sale of nonfinancial goods or services by taxpayers whose principal activity is the selling or providing of nonfinancial goods or services. The provision applies to tax years *ending* after July 22, 1998, and any taxpayers required to change their accounting method as a result of this provision receive automatic consent and are allowed a four-year Section 481 spread [IRC Sec. 475(c)(4)].

Observation

Taxpayers exempt from dealer treatment with respect to purchases and sales of debt instruments which represent customer paper from a principal business activity of selling nonfinancial goods or services are allowed to elect out of the exception to move back to dealer or mark-to-market status. Some taxpayers had argued that this election could be made to allow the writedown of accounts receivable. This opportunity has now been closed by the legislative change.

1.1.3 Form 1099 for attorney payments

All businesses making payments to attorneys in connection with legal services must issue a Form 1099-MISC if the amount is $600 or more, starting in 1998. Also, corporate law firms are no longer exempt as payees from the Form 1099 requirement and the Form 1099 must be issued if the payment is $600 or more and it is not known what portion pertains to attorney fees versus reimbursed expenses [IRC Sec. 6045(f)].

1.2 Case and Ruling Developments

1.2.1 IRS-initiated accounting method changes

The IRS has issued guidance simplifying and clarifying the rules for IRS-initiated accounting method changes, including explanations of how the IRS raises and resolves certain issues on a nonaccounting method change basis (IRS Notice 98-31, IRB No. 1998-22).

Under the IRS guidance, an IRS agent proposing an adjustment with respect to a timing issue (that is, any issue regarding the propriety of a taxpayer's method of accounting for an item) is to treat the issue as a change in accounting method and will effect the change in the earliest taxable year under examination. However, IRS Appeals officers and government counsel are given the authority to use compromise terms and conditions, and are also given the authority to use an alternative-timing or time-value-of-money resolution to avoid the hazards of litigation.

1.2.2 Cash versus accrual method of accounting

Previously, a corporation in the business of asphalt paving was not required to use the accrual method of accounting, as the Tax Court determined the asphalt used by the contractor represented a supply, deductible as a business expense, rather than inventory (*Galedrige Construction, Inc. v. Comm.*, TC Memo 1997-240, 5/22/97). The Tax Court has now followed that ruling with another ruling involving an asphalt paving contractor, again finding that the emulsified asphalt used by the contractor became useless in less than three hours and accordingly did not qualify as merchandise (*Turin v. Comm.*, TC Memo 1998-223, 6/24/98).

Observation

As in the *Galedrige* case, the court did not consider the fact that the taxpayer had no emulsified asphalt on hand at the end of the day to be determinative of whether the taxpayer needed to maintain inventories.

Rather, the court focused on the unique quality of the asphalt, and concluded that it did not constitute "merchandise held for sale."

The IRS had also previously ruled that a personal service corporation engaged in a medical practice was allowed to continue using the cash method of accounting, even though this method failed to properly match income and expenses in the same manner as the accrual method, noting that the clinic's purchases of all materials and supplies for the year were less than 8 percent of gross receipts and thus not an income-producing factor (TAM 9723006). The IRS has again followed this previous ruling with a ruling involving a landscaper, concluding that the purchase and sale of merchandise was not an income-producing factor and allowing use of the cash method of accounting (TAM 9808003).

Observation
In this later ruling, the merchandise purchases for the three years under examination were determined by the IRS to be 3, 3, and 6 percent, respectively, of annual gross receipts. In both these private rulings, the IRS determined the percentages did not reach the threshold of constituting "income producing factors."

The Tax Court recently determined that a corporation was allowed to continue use of the cash method, despite the existence of inventories, because the IRS had improperly valued inventory when imposing the accrual method of accounting (*Golden Gate Litho v. Comm.*, TC Memo 1998-184, 5/18/98).

Although the IRS prevailed in court on its argument that the taxpayer maintained inventories, the court ruled the taxpayer could retain the cash method because the IRS failed to apply reasonable inventory valuation or receivables calculation in making the accounting method change. As an example, the IRS used market value instead of the lower of cost or market in valuing work-in-process, the IRS failed to properly comply with the UNICAP rules, and the IRS improperly calculated accounts receivable and accounts payable by using factors other than when income was recognized and liabilities were incurred.

1.2.3 Package design costs

The IRS has issued clarification and amplification to Rev. Proc. 97-35 (IRB No. 1997-33) dealing with package design costs. In the clarification, package design costs incurred in taxable years beginning after 1993 are not treated as costs of tangible personal property under IRC Sec. 263A; rather, these costs incurred in taxable years beginning before 1987 and after 1993 must be capitalized under IRC Sec. 263. Only package design costs incurred in taxable years beginning after 1986 and before 1994 must be capitalized under IRC Sec. 263A. Additionally, because Section 197 intangibles are to be amortized over fifteen years and because the cost of purchased intangibles may include the costs of package design, Rev. Proc. 97-35 is not to apply to any costs of package design amortizable as Section 197 intangibles (for example, package designs purchased in a business acquisition). The guidance is effective on August 18, 1997 (Rev. Proc. 98-39, IRB No. 1998-26).

1.2.4 Shrinkage estimates for inventory

In 1997 legislation, Congress permitted businesses to determine their year-end inventories by taking into account a reasonable deduction for shrinkage. The deduction for estimated shrinkage can only be claimed if the taxpayer normally takes a physical count of its inventory at each business location on a regular and consistent basis, and makes proper adjustments to its inventories and to its estimating methods to the extent its estimates are more or less than the actual shrinkage [IRC Sec. 471(b)].

The Congressional Committee Report to this legislation recommended that Treasury establish safe harbor methods for estimating shrinkage.

Treasury has now released procedures which provide guidance for making the accounting method change to estimate inventory shrinkage, and the resulting Section 481 four-year spread of the adjustment, effective for taxable years ending after August 5, 1997 (Rev. Proc. 98-29, IRB No. 1998-15).

Observation

The IRS guidance applies to taxpayers changing their method of accounting for estimating inventory shrinkage when adopting the retail safe harbor method (which is available regardless of whether the taxpayer presently uses a method of estimating inventory shrinkage), or under adoption of a method other than the retail safe harbor method (available to taxpayers who presently do not estimate inventory shrinkage and desire to do so based on physical inventories taken at other than year end).

1.2.5 Long-term contracts: Election out of look-back method

Under 1997 legislation, effective for long-term contracts completed in taxable years ending after August 5, 1997, taxpayers using the percentage of completion contract method of accounting may elect not to apply the look-back method for these contracts, and may also elect not to reapply the look-back method. These elections may be made if, for each prior contract year, the cumulative taxable income or loss under the contract, as determined using estimated contract prices and costs, is within 10 percent of the cumulative taxable income or loss as determined using actual contract prices and costs [IRC Sec. 460(b)].

The IRS has now issued regulations explaining how a taxpayer is to adopt an election to not apply the look-back method. Once made, the election applies to all long-term contracts completed during and after the election year, unless the IRS consents to revocation. The regulations apply to long-term contracts completed in tax years ending after August 5, 1997 [Reg. 1.460-6(j), T.D. 8775, 7/2/98].

1.2.6 Auto dealerships: LIFO conformity relief

The IRS had previously issued guidance under which auto dealers who violate the last in, first out (LIFO) financial statement conformity requirement could obtain relief (Rev. Proc. 97-44, IRB No. 1997-41). Under this procedure, dealerships were able to retain the LIFO method, where the violation involved an income statement prepared in a format required by the auto franchiser or on a preprinted form supplied by the franchiser. The IRS has now extended this procedure to offer the same relief to medium and heavy-duty truck dealers. Additionally, extended due dates are allowed for these truck dealers to make installment payments of the settlement amount and to submit the required documentation to the IRS (Rev. Proc. 98-46, IRB No. 1998-36).

1.2.7 Capitalization of commissions paid to distributors

The IRS has ruled that commissions paid by a cellular telephone retailer to distributors for obtaining customers who sign contracts for services from the company needed to be capitalized, noting that the commissions resulted in a significant long-term benefit for the company. The taxpayer had argued that the contracts were month-to-month and could be terminated by the customers on short notice. However, the IRS determined that more than 70 percent of the contracts extended beyond twelve months, and the average life of a customer contract was fifty-seven months, indicating the establishment of a long-term asset (TAM 9813001).

1.2.8 Y2K costs

The IRS has issued guidelines indicating that previously released Rev. Proc. 69-21 (1969-2 CB 303), which deals with deductibility of computer software costs, applies to the Year 2000 (Y2K) issue, indicating that developed software involved with the Y2K compliance issue may be expensed, purchased software associated with the compliance issue needs to be capitalized and depreciated, and leased software may be deducted as rent expense (Rev. Proc. 97-50, IRB No. 1997-45).

1.2.9 Capitalization of loan origination costs of a bank

A bank, which in the routine course of its daily business made loans to customers and incurred costs for credit reports, appraisal fees, recording costs, and employee salaries associated with the loans, was required to capitalize the loan acquisition costs over the term of the loans. Although the expenses were ongoing, the court determined the expenses were associated with long-term assets (the loans) and therefore needed to be amortized over the life of the loans (*PNC Bancorp, Inc. v. Comm.*, 110 TC No. 27, 6/8/98).

2. DEDUCTIONS AND LOSSES

2.1 Legislative Developments

2.1.1 Charitable contributions of computers

The provision allowing a C corporation to claim the enhanced charitable contribution for a gift to a school of computer technology and equipment was changed by the 1998 IRS Restructuring and Reform Act to be effective for taxable years 1998, 1999, and 2000 (previously, the provision was only effective for 1998 and 1999).

2.1.2 Transportation fringe benefits

The Transportation Equity Act for the 21st Century has delayed the indexing of employee parking benefits (currently $175 per month) and employee transit benefits (currently $65 per month) until tax year 1999, such that the present $65 per month transit benefit and $175 per month parking benefit caps remain in effect through the end of 1999. Effective for taxable years beginning after December 31, 2001, the $65 per month transit benefit will be increased to $100 per month. Also, employees are allowed to elect to receive cash from employers in lieu of transportation benefits without triggering an income tax liability for those who choose the noncash benefits [IRC Sec. 132(f)].

2.1.3 Meals for employees

Prior court cases had allowed 100 percent deductibility for meals provided to employees for the convenience of the employer under IRC

Sec. 119, provided the meals also satisfied a Section 132 *de minimis* fringe benefit requirement (*Boyd Gaming Corporation v. Comm.*, 106 TC No. 343, 5/22/96; *Gold Coast Hotel and Casino v. IRS*, U.S. D.C. Nev., 9/26/96).

Under 1997 legislation, employers providing meals to employees in employer-provided eating facilities under IRC Sec. 119 are deemed to have met the *de minimis* fringe benefit test under IRC Sec. 132, effective for taxable years beginning after December 31, 1997 (therefore allowing 100 percent deductibility of such meal costs) [IRC Sec. 132(e)(2)].

In late 1997, a casino lost its Tax Court decision on whether the free meals which it furnished to employees in various company cafeterias met the Section 119 definition of business purpose, as the court determined some meals were furnished before or after employee working hours, employees were not required to remain available to respond to emergencies during meal periods, and the employee breaks for meals were not short because of the business demands, nor were the meals furnished because other suitable facilities were not available nearby. Because the rules of Section 119 were not met for many workers, the meals were only 50 percent deductible (*Boyd Gaming Corporation v. Comm.*, TC Memo 1997-445, 9/30/97).

In response to the second *Boyd Gaming* case, the 1998 IRS Restructuring and Reform Act codified that where at least half of the employees are furnished meals for employer business reasons, the Section 119 business requirement is deemed to have been met (so as to qualify the employer eating facility as a *de minimis* fringe) [IRC Sec. 119(b)(4), effective for taxable years beginning before, on, or after July 22, 1998].

The IRS has now released draft training materials on employee meals in the hospitality industry to be used by IRS auditors (IRS Ann. 98-77, IRB No. 1998-34). Similarly, the IRS has outlined a settlement initiative, allowing hospitality industry taxpayers easy resolution of issues associated with employer-provided meals covering periods through December 31, 1998 (IRS Ann. 98-78, IRB No. 1998-34).

2.2 Case and Ruling Developments

2.2.1 Amortization of business start-up expenses

The IRS has issued a proposed regulation associated with business start-up expenses, allowing the election statement to be filed with a tax return for any tax year before or during the year in which the active business begins. This allows a taxpayer who is uncertain as to the year in which the business begins to avoid the filing of multiple elections; an election in an early year will be deemed to govern for the actual year in which the business commences. Businesses which have previously filed a timely election are allowed to submit a revised statement with a subsequent tax return, to include any start-up expenditures not included in the original election (Prop. Reg. 1.195-1, REG-209373-81, 1/13/98).

A corporation formed to develop computer software to translate foreign languages was considered to be engaged in the active conduct of a business, despite completing only one sale for $300, allowing the corporation to deduct about $80,000 in business expenses. The IRS had argued that the company was not engaged in an active business because of its inability to sell its products, but the court noted that sales and income were not requirements in determining the actual start of a business (*Lamont v. U.S.*, U.S. Ct. of Fed. Cl., 97-2 USTC 50,861, 10/17/97).

2.2.2 Grocery refrigeration systems eligible for fast depreciation

Central refrigeration systems were installed by a retail grocery company in its warehouses to preserve and store perishable groceries. The equipment consisted of compressors, evaporators, pipes, and controls, including condensers on the roof of the building. The central refrigeration systems did not cool the general areas of the building, but rather were only used for preserving the food items. The systems were able to be removed without affecting the general operation of the building. The District Court in Minnesota ruled that the central refrigeration systems were tangible personal property rather than structural components, eligible for either five- or seven-year depreciation, rather than thirty-nine-year building component depreciation (*SuperValu, Inc. v. U.S.*, D.C., Mn., 98-1 USTC 50,171, 12/11/97).

2.2.3 Cost of replacing underground storage tanks deductible

The IRS has indicated it will allow current deductibility of costs associated with removing old underground storage tanks containing industry waste and replacing them with new tanks; related expenses such as cleaning and disposal costs will also be deductible. In its ruling, the IRS determined that once the underground storage tanks were filled with waste, they were sealed indefinitely and no longer had a salvage value. Accordingly, the IRS determined the tanks had no remaining useful life and the cost of buying and installing new tanks was currently deductible, in addition to deducting the cost of removing the old tanks (Rev. Rul. 98-25, IRB No. 1998-19).

2.2.4 Cafeteria plan election changes

The IRS has issued temporary regulations expanding circumstances under which a participant in a cafeteria plan may change coverage during a year. As an example, changes such as marital status, number of dependents, employment status, or work schedule will allow a participant to adjust coverage under the plan (Prop. Regs. 1.125-1 and 1.125-2, Temp. Reg. 1.125-4T, REG-243025-96, 11/7/97).

2.2.5 Documentation for automobile dealer demo vehicles

The value of qualified auto demo use is excludable as a working condition fringe benefit, as long as substantiation rules are satisfied [Reg. 1.132-5(o)(6)]. In the course of an IRS audit, an auto dealership was unable to produce records of the sales use of demo vehicles and also was unable to meet the safe harbor substantiation method of no personal use except for commuting. The IRS therefore concluded that even though the demo use is normally excluded as a working condition fringe benefit under IRC Sec. 132, a dealership which wants to avoid the substantiation rules and rely on the "no personal use except for commuting policy" must impute annual income to the employee for any commuting use of the vehicle (TAM 9801002).

3. CREDITS AND TAX CALCULATIONS

3.1 Legislative Developments

3.1.1 Repeal of AMT for small corporations

Legislation in 1997 repealed the alternative minimum tax (AMT) for small C corporations, effective for tax years beginning after 1997. A small C corporation is one with average gross receipts of $5 million or less for the three years ended with the first tax year beginning after 1996. Once exempt, a corporation continues to avoid the AMT until average three-year gross receipts equal or exceed $7.5 million.

The 1998 IRS Restructuring and Reform Act added clarification on how the rules apply to a new corporation. A new C corporation is automatically exempt from the AMT in its first year of existence.

Example: XYZ, Inc. is first incorporated in 1999. Assuming it is neither aggregated with an existing corporation nor treated as having a predecessor corporation, XYZ will qualify as a small corporation for 1999 regardless of its gross receipts for the year. As such, it will be exempt from the AMT during its 1999 taxable year.

In order to qualify as a small corporation for 2000, XYZ's gross receipts for 1999 must be $5 million or less, based on the annualization approach if the tax year is less than twelve months. If XYZ again qualifies for 2000, the corporation will also qualify for 2001 if its average gross receipts for the two-taxable-year period 1999 and 2000 is $7.5 million or less. If XYZ does not qualify in year 2000, XYZ cannot qualify in 2001 or any later year. If XYZ qualifies for 2001, the corporation will qualify for 2002 if its average gross receipts for the three-taxable-year period 1999 through 2001 is $7.5 million or less (Conf. Comm. Report).

3.1.2 Conformity of AMT recovery periods

The modified accelerated cost recovery system (MACRS) recovery period that applies for regular tax purposes also applies for AMT, effective for property placed in service after December 31, 1998 [IRC Sec. 56(a)].

While taxpayers were able to elect 150 percent declining balance (DB) for regular tax purposes to eliminate the AMT adjustment, they were also required to use the slower alternative depreciation system (ADS) recovery periods. Under the 1998 IRS Restructuring and Reform Act, taxpayers are allowed to elect 150 percent DB, using regular tax depreciation lives, on property otherwise eligible for 200 percent DB, effective for property placed in service after December 31, 1998 [IRC Sec. 168(c)].

3.1.3 Percentage depletion for marginal production properties

The 100 percent of net income limitation for domestic oil and gas production for marginal properties is suspended, effective for tax years beginning after 1997 and before 2000 [IRC Sec. 613A(c)].

3.1.4 Expired tax credits

The work opportunity tax credit (IRC Sec. 51) and the research tax credit (IRC Sec. 41) both expired on June 30, 1998. Additionally, the ability to claim a market value deduction for appreciated publicly traded stock donated to a private foundation [IRC Sec. 170(e)(5)] expired June 30, 1998.

Observation

Practitioners are encouraged to monitor tax legislation for the implementation of any "extender" provisions, along with the effective date (possibly retroactively effective) of the provisions.

3.1.5 Welfare-to-work credit

Effective for individuals beginning work for an employer after 1997, the new welfare-to-work credit (IRC Sec. 51A) is available. IRS Form 8850, "Pre-screening Notice for Work Opportunity Credit and Welfare-to-Work Credit," is used to accomplish certification at the point of hire for the welfare-to-work credit, similar to the manner the form was used for the work opportunity credit.

Observation

The IRS has released new Form 8861, "Welfare-to-Work Credit," to be used to claim the Section 51A welfare-to-work credit.

3.1.6 Carryover of excess credits

The carryback period for an excess general business credit is limited to one year, and the carryforward period is extended to twenty years, effective for credits arising in tax years beginning after 1997. Formerly, there was a three-year carryback and a fifteen-year carryforward period (IRC Sec. 39).

3.2 Case and Ruling Developments

3.2.1 Accumulated earnings tax

A family-controlled Florida dairy operation was not subject to the accumulated earnings tax, because the corporation was able to show definite and specific plans for herd expansion, pollution control, and equipment and land purchases. The Tax Court additionally determined that the corporation did not lend money to shareholders or invest in unrelated businesses and had a six-year dividend history, with dividends averaging about 10 percent of net income (*Gustafson's Dairy, Inc. v. Comm.*, TC Memo 1997-519, 11/17/97).

A closely held telephone company was found to be subject to the accumulated earnings tax, because a large part of the accumulated earnings was used to fund other ventures of the shareholder's family, including over $3.6 million to fund a business of the owner's son (*Northwestern Indiana Telephone Company v. Comm.*, 97-2 USTC 50,859, CA-7, 10/22/97, aff'g. TC Memo 1996-168).

3.2.2 Reasonable compensation litigation

Compensation of $200,000, $150,000, and $1 million paid in 1990, 1991, and 1992, respectively, to an 85 percent shareholder of a construction company was deemed to be reasonable. The Tax Court based its decision on the success of the business, the company's return on equity, and credible testimony that a portion of the compensation was to catch up for prior underpayments (*Choate Construction Company v. Comm.*, TC Memo 1997-495, 11/4/97).

Compensation of $400,000, $900,000, and $4.4 million for 1988, 1989, and 1990, respectively, paid to the manager and sole shareholder of a home health care medical management company was reduced by the Tax Court to a deductible amount of $2.3 million for 1990. While the shareholder had been offered a position by an outside firm for a salary of $1 million for 1990, and while much of the success of the company was due to the efforts of the individual, the court noted there was a great disparity between compensation paid to the shareholder and compensation paid to other nonshareholder employees, while also noting that the ratio of 1990 compensation to corporate earnings was significantly higher than the ratio of prior years (*Alpha Medical Inc. v. Comm.*, TC Memo 1997-464, 10/14/97).

Compensation of $600,000 in 1991 and 1992 paid to the sole shareholder of a jewelry corporation was reduced by the Tax Court to a deductible amount of $430,000 in 1991 and $300,000 in 1992. The court particularly noted that the 1992 compensation of $600,000 had produced a corporate net operating loss, resulting in a negative return on equity, a result which the court ruled an independent shareholder would not have accepted (*H&A International Jewelry, Ltd. v. Comm.*, TC Memo 1997-467, 10/14/97).

Compensation of $1.3 million and $1 million paid to an officer and shareholder of a closely held engineering corporation during its 5/31/93 and 5/31/94 FYEs was reduced to approximately $900,000 and $700,000, respectively, for the two years. The court considered the unique technical and sales ability of the officer and his years of experience, but then compared these factors against an investor return analysis which tested after-tax profit with equity. Additionally, the court considered compensation which an affiliated corporation had paid the officer in reducing the allowable compensation amount (*Heitz v. Comm.*, TC Memo 1998-220, 6/24/98).

In a 1996 Tax Court ruling, the court determined the level of salary payments made to the president of a corporation was based primarily on the personal needs of the president (that is, to offset the impact of a divorce settlement), rather than on a formal, consistent compensation program. The corporation had paid its sole shareholder a year-end bonus of $1.7 million which brought total compensation to $1.8 million for 1987; while the IRS argued that $135,000 was reasonable, the Tax Court allowed deductibility of $700,000. Upon appeal, the Ninth Circuit directed the lower court to elaborate on the reasoning it used in determining whether compensation paid to the officer was reasonable, rather than simply reciting relevant factors and settling upon a compromise amount approximately midway between the taxpayer's and government's proposed amounts (*Leonard Pipeline Contractors, Ltd. v. Comm.*, CA-9, 4/24/98, rev'g. and rem'd. TC Memo 1996-316).

Upon remand, the Tax Court gave consideration to the facts of the case and reviewed five criteria used by the Ninth Circuit (employee's role, comparable compensation in similar companies, condition of the company, dividends disguised as compensation, and existence of a formal, consistent compensation program). After analyzing all factors and the Ninth Circuit decision, the lower court again concluded that $700,000 was the reasonable amount (that is, no change from the first Tax Court opinion) (*Leonard Pipeline Contractors, Ltd. v. Comm.*, TC Memo 1998-315, 9/1/98).

In a 1995 ruling, the Tax Court allowed compensation of $300,000 and $320,000 to a taxpayer who had claimed a compensation deduction of approximately $377,000 and $488,000 for 1989 and 1990. The taxpayer and other family members owned substantially all of the stock of a corporation involved in the production of PCB test kits. The court found the taxpayers provided important management services which significantly contributed to the profitability of the corporation over the years.

Upon appeal, the Second Circuit determined that the lower court had erred in failing to test the reasonableness of compensation from the perspective of a hypothetical or independent investor. The appellate court also directed the lower court to determine whether the shareholder was paid according to a consistently applied compensation formula, whether the compensation compared favorably with that paid by similar companies for comparable services, and whether these factors might shift the weight in favor of the taxpayer in allowing additional claimed compensation amounts as being reasonable (*Dexsil Corp. v. Comm.*, 98-1 USTC 50,471, CA-2, 6/3/98, vacating and remanding TC Memo 1995-135).

Observation
As in the *Leonard Pipeline Contractors* ruling, the appellate court again criticized the Tax Court for its approach in not adequately spelling out justification for arriving at its calculation of a "reasonable compensation" amount.

3.2.3 Research credit on internal-use software

In 1997 regulations, the IRS issued guidance on when computer software developed by, or for the benefit of, a taxpayer primarily for internal use qualifies for the research credit (proposed amendments of Regs. 1.41-0, 1.41-1, and 1.41-0A through 1.41-8A, REG-209494-90, 1/2/97).

Generally, internal-use software is not excluded from eligibility for the research credit if it meets the general requirements of IRC Sec. 41(d) and also meets a three-part test set out in the proposed regulations.

A bank holding company that had designed banking system software for internal management and administrative purposes was allowed to claim the research credit for software development for only one activity out of sixty-seven activities, as the court determined the other activities involved routine principles of software development that did not involve innovation or significant risk (*Norwest Corp. v. Comm.*, 110 TC No. 34, 6/29/98).

3.2.4 Research credit and Y2K costs

The IRS has ruled that changes to make software programs Y2K-compliant will not satisfy the definition of "qualified research" except in extraordinary circumstances (an undefined term in the guidance) (Rev. Proc. 97-50, IRB No. 1997-45).

3.2.5 Extension of electronic payment tax deposit deadline

Small businesses which were previously scheduled to begin using the electronic federal tax payment system (EFTPS) on July 1, 1998, now have until January 1, 1999, to start making electronic deposits (IRS News Release IR-98-28, 3/31/98).

The IRS has issued guidance associated with the waiver of the failure to deposit penalty for businesses initially required to use EFTPS beginning on or after July 1, 1997. Despite extensions given to taxpayers to start using EFTPS, taxpayers still remain liable for the failure to deposit penalty if they fail to make the required deposits, either through EFTPS or by using paper coupons, in a timely manner (IRS Notice 98-30, IRB No. 1998-22).

3.2.6 Monthly payroll deposit threshold doubled

Effective July 1, 1998, for quarterly returns and January 1, 1999, for annual returns, the employment tax deposit threshold has been increased from $500 to $1,000. Accordingly, monthly deposits will no longer be required for employers with employment tax liabilities of less than $1,000 in a return period; rather, the amount can be remitted with the Form 941 or Form 943 for that period (IRS News Release IR-98-43, 6/3/98).

4. CORPORATE-SHAREHOLDER TRANSACTIONS

4.1 Legislative Developments

4.1.1 Qualified small business stock

IRC Sec. 1202 allows a noncorporate taxpayer to exclude 50 percent of any gain from the sale of qualified small business stock which was issued after August 10, 1993, and held for more than five years. Qualified small business stock must be that of a domestic C corporation with aggregate gross assets not exceeding $50 million. Other requirements and restrictions also apply.

Legislation in 1997 added IRC Sec. 1045, allowing a taxpayer other than a corporation to elect to roll over tax-free any capital gain from the sale or exchange of Section 1202 stock held more than six months, to the extent the taxpayer uses the proceeds to purchase other qualified small business stock within sixty days of the date of sale.

The 1998 IRS Restructuring and Reform Act clarified that the Section 1045 rollover provision is available not only to individuals, but also to partnerships and S corporations which may own Section 1202 stock, effective retroactively to sales after August 5, 1997 [IRC Sec. 1045(a)].

The IRS has announced procedures for making the Section 1045 election to defer gain on the sale of Section 1202 stock (Rev. Proc. 98-48, IRB No. 1998-38).

4.2 Case and Ruling Developments

4.2.1 Income from corporate loan forgiveness

A husband and wife, sole shareholders of an air freight motor carrier, borrowed over $500,000 from their corporation over a twelve-year period. The taxpayers never executed promissory notes or paid any interest on the loans from the corporation. The loans were eventually written off by the corporation as uncollectible, but the shareholders recognized no debt discharge income. Upon assessment by the IRS of the debt discharge income, the shareholders argued the loans were actually dividends at creation and that the statute of limitations had expired, preventing the IRS from assessing the dividend income in the earlier returns. Because of the lack of documentation and interest payments, and because the taxpayers had been through an earlier audit in which they maintained the withdrawals were loans, both the Tax Court and Sixth Circuit treated the withdrawals as dividends to the shareholders (*Schneller v. Comm.*, 97-2 USTC 50,956, CA-6, 11/10/97, aff'g. an unreported TC case).

4.2.2 Avoidance of IRC Sec. 357 problem through unsecured note

The Ninth Circuit overturned the Tax Court in holding that a sole shareholder who contributed a promissory note to a corporation to avoid income recognition under IRC Sec. 357(c) could treat the promissory note as legitimate debt, giving the shareholder basis in the note at its full face value. The court determined the taxpayer was likely to have the funds to pay the note, a market rate of interest appropriate with the taxpayer's creditworthiness was attached to the note, and the note had a fixed term. The court additionally determined the note was fully transferable and enforceable by third parties, including hostile creditors, creating genuine debt for tax purposes and holding that both the shareholder and corporation had tax basis in the note (*Peracchi v. Comm.*, 98-1 USTC 50,374, CA-9, 4/29/98, rev'g. TC Memo 1996-191).

Observation

A similar decision had previously been reached in *Lessinger* (872 F.2d 5199, CA-2, 3/29/89, rev'g. 85 TC 824, 1985). However, as the Ninth Circuit in the instant case noted, the Second Circuit in *Lessinger* had strangely concluded that the individual shareholder had no basis in the note, but the corporation did have basis, while nonrecognition of gain occurred for the shareholder. This result ignores the language of IRC Sec. 362(a), which holds that the basis of property transferred in a Section 351 transaction is the same in the hands of the corporation as it is in the hands of the individual transferor.

4.2.3 Distribution of customer list to CPA shareholders

The Tax Court ruled that a CPA corporation which liquidated and distributed its customer list to the shareholders was not required to realize taxable gain on the distribution of the customer list. At trial, expert testimony established the customer list had no meaningful value in a service-related business without a noncompete agreement. Based on this, the court determined no goodwill belonged to the corporation other than the abilities, skills, and reputations of the individual accountants (*Norwalk et al v. Comm.*, TC Memo 1998-279, 7/30/98).

4.2.4 E&P required for tax evasion

Over a four-year period, a couple diverted approximately $400,000 in cash from their closely held corporation. However, during this same period, the corporation owed the couple, as shareholders, an amount for repayment of a loan and for invested capital greater than the amount of diverted cash. At trial, the Second Circuit determined the corporation had no earnings and profits (E&P), and in view of the lack of E&P, the funds could not constitute taxable income, but rather a return of capital or a repayment of the loan. Because no tax liability existed, the couple was found not guilty of criminal tax evasion (*U.S. v. D'Agostino,* 98-1 USTC 50,380, CA-2, 4/30/98, rev'g. an unreported Dist. Ct. decision).

4.2.5 1998 demand loan applicable federal rate

The blended annual rate for 1998 under IRC Sec. 7872(e)(2) is 5.63 percent. This represents the minimum required interest rate on demand loans for 1998 (Rev. Proc. 98-33, IRB No. 1998-26).

4.2.6 Trust fund recovery penalties

The Third Circuit has ruled that a responsible person liable under IRC Sec. 6672 for failure to deposit taxes withheld from employees was subject to a six-year statute of limitations, rather than the normal three-year statute (*U.S. v. Gollapudi,* 97-2 USTC 50,978, CA-3, 11/17/97).

The U.S. Court of Federal Claims has ruled that the mere holding of a corporate office does not make an individual a responsible person for purposes of the Section 6672 penalty. Despite carrying the title of corporate vice president, the court found the president and primary shareholder of the corporation personally maintained final approval on all accounts payable decisions. Accordingly, the mere holding of the corporate title (that is, vice president) was not sufficient to hold the corporate vice president responsible for the penalty (*DeAlto v. U.S.*, 98-1 USTC 50,433, U.S. Ct. of Fed. Cl., 5/13/98).

4.2.7 Section 1244 loss

Section 1244 treatment was not allowed to an attorney who received stock in a computer software business in exchange for legal services, because the Tax Court noted that IRC Sec. 1244(c)(1) requires that money or property must have been furnished in exchange for the stock. The attorney had also advanced $65,000 to the corporation and attempted to deduct this amount as a Section 1244 loss, but this was also disallowed because he did not receive any shares in exchange for the cash (*Boyko v. Comm.*, TC Memo 1998-67, 2/18/98).

5. S CORPORATIONS

5.1 Qualified Subchapter S Subsidiaries

Effective for taxable years beginning after 1997, S corporations are allowed to own a qualified Subchapter S subsidiary (QSSS) [IRC Sec.

1361(b)(3)]. The IRS had previously requested comments and issued guidance associated with S corporation subsidiaries in IRS Notice 97-4 (IRB No. 1997-2).

The IRS has now issued proposed regulations dealing with QSSSs (Regs. 1.1361-2 through 1.1361-6 and 1.1362-8 and amendments of Regs. 1.1361-0, 1.1361-1, 1.1362-0, 1.1362-2, 1.1368-0, 1.1368-2, and 1.1374-8, REG-251698-96, 4/22/98).

5.2 C Corporation Subsidiaries and Passive Investment Income

Dividends received by an S corporation from a C corporation in which the S corporation has an 80 percent or greater ownership interest are not treated as passive investment income for purposes of IRC Secs. 1362 and 1375 to the extent the dividends are attributable to the E&P of the C corporation derived from the active conduct of a business [IRC Sec. 1362(d)(3)(E)].

The proposed regulations dealing with QSSSs provide a safe harbor under which a corporation may determine the amount of the active E&P by comparing the corporation's gross receipts derived from non-passive investment income-producing activities with the corporation's total gross receipts in the year the E&P are produced. If less than 10 percent of the C corporation's E&P for a taxable year is derived from activities that would produce passive investment income, all E&P produced by the corporation during the taxable year are considered active E&P.

5.3 Pass-Through Rules and Distributions

IRC Sec. 1366 defines the corporate items of income, loss, deduction, and credit that must be taken into account at the shareholder level; IRC Sec. 1367 defines the rules under which a shareholder adjusts basis for pass-through corporate items; IRC Sec. 1368 provides ordering rules for distributions by S corporations to shareholders.

Proposed regulations have now been issued relating to the pass-through of S corporation items to its shareholders, adjustments to the basis of the shareholder's stock, and the treatment of distributions by an S corporation (Regs. 1.1366-0 through 1.1366-5 and amendments of Regs. 1.1366-1, 1.1366-2, 1.1367-0, 1.1367-1, 1.1367-3, and 1.1368-0 through 1.1368-4, REG-209446-82, 8/18/98).

Under the proposed regulations, income from the discharge of indebtedness excludable under IRC Sec. 108 does not constitute tax-exempt income which increases shareholder basis because the attribute reduction provisions of IRC Sec. 108(b) have the effect of deferring the recognition of the income in some circumstances while permanently excluding it, in whole or in part, in others.

Observation

The Tax Court recently ruled that under IRC Sec. 108(d)(7)(A) the debt discharge income exclusion occurs at the corporate level for an S corporation and because this is not a pass-through item to the shareholder, an increase in shareholder basis does not occur. Based on this full Tax Court opinion, an earlier Tax Court memorandum decision was reversed (*Nelson v. Comm.*, 110 TC No. 12, 2/19/98; *Winn v. Comm.*, TC Memo 1998-71, withdrawing TC Memo 1997-286).

Adjustments to stock basis are conformed under Reg. 1.1367-1 to the statutory changes contained in the 1996 Tax Act, providing that decreases to basis for distributions occur before decreases for noncapital, nondeductible expenses and decreases for loss or deduction items.

The proposed regulations apply the same order to the basis increase and decrease rules as to the accumulated adjustments account (AAA) increase and decrease rules. Previously, only if the adjustments to AAA for income and deduction items produced a net decrease did the distribution order move from last in order. The changes also assure that a shareholder can always extract distributions equal to beginning basis (or to beginning AAA if E&P exists), without any concern about incurring a possible loss during the year which affects the basis or AAA.

Example: Chris is the sole shareholder of an S corporation with $2,000 of basis in his stock on January 1, the beginning of the S year. The corporation reports a capital gain of $500 during the year and sustains an operating loss of $2,000. Because Chris had sufficient stock basis as of the beginning of the year, the corporation previously made a $1,000 distribution to him in early January. At the end of the year, Chris' stock basis is adjusted as follows:

Opening basis	$ 2,000
Distribution: Nontaxable	(1,000)
Loss (limited to basis)	(1,500)
Ending basis	$ 0

Chris also has an excess loss carryforward of $500 ($2,000 operating loss for the year less $1,500 allowable). In previous years, under the former ordering rules, the operating loss would have preceded the cash distribution and a portion of the distribution would have triggered taxable gain to Chris due to insufficient basis.

5.4 Relief for Late S Elections

Legislation in 1996 granted the IRS the authority to waive the effect of an invalid election caused by an inadvertent failure to qualify as an S corporation, or to obtain the required shareholder consents, including elections regarding qualified Subchapter S trusts (QSSTs).

In Rev. Proc. 97-40 (IRB No. 1997-33), the IRS previously issued guidance for corporations requesting relief for late S elections. Taxpayers may request relief by filing a Form 2553 with the applicable IRS Service Center within six months of the original due date of the election, attaching an explanation for the reason for the failure to timely file. No user fee applies to a Form 2553 filed pursuant to Rev. Proc. 97-40.

The IRS later issued additional guidance for obtaining relief for late S corporation elections (Rev. Proc. 97-48, IRB No. 1997-43). This procedure applies if the corporation intended to be an S corporation, the corporation and its shareholders reported their income consistent with S status for the tax year in which the S corporation election should have been made and for all later years, and the corporation did not receive notice from the IRS regarding its S corporation status within six months of its timely filed Form 1120S for the first year. The procedure also applies for periods prior to January 1, 1997, where the corporation intended to be an S corporation, was barred from being an S corporation for the first tax year specified in the election because the election was late, has all tax years open for itself and its shareholders, and has been treated as an S corporation in all succeeding (post-election) years.

While both of these revenue procedures are in lieu of requesting a private letter ruling and require no user fee, corporations ineligible for relief under these two procedures or that are denied relief can still request a letter ruling granting relief for the late S election.

Observation
A private letter ruling request requires a user fee of $3,650 ($500 for S corporations with gross receipts of less than $150,000) (Rev. Proc. 98-1).

Caution
Note that Rev. Proc. 97-40 requires the Form 2553 to be filed within six months of the original due date of the S election, while Rev. Proc. 97-48 only applies when the IRS does not notify the taxpayer within six months of *when the corporation timely filed Form 1120S for the first year.* Accordingly, a gap exists between these periods, and a corporation falling within this gap would need to request a private letter ruling (and pay the required user fee) to request relief.

5.5 S Corporations and ESOPs

As a result of 1996 legislation, employee stock ownership plans (ESOPs) can be a shareholder of an S corporation for tax years beginning after 1997. However, under this legislation, items of income flowing through the S corporation to the ESOP were taxed as unrelated business taxable income (UBTI).

Legislation in 1997 repealed the provision which treated items of an S corporation as UBTI in the case of an ESOP that is an S corporation shareholder, effective for tax years beginning after 1997 [IRC Sec. 512(e)].

ESOPs are generally required to make distributions to employee plan participants in the form of employer securities; however, ESOPs established or maintained by S corporations need not give participants the right to demand their distributions in the form of employer securities if the participants have the right to receive the distributions in cash, effective for taxable years beginning after 1997.

The IRS has now issued regulations regarding the in-kind distribution requirement for ESOPs, specifying the time period during which plan amendments may be made [Regs. 1.411(d)-4T and 1.411(d)-4, REG-101363-98, 9/3/98].

5.6 Shareholder Basis and Intercompany Debt

Taxpayers who argued they had purchased assets from their C corporations and then separately conveyed those assets into an S corporation were denied basis on the transactions. While the taxpayers asserted the two transactions were back-to-back sales, the Tax Court determined the shareholders had made no payments directly to the C corporations, that they failed to report interest income from the S corporation and claim interest expense to the C corporations, and that the debt on the corporate balance sheets was not shown as shareholder debt. The court's conclusion was that the C corporations had sold the assets directly to the S corporation, resulting in no increase to shareholder basis (*Spencer v. Comm.*, 110 TC No. 7, 2/9/98).

5.7 Converting QSSTs and ESBTs

The IRS has provided procedures for converting an existing QSST to electing small business trust (ESBT) status. While the ESBT provisions are generally more flexible, any S corporation income flowing to an ESBT is taxed at the highest individual tax rate of 39.6 percent, without any distribution deduction to beneficiaries. The procedures also detail converting an ESBT to QSST status (Rev. Proc. 98-23, IRB No. 1998-10).

5.8 Conversion to S with Suspended Passive Losses

The taxpayer, a C corporation, had suspended passive activity losses from rental real estate and later elected S status. Within a year of the election, the taxpayer sold some of the rental properties and deducted the suspended passive activity losses within the S return.

The Tax Court agreed with the IRS in concluding that the Section 1371 restrictions took precedent over the suspended loss carryover provisions of Section 469, holding that the S corporation could not use suspended passive losses from former C years. Rather, the suspended passive losses remained within the C corporation, only available if the S corporation converted back to C status (*St. Charles Investment Co. v. Comm.*, 110 TC No. 6, 2/5/98).

Current-Year Tax Issues

CURRENT-YEAR TAX ISSUES—1998

1. INTRODUCTION

There are always a great number of issues of special importance to tax practitioners. Some of these issues concern current economic and regulatory developments, while others are critical because they continue to develop in complexity or breadth of applicability over a period of time.

This section addresses six general topics of current importance to practitioners. Each is presented in an opening synopsis, followed by an analysis of the issues (often accompanied by illustrative examples), and, in many cases, a concluding summary.

The discussions are not intended to be complete treatments of each topic. The issues raised in this section only survey some of the more important matters affecting practitioners. Further analysis and research may be required in certain circumstances.

Readers should briefly review the matters discussed, ascertain which issues may be important to their clients' situations, and then conduct further research as needed. A number of issues are quite technical and may apply to just a handful of practices, whereas other matters are global in nature and affect every tax practitioner.

2. EDUCATION TAX CREDITS

Generally, education and training expenses are nondeductible. However, Reg. 1.162-5 allows a deduction for education expenses where the education or training maintains or improves a skill required in a trade or business currently engaged in by the taxpayer, or alternatively, meets the express requirements of the taxpayer's employer, or requirements of applicable law or regulations, imposed as a condition of continued employment. However, until changes enacted by the Taxpayer Relief Act of 1997, no credit was allowed for higher education expenses paid on behalf of taxpayers, their spouses, or dependents.

Under the 1997 Act, two new nonrefundable credits were added which can be elected by taxpayers for tuition and related expenses incurred by students attending eligible educational institutions. These two credits are the Hope credit and the Lifetime Learning credit.

2.1 Hope Credit

The Hope credit provides taxpayers with a maximum credit of $1,500 per student for each of the first two years of postsecondary education. The credit applies at a 100-percent rate to the first $1,000 of qualified tuition and related expenses, with the credit then reduced to 50 percent of the next $1,000 of these expenses. Starting in 2002, the two $1,000 amounts are adjusted for inflation in multiples of $100. The Hope credit is allowed only for the first two years of postsecondary education, and is calculated on a per student basis. In a provision unique to the Hope credit, no credit is allowed for any year in which a student is convicted of a felony for the possession or distribution of a controlled substance.

2.2 Lifetime Learning Credit

The Lifetime Learning credit is calculated at a rate of 20 percent of qualified tuition and related expenses paid during a taxable year, limited to a maximum amount of $5,000 of expenses per year. Starting in the year 2003, the maximum amount of expenses is increased to $10,000. Accordingly, the maximum Lifetime Learning credit is a $1,000 credit through the year 2002, with the credit then increasing to a maximum of $2,000 (20 percent of $10,000) in the year 2003. No amounts are adjusted for inflation.

The Lifetime Learning credit does not vary with the number of students in a family, and can be claimed for an unlimited number of years. Additionally, the credit applies for both undergraduate and graduate courses, whereas the Hope credit only applies for the first two years of postsecondary education. The Lifetime Learning credit is not allowed if the Hope credit is claimed for the same tuition of the same student during the same taxable year.

2.3 Phaseout of Credits

Both the Hope credit and Lifetime Learning credit phase out pro rata as modified adjusted gross income (AGI) increases from $80,000 to $100,000 on a joint return, and from $40,000 to $50,000 on other returns. Starting in the year 2002, the AGI phaseout ranges are indexed for inflation, in multiples of $1,000. Modified AGI has a special definition, determined without regard to the exclusions from gross income for foreign earned income and foreign housing costs, and without the income exclusion for residents of Guam, American Samoa, Northern Mariana Islands, and Puerto Rico.

Example 1: Larry and Linda have a son, Michael, who is a full-time student in 1998. Larry and Linda pay $8,000 of tuition on Michael's behalf during the year. Larry and Linda file a joint return and report modified AGI of $94,000.

Larry and Linda would normally be entitled to a maximum Hope credit of $1,500, calculated at 100 percent of the first $1,000 of tuition and 50 percent of the next $1,000 of tuition. However, because their AGI exceeds the $80,000 phaseout threshold, a portion of the credit is phased out. This is calculated as: $[(\$94{,}000 - \$80{,}000)/\$20{,}000] \times \$1{,}500$, or 70% $\times$ $1,500 = $1,050 phaseout. Accordingly, Larry and Linda are limited to a maximum Hope credit of $450.

2.4 Special Rules

Both the Hope credit and the Lifetime Learning credit are only available for qualified tuition and related expenses paid during the taxable year, for education furnished to a student during an academic period that started during the year. However, under a special rule, tuition paid during one year for an academic period beginning during the first three months of the following year is treated as beginning during the year of payment. Accordingly, by properly timing the payment of tuition and related expenses, a larger credit may result.

Example 2: Under the facts of Example 1, assume Michael starts college in September 1998. If Michael receives a first semester scholarship and is not going to incur sufficient tuition expenses in the first year to use the allowable Hope credit for 1998, Larry and Linda should pay a portion of the next semester's tuition prior to January 1, 1999. This allows Larry and Linda to maximize the 1998 Hope credit by paying more than one semester's tuition, even though Michael receives only one semester of education.

Married individuals must file a joint return to claim the credits; neither the Hope credit nor the Lifetime Learning credit is available to married taxpayers filing separately. In cases where loan proceeds are used to pay the tuition expenses, the credits are allowable in the year the tuition and related expenses are paid, rather than in the year the loan is repaid.

Neither the Hope credit nor the Lifetime Learning credit is available for amounts covered under an employer-paid educational assistance program which qualifies for income exclusion, nor for scholarships which qualify for income exclusion. Additionally, any other excludable amounts used to pay qualified tuition, such as Pell grants, do not qualify the taxpayer for the credit. However, educational expenses paid by gift, bequest, inheritance, and so forth do qualify for the credits.

Parents must claim the student as a dependent in order to claim the credits. Students claimed as a dependent by their parents cannot personally claim the credits, but students who do not qualify to be claimed as dependents on their parents' return can personally claim the credits. A student claimed as a dependent on his or her parents' return who personally pays tuition and related expenses can treat the payments as paid by the parents, qualifying the parents for the credit amounts.

Neither the Hope credit nor the Lifetime Learning credit can be used for alternative minimum tax purposes, and the Treasury is directed to provide regulations providing for the recapture of the credits when a refund of a tuition payment occurs in a subsequent tax year, where either credit has been claimed in a previous tax year.

In Internal Revenue Service (IRS) Notice 97-73 (IRB No. 1997-51), the IRS released guidance on the information reporting requirements applicable to educational institutions in connection with the Hope credit and the Lifetime Learning credit. This guidance requires educational institutions receiving tuition and related expenses to file Form 1098-T, "Tuition Payments," which reports the amount of tuition received and refunds paid to a student during a year, along with additional information detailed in IRS Notice 97-73.

2.5 Definitions and Qualifications

Only tuition and fees required for enrollment or attendance at an eligible educational institution qualify; amounts paid for books, meals, lodging, and so forth do not qualify for either credit. For the Hope credit, an individual must be enrolled in a degree or certificate program at an eligible educational institution and must carry at least one-half of a normal full-time workload. However, the Lifetime Learning credit is available for any course at an eligible educational institution which helps an individual acquire or improve job skills. An eligible educational institution generally includes institutions offering credit toward a bachelor's degree, an associate's degree, or another recognized postsecondary credential, but some vocational institutions and proprietary institutions also qualify. Eligible educational institutions must be eligible to participate in the Department of Education student aid programs.

The Hope credit and the Lifetime Learning credit are only available for tuition paid for the taxpayer, the taxpayer's spouse, or the taxpayer's dependent. To claim the credits, a parent must both pay the expenses and claim the student as a dependent. Divorced parents should be sure to properly structure arrangements so that the same parent pays the tuition and claims the child as a dependent under a support agreement.

2.6 Summary and Effective Dates

Parents are allowed to elect the Hope credit for one child and the Lifetime Learning credit for another child in the same tax year. Additionally, if the Hope credit is claimed for one student in a particular year, the Lifetime Learning credit can still be claimed for the same student in another year.

The Hope credit applies for expenses paid after December 31, 1997, in taxable years ending after that date, for education furnished in academic periods beginning after that date. The Lifetime Learning credit applies for expenses paid after June 30, 1998, in taxable years ending after that date, for education furnished in academic periods beginning after that date.

Because the Hope credit is only available for the first two years of undergraduate education, students who are beyond the first two years should focus on eligibility under the Lifetime Learning credit, for expenses paid after June 30, 1998.

Observation

The Hope and Lifetime Learning credits are also discussed in section 3.2.4 of the chapter on Federal Individual Tax Notes.

3. OTHER EDUCATION TAX INCENTIVES

3.1 Exception to Early Withdrawal Penalty from IRAs

Effective for distributions made after December 31, 1997, with respect to expenses paid for education furnished in academic periods beginning after that date and in taxable years ending after that date, the 10 percent penalty on early withdrawals from an individual retirement account (IRA) does not apply to IRA distributions where the amounts are used to pay qualified higher education expenses of a taxpayer, the taxpayer's spouse, or any child or grandchild of the taxpayer or the taxpayer's spouse. Eligible education expenses include those related to graduate level courses. While the IRA distributions are exempt from the 10 percent penalty on early withdrawals, distribution amounts must still be included in the taxable income of the taxpayer.

The exception applies for IRA distributions used to pay tuition, fees, books, supplies, and equipment required for enrollment or attendance, including room and board, at a postsecondary educational institution (as defined by the Higher Education Act of 1965). However, room and board expenses only qualify where the student carries at least half of a full-time workload and is enrolled in a degree or certificate program. Any education expenses qualifying for the exception are reduced by the amount of any qualified scholarship, educational assistance allowance, or other payment made for an individual's educational enrollment, where these amounts are excludable from income. However, educational amounts paid by gift, bequest, devise, or inheritance still allow the exception to apply.

3.2 Education Loan Interest Deductibility

Starting in 1998, individuals are allowed limited interest deductibility on amounts paid on any qualified education loan. The maximum deductible amount of interest is limited to $1,000 in 1998 (increasing to $1,500 in 1999, $2,000 in 2000, and $2,500 in the year 2001 and thereafter). The ability to use the interest deductibility provision is phased out based on the taxpayer's AGI. The interest deduction amount is phased out in a manner similar to the phaseout of the IRA deduction, occurring as modified AGI moves from $60,000 to $75,000 on a joint return, and $40,000 to $55,000 on other returns. The AGI amounts will be indexed for inflation starting in the year 2003, but only in multiples of $5,000.

Modified AGI includes AGI determined with regard to IRA deductions, taxable Social Security, and passive activity loss limitations, but without regard to the foreign earned income and U.S. possessions exclusions, the adoption expense exclusion, and the higher education U.S. savings bond exclusion. Additionally, modified AGI is computed without regard to the deduction for interest on education loans itself.

The deduction for interest on qualified education loans is taken on page 1 of Form 1040. The deduction is allowed regardless of whether the taxpayer itemizes deductions on Form 1040, Schedule A. A deduction for interest on a qualified education loan is not allowed for any amount for which a deduction is allowable under any other Internal Revenue Code (IRC) section. However, in IRS Notice 98-7 (IRB No. 1998-3), the IRS announced that taxpayers are able to treat home equity loan interest as either mortgage interest or as student loan interest.

Interest on a qualified education loan is deductible on any debt incurred to pay higher education expenses of a taxpayer, spouse, or a dependent of the taxpayer at the time the debt is incurred. The individual must be taking at least half of a full-time workload and be enrolled in a degree or certificate program. However, any debt owed to a related party (as defined in IRC Sec. 267(b)) is not deductible as education loan interest.

Eligible educational institutions are again defined by reference to the Higher Education Act of 1965, which generally includes postsecondary educational institutions and vocational schools, as well as hospitals and health care facilities offering postgraduate training. Interest on educational loans is deductible to the extent the loans are used to pay tuition, fees, room and board, and other related expenses, such as books and supplies.

An individual is not entitled to the deduction if the individual may be claimed as a dependent by another taxpayer for the tax year beginning in the calendar year in which the individual's tax year begins. Under a special provision, the deduction for interest expense is only allowed with respect to interest paid during the first sixty months in which interest payments are required. However, months in which a student loan is in deferral do not count against the sixty-month limit. Under IRS Notice 98-7, payees must report interest received on Form 1098-E, "Student Loan Interest Statement."

Interest is deductible on qualified education loans incurred on, before, or after August 5, 1997, but only with respect to loan interest payments due and paid after December 31, 1997, and only for the portion of the sixty-month limitation period occurring after December 31, 1997.

Observation

Interest expense on education loans is also discussed in section 2.1.3 of the chapter on Federal Individual Tax Notes.

3.3 Education IRAs (and College Financial Aid)

Effective for 1998, the Taxpayer Relief Act of 1997 allows up to $500 per year to be invested in an education IRA for a child, until the child reaches his or her eighteenth birthday. The annual $500 amount may be funded by anyone (for example, grandparent, parent, or by the child personally), but only one $500 amount may be invested per year per child. Also, the donor's AGI phases out the privilege as it exceeds $150,000 on a joint return (up to $160,000) or $95,000 as a single filer (up to $110,000).

Contributions to education IRAs are not deductible, but the entire IRA may be withdrawn tax-free to the extent of the beneficiary's postsecondary education costs (tuition, fees, room, board, books, and supplies) for the year. However, at least one-half of a normal full-time workload is required to exclude distributions expended for room and board. The power of the education IRA, of course, is the ability to create earnings for education that are entirely tax-free. However, a word of caution—the tax savings may pale when compared to the potentially adverse impact of the education IRA on a college financial aid package.

Example: Assume that Sheila, a parent, contributes $500 per year to an education IRA for her son, Bryan, for six years ($3,000 total). These education IRA funds grow tax-free, and assume that Bryan eventually withdraws $8,000 for college costs, realizing a $5,000 tax-free gain. Assuming federal tax rates which might range from 15 to 28 percent, the family has saved $750 to $1,400 of tax by using the education IRA. However, the federal financial aid formula will likely assess both the assets and the income of the education IRA in calculating the financial aid expected family contribution (EFC) (although the specifics are unknown at this point). Federal tax law treats the creation of an education IRA as a gift from the donor to the beneficiary-student. If the federal financial aid formula counts Bryan's education IRA as his asset, it will diminish his financial aid package by $2,800 (35 percent of $8,000). On the other hand, if the formula assesses the earnings to Bryan, 50 percent of the growth, or $2,500 (50% × $5,000) will be added to the expected family contribution. In either case, the adverse impact on the financial aid package is greater than the family's tax savings.

For higher income families, where college financial aid is not a possibility, use of the education IRA can make great sense. However, for many middle-class families, particularly where the student is attending a more expensive college or university, using these tax strategies may backfire by causing a loss of a greater amount of financial aid. The financial aid system rewards those whose college savings are accomplished in the parents' names rather than the student's title, which is contrary to the rewards of the tax system.

Observation
Education IRAs are also discussed in section 2.1.6 of the chapter on Federal Individual Tax Notes.

4. DEPENDENCY EXEMPTIONS IN DIVORCE AND SEPARATION SITUATIONS AND FOR COLLEGE-BOUND CHILDREN—MORE IMPORTANT THAN EVER

The issue of who gets the dependency exemption in divorce and separation situations has always created some controversy. In addition, questions as to whether a college student is entitled to his or her own exemption or if it should be taken by the parents have also been debated. Now, after the Taxpayer Relief Act of 1997, the exemption becomes even more valuable, and future and existing divorce settlements and student independence issues will involve greater stakes and calculations. Previously, when the custodial parent(s) relinquished the dependency exemption to the noncustodial parent or student, they were not relinquishing their rights to other child-related credits and filing status (that is, child care credit, earned income credit, and head of household filing status). However, the new child tax credit, Hope credit, and Lifetime Learning credit can only be claimed by the taxpayer claiming the dependency exemption, thereby setting the stage for renewed battles between divorced parents, and parents and college students.

4.1 Child Tax Credit

Taxpayers who have qualifying children under age seventeen are entitled to a new child tax credit of $400 per child for 1998 and $500 per child for 1999 and thereafter. The credit starts to phase out when modified AGI reaches $75,000 for singles and $110,000 for married filing jointly ($55,000 for married filing separately). The credit is reduced by $50 for each $1,000 of modified AGI over the above thresholds.

A "qualifying child" is a child, stepchild, eligible foster child, or descendant for whom the taxpayer is claiming a dependency exemption and who is less than seventeen years old as of the close of the tax year.

In addition, some taxpayers may also qualify for an additional refundable credit known as the alternative credit. Generally, a taxpayer with more than two dependent children will receive this refundable credit to the extent the FICA withheld from wages plus one-half of the self-employment tax exceeds the refundable earned income credit.

The traditional logic of passing the dependency exemption to the parent with the higher income in divorce situations may now be reversed. The higher income parent's AGI may exceed the thresholds and may not qualify for the child tax credit. Custodial parents who previously gave up their rights to the exemption may be less willing to pass the exemption on to the noncustodial parent, as retaining it will now result in a higher benefit to the custodial parent.

The overall benefit depends on the spread between the income tax rates of the two parties and whether or not one or both parties' income falls below the AGI thresholds. Who gets the greater benefit is no longer answered by a simple look at tax rates, and requires a more thorough evaluation, especially if the earned income credit or alternative credit comes into play. Because one tax preparer rarely completes both the ex-husband's and ex-wife's returns, and generally neither is willing to share financial information with the other, the government may end up being the winner.

Example: Sheila and Ben divorced in 1995. They have three children under age seventeen, all of whom live with Sheila. From 1995 through 1997, Sheila passed the dependency exemptions to Ben by signing Form 8332. Sheila's 1998 AGI is $52,000 and Ben's is $100,000. Neither has remarried and both use the standard deduction. The following illustrates the tax if Sheila retains the exemption versus if she passes it on to Ben again.

	If Sheila Claims		*If Ben Claims*	
	Sheila	*Ben*	*Sheila*	*Ben*
AGI	$ 52,000	$100,000	$ 52,000	$100,000
Standard deduction	(6,250)	(4,250)	(6,250)	(4,250)
Exemptions	(10,800)	(2,700)	(2,700)	(10,800)
Taxable income	34,950	93,050	43,050	84,950
Federal tax	5,373	23,708	7,641	21,197
Child credit	(1,200)	0	0	0
Net federal tax	4,173	23,708	7,641	21,197
Total tax	$27,881		$28,838	
Tax *savings* if Sheila claims children		$957		

If Sheila's AGI is only $25,000 the results are as follows:

	If Sheila Claims		*If Ben Claims*	
	Sheila	*Ben*	*Sheila*	*Ben*
AGI	$ 25,000	$100,000	$ 25,000	$100,000
Standard deduction	(6,250)	(4,250)	(6,250)	(4,250)
Exemptions	(10,800)	(2,700)	(2,700)	(10,800)
Taxable income	7,950	93,050	16,050	84,950
Federal tax	1,193	23,708	2,408	21,197
Child credit	(1,193)	0	0	0
Earned income credit	(1,073)	0	(1,073)	0
Alternative credit	(7)	0	0	0
Net federal tax	(1,080)	23,708	1,335	21,197
Total tax	$22,628		$22,532	
Tax *cost* if Sheila claims children		$96		

Observation

The child tax credit is also discussed in section 3.1.3 of the chapter on Federal Individual Tax Notes.

4.2 Hope Scholarship Credit and Lifetime Learning Credit

As discussed in section 2, the Hope credit and Lifetime Learning credit are only available for tuition paid for the taxpayer, the taxpayer's spouse, or the taxpayer's dependent. Therefore, a parent must claim the student as a dependent in order to claim the credit. Although many divorce agreements do not address college tuition issues, those that do should be certain to properly structure such agreements so that the same parent who is paying the tuition claims the student as a dependent. Alternatively, if the divorce decree is written such that the parent obtaining the greater benefit is allowed the exemption, arrange to have the student pay the tuition. Then whichever parent claims the student as a dependent is deemed to have paid the tuition. If by the end of the year, it is determined that the student is eligible to claim his or her own exemption, the student will be allowed the credit because the tuition was paid personally by the student.

This strategy may take some careful planning as many students will not have the resources to pay tuition without the help of parents. Gifting the student funds directly will be limited by the annual gift exclusion which may not be enough to pay the tuition, and may also significantly affect the outcome of financial aid. Additionally, old authority suggests that gifts are counted as support of the donee in the year made when determining dependency status, unless there is proof that the gift was invested rather than expended on living costs [Rev. Rul. 58-404, Rev. Rul. 77-282, and Reg. 1.152-1(a)].

5. PER DIEM AMOUNTS

The IRS provides alternative options for determining lodging plus meals and incidental expenses (M&IE) per diems (Reg. 1.274-5). In lieu of actual documentation, the amount is considered substantiated by using either of two methods.

One technique for determining per diems is the federal maximum per diem rate which uses the Continental United States (CONUS) table or Outside Continental United States (OCONUS) tables (tables of separate lodging and M&IE rates appear under Federal Travel Regulations, 41 C.F.R. Part 301-7).

Another method utilizes the maximum per diem rate using IRS Rev. Proc. 97-59 *high-low* method. The high-low method may not be used for meals and incidentals only; the only reason for breaking the M&IE amount out in Rev. Proc. 97-59 is to allow computation of the 50-percent meals disallowance amount. Accordingly, the separate M&IE rates under the Federal Travel Regulations need to be referenced to determine the M&IE amounts only. Per diem rates for high-cost and low-cost areas, effective January 1, 1998, are as follows:

	Lodging Rate	*M&IE Rate*	*Combined Per Diem*
High cost areas	$140	$40	$180
All other areas	81	32	113

Rev. Proc. 97-59 (IRB No. 1997-52) updates and supersedes Rev. Proc. 96-64 (IRB No. 1996-53) and applies to amounts paid or incurred on or after January 1, 1998.

If travel occurs outside the continental United States (OCONUS) or is reimbursed at an amount less than the federal per diem rate, the M&IE portion is 40 percent of the total OCONUS per diem rate for that locality, or 40 percent of the lesser reimbursement paid. OCONUS per diems are reflected as one amount to include lodging and M&IE.

The combined per diem can only be used for employees or other payees under a reimbursement plan. It cannot be used by self-employeds or employees deducting their own expenses. Also, neither the combined per diem nor the M&IE rate is allowed for reimbursement of an employee by a related party (as defined in Sec. 267(b), with a 10-percent ownership standard applied instead of the 50 percent stated in Sec. 267(b)(2)). The payor of the M&IE rate must remove 50 percent (45 percent for 1998 for transportation industry) from deductibility under the meal and entertainment rules. For example, an employer using the combined per diem rate of $180 would be subject to the 50-percent disallowance on $40, thereby allowing a $160 deduction.

5.1 Meal and Incidental Expenses Per Diems

In addition to employer-employee reimbursement and advances, the M&IE per diem may be used by a self-employed individual. This may also be used by nonreimbursed employees on Form 2106, or between certain payor-payee relationships such as independent contractors and customers.

High-cost areas, for use of the high-low method, are established by the IRS. A taxpayer is considered to be in a high-cost area when the taxpayer stops for sleep and rest in certain locations. The most recent high-cost localities can be found in Rev. Proc. 97-59, IRB No. 1997-52.

It should be noted that the CONUS tables do not have the same high-cost areas as set out in the high-low table. The standard CONUS M&IE rate is $30 per day with certain localities ranging from $30 to $42. The CONUS tables contain lodging per diem rates which vary from $50 to $226 depending on the location. If a payor uses the high-low method for an employee, the CONUS per diem is not available for the same calendar year (except the employer may use the OCONUS rates for travel outside the United States, the CONUS meal-only rate, or actual expense reimbursement).

The regulations allow special meal rates for the travel industry (Rev. Proc. 97-59). They include $36 per day for travel within the United

States and $40 per day for travel outside the United States. In addition, the Taxpayer Relief Act of 1997 gradually increases the deductible percentage for meals from 55 percent in 1998 to 80 percent in 2008 for individuals subject to the hours of services limitations of the Department of Transportation (such as airline pilots, OTR truck drivers, and railroad employees). The taxpayer working in the travel industry must meet two eligibility requirements. The requirements include: (1) moving people or goods by airplane, bus, ship, train, or truck, and (2) travel away from home which, during any single trip, involves localities with differing federal M&IE rates. The payor is not required to reduce the per diem rate for a meal provided in kind. For example, an airline employee per diem need not be reduced for meals received from an airline.

When an individual travels partial days, per diem amounts must be prorated based on either of the following methods:

1. The method prescribed by the Federal Travel Regulations, which allows three-fourths of the applicable federal M&IE rate for each partial day during which the employee or self-employed individual is traveling away from home in connection with the performance of services as an employee or self-employed individual
2. Any method that is applied consistently and in accordance with reasonable business practice. For example, an employer who consistently reimburses an employee traveling away from home from 9 A.M. one day until 5 P.M. the next an amount equal to two times the federal M&IE rate will be considered to be in accordance with reasonable business practice, even though under the first method above, the same employee would have only received one and one-half times the federal M&IE rate.

5.2 Table of Per Diem Rules for Taxpayers

AVAILABILITY OF PER DIEMS TO VARIOUS TAXPAYERS

Per Diems and Allowances	*Employee Reimbursed*	*Employee Not Reimbursed*	*Self-Employed*	*Independent Contractor/ Payee**	*Related Party***
M&IE	Yes	Yes	Yes	Yes	No—must use actual
M&IE plus lodging	Yes	No—must use actual	No—must use actual	Yes	No—must use actual

*Certain payor-payee relationships under a reimbursement (accountable) plan.

**As defined in Sec. 267(b), 10-percent common ownership instead of standard 50 percent stated in Sec. 267(b)(2).

6. PRINCIPAL RESIDENCE EXCLUSION

Prior law contained two methods to eliminate gain on the sale of a principal residence. Taxpayers either used the rollover rule to defer the gain for tax purposes by purchasing a new residence at least equal in cost to the sale price of the old residence within a twenty-four-month period (former IRC Sec. 1034), or those who had attained age fifty-five made a one-time election to exclude gain of up to $125,000 (former IRC Sec. 121). Under the changes enacted by the Taxpayer Relief Act of 1997, taxpayers selling their principal residence on or after May 7, 1997, may exclude gain of up to $250,000 on a sale of their personal residence (up to $500,000 gain exclusion for married couples filing jointly) [amended IRC Sec. 121].

6.1 Eligibility and Transition Rules

Eligibility for the new gain exclusion hinges on three criteria, all of which must be met to qualify for the exclusion:

1. Either spouse must have owned the home for at least two of the five years prior to sale.
2. Both spouses must have used the home as their principal residence for at least two of the five years before sale.
3. Neither spouse may have used this new gain exclusion within the last two years (although a prorated exclusion is allowed for a residence which is sold within two years of acquisition because of a job change, health problems, or unforeseen circumstances).

Several transition rules were established for sales occurring before August 5, 1999 (sales within the first two years of the new legislation). The third of the three general criteria (that is, only one sale eligible for gain exclusion every two years) does not apply to the extent of a first sale occurring before May 7, 1997 [IRC Sec. 121(b)(3)(B)]. If the residence which is sold was acquired in a Section 1034 rollover under prior law, the holding period of the former residence is counted in determining whether the taxpayer meets the two-of-five-year ownership test and two-of-five-year use test [IRC Sec. 121(g)].

> *Example 1:* On April 1, 1997, John sold a home which he had held for many years at a gain of $110,000. However, because on the same date he purchased a replacement residence at a greater cost than the sale price of the former residence, he deferred the $110,000 gain under Section 1034. On September 1, 1998, John sells this replacement residence for the same amount as its acquisition cost. John's $110,000 deferred gain is excludable under the new law, because John is considered to have owned

and used this home for more than two years. His ownership and occupancy of the previous home counts in meeting the two-of-five-year tests. Further, John meets the one-sale-every-two-years test because the former residence sold before May 7, 1997, is disregarded.

If a sale occurs from August 5, 1997, through August 4, 1999 (that is, within the first two years of the Taxpayer Relief Act of 1997), a taxpayer is allowed a prorated portion of the $250,000/$500,000 gain exclusion if the taxpayer held the property as of August 5, 1997 [P.L. 105-34, Sec. 312(d)(3)].

Example 2: Assume Mary, a single taxpayer, purchases her first home on February 1, 1997. One year later, on February 1, 1998, Mary sells this home for a $115,000 gain to a nearby business which is undergoing a major expansion. Mary has not owned this home for two out of five years, nor has she used this home as her principal residence for two of five years, and there was no prior Section 1034 rollover into the acquisition of this home to extend her deemed holding period. However, because Mary owned this property on August 5, 1997, and because it is sold within the first two years of the legislation, she is entitled to a prorated portion of the $250,000 gain exclusion. Mary held the home for twelve months of the twenty-four month minimum, and is thus entitled to one-half, or $125,000, of gain exclusion, which is sufficient to eliminate any taxable gain on the sale of this property.

6.2 Spousal Issues

In the case of joint filers not sharing a principal residence, an exclusion of $250,000 is available on a qualifying sale or exchange of the principal residence of one of the spouses [IRC Sec. 121(b)(2); IRC Sec. 121(d)(1)].

Example 3: Larry, a single taxpayer, owns a condo in Chicago. Lisa, also single, owns a residence in Seattle. If Larry and Lisa marry, and if each retains the same principal residence, they will be ineligible for the full $500,000 gain exclusion on either home (because both spouses will not meet the two-of-five-year occupancy requirement with respect to either property). However, each spouse would have an exclusion of $250,000 of gain available on the respective principal residence.

Similarly, if a single taxpayer who is otherwise eligible for an exclusion marries someone who has used the exclusion within the two years prior to the marriage, the newly married taxpayer is allowed a maximum exclusion of $250,000.

Example 4: Assume that Larry, a single homeowner in Chicago, and Lisa, a single homeowner in Seattle, decide to marry. Larry sells his home in Chicago prior to marriage, and claims a gain exclusion of up to $250,000. Larry moves into Lisa's residence in Seattle at the time of marriage, they file jointly, and ten months after marriage, Lisa's home is sold and they relocate to a different residence within Seattle. Larry and Lisa, as joint filers, are not eligible for the $500,000 gain exclusion, because Larry has not met the two-year occupancy test with respect to Lisa's home. However, Lisa may claim a gain exclusion of up to $250,000 in their joint return, because she has met all three criteria with respect to the Seattle residence. The fact that Larry used an exclusion within two years prior to the marriage is not detrimental.

Example 5: Assume the same facts as in the preceding example, except that Larry and Lisa marry and file jointly prior to the sale of either of their former residences. If both residences are sold in the first year of marriage, each spouse is entitled to a gain exclusion up to $250,000 on the respective residence which each one owned and occupied for at least two of the previous five years. Larry and Lisa would each attach a separate Form 2119 within their joint Form 1040.

In the case of an unmarried individual whose spouse is deceased on the date of the sale of the property, the period during which the deceased spouse owned and occupied the residence is attributed to the surviving spouse [IRC Sec. 121(d)(2)].

Example 6: Wally, age seventy-five, has lived in his residence for many years. On July 1, 1998, he marries Frieda, and the residence is placed in joint tenancy. Three months later, Wally dies. Frieda is considered to have owned and occupied the residence for the same period as Wally, and thus is eligible for the gain exclusion (assuming she has not used the gain exclusion within the prior two years, or is within the two-year transition rule discussed above). Assuming Frieda files a joint return with Wally for the year of his death, an exclusion of up to $500,000 can be claimed if the residence is sold.

Under IRC Sec. 1014, a basis step-up occurs when property is includable within the estate of a deceased individual. In the preceding example, half of the value of the property would receive a step-up in basis (unless it was a community property state, in which case the entire property would receive a basis step-up). Thus, the gain exclusion may only be necessary to cover half of the gain associated with a post-death sale. If the gain is substantial, it may be important to sell within the year of the final joint return; a condition of achieving the full $500,000 gain exclusion is the filing of a joint return for the year of sale [IRC Sec. 121(b)(2)(A)].

Example 7: Dave and Doreen have resided in their residence for many years and would recognize a gain of $700,000 if their residence were sold. The property is held in joint tenancy when Dave dies on October 1, 1998. Assuming that they reside in a non-community property state, half of the property receives a step-up in basis, and the remaining gain upon sale would be $350,000. If Doreen sells the residence in 1998, when the filing of a joint return is still available, the full $500,000 joint return gain exclusion will be available, and none of the gain will be taxable. However, if she waits until 1999 or after to sell, her gain exclusion, as a single taxpayer, would only be $250,000, and $100,000 of gain would be reportable.

6.3 Pro Rata Gain Exclusion

As discussed above, a special transition rule allows individuals who owned property on August 5, 1997, and sell before August 5, 1999, to use a prorated portion of the $250,000/$500,000 gain exclusion, to the extent of the qualifying months, compared to a twenty-four-month denominator, that the residence was used as a qualifying principal residence [1997 TRA Sec. 312(d)(3)]. In addition, if a sale fails to qualify for the full gain exclusion because of failure to meet any one of the three tests (two-year ownership, two-year occupancy, or prior sale within two years), a prorated gain exclusion is allowable if the sale occurred by reason of a change in place of employment, health, or other unforeseen circumstances (to the extent provided in regulations) [IRC Sec. 121(c)].

The portion of the gain exclusion allowed is based on a fraction, the numerator of which is the shorter of the period (in months) of actual ownership and use by the taxpayer out of the last five years or the period of time (in months) since the taxpayer last used the new gain exclusion, and the denominator of which is twenty-four months.

Example 8: Bill, a single taxpayer, sells a residence on August 31, 1998, and uses the $250,000 gain exclusion. On September 1, 1998, he purchases a replacement residence in San Francisco. One year later, on August 31, 1999, he sells that residence at a $40,000 gain, after learning that his company is transferring him to Crookston, Minnesota. Bill is entitled to 12/24ths of the $250,000 gain exclusion because this sale, even though failing the two-year holding requirement, is attributable to a change in employment location. Bill's $125,000 gain exclusion availability will entirely eliminate any taxable reporting of his San Francisco residence sale.

Example 9: Assume the same facts, except that Bill rented in San Francisco for nine months, before purchasing his replacement residence on June 1, 1999. Bill's prorated gain exclusion is calculated as 3/24ths of $250,000, or $31,250. The numerator is based on the *shorter* of the time which has elapsed since his last sale, or his period of occupancy in the replacement residence. Thus, the three-month period of ownership and occupancy applies, and Bill's prorated gain exclusion of $31,250 will not entirely eliminate his $40,000 gain on the sale of the San Francisco residence.

6.4 Business or Rental Use of a Residence

Based on the language of the statute, business or rental use of a residence prior to sale will not preclude use of the $250,000/$500,000 gain exclusion if the taxpayer otherwise meets the two-of-five-year residential ownership and occupancy tests, and the one-sale-in-two-years rule. However, the gain exclusion is not available to the extent of depreciation attributable to periods after May 6, 1997 [IRC Sec. 121(d)(6)].

Example 10: Tom bought a home in 1988 which he used as his principal residence through 1995. On January 1, 1996, Tom relocated, and converted that home to rental property. On September 1, 1998, Tom sells that property and recognizes a gain of $120,000. As of the date of sale, Tom had owned and used the property as his principal residence in two of the five prior years, and had not had a prior sale within the two years which used the gain exclusion. Accordingly, he is eligible, as a single taxpayer, for the $250,000 gain exclusion. However, if Tom had claimed depreciation of $4,300 (as an example) from May 6, 1997, through the date of sale, that portion of the gain would be taxable.

Example 11: Sara has owned a home for approximately eight years, and has used this property as 16 percent business use for a self-employment activity throughout her period of ownership. If Sara sells the residence in 1998 at a gain, it will be treated as a sale of two properties. Eighty-four percent of the property qualifies as a principal residence, and is eligible for the gain exclusion. However, 16 percent of the property is treated as the sale of a Section 1231 business asset, and is reportable on Form 4797, Part III.

Example 12: Assume the same facts as in the prior example, except that Sara ceased using the residence for business purposes on October 1, 1996. If she sells the residence after October 1, 1998, she will have met the two-of-five-year tests for the entire property, and the full gain exclusion for the entire property will be available. There has been no depreciation claimed after May 6, 1997, and accordingly none of Sara's gain is taxable, assuming that it is within the $250,000/$500,000 maximum exclusions.

Observation

The principal residence exclusion is also discussed in section 1.1.1 of the chapter on Federal Individual Tax Notes.

7. ROTH IRAs

Beginning January 1, 1998, a new type of tax-favored IRA is available, called a Roth IRA. Contributions to a Roth IRA are nondeductible and distributions are eventually totally tax-free, assuming various requirements are met. The primary appeal of a Roth IRA is the ability to achieve tax-free status while still being able to invest in high-yield, long-term growth investments.

7.1 Contributions to Roth IRAs

In order to be eligible as a Roth IRA, an account must be designated as such when it is established. As with deductible and nondeductible IRAs, contributions (except spousal contributions) are limited to the lesser of $2,000 or 100 percent of earned income. A taxpayer has until the original due date of the return to make a contribution and designate it for that return year. However, unlike deductible IRAs, participation in a qualified plan does not limit the contribution to a Roth IRA. Annual contributions to all of an individual's IRAs (deductible, Roth, and nondeductible) for a taxable year are limited to $2,000, except in the case of rollovers. Contributions to a SEP or SIMPLE IRA are not taken into account in determining the maximum amount of a Roth IRA contribution.

Unlike deductible IRAs, contributions to Roth IRAs can continue even after the taxpayer has reached age 70½. Similar to other IRAs, excess contributions to a Roth IRA are subject to the 6 percent penalty under IRC Sec. 4973. However, excess contributions can be withdrawn before the due date of the original return without penalty and without being considered a distribution.

The maximum contribution that can be made to a Roth IRA is phased out for individuals with AGI between $95,000 and $110,000 and for joint filers with AGI between $150,000 and $160,000. Contributions to a regular IRA do not reduce modified AGI for purposes of a Roth IRA contribution (nor for purposes of a Roth IRA conversion, as described at section 7.3).

Taxpayers unable to contribute to a Roth IRA because of the AGI limitations can continue to make contributions to nondeductible IRAs.

> *Example 1:* Lloyd, a single taxpayer, with AGI from compensation of $102,500, participates in a 401(k) plan with his employer. Because Lloyd's AGI exceeds $40,000, he cannot use a deductible IRA. However, he can make a Roth IRA contribution of $1,000 ([($102,500 – $95,000)/$15,000] × $2,000). In addition, he could make a nondeductible IRA contribution of $1,000.

7.2 Distributions from Roth IRAs

Qualified distributions from a Roth IRA are totally nontaxable and not subject to the 10 percent early withdrawal penalty. To be a qualified distribution, the distribution must satisfy a five-year holding period along with other requirements.

1. To satisfy the five-year holding period, the distribution may not be made before the end of the fifth year beginning with the first tax year for which the individual made a contribution to the Roth IRA.
2. In a situation in which a contribution to a Roth IRA is paid by the due date for filing the tax return but is designated as applying to the previous tax year, the five-year holding period starts with the taxable year to which the contribution relates, as opposed to the year in which the contribution is actually made.

> *Example 2:* Joyce contributes $2,000 to her Roth IRA on April 15, 1999, but designates the contribution as being applicable to 1998. Joyce's five-year holding period is tested from 1998, the taxable year to which the contribution relates, as opposed to the year (1999) when the contribution was actually made.

3. In addition to satisfying the five-year holding period, qualified distributions must be (a) made on or after the date on which the individual reaches age 59½, (b) made to a beneficiary (or the individual's estate) on or after the individual's death, (c) attributable to the individual being disabled, or (d) attributable to qualified first-time homebuyer expenditures.

> *Example 3:* Harvey, age 38, contributes $2,000 per year to a Roth IRA for 25 years. At that point, when Harvey is age 63, the IRA account is worth $125,000 ($50,000 of contributions plus $75,000 of earnings). Harvey may withdraw the funds tax-free because he held the funds for the required five years and is over age 59½.

4. When nonqualified distributions are taken from a Roth IRA, the distributions are treated as being made first from contributions and are tax-free to that extent. Accordingly, the 10 percent penalty does not apply to any distribution from a Roth IRA, even though the distribution may be a nonqualified distribution, as long as the distribution amount does not exceed the aggregate amount of total contributions previously made to the Roth IRA. Therefore, although distributions from a Roth IRA are generally tax-free, taxpayers may

still need to maintain a schedule of total contributions to the Roth IRA (that is, "basis"), in order to determine the basis amount that can be extracted without the 10 percent penalty.

5. Once a distribution exceeds the aggregate amount of total contributions made to a Roth IRA, the distributions are subject not only to income tax, but also to the 10-percent early withdrawal penalty for pre-age 59½ distributions unless an exception applies; the same exceptions to the early withdrawal penalty apply to Roth IRAs that apply to regular IRAs [IRC Sec. 72(t)].
6. A number of special rules are associated with Roth IRAs:
   — Holders of a Roth IRA are not required to take a distribution by April 1 of the calendar year following the year in which they reach age 70½; no minimum distribution rules apply to Roth IRAs.
   — The "incidental death benefit rules" of IRC Sec. 401(a) do not apply to Roth IRAs.
   — Although Roth IRAs are exempt from the minimum distribution rules at age 70½ and the incidental death benefit rules of IRC Sec. 401(a), beneficiaries who inherit Roth IRAs are subject to the same required distribution rules as regular IRAs, preventing indefinite deferral.
   — Taxpayers are allowed to roll over one Roth IRA to another Roth IRA.
   — For purposes of the limitation on the spousal IRA deduction, compensation included in the gross income of a spouse must be reduced by the amount of any contribution made on behalf of the spouse to a Roth IRA.
   — Trustees of Roth IRAs are subject to certain reporting requirements prescribed by the Treasury.
7. Taxpayers who made a contribution to a regular IRA for a particular year are allowed to transfer that amount plus any earnings allocated to the amount to a Roth IRA, if done by the due date for filing the return (not including extensions). They will not be required to pick up the amount in income, to the extent no deduction was allowed for the regular IRA contribution. This alternative would apply when a taxpayer makes an IRA contribution early in the year and then finds AGI is over the deductible IRA limits, but below the allowable AGI limits for a Roth IRA.

Observation

Roth IRAs are also discussed in section 2.1.4 of the chapter on Federal Individual Tax Notes.

7.3 Rollovers from Ordinary IRAs to Roth IRAs

Taxpayers are allowed to roll over amounts from an ordinary IRA into a Roth IRA at any time, as long as the taxpayer's AGI for the year does not exceed $100,000 and the taxpayer is not filing as married, filing separately. The amount rolled over from the ordinary IRA is currently reportable as taxable income. However, it is not subject to the 10 percent early withdrawal penalty.

The $100,000 AGI limitation is tested without considering the rollover amount. As with other IRA rollovers, the rollover to the Roth IRA must occur within sixty days of the distribution from the regular IRA. The "one rollover per year" rule, normally limiting other IRA rollover activity, is disregarded for rollovers to a Roth IRA.

The five-year holding period required for qualified distributions from regular Roth IRAs also applies to conversion Roths. The five-year period begins with the year in which the rollover contribution is made.

Rollover amounts from an ordinary IRA to a Roth IRA in calendar 1998 are included in the gross income of the taxpayer pro rata over a four-year period, beginning with the taxable year in which the payment or distribution is made. Taxpayers may elect to include the entire amount in their 1998 return. This election would be an advantage to those individuals who expect to be in a lower tax bracket in 1998 than in 1999, 2000, and 2001. Additionally, taxpayers receiving Social Security benefits may prevent or minimize taxability of their Social Security benefits in 1999 through 2001 by electing to report all the income in 1998.

If a taxpayer who converts funds in 1998 and elects application of the four-year spread withdraws amounts before the entire amount of the conversion has been included in income, the amount withdrawn is includable in income in addition to any amount required to be included under the four-year spread (not to exceed the total amount converted).

Ordering rules apply for determining the character of withdrawals when a Roth IRA contains both regular contributions and rollover amounts. Amounts are deemed to be distributed first from regular Roth IRA contributions and then from rollover contributions.

If converted amounts are withdrawn within the five-year period beginning with the year of conversion, then to the extent attributable to amounts that were includable in income due to the conversion, the amount withdrawn is subject to the 10 percent early withdrawal penalty.

In the event of death of the taxpayer, any amounts remaining to be included in income as a result of the four-year spread are includable in income on the final return of the taxpayer. However, if a surviving spouse is the sole beneficiary of the Roth IRA, the spouse may elect to continue to include the remaining amounts over the remainder of the four-year period.

Taxpayers have until the due date (including extensions) of their return to reverse a Roth rollover via a trustee-to-trustee transfer. This provision becomes particularly important when a taxpayer completes a Roth rollover during the year and then finds at the time of tax return preparation that AGI exceeds the $100,000 allowable rollover amount.

Taxpayers who withdraw funds from an ordinary IRA to roll into a Roth IRA should be sure the entire distribution is properly rolled over to the Roth IRA. Any amounts not properly rolled over (for example, held back to pay taxes on the withdrawal from the ordinary IRA) will be subject to the 10 percent premature distribution penalty, whereas funds rolled into the Roth IRA and later withdrawn will not be subject to penalty or tax up to the amount of contributions (that is, the 10 percent penalty only applies to the taxable portion of a Roth IRA distribution).

> *Example 4:* Franz, age 46, has a current IRA balance of $50,000. Treating this IRA as an ordinary IRA will eventually result in fully taxable distributions to Franz. On June 13, 1998, Franz decides to convert the IRA to a Roth IRA. By accomplishing this, any future income build-up within the IRA, along with the current IRA balance, will be tax-free when distributed (assuming the tests for "qualified distributions" are met). Franz is allowed to include one-fourth of the ordinary IRA distribution amount ($12,500) in income for 1998, 1999, 2000, and 2001. No 10 percent penalty applies to this IRA distribution, as long as Franz meets the rollover rules. Note that if Franz waits until 1999 to convert the ordinary IRA to a Roth IRA, the entire $50,000 amount will be fully includable in 1999 income.

7.4 Strategies in Using Roth IRAs

— The deductible IRA can be better if the taxpayer will be in a lower tax bracket at retirement and has a shorter investment period (for example, under ten to fifteen years before withdrawal).

— Because of the ability to withdraw principal tax-free at any time from a Roth IRA, taxpayers who may encounter a need to withdraw should avoid investments with early withdrawal charges.

— The longer the investment time, the more likely the Roth IRA is to outperform the deductible IRA.

— Because of nontaxable status at withdrawal, Roth IRAs will not affect the taxability of Social Security benefits.

Observation

Roth IRA conversions are also discussed in section 2.1.5 of the chapter on Federal Individual Tax Notes.

CASH MANAGEMENT

1. INTRODUCTION

Adequate cash flow is the single most important element in the ongoing success of an enterprise. The management and projection of cash balances eclipse all other guides to fiscal well-being, because without sufficient cash to fund operations and expansion plans, an enterprise cannot survive. Correspondingly, cash is very expensive to keep. Excess cash indicates that a firm's resources are not being used to the best advantage.

This chapter will discuss the three major concerns about cash resources:

— Cash management

— Projection of cash flow

— Profit erosion due to interest rate movements resulting from a firm's capital structure

1.1 Cash Management

The objective of an effective cash management technique is to have the exact amount of money in the checking account the moment funds are to be withdrawn—not before and definitely not after. In today's environment of electronic funds transfers, the timing of receipts and disbursements is even more critical.

As interest rates fluctuate, so does the emphasis on cash management. Rising interest rates will place demands on businesses and require more effective use of cash.

Cash management is also important to firms encountering liquidity problems along with profit compression. With new computer technology, managers are better able to make informed cash decisions to get maximum use from this expensive asset.

1.2 Cash Flow Projections

Mismatched timing of cash inflows and outflows, or the failure to predict cash requirements, can be fatal to any size business. One of the most effective cash management tools developed by modern business is the cash flow projection. Such projections touch on all aspects of the company and include not only current issues, such as the aging of accounts receivable and payable, but also prospective events, such as new product introductions, anticipated market penetration, and movements in interest rates.

New or expanding businesses will find cash flow projections to be of the utmost importance. This is especially true for capital-intensive enterprises that are required to pay for ever-increasing goods and services well before collections may be made. It is management's responsibility to implement procedures to accelerate the collection of funds while making the best use of trade payables.

Cash is projected in many ways using various key management indicators (such as financial ratios) and techniques (including automated simulation analysis). Emphasis on different aspects of a firm's cash projection will change as the company evolves through its life cycle.

The objective of a cash flow projection is to provide

— An accurate prediction of cash sources and uses.

— Useful feedback on how cash management decisions are working to achieve management's objectives.

— Timely information that helps management anticipate and head off cash problems as well as assist in making decisions affecting profit margins, production levels, and sales activity.

2. DEFINITION AND OBJECTIVES

Cash management is the art of maximizing a business's cash resources by

— Hastening cash inflow.

— Delaying cash outflow.

Cash inflow can be accelerated so that the time lag between revenue generation and the arrival of usable funds in the firm's checking account is reduced to an absolute minimum. Likewise, the time between the purchase of goods and services required for operations and the time that the firm's payment check clears the bank can be maximized.

Accelerating cash inflows should not damage customer relationships or render the firm noncompetitive in the marketplace. Slowing the cash outflow should not impugn the firm's credit reputation or give rise to negative rumors about the firm's financial viability.

Effective cash management is an art rather than an exact science. Its success often depends on management's ability to negotiate effectively with creditors, bankers, and the firm's customers.

2.1 Benefits of Cash Management

Modern cash management techniques will benefit businesses in many ways. Generally, such benefits are more efficient use of corporate resources, lower interest costs, and tighter management control. Specifically, effective cash management will allow for the following:

— *Management foresight.* Because an effective cash control program identifies the timing of cash inflows and outflows, management is afforded a look into the business's future cash position. Having reliable cash flow information available, managers can expect few surprises resulting from emergency cash requirements or underemployed cash receipts. Managers can also measure business development against projected goals and receive signals about necessary policy and procedure changes.

— *Financing alternatives.* Because the cash control system identifies future cash requirements on a routine basis, financing needs are known well in advance, and management has time to effectively negotiate the most advantageous credit facilities available. Also, since both the amount and the timing of cash needs are known, funding draws can be negotiated to occur when needed, not before.

— *Untapped resources.* Aggressive managers are constantly looking for ways to reduce working capital requirements. When cash is made available, it can be used to reduce borrowings, to reinvest in the business, or to fund an outside investment.

— *Reduced interest expense.* Like any other asset, cash has a holding cost. Usually this cost is the business's aggregate borrowing rate. Firms that maximize cash utility rigorously control unnecessary borrowing. Working capital reductions are often achieved by such measures as accelerating collection of accounts receivable.

2.2 Overview of Cash Management Techniques

Cash management techniques generally emphasize efficient use of the firm's cash resources. Cash is allocated to areas that require it and removed from areas that can get along without it. The inflow of cash is accelerated using a variety of techniques both inside and outside the firm—generally with its customers and banking relations.

Working capital reduction and cash inflow acceleration techniques implemented inside the firm focus on areas that tend to accumulate working capital:

— *Billing.* Slow billing increases working capital requirements.
— *Collections.* Slow collections increase receivables and working capital requirements.
— *Receivables.* Rising receivables increase working capital requirements.

2.3 Overview of Analytical Techniques

The analytical techniques used to control cash range from very simple accounts receivable aging analyses to more complex automated financing simulation models.

Simple financial ratios can quickly tell management where too much cash is needlessly accumulating or where the firm is bleeding cash. Such ratios are generally in the areas of liquidity, activity, and profitability.

Computers play a key role in more sophisticated cash management techniques. Automated systems are used to obtain available cash balances from the company's bank accounts. Such treasury systems provide the ability to quickly transfer funds from numerous ancillary accounts to a single cash-concentration account and then invest the funds not required that day.

With microcomputer systems and user-friendly modeling software, prospective cash positions can be simulated to quickly identify cash excesses and shortfalls for even the smallest of businesses.

2.4 Overview of Cash Management Decisions

Decisions regarding the company's cash management can be among the most important determinations made. For this reason, senior management is almost always closely involved. Areas of cash management decisions include

— Customer credit policies.
— Billing and collection policies.
— Banking relationships.
— Financing and capital structure.
— Long-term corporate strategies.

3. ACCELERATING CASH INFLOWS

Modern cash acceleration techniques employ an overall concept termed *cash concentration.* A *cash concentration system* encompasses all the various areas of the business that obtain cash and funnel it into a single usable account, called the *cash concentration account.*

Throughout the company, various opportunities exist to increase the velocity at which sales are converted to useful cash in the bank account. The first such opportunity exists in the billing and invoicing departments.

3.1 Billing and Invoicing

The first step in identifying the extent of opportunity in the billing area is to assess the length of time it takes from sale to issuance of a bill to the customer or client. For example, if a business waits until the beginning of the new month to render invoices for goods sold or services performed in the prior month, there is a time lag of between one and thirty days between sales and invoice dates. This increases working capital requirements and gives customers additional time to pay.

A useful method of computing the time lag between sale and invoice is to take a representative sample of sales occuring for each day in a given month. This is compared with the day an invoice for each sale was mailed. A simple analysis of just such a time lag appears as follows:

ABC CORPORATION
Analysis of Sales and Billing Time Lag
Month of July 199X

Customer	*Sale Amount*	*Sale Date*	*Billing Date*	*# of Days*	*Weighted Av. # of Days*
1	$ 10,000	7-1-9X	8-5-9X	35	.63
2	100,000	7-2-9X	8-5-9X	34	6.07
3	50,000	7-4-9X	8-5-9X	32	2.86
4	75,000	7-7-9X	8-5-9X	29	3.88
5	90,000	7-15-9X	8-5-9X	21	3.38
6	30,000	7-17-9X	8-5-9X	19	1.02
7	10,000	7-20-9X	8-5-9X	16	0.29
8	110,000	7-25-9X	8-5-9X	11	2.16
9	25,000	7-26-9X	8-5-9X	10	0.45
10	60,000	7-31-9X	8-5-9X	5	0.54
	$560,000				21.28

The weighted average billing time lag for the ABC Corporation is about 21 days. This means that its receivables have aged 21 days before the customers are even billed. This translates into an interest cost of approximately $3,300 {[($560,000 × 10% interest rate)/360 days]} × 21 days = $3,267.

The obvious solution would be to decrease the time lag as much as possible. Invoices should be rendered, if not on the day a sale is made, then on a semi-monthly or even a weekly cycle. Although the interest saving, $3,300 in this example, is not a fortune, attention to such details becomes worthwhile if enough such holes in the cash management system can be filled. For particularly large sales, it often makes economic sense to send an invoice via overnight messenger or wire.

Cash management quickly gets executive attention when the numbers a firm is dealing with are large. Interest savings in the above example would be $33,000 if the sales were $5.6 million instead of $560,000.

3.2 Credit and Collections

The collections area can be an accumulator of working capital if it is allowed to get out of control. In the receivables and collections area, speed is management's major goal. There is a much higher probability of successfully collecting a receivable 30 days old amounting to only $10,000 than there is for one 180 days old that has been allowed to grow to $60,000.

Terms are frequently a part of the sales agreement on large transactions. Often businesses unwittingly give away part of their profit margin by not negotiating the form of payment (check, wire transfer of funds, bank check, or cashier's check), the time of payment, or the interest assessment on late payments. Such details are significant negotiating points with a firm's customers.

An effective collections system actually begins with management's credit policy decisions regarding the type of customers on which the firm is willing to bear credit risk. Overly stringent credit policies may discourage customers who might then turn to competitors. Liberal policies, on the other hand, may cause a rise in bad-debt expense, an increase in collection costs, and a greater concentration of working capital in accounts receivable.

Proper balancing of credit policies should consider collection costs and whether increased interest expense will be reflected in product-pricing decisions. Many firms, large and small, employ automated simulation models to assist in projecting profit margins resulting from these and other factors that are influenced by various credit policies.

Collection techniques used by many small businesses include the following:

— *Dunning letters and phone calls.* These serve to remind the delinquent customer that the firm is serious in its collection efforts and will pursue all remedies available to successfully collect its receivables.

— *Credit manager.* Many firms employ a credit manager whose responsibility includes establishing credit policies, approving credit terms to customers, and overseeing collection efforts.

— *Law firms.* A letter from the creditor's law firm explaining the consequences of not paying a bill is often enough to collect a receivable. This, however, is expensive and tends to offend valued customers. Legal remedies should be used as a last resort.

— *Credit insurance.* There are insurance firms that will insure a specified percentage of accounts receivable.

— *Factoring.* Businesses that cannot afford the working capital required to carry receivables can factor (or sell) their receivables at a discount to a factoring firm. This technique is expensive, however, since it amounts to a discount on sales.

3.2.1 Electronic funds transfer

To achieve virtually immediate collection on accounts, more businesses are implementing electronic funds transfers (EFTs). Funds are required to be electronically transferred on receipt of the product. This virtually eliminates the time from sale to collection.

3.2.2 Analytical techniques

Because many businesses may find it impractical to implement EFT and other such techniques, it will be extremely important to monitor their accounts receivable balances. The area of receivables and collections has a variety of analytical tools for management to survey performance, including the following:

— *Aging analyses.* Aging reports usually include a complete listing of accounts receivable by customer, showing balances that are current or thirty, sixty, or ninety days and older. The aging report totals should tie to the total accounts receivable balance (see section 6.2 herein).

The aging report is used to identify those customers that are delinquent in their payment habits. Such information can be used to allocate collections resources more effectively. Most automated accounting systems allow for a variety of sort routines in the receivables aging module. One such sort routine that is particularly effective is the sort by geographic region and by salesperson. Using such information, management can quickly see trends developing in geographic areas or the payment habits of customers sought by particular salespeople. Using such data, the firm may wish to reallocate its sales and marketing resources to other regions or adjust its commission payment policy to one that pays only on the *collected* sale. Some companies adopt a policy of requiring a customer to advance funds that are held on deposit and drawn against as sales are made. Future sales may be suspended until the customer replenishes the account.

— *Roll rate analysis.* Roll rates are simply another aging technique. The rate at which receivables are "rolling" from one aging bucket to another is analyzed. Information resulting from roll rate analyses indicates what percentage of receivables roll from the current to the thirty-day, sixty-day, and ninety-day aging buckets. Such information is useful to determine the effectiveness of a business's collection effort. For example, say that a firm has an average of 10 percent of all sales rolling to the ninety-day bucket before collection. The most current roll rate analysis indicates, however, two things:

Over the past two months, the percentage of sales rolling to the ninety-day bucket before collection has steadily escalated from a 10 percent rate to 15 percent.

The roll rate from the thirty-day bucket to the sixty-day bucket has jumped from its normal 5 percent to 15 percent.

From this information, management knows that a collection problem exists; it can project the increased interest cost and bad debt expense due to the problem, and it can identify which aging bucket is responsible. Armed with such information, corrective steps can be taken in time to control the damage.

— *Average collection period.* Average collection periods represent the amount of time sales are tied up in receivables. It is determined by dividing sales by 360 (days). This result is then divided into accounts receivable. The higher the period, the more attention should be provided to collections.

— *Receivables to sales ratios.* This ratio is determined by dividing total sales by accounts receivable. A high turnover indicates a quick collection period and liquid receivables.

— *Order-entry controls.* Most modern automated order-entry systems connect with the accounts receivable system. Such connection is useful to the order taker in providing on-line real-time information regarding

Current receivable balance information.

Credit limits placed on particular customers.

Payment history of particular customers.

With these data, the order taker may implement management's credit policies immediately at the point of order for particular customers.

3.3 Inventory Control

Inventory is another accumulator of working capital. Most nonservice businesses have a substantial amount of working capital tied up in inventory. Since inventory levels must be kept at a minimum and are influenced to a large extent by market demand and availability, inventory is one of the most difficult components of the working capital equation to balance. Management's objective related to inventory and cash management is to have an appropriate amount of the *right inventory* on hand. Roughly translated, the right inventory means those products that can be quickly sold and converted to usable cash.

3.3.1 Inventory control techniques

The subject of inventory control is a topic separate from cash management. However, as related to cash, there are several simple techniques that management can employ to ensure that

— Inventory levels are not inappropriately high, thus causing an unacceptable amount of cash to accumulate.

— Inventory turnover is sufficient, demonstrating that management is purchasing salable products that can be converted to cash.

Techniques that cash managers employ to quickly determine whether the working capital required by the inventory operation is an efficient use of cash include the following:

— *Inventory turnover.* The frequency with which inventory turns over indicates to the manager whether cash is tied up in inventory that cannot be readily sold. A low turnover rate indicates that cash is trapped in low-demand inventory. Inventory turnover is computed as follows:

$$\text{Inventory turnover} = \frac{\text{cost of goods sold}}{\text{average inventory}}$$

As with any ratio analysis, careful attention must be given to the particular type of business being analyzed. If a firm's inventory turnover is highly seasonal, the ratio could be misinterpreted unless some adjustment is made for peak demands.

— *Days of inventory on hand.* If a firm has an inappropriately high number of days of an inventory item on hand, yet is still ordering more, management may want to know the reason. An easy way to determine the number of days of inventory on hand is the following:

$$\text{Days of inventory on hand} = \frac{\text{total inventory}}{\text{daily demand}}$$

— *Inventory concentration reports.* The amount of cash invested in inventory segregated by frequency of sale illustrates to the cash manager how effectively working capital invested in inventory is employed. Inventory concentration reports include the following information:

Inventory item by number and description.

Number of items on hand.

Unit cost and extended cost.

Report segregated by the top ten best sellers and the bottom ten worst sellers.

— *Overstock reports.* Cash is not effectively employed when the firm is carrying overstocked inventory. Many modern automated inventory-control systems allow for a maximum stock level to be entered for each inventory item. The overstock report indicates those items for which the quantity on hand exceeds the maximum stock level determined by management.

— *Economic order quantity (EOQ).* The optimum size of an inventory order defines the EOQ. The EOQ is useful in determining management's control over its inventory purchasing procedures. EOQ is computed as follows:

EOQ = square root of $[(2ap) \div s]$

where:

a is the annual quantity of the item used in units.

p is the purchase order cost.

s is the annual cost of carrying a unit in stock for one year. The carrying cost of inventory includes such costs as allocated warehouse expenses and interest costs.

— *Safety stock.* The cash manager is concerned that inventory levels do not exceed requirements plus a *safety stock.* Computation of safety stock considers such variables as the probability and cost of being short an inventory item, the orders placed per year (from the EOQ), and the cost-to-carry inventory. The lowest carrying cost of inventory at varying safety stock levels is computed as follows:

Probability of stock-out at a given level of safety stock × Stock-out cost × Number of orders per year (Demand/EOQ) =
Expected stock-out cost

Expected stock-out + Carrying cost of safety stock =
Total inventory cost

An example of safety stock computation is as follows:

Units of Safety Stock	*Probability of Stock-Out*	*Cost of Stock-Out*	*No. of Orders Per Year*	*Expected Stock-Out Cost (A)*	*Safety Stock Carrying Cost (B)*	*Total Cost (C)*
20	60%	$200	10	$1,200	$200	$1,400
30	40%	$200	10	$ 800	$300	$1,100
40	30%	$200	10	$ 600	$400	$1,000
50	28%	$200	10	$ 560	$500	$1,060

(A) Stock-out cost is computed as the probability of stock-out × stock-out cost × number of orders per year (EOQ).

(B) Carrying cost is computed as the carrying cost of one unit per year (assumed to be $10) × safety stock.

(C) Total cost is computed as expected stock-out cost + carrying cost of safety stock.

The objective is to compute the level of safety stock that has the lowest inventory carrying cost. In this example, the optimum safety stock is forty units. To the cash manager, such control of inventory helps to ensure that purchases are well managed and that excessive inventory is not accumulated in the name of safety stock (masking poor inventory control procedures). These two objectives help ensure that working capital is not being unnecessarily stockpiled.

3.4 Wire Transfers

A wire transfer is the electronic conveyance of funds from one bank account to another. Wire transfers are moved through the Federal Reserve system using its Fedwire mechanism. Funds received via wire transfer are termed to be *good funds* (that is, the funds may be used immediately and require no further clearing procedures). Because of the speed with which wire transfers move throughout the banking system and the fact that they convey usable funds, receipt of a payment via wire is desirable from a cash management standpoint.

Wire transfer payments received by a business reduce the following time lags that affect cash management.

— *Mail float.* This is the float that the payor enjoys from the time a payment check is written and mailed to the time it arrives at the payee's business. Mail float may be anywhere from a single day to a week or more. The mail is also a convenient scapegoat to account for late payments.

— *Internal float.* Once the payment check arrives at the payee's office, it must go through the mail room, be distributed to the proper individual, recorded, listed for deposit, and finally taken to the bank for deposit. Depending on how fast this process is, the internal time lag may be anywhere from a matter of hours to several days. One method to reduce this internal float is to use a special colored return address envelope sent with the invoice and addressed to the particular individual who deposits cash. Internal float may be eliminated entirely by having the checks sent to a bank lockbox. The bank is made responsible for opening the mail and depositing the checks into the company's bank account.

— *Bank float.* This is the float that the payor enjoys from the time the payment check is deposited in the payee's bank to the time it clears and the funds become usable. Depending on whether the payor's bank is a member of the Federal Reserve system, bank float can be anywhere from a single day to more than a week for remotely located institutions.

Since the wire transfer goes directly into the payee's bank account in the form of usable funds, all of the above floats are circumvented. However, as advantageous as the wire transfer is for the payee, it is an equal disadvantage to the payor. For this reason, the form of payment must be negotiated as part of the terms of purchase. Often such negotiations may be worked so that both parties win. In return for the accelerated cash flow, a certain type of payment provides the payee a price discount or some other concession that may be extended to the payor.

3.5 Lockboxes

Another common method of accelerating cash inflow is the lockbox. The lockbox is simply a central collection location that receives payment checks. Generally, the most efficient collection location is the bank in which a business's central checking account is situated. For businesses with a widely distributed customer base, a network of lockboxes is often implemented to cut down on mail float. Funds from each lockbox in the network then flow daily to the firm's central bank.

Based on the level of checks coming into the firm's lockbox, and the average float on payments clearing the bank, a negotiated percentage of usable (termed *available*) funds from each day's deposits will be determined. This percentage, when multiplied by the deposits received, provides the cash manager with the amount of funds available for use. With this information, the cash manager can more precisely evaluate the firm's daily borrowing requirements or funds available for investment.

3.6 Depository Transfer Checks

Depository transfer checks (DTCs) are generally used in conjunction with a network of lockboxes. The DTC is a particular type of check that the network lockbox bank draws to transfer funds collected from its lockbox to the client's central bank.

Banks charge for both lockbox and DTC services. This cost can be at least partially offset by the float credit a bank customer receives by allowing the network bank to draft a DTC (and thereby itself enjoy the bank system float) rather than wire the funds, thus eliminating any float.

3.7 PACs, PADs, and ACHs

These three tools allow the cash manager to further refine the speed at which cash flows into the firm.

— *Preauthorized Checks (PACs).* The PAC is simply a preauthorized check. The preauthorized check allows a vendor that regularly provides goods or services to write itself a payment check on the customer's checking account. The time lag between the time of invoice receipt and payment is eliminated. PACs are limited to a maximum amount and require specific backup documentation to be forwarded to the customer.

  Another form of preauthorized check is a preauthorized debit. This is frequently used by such businesses as insurance companies to withdraw the premium automatically from a customer's checking account.

— *Preauthorized Electronic Deposit (PADs).* The PAD is similar to a PAC except that instead of a check, it employs a wire transfer, further reducing bank float. For this reason, the PAD is used mostly for larger payments whose purchase terms provide for such a device.

— *Automated Clearing House (ACH).* The ACH clears PADs. The national automated clearing house is actually a collection of thirty-two regional ACHs located throughout the United States. Each ACH member bank submits its PADs daily for electronic debit or credit to its account. The ACH then routes these debits and credits throughout its system to the proper member bank. It is even becoming possible to access the ACH system directly from your business in connection with your local bank.

An additional service provided by the ACH is called *electronic trade payments.* This was developed for use along with PADs and the ACH to provide nonbanking-payment-related information, such as invoice and purchase order numbers necessary for proper identification of electronic payments.

4. DECELERATING CASH OUTFLOWS

The cash manager is responsible for preserving cash once it has been captured by the firm. To do this, cash outflow is slowed as much as possible by leveraging accounts payable. Trade accounts often do not carry an interest charge if paid within a certain time period. This does not imply that a firm should stop paying its bills or pass up early payment discounts. However, there is a difference between paying bills when customarily due and not taking advantage of the working capital costs the vendor has likely included in the product price anyway. The firm does not want to slow cash outflow to the point where its ability to obtain credit is reduced, unfounded rumors regarding financial stability begin to circulate, or suppliers refuse to deal with it.

There are two major areas where most businesses have an opportunity to improve cash utility by decreasing the rate at which funds flow out of the firm. These two areas revolve around the firm's payment function and include controlling payments and managing accounts payable.

4.1 Payment Control Techniques

Controlling the speed with which a business pays its liabilities can have a dramatic impact on cash requirements and allow the cash manager to preserve this expensive asset. The faster bills are paid, the greater is the requirement for working capital and the greater will be the demand on the line of credit. One easy analytical method to determine the speed with which a business pays its bills is the *average age of payables analysis.*

4.1.1 Average age of payables

Computing the average age of payables tells the cash manager how long an invoice is retained before it is paid, thus indicating whether an opportunity exists to stretch the average payment times to more appropriately conform to customary industry standards without negatively reflecting on the firm's reputation or vendor relationships. For example, if a firm's average payable is aged only fifteen days before payment, whereas the industry standard is forty-five days, an opportunity exists to retain cash equivalent to thirty days of the payables requirements. If a business is paying $1 million per month, stretching the payables by thirty days will reduce the borrowing requirement by $1 million (at a borrowing rate of 10 percent, this translates to an annual interest savings of $100,000).

ABC CORPORATION
Analysis of Payables Aging
Month of July 199X

Vendor	*Invoice Amt.*	*Inv. Date*	*Pymt. Date*	*Weighted Av. # of Days*
1	$ 50,000	7-1-9X	7-15-9X	.40
2	75,000	7-2-9X	7-15-9X	.56
3	25,000	7-5-9X	7-15-9X	.14
4	10,000	7-7-9X	7-15-9X	.05
5	150,000	7-8-9X	7-22-9X	1.21
6	5,000	7-8-9X	7-22-9X	.04
7	90,000	7-12-9X	7-22-9X	.52
8	1,000,000	7-15-9X	7-29-9X	8.07
9	250,000	7-21-9X	7-29-9X	1.15
10	80,000	7-29-9X	7-29-9X	0.00
	$1,735,000			12.15

The weighted average number of days is found by multiplying the percentage of total July invoices that each invoice represents by the number of days between an invoice and its payment date, then adding the weighted days. Thus, the weighted average number of days is a little over twelve days. For most businesses, such a payment policy, while promoting a certain amount of goodwill among its vendors, exceeds what is customary. Were ABC to stretch its payable policy to thirty-five days before payment, the annual interest savings would be approximately $129,000, computed as follows:

Average monthly payables:	$1,735,000
Number of days payables are stretched:	23
Daily payables cash requirement: $1,735,000 ÷ 31 =	$ 55,968
Cash retained by stretching payables 23 days:	
$55,968 × 23 days =	$1,287,258
Interest savings:	
Cash retained of $1,287,258 × 10% interest =	128,726

Many businesses set up payment dates that are on a regular basis, such as every week, regardless of when the invoice hits the accounts payable system. Such rote management of payables is not unusual, but it can be costly. Most modern accounts payable systems allow management to request a listing of invoices that are a designated number of days old for payment. Using this technique, obtaining control of accounts payable payment terms is relatively easy.

Also see section 6.4 herein for a sample accounts payable aging report.

4.2 Management of Accounts Payable

In addition to managing the timing of accounts payable payments, overall management of a firm's payables is a good way to slow the speed with which cash flows out of the firm. This should begin with negotiating the terms of large purchases. Points eligible for negotiation to better manage accounts payable include

— Type of payment, such as wire transfer, check, DTC, and so forth.

— Date of payment.

— Progress or partial payments.

— Discounts if paid prior to due date.

Each of the above payment terms, if ignored during negotiations, will increase the overall cost of purchase. If aggressively pursued by the negotiating team, the overall purchase cost will decline.

4.2.1 Purchase discounts

Purchase discounts are a reward to the payee for promptly paying invoices. In essence, the vendor is compensating customers for the interest costs they incur by paying bills early.

Generally, if cash is available, it is good policy to take advantage of discounts whenever they are offered.

When formulating discount payment policy, one criterion that should be considered is the discount offered cut-off point. This means the point where the cost to pay early (in terms of interest expense) equals the benefit derived by early payment.

Computation of the business's point of indifference with respect to purchase discounts is as follows:

[Discount percent ÷ (due date − discount date)] × 360 days = Annualized interest income from taking advantage of the discount.

For payment terms of 1%/10 days, net/30, the interest income is computed as follows:

$[.01 \div (30 - 10)] \times 360 = 18\%$

This is compared against the firm's aggregate borrowing costs. If the income rate as computed above is greater than the borrowing rate (and the cash is available), taking advantage of the purchase discount is advised. In terms of dollars and cents, this is computed as follows:

Invoice amount:	$10,000
Terms:	1%/10, Net/30
Aggregate borrowing rate:	10%
Interest earned by taking discount: $10,000 × .01 =	$ 100
Interest cost by taking discount: [($10,000 × 10%) ÷ 360] × (30 days − 10 days) =	$ 57
Net interest profit by taking discount:	$ 43

5. USE OF BANKS

The banking system itself can assist the cash manager in achieving both goals of accelerating cash inflow and slowing cash outflow without undue cost or management effort. This section will discuss some of the common uses of bank float, remote disbursement techniques, sweep accounts, and banking relationships.

5.1 Float

Float is the time it takes funds to move through the banking system. When a business is collecting funds, the objective is to minimize bank float. When disbursing funds, management wants to stretch the time between check disbursement and check clearing.

A cash manager's objective is to take advantage of the benefits inherent in the banking system without abusing it.

To minimize the time required to clear receipts through the banking system, a cash manager employs some or all of the following float techniques:

— Lockbox system, which minimizes the time it takes to move funds from the point of receipt to the firm's central bank depository

— Depository transfer checks

— Wire transfer of large receipts to the cash concentration account

To maximize the time required to clear payment checks through the banking system, the following float techniques are employed:

— Remote disbursement banks (see section 5.2, below)

— Use of disbursement banks that are not members of the Federal Reserve system (see section 5.2, below)

— Payment via check whenever possible rather than wire transfer funds

5.2 Choice of Banks

The choice of banking institutions can make a difference in how long it takes to have a firm's payment checks clear through the banking system. For example, if a firm pays vendors primarily concentrated on both the west coast and east coast, the west coast vendors should receive a check drawn on an east coast bank and vice versa. Using remote disbursement banks increases the mail float in the payables system.

An extension of the remote disbursement concept is to choose a bank that is not only geographically separated from the payee, but is also as far off the beaten path as possible. Certain small towns in Texas and South Carolina have served many treasurers as remote disbursement centers. If the chosen bank is not a member of the Federal Reserve system, so much the better since this will further increase the time required for check clearing.

5.3 Sweep Accounts

Sweep accounts are very popular with those businesses that cannot earn interest on checking accounts. A sweep account allows the cash manager to keep only the amount of money required for check clearing that day in the non-interest-bearing demand deposit account (DDA). All other balances are "swept" into an interest-bearing account. Such accounts relieve the manager of the need for precise calculation of how much money will be required to fund daily check clearings plus a small cushion. This technique may also be used in connection with firms that have branch locations. Funds may be swept from the branch bank account to the home office bank account (see section 5.4, below).

A close cousin of a sweep account is the zero-balance checking account. Such an account maintains a zero balance, drawing just the amount of funds required for checks clearing into it from an interest-bearing account.

Sweep account drawbacks are high cost per transaction and a lower yield on the interest-bearing account than could be obtained on excess funds placed independently. Still, the sweep account provides an alternative to leaving idle funds in a non-interest-bearing checking account over the amount required for compensating balance purposes.

5.4 Cash Concentration Systems

A cash concentration system automatically channels funds from every source of the business into a single usable account. Such a system allows the cash manager to quickly identify available funds each day, move them to accounts that will have funding requirements that day, and invest the remainder in overnight repurchase agreements, short-term commercial paper, or other interest-bearing instruments until needed.

The mechanism of the cash concentration system was discussed under depository transfer checks (DTCs), the preauthorized electronic deposits, and the sweep account. The objective of the concentration system is to automatically transfer daily all funds from outlying checking accounts into the single concentration account.

A reliable cash concentration system reduces the cash balances left in accounts or other vehicles that underemploy, or worse, do not employ, funds that would otherwise be available for the cash manager's use. An additional spinoff of the concentration system is that often the utility of ancillary accounts begins to be questioned, and the number of bank accounts can be dramatically reduced. The fewer the accounts, (1) the less likely available funds will remain idle, (2) the less effort is exerted in monthly account reconciliation, (3) the more remote the possibility of unauthorized check writing on a seldom used account, and (4) the lower overall bank charges.

A final note on the concentration system is that it should work every day the bank or the post office is open. Many post offices provide mail service on Saturdays. Even if the bank is not open for check processing on Saturdays, the firm's staff should collect and process checks received and prepare them for deposit on the next business day. If Saturday check receipts are high enough, the interest savings will justify the additional staff cost.

5.5 Funds Availability

Availability of funds refers to the amount of funds in an account that have cleared through the banking system. Funds are said to be available when they are collected by the cash manager's bank (in which the checks were deposited) from the payor's bank. Funds availability can be negotiated.

Most businesses receive monthly checks from the same or similar customers. Using a historical period, the cash manager and banker can compute how long it takes the average check to clear through the banking system. From this analysis, the banking agreement can provide for availability of a specified percentage of daily deposits the same day, the next day, in two days, and so forth.

A business might improve availability of funds from three days on 100 percent of deposited funds to the following tiered system:

— Same day availability: 20% of deposited funds

— Next day availability: 75% of deposited funds

— Two-day availability: 5% of deposited funds

The following cash is thus freed from the banking system:

Daily cash deposits:		$1,000,000
Under the old system of availability, interest cost on idle funds was		
[($1,000,000 × 10%) ÷ 360] × 3 days =		833
Under the new system, interest cost on idle funds was		
[($1,000,000 × 75% × 10%) ÷ 360] × 1 day =	$	208
Plus [($1,000,000 × 5% × 10%) ÷ 360] × 2 days =		28
Total interest cost on idle funds per deposit =	$	236

By negotiating funds availability with the bank, the above example saved $597 ($833 – $236) in foregone interest income on idle funds for each deposit. Assuming that deposits are made five days per week, fifty-two weeks per year, this amounts to $155,220 per year.

Funds availability is a point many bankers are willing to negotiate, particularly if it means the difference in obtaining a new blue chip customer or keeping a valued customer. It is the cash manager's responsibility to specify the funds availability that meets his or her cash management requirements.

5.6 Account Analysis

Banks often send out account analysis statements to their corporate customers. Such statements indicate a variety of things related to average collected balances, year-to-date balances, loan covenants as related to compensating balance, and bank service credit for outstanding balances.

Cash managers should monitor closely the account analysis statement to determine just how much the firm is paying for banking services. The objective is to honor the terms of the banking agreement, but not to overcompensate the bank.

Many businesses have an opportunity to free cash from compensating balances that are overfunded. The account analysis statement shows the average and year-to-date balance in the compensating balance account(s). The cash manager should first compare these numbers with his or her own year-to-date balances in these accounts to be sure the bank did not make a computational error. Secondly, the agreement that produced the compensating balance (usually a loan agreement) should be reviewed to determine if the bank is appropriately compensated. If the bank has been overcompensated, steps should be taken to correct this problem.

5.7 Banking Relationships

The banking relationship can be among the most valuable associations maintained by a business. The banker should be treated as a valued investor. The cash manager/treasurer is responsible for maintaining the banking relationship. To help to maintain that relationship:

— Send the banker quarterly and annual financial statements without being asked. Usually, such statements are part of any loan covenant.

— Keep the bank informed of all major developments in the business.

— The board of directors or owners should meet with the banker several times each year to maintain a close personal relationship.

Finally, even though the relationship with a firm's present banking institution may be excellent, management should continue to cultivate associations with other banking executives. Some firms go so far as to draft stand-by lending agreements with other banking institutions. These agreements are specifically designed to provide credit facilities in the event the business turns downward and normal credit facilities are withdrawn by the present bank.

5.8 Investment of Excess Cash

Investment of excess cash involves the three watchwords of cash management: safety, liquidity, and yield. Above all, whatever the instrument of excess cash investment, it must provide a risk factor acceptable to the business. Second, the investment must be available for conversion back into cash at the required time. Last, the investment must yield an acceptable return. These three concepts tie in with the saying that "There is a rate for every risk." In other words, the higher the interest rate given, the higher will be the risk factor.

The most commonly used short-term investment instruments for excess cash include:

— *Repurchase agreement (repo).* A repo is a contract with a bank or brokerage firm whereby the investor loans excess cash, taking acceptable collateral as security (usually a government security). The bank or brokerage firm is contractually obligated to repurchase the loan at a specified time. The terms of repos range anywhere from overnight (the most common) to thirty days or more.

— *Commercial paper.* Most firms offering short-term commercial paper are rated by Moody's and/or Standard & Poor's, thus providing an index of risk.

— *Money market funds.* Some firms use their money market funds as a short-term method of employing excess cash.

See also the chapter on Investment Vehicles for a discussion of other investment instruments.

5.9 Lines of Credit

Lines of credit (LOCs) are now almost a necessity for doing business. LOCs range anywhere from tens of thousands to hundreds of millions of dollars. Terms of LOCs are negotiable with the banker. Most terms include:

— A maximum draw of the LOC, in effect, the credit limit.

— An interest rate charged, usually a fixed amount above an interest rate index, such as the prime interest rate.

— A commitment fee, which is a charge for the unused portion of the LOC, usually a percentage (one-quarter or one-eighth of a point) of the undrawn line.

— A clean-up clause. Many banks require the entire line to be repaid for a specified period of time during a twelve-month period.

— Loan convenants. Some LOCs specify that certain financial milestones be met (often stated as sales or financial ratios). Failure to meet such covenants places the firm in default.

6. CASH MANAGEMENT REPORTS

Four cash management reports are indispensable to most managers. These reports are

— Available cash report.

— Aged accounts receivable.

— Cash requirements report.
— Accounts payable aging.

Examples of each of these reports are shown on the following pages.

6.1 Available Cash Reports

From the available cash report managers have knowledge of cash that may be available in the next few days. This report could be projected for a longer period or periods such as weekly or monthly.

ABC CORPORATION
Analysis of Available Cash
As of July 25, 199X

	Day 1	*Day 2*	*Day 3*	*Day 4*	*Day 5*
Beginning cash balance	$500,000	$677,500	$930,000	$1,066,250	$1,306,250
Anticipated cash receipts	250,000	300,000	200,000	400,000	100,000
% Available from day 1 (75%)	187,500	225,000	150,000	300,000	75,000
% Available from day 2 (20%)	0	50,000	60,000	40,000	80,000
% Available from day 3 (5%)	0	0	12,500	15,000	10,000
Total available receipts	$187,500	$275,000	$222,500	$355,000	$165,000
Scheduled disbursements	(100,000)	(75,000)	(250,000)	(200,000)	(50,000)
% Clearing day 1 (10%)	(10,000)	(7,500)	(25,000)	(20,000)	(5,000)
% Clearing day 2 (15%)	0	(15,000)	(11,250)	(37,500)	(30,000)
% Clearing day 3 (50%)	0	0	(50,000)	(37,500)	(125,000)
% Clearing day 4 (20%)	0	0	0	(20,000)	(15,000)
% Clearing day 5 (5%)	0	0	0	0	(5,000)
Total cleared disbursements	($10,000)	($22,500)	($86,250)	($115,000)	($180,000)
Ending available cash balance	$677,500	$930,000	$1,066,250	$1,306,250	$1,291,250

Note the following:

— All deposits are available for use within three days. The percentages used tie in with the guaranteed funds availability specified in the banking agreement.

— All disbursements are scheduled to clear within five days. The percentages are derived from experience.

— The ending balance of one day becomes the beginning balance for the next day.

6.2 Aged Accounts Receivable

The following is a sample of an aged accounts receivable report as discussed in section 3.2.2 herein.

ABC CORPORATION
Accounts Receivable Aging
July 199X

Cust. No.	*Customer Name*	*Current*	*30–60 Days*	*60–90 Days*	*Over 90 Days*	*Total*
1	333 Bush Street	$ 0.00	$ 0.00	$0.00	$ 315.00	$ 315.00
2	Asian American Theatre Co.	236.36	236.25	0.00	708.75	1,181.36
3	AT&T	0.00	3,207.05	0.00	60.00	3,267.05
4	BAR/BRI	0.00	0.00	0.00	250.00	250.00
5	Carnevale	0.00	0.00	0.00	525.00	525.00
6	Chinese Hospital	0.00	0.00	0.00	0.00	0.00
7	City Cycle	0.00	0.00	0.00	150.00	150.00
8	Columbia Pictures	0.00	0.00	0.00	0.00	0.00
9	Disney's World on Ice	0.01–	0.00	0.00	0.00	0.01–
10	Egghead Software	0.00	0.00	0.00	8,896.00	8,896.00
11	El Dorado	1,181.70	1,181.70	0.00	0.00	2,363.40
12	Elite Modeling	340.00	0.00	0.00	149.62	489.62
13	The Equitable	190.00	190.00	0.00	341.50	721.50
14	Fong & Associates	0.00	346.50	0.00	1,323.00	1,669.50
15	Foot Locker	0.00	0.00	0.00	315.00	315.00
16	French Hospital	548.62	548.62	0.00	0.00	1,097.24
17	Futon Shop	0.00	0.00	0.00	0.00	0.00
18	Gaylord India Restaurant	0.00	0.00	0.00	75.00	75.00
19	Harbor View Holiday Inn	0.00	0.00	0.00	1,050.00	1,050.00
20	Harbor View/Tsui Hang Village	0.00	0.00	0.00	1,050.00	1,050.00
Accounts Receivable		$2,496.67	$5,710.12	$0.00	$15,208.87	$23,415.66
		10.66%	24.39%	0.00%	64.95%	

6.3 Cash Requirements Report

The cash requirements report illustrates payables that must be paid within the time frames shown in each column to keep from becoming delinquent. This report is used to determine how much cash is required to honor the firm's payables commitment (see page 28).

6.4 Accounts Payable Aging

The accounts payable aging report illustrates how old the firm's payables are for each vendor owed. Note, in the example on page 29, approximately 46 percent of the payables are aged over sixty days. See also section 4.1.1 herein for a discussion of the average age of payables.

7. CASH PLANNING TECHNIQUES

Modern cash managers use projections in much the same way a pilot uses the airplane's compass and map: to determine in which direction they are going and to make mid-course corrections.

Planning and the resultant projections fall into two major categories: strategic plans, which are long range and encompass the whole firm, and tactical plans, which are of shorter range and deal with specific segments of the business. Of the two categories, cash flow is usually included in the tactical plan. Cash flow projections provide a blueprint of how the cash and financing part of the business plan will be executed.

Most cash plans identify certain specific items critical to the treasury function. These include

— Cash inflows and scheduled cash outflows, such as loan repayments and cash dividends to stockholders, bond interest payments, and so forth.

— Financing requirements and excess cash balances that may be used to repay existing financing.

— Projected ending cash balance.

— Compliance with loan covenants and restrictions. Such covenants are often in the form of balance sheet ratios. Therefore, the treasurer must produce not only a cash plan, but balance sheet and income statement projections as well.

ABC CORPORATION
Cash Requirements Report

Vendor Number	*Vendor Name*	*Invoice Number*	*Discount/ Due Date*	*Current*	*10 to 20 Days*	*20 to 30 Days*	*Over 30 Days*	*Total*
1	Alhambra National Water Co.			$ 12.80	0.00	0.00	0.00	$ 12.80
4	Alphabetics			2,926.00	0.00	0.00	0.00	2,926.00
8	Cine Kerska Productions			8.52	0.00	0.00	0.00	8.52
9	Colorsplendor			4,742.00	0.00	0.00	0.00	4,742.00
10	CSC			784.43	0.00	0.00	0.00	784.43
12	Federal Express, Inc.			67.25	39.00	0.00	0.00	106.25
14	Graphic Sportswear			134.19	0.00	0.00	0.00	134.19
15	JLA Credit Corp.			0.00	176.18	0.00	0.00	176.18
18	City of Los Angeles			1,347.96	0.00	0.00	0.00	1,347.96
20	L'Image Photographic Lab, Inc.			464.86	0.00	0.00	0.00	464.86
				$10,462.41	215.18	0.00	0.00	$10,677.59
				97.98%	2.02%	0.00%	0.00%	

ABC CORPORATION
Accounts Payable Aging

Vendor Number	*Vendor Name/ Invoice Number*	*Due Date*	*Current*	*0 to 30 Days*	*30 to 60 Days*	*Over 60 Days*	*Total Overdue*	*Total Payables*
1	Alhambra National Water Co.		$ 0.00	$ 12.80	$ 0.00	$ 0.00	$ 12.80	$ 12.80
4	Alphabetics		0.00	1,426.00	0.00	1,500.00	2,926.00	2,926.00
8	Cine Kerska Productions		0.00	0.00	0.00	8.52	8.52	8.52
9	Colorsplendor		0.00	0.00	3,339.00	1,403.00	4,742.00	4,742.00
10	CSC		0.00	784.43	0.00	0.00	784.43	784.43
12	Federal Express, Inc.		70.25	22.00	0.00	14.00	36.00	106.25
14	Graphic Sportswear		0.00	0.00	0.00	134.19	134.19	134.19
15	JLA Credit Corp.		176.18	0.00	0.00	0.00	0.00	176.18
18	City of Los Angeles		0.00	0.00	0.00	0.00	0.00	0.00
	On hold:		0.00	0.00	0.00	1,347.96	1,347.96	1,347.96
20	L'Image Photographic Lab, Inc.		0.00	0.00	0.00	464.86	464.86	464.86
	Subtotal:		246.43	2,219.63	3,339.00	3,524.57	9,083.20	9,329.63
	Total on hold:		0.00	0.00	0.00	1,347.96	1,347.96	1,347.96
	Report total:		$246.43	$2,219.63	$3,339.00	$4,872.53	$10,431.16	$10,677.59
			2.31%	20.79%	31.27%	45.63%	97.69%	

7.1 Approach to Cash Projections

The approach used to produce an accurate cash projection varies from business to business and according to the audience and uses of the end product.

Cash planning involves most areas of the business. Management's approach to formulating a cash plan should be one that considers all relevant input about the firm. A good example of this would be the start-up costs of implementing a new manufacturing technique. The manager would need to know how much capital investment is required for plant and equipment and when payment must be made. Other costs and benefits such as labor, insurance, repairs, utilities, and sales are also considered. Additionally, the timing of each cost and benefit should be included in the cash plan.

In summary, cash forecasts involve the following steps:

— Project cash receipts (often as a percentage of sales)

— Project cash disbursements

— Compute net cash inflows and outflows

— Compute projected cash balance or shortfall

Formulating a cash plan should include these four goals:

— *Predictive accuracy.* The plan must reliably project ending cash balances, financing requirements, and compliance with loan restrictions. Accuracy is achieved only through the underlying assumptions and mathematical relationships, so the plan's credibility depends largely on the information obtained from within the business.

— *Feedback value.* The cash plan should provide a source of feedback on execution of the original plan, so that adjustments can be made if actual performance goes astray. Thus, elements of actual performance and planned performance should be comparable, and deviations should be readily apparent.

— *Relevance.* The cash plan must be kept current and should reflect developments occurring throughout the enterprise. Not only relevance but credibility is impugned if an underlying assumption that affects cash is changed without recognition in the most current plan.

— *Timeliness.* To provide predictive value and relevance, the cash flow projection must provide timely information for decision making.

7.2 Presentation Format

Formatting the presentation of a cash flow plan is the first step in its creation. The manager should have a detailed idea of what schedules are to be included in the plan and how best to present the key performance and decision indicators. The format should also consider ease of entry for actual performance data to be compared with the plan. Finally, the plan should be formatted in such a way as to allow for quick updating of the plan and assumption changes for asking "what if" questions.

7.2.1 Planning without a computer

Most of the planning exercise is the same regardless of whether an automated planning system is used. Data are obtained in the same manner; assumptions are used in the same ways. The only difference is in the computational labor involved. Planning without the aid of a computer requires the computation of many resulting impacts to the business that are caused by assumption changes. For example, sales are usually a key assumption. However, as sales change, so will accounts receivable, accounts payable, advertising expenses, sales commissions, and inventory costs, to list only a few. Each of these changes would be manually computed.

The turnaround time involved in making assumption changes or creating several scenarios in the plan will be longer when planning without a computer.

7.2.2 Planning with a computer

Generally, cash projections use automated models that can be readily changed as circumstances dictate. This is true for even the smallest of businesses using only a microcomputer and spreadsheet software. Use of automated cash models allows the simulation and assessment of new ideas without the time and effort required to manually calculate the results.

Today, many spreadsheet programs are available at a reasonable cost and can be very easy for anyone to operate or adapt to. In addition, more sophisticated modeling software is available for large applications.

If the decision is made to use "user friendly" software, which can be programmed by the financial management staff and run on a microcomputer, there are a variety of programs available, many of which accept data "downloaded" (electronically transmitted) from the firm's host computer to the microcomputer.

7.3 Detail Required and Model Accuracy

The level of detail included in the cash plan should be the minimum required to fulfill all design requirements of the system. By making the cash planning system as simple as possible, less can go wrong with it, it is easier to understand, the cost of development and operation is lower, and it generally has a higher degree of reliability. Most experienced planners, given a choice, would rather have too little detail than too much. More detail can always be obtained. However, if too much detail is presented without enhancing the final work product, the cost of developing that detail was wasted effort because the same conclusions could be reached without incurring additional development costs.

Model precision can be related to the reliability of the least accurate material assumption. For many systems, this is the interest rate forecast used to project interest expense. The model, by definition, can be no more accurate than the least reliable assumption contained therein. Understand, however, that some assumptions have a larger allowable error tolerance because a minor misstatement would not change the conclusions reached.

7.4 Uses of the Cash Plan

The most obvious use, and the one for which the plan was originally developed, is to project cash requirements. However, since the plan crosses over most departmental lines of the business, and since it has the ability to identify actual performance that deviates from the plan, there are a variety of other uses. Some uses that may not be readily apparent at first include:

— *Inventory*. Accounts payable levels and movement is a component of most cash plans. If payables begin to deviate from the plan, one area that may be causing the change could be inventory. There may be a variety of reasons, such as increased wastage, adverse material price variance, or changes in payment terms to vendors.

— *Receivables*. If receivables begin to increase, the cash plan will indicate an adverse deviation. This may point, for example, to a need for adjustment of geographic marketing concentration away from depressed areas. Additionally, if management has recently adjusted the firm's sales commission policy to include collection of receivables rather than solely sales, careful monitoring of the cash position impact of receivables will indicate the effectiveness of this decision.

— *Capital expenditures.* The cash plan can be used to help determine when capital expenditures can be made, when the most likely favorable financing can be obtained, and when the business will be able to repay the expenditure.

7.5 Decision Making Using Multiple Scenarios

Computing the plan under a variety of different assumptions will simulate a range of contingencies under which the business can successfully operate. It is recommended that the cash plan be executed at least three times, showing a best case, worst case, and most likely case. The required financing and ability to repay debt is then projected as a range rather than as absolute figures. Such a presentation will indicate that, as long as the assumptions specified in each of the three scenarios fall within the range, cash flow will be sufficient to maintain operations.

Additional decisions for which the cash planning system can be used under varying simulations include the following:

— *Sales price.* As discussed before, payment terms help to determine the overall price received for a sale. Terms can be analyzed using the cash plan to determine the impact on cash position under various options. It may be discovered that a smaller price increase than the competition's can be made in exchange for less lenient payment terms without damaging the overall profit to the business.

— *Financing vehicles.* In terms of the business's cash flow, the optimum financing vehicle can be derived by simulating the various options available.

— *Performance of receivables and payables.* An assumption included in most cash plans is the time to collect an average receivable and the time an average payable is held. When formulating the firm's policies toward these two critical components of cash flow, multiple simulations may be run to determine the acceptable range for the policy. Again, it is possible that the firm can gain a competitive advantage in either its buying of goods and services, or selling its product by adjusting these policies, without endangering cash flow beyond the benefit created by the policy change.

7.6 Nine Steps to Cash Planning

There are nine key steps to producing a useful cash plan. These are summarized as follows:

— Describe exactly how the plan will be used.

— Identify the users of the plan, including who will create the plan, update it, and make decisions from its output.

— Identify the time period over which the plan will be used.

— Define the content of the finished product including schematics of all reports, graphics, and sensitivity analyses.

— Define the degree of precision required of the plan, and work toward achieving that level.

— Identify the key causal relationships in the plan (termed *driver assumptions*) and the secondary assumptions that depend on the driver assumptions.

— Create the plan, preferably using an automated planning program.

— Validate the plan by entering historical data with a known result, compute the plan, and verify that the computed cash balances equal the already known results.

— Monitor actual performance against that which was planned and make adjustments in the plan to conform to changes that have taken place since the plan was developed.

7.7 Cash Management Warning Signs

There are nine warning signs in identifying potential cash flow problems or opportunities to improve a firm's cash position.

— Poor cash-related ratios, such as the current ratio, quick ratio, inventory turnover, receivables turnover, asset turnover, and profit margin.

— Excessive balances in non-interest-bearing accounts.

— A large number of bank accounts.

— Emergency borrowings resulting from surprise cash shortfalls.

— Lower-than-normal short-term investment returns resulting from surprise cash inflows.

— Unreconciled bank accounts.

— Slow collections and fast payments.

— Poor banking relationships.

— Poor availability of deposited funds resulting from a lack of float information.

No single sign indicates a problem; however, when taken as a whole and combined with a reliable cash plan, the analyst will get a good indication of the state of a firm's cash management effort.

8. INTEREST RATE RISK

The cash position and profits of many firms are unnecessarily eroded by movements in interest rates. Sensitivity to interest rate movements varies by industry. However, it is most pronounced in financial institutions and insurance companies, which rely on achieving a spread between interest income and interest expense. Cash managers need to be aware of their firm's exposure to interest rate risk and understand how to insulate their cash position and profits from unfavorable swings in interest rates.

This section will define interest rate risk and illustrate some commonly used financial tools for its management, concluding with a sample case study of a firm facing exposure to movements in interest rates.

8.1 Definitions and Symptoms

Interest rate risk occurs when a business has assets and liabilities for which the market value, earning power, and cost vary in relation to movements in interest rates. For example, consider the following selected balance sheet and income statement items of a hypothetical manufacturing company:

Total assets	$18.0 million
Adjustable rate loans	10.0 million
Interest expense on adjustable loans	1.1 million
Gross revenue	5.0 million
Expenses	4.5 million
Net income	$ .5 million

From the above items, it can be seen that if rates rise by just one hundred basis points (or one percent), net income will fall by $100,000 (total adjustable rate loans of $10 million × 1% = $100,000), a movement of 20 percent ($100,000/$500,000 = 20%). As profits fluctuate, so do the firm's cash position, its requirement for outside financing, its earnings capacity, and its ability to attract additional investors and credit facilities. The range over which profits and cash balances move as rates change defines the boundaries of a firm's interest rate risk.

The objective of interest rate risk management is to minimize downside risk if rates go against the firm, while leaving the upside potential intact if rates stay the same or move in a positive manner. These seemingly are mutually exclusive goals. However, through a computerized process called *simulation analysis,* management is able to develop rate risk-control strategies.

8.2 Simulation Analysis

Automated simulation analysis is the most effective technique to identify interest rate risk and formulate possible strategies for its control. Simulation uses a mathematical computer model of the rate-sensitive portion of the business to simulate the effect on earnings and the resulting changes in cash position caused by different risk-control strategies. The objective of simulation analysis is to find the best solution or combination of solutions to solve a firm's interest-rate-risk problem.

A typical simulation would perform the following two analyses:

— *Embedded risk.* This is the interest rate risk present in the balance sheet prior to attempting any control strategies. It is computed by assuming that the balance sheet remains constant while an earnings simulation is run through varying interest rate scenarios. Embedded interest rate risk defines the starting point for implementing the control strategies. The boundaries defined by embedded risk are illustrated by the graph in exhibit 1 on page 38. The lines labeled *embedded potential* and *embedded downside* form the limits of embedded risk shown as the shaded region in the graph. The goal of risk-control strategies is to reduce the size of this risk-embedded risk wedge.

— *Identifying possible strategies.* Once embedded risk is identified, the effect of specific corrective strategies—such as swaps, floors, and restructuring of the balance sheet—is simulated (see exhibit 2 on page 39 for a glossary of terms). During this phase, the utility of a computer model becomes apparent, allowing for the quick and efficient evaluation of various strategies. Once the embedded risk and possible alternative strategies are identified, management can begin to formulate a specific solution to its interest-rate-risk problem.

8.3 Formulation of Solutions

Controlling interest rate risk centers on creating an "insurance policy" against the effects of rate movement. Like a life insurance policy, one hopes it is never used. Most businesses coordinate their strategies to relieve rate risk immediately while restructuring their asset/liability portfolios and policies to achieve long-term control.

The following case study illustrates how one company with an interest-rate-risk problem was able to identify a series of possible solutions using a simple automated simulation model.

8.4 Case Study: Drug Manufacturing, Inc.

Profile: Drug Manufacturing, Inc. (DMI) manufactures and distributes worldwide a complete line of ethical pharmaceutical products. Selected items on DMI's balance sheet before any risk-control measures were introduced are shown in exhibit 3, below.

The $200 million variable rate loan is indexed to the London Interbank Offered Rate (LIBOR), a commonly used index for many variable rate instruments. The interest rate charged on the line of credit floats with the prime.

The embedded interest rate risk in DMI's balance sheet was computed using a simulation model. Interest rate forecasts were provided by an economic forecasting firm. Risk to earnings caused by interest rate fluctuations was found to be $7.8 million by the sixth quarter and is illustrated in exhibit 4, below.

DMI is said to be "liability sensitive" because more liabilities than assets are affected by interest rate movements. This is seen in the selected balance sheet items shown in exhibit 3, where rate-sensitive liabilities are $260 million versus $175 million for rate-sensitive assets. Because DMI is liability sensitive, net rate-sensitive expenses rise under the unfavorable rising rate scenario and fall under the more advantageous falling rate scenario.

In management's judgment, an interest rate risk of $7.8 million to their earnings by the sixth quarter was unacceptable. Therefore, management set out to bring that risk under control by testing the benefits of various strategies under consideration.

8.5 Rate Risk Simulation Results

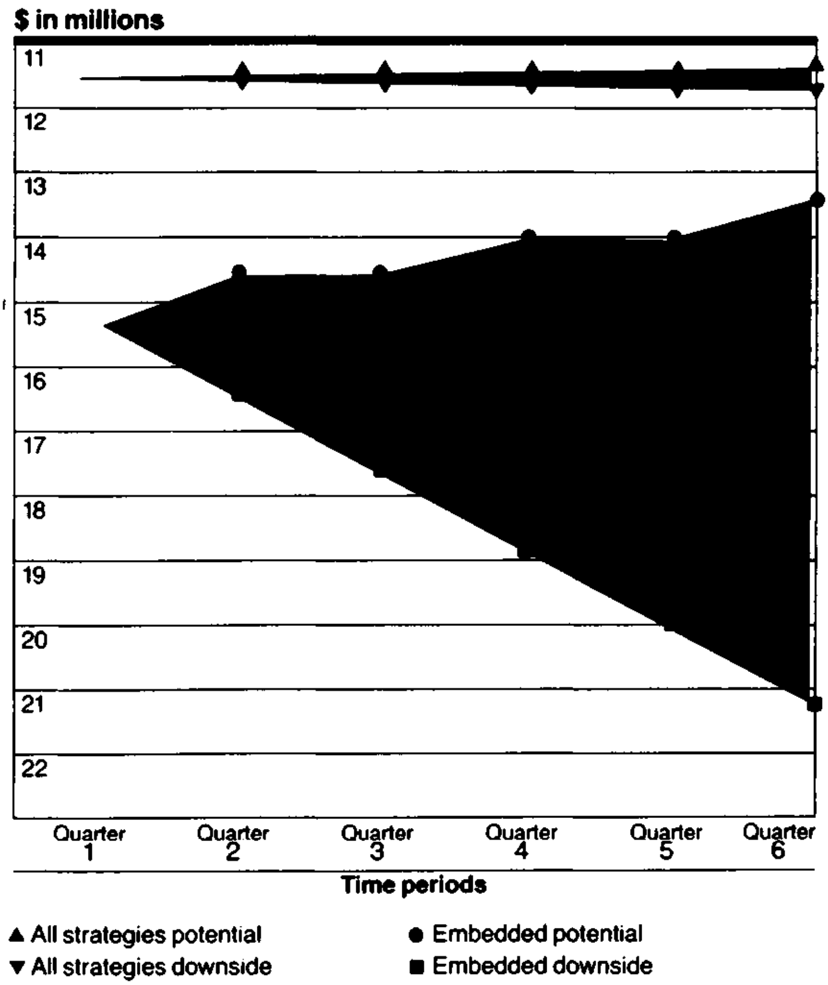
A simple computer model was developed to project the net rate-sensitive interest expense under the same rate scenarios used in computing the embedded risk described earlier. This model was again plotted over a period of six quarters. In all, fifteen computer runs were done to test each alternative and combination of alternatives using each rate sce-

(Text continues on page 40)

EXHIBIT 1

Drug Manufacturing, Inc.

Interest rate risk: embedded vs. all



Note

Exhibits 1 through 6 are reprinted from Christopher R. Malburg, "Identification and Management of Interest Rate Risk," Focus on Industry Dept., *Journal of Accountancy*, May 1988: 130–138.

Exhibit 2

INSTRUMENTS USED IN RATE-RISK REDUCTION STRATEGIES

SWAPS

An interest rate swap is an off-balance-sheet contractual exchange of cash flows (rather than actual assets) linked to adjustable interest rates that are traded for fixed rate cash flows or vice versa. Additionally, swaps are often executed to control basis risk—the risk of spread between an asset and funding liability—both of which adjust using different indexes.

FLOORS

A floor is a guaranteed rate below which interest income on the face amount will not fall. Unlike swaps, floors require a capital outlay to execute. A put option is purchased on an interest rate index, such as prime or LIBOR. If rates decline past the floor, the owner receives the difference between the current interest rate and the contractual floor.

CEILINGS

A ceiling is the reverse of a floor. The ceiling will ensure that the increased interest expense caused by rising rates is in part made up by profit from the position. A company would purchase a ceiling if it had an adjustable-rate loan and wished to insure against a rise in interest rates. Like floors, ceilings require a capital outlay.

The risk, or insurance cost, of a floor or ceiling if rates go against the position and in the company's favor is limited to the cost of the position.

COLLARS

A collar is a floor and ceiling entered into simultaneously. The intent is much the same as that of either strategy done individually, depending on where a company's risk lies in relation to rate movements. Assuming the cash outlay for the ceiling call would equal the cash received for the floor put, the net cash paid out to initiate the position would be close to zero.

Exhibit 3

Drug Manufacturing, Inc.
Selected balance sheet items before implementation of risk-control measures
Bonded debt: $20,000,000
Variable-rate loan: $200,000,000
Revolving line of credit: $40,000,000
Fixed-income securities: $175,000,000

nario. For illustrative purposes, a sample of one of the fifteen runs—showing all strategies combined under a rising rate scenario—is presented in exhibit 5 on page 42. Additionally, exhibit 6 on page 43 compares the simulation results of each alternative.

The following are the alternative strategies, purposes, and simulation results investigated by management.

Alternative 1. Execute an interest rate swap in the amount of $100 million on the $200 million variable rate loan.

Purpose. Reduce exposure to a rise in interest rates by converting half of the $200 million variable rate cash outflow to a fixed rate cash outflow.

Result. After executing this swap, interest rate risk was reduced from $7.8 million to $4.5 million by quarter 6.

Alternative 2. Sell $85 million of the fixed income securities, bringing the remaining balance to $90 million, then

1. Use $60 million of the revenues from sale of the fixed income securities to purchase weekly floating rate municipal notes (weekly floaters).
2. Use the remaining $25 million from sale of the fixed income securities to reduce the balance owed on the prime indexed revolving line of credit.

(Text continues on page 44)

Exhibit 4

DRUG MANUFACTURING, INC.
Computation of interest rate risk by quarter under varying interest rate scenarios and strategies
($ in millions)

	Quarter 1	*Quarter 2*	*Quarter 3*	*Quarter 4*	*Quarter 5*	*Quarter 6*
Net interest expense						
Rising scenario	$15.2	$16.4	$17.6	$18.8	$20.0	$21.2
Falling scenario	15.2	14.6	14.6	14.0	14.0	13.4
Rate risk	$ 0	$ 1.8	$ 3.0	$ 4.8	$ 6.0	$ 7.8

(The results of this table are shown in the graph in exhibit 1 as the shaded region.)

Exhibit 5

Scenario: All strategies, rising rates

DRUG MANUFACTURING, INC.
Interest rate risk
($ in thousands)

	Year 1 *1st half*	*Year 1* *2nd half*	*Year 2* *1st half*	*Year 2* *2nd half*	*Year 3* *1st half*	*Year 3* *2nd half*
Interest income on bonds	$ 7,425	$ 7,425	$ 7,425	$ 7,425	$ 7,425	$ 7,425
Swap receipts on $200mm variable-rate loan	11,750	12,250	12,750	13,250	13,750	14,250
Swap receipts on fixed-income securities	4,950	5,175	5,400	5,625	5,850	6,075
Weekly floater receipts	5,400	5,700	6,000	6,300	6,600	6,900
Total rate-sensistive income	$29,525	$30,550	$31,575	$32,600	$33,625	$34,650
Interest expense on bonds	$ 1,700	$ 1,700	$ 1,700	$ 1,700	$ 1,700	$ 1,700
Interest expense on variable-rate loan	23,500	24,500	25,500	26,500	27,500	28,500
Interest expense on revolving line of credit	1,650	1,725	1,800	1,875	1,950	2,025
Swap outflow on $200mm variable loan	10,500	10,500	10,500	10,500	10,500	10,500
Swap outflow on fixed-income securities	3,713	3,713	3,713	3,713	3,713	3,713
Total rate-sensitive expenses	$41,063	$42,138	$43,213	$44,288	$45,363	$46,438
Total rate-sensitive income (expense)	($11,538)	($11,588)	($11,638)	($11,688)	($11,738)	($11,788)

Exhibit 6

DRUG MANUFACTURING, INC.
Table of interest rate risk by quarter under varying risk reduction strategies
($ in millions)

	Quarter 1	*Quarter 2*	*Quarter 3*	*Quarter 4*	*Quarter 5*	*Quarter 6*
Embedded risk	$0	$1.8	$3.0	$4.8	$6.0	$7.8
Alternative 1: $100mm swap	$0	$1.0	$1.7	$2.8	$3.5	$4.5
Alternative 2: Sell $85mm fixed-income securities	$0	$1.2	$2.0	$3.1	$3.8	$5.0
Alternative 3: Swap $45mm fixed-income securities	$0	$1.5	$2.5	$3.9	$4.8	$6.3
Alternative 4: Implement all strategies	$0	$0.1	$0.1	$0.2	$0.2	$0.3

Purpose. This strategy was suggested to help provide an offset to increased interest expense in the event of a rise in rates. This was accomplished by reallocating cash from the fixed income securities (providing no offset under rising rates) to an asset that did provide such relief (weekly floaters). Additionally, the expense exposure to rising rates was reduced by paying down some of the revolving line of credit.

Result. After selling $85 million in securities, then buying $60 million in weekly floaters and paying down $25 million on the line of credit, interest rate risk was reduced from $7.8 million to $5.0 million by quarter 6.

Alternative 3. Execute an interest rate swap on $45 million of the remaining $90 million of fixed income securities to convert to a variable rate cash inflow.

Purpose. Further reduction of exposure in the event of a rise in interest rates could be accomplished by owning a greater number of variable rate assets. This is achieved without selling the bonds—that is, by doing a swap of the fixed rate cash inflow for variable rate cash inflow.

Result. After executing this swap, interest rate risk was reduced from $7.8 million to $6.3 million by quarter 6.

Alternative 4. Employ all strategies under consideration.

Purpose. By employing all risk reduction strategies under consideration, exposure to rising rates is minimized and offset by rising interest income.

Result. After executing this swap, interest rate risk was reduced from $7.8 million to $300,000 by quarter 6. This is shown in exhibit 1 as the shaded area.

Following are two peripheral benefits of a successful interest-rate-risk reduction program:

— Management is less tempted to gamble on where interest rates will go.

— Pricing of the firm's products will no longer include an "interest-rate-risk factor," thus providing a price advantage if competitors have not similarly insulated themselves and still include such a premium in their prices.

8.6 Protecting Profits and Cash

The objective of interest-rate-risk management is not to accurately predict where rates will go to take advantage of them. Rather, rate risk management seeks to insulate profitability and cash balances from changes in interest rates by combining short-term financial transactions, which take effect immediately, with longer-term strategies, which seek to implement overall risk-control policy over time.

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BUSINESS PLANS

1. INTRODUCTION

Business planning should be a continuing and central activity in every business. The greatest misconception about business plans is that they are nothing but sales documents used by start-up businesses. A business plan that is nothing more than a showpiece for raising money — for a start-up venture or for an existing business — probably will not succeed even at that.

For a business plan to be of real use, it must serve as a working document that owners and managers use to plan, control, evaluate, and manage their business. Any business, regardless of size, is more likely to be successful and profitable if it plans for the future, anticipates change, and carefully weighs its responses to an ever-changing environment. A business plan helps entrepreneurs, owners, and managers do the following:

- Define the objectives of a business and reach a consensus on how to reach those objectives.
- Allocate scarce resources — cash in particular.
- Obtain financing by gaining the confidence of creditors and investors.

Surveys show that many small (and many not-so-small) businesses consider accountants their most trusted business advisers. As such, accountants need to know how business plans are used to obtain debt financing or equity capital. They must also be able to show clients how to use business plans to help manage and control their businesses.

Accountants in industry have no less a need to understand how to do business planning. Their companies also frequently require outside financing, so they must be able to prepare formal presentations on the company's business, its financial goals and objectives, and how it intends to achieve those goals and objectives.

Even if an existing business does not seek debt or equity financing, a business plan is a way to ensure that owners and managers formally agree about the company's goals and objectives (which means extended discussion and reconciliation of conflicting views) and that all work cooperatively to make them happen. This type of long-range planning forces a business to prioritize opportunities and provides the framework on which a true management team can be built. In effect, therefore, a business plan is a budget written in general terms. It is an organized and systematic attempt to project all of a company's resources and influences, including finances, work force, and market factors. The financial statements (or "back end") of the business plan may be the heart and soul of the plan, but they do not exist in isolation. Like a budget, an updated business plan is needed each year to tie the company's finances and short-term projections explicitly to its goals, objectives, strategy, and tactics in every important area, including marketing, production, operations, sales, and human resources. This will enable a company to remain both focused and flexible.

2. WHAT IS A BUSINESS PLAN?

A business plan is simply an attempt to be prepared for what is expected to happen in the future, to take control of those things that can be influenced and therefore to achieve the goals and objectives that have been set for the enterprise.

A business plan should be two things: a sales document to be used to obtain financing and also an overall operating plan for starting and running a business. It is important to remember that *it should be both.* The cash flow projections submitted to a bank by a long-time patron may be all that is required to demonstrate the need for an equipment loan that will help the company increase sales and profits. These projections, however, do not meet the criteria of being an overall operating plan.

In substance, business plans all share the same goal: to maximize the chances of success. In form, however, business plans vary considerably. The business plan for a start-up business and the plan for an existing business ordinarily would look substantially different, though they usually follow much the same outline. For example, while a well-established business may concentrate the presentation of its plan in the financial (cash flow) area, a start-up business will need to expend more effort in the marketing, production, and operations areas.

No two business plans look alike simply because no two businesses are alike. What ultimately determines how a business plan looks and what it includes is *who the plan is intended for and what its purpose is.* A plan for obtaining financing covers in detail what the business is (including its marketing and operating strategy and tactics) and how much capital the business needs to raise (including for what purpose), as well as projected financial statements and related analyses. But a business plan intended mainly to help owners and managers plan, control, and manage a business may look very different.

2.1 Start-Up Business Plans

Economic viability is what start-up business plans are about. New businesses fail at an appalling rate. The usual statistic cited in the press, by academics, and in popular books about entrepreneurship is that four out of five start-up companies fail within the first five years (though recent studies suggest that the failure rate is lower).[1]

The elements usually cited in most business failures are

— Management (lack of experience, education, sales ability, or just sheer incompetence).
— Inadequate capital (whether start-up or subsequent cash flow because of, for example, poor credit-granting practices).
— No planning beyond how to survive from one day to the next.
— Poor choice of business.
— Unfavorable location.
— Unplanned growth.
— Inadequate record keeping.
— Excessive inventory or fixed assets.

This list of reasons for business failures should make it clear that business planning for a start-up business is an attempt to recognize and deal in advance with the myriad obstacles and issues that a new business faces.

Start-up business plans are usually the most comprehensive and detailed. Business plans for existing businesses (particularly if the plans will not be used to raise capital from outsiders) are usually adaptations of the form and content of start-up plans, but may eliminate some of the detail in an effort to focus on overall objectives and more exact financial data.

2.2 Existing Businesses

Like start-ups, existing businesses need business plans for two basic reasons:

— To plan, manage, and control the business
— To raise capital

In many ways, plans for existing businesses should be much easier than business plans for start-ups. For example, projecting pro forma financial statements can begin with actual data, so the process has a stronger starting point. A company with several years' experience can (by considering historical data) better examine its operating policies

[1]Buck Brown, "Business Failure Rates Aren't So Bad After All," *Wall Street Journal* (Friday, 20 May 1988, p. 27).

and assumptions about the future, which is one of the most important aspects of planning.

2.3 Summary Benefits of Planning and Goal Setting

The value of carefully conceived and continually revisited business plans cannot be overemphasized. In summary, they provide the following benefits:

Improved resource utilization—Goal setting and planning require management to evaluate the business's resources and thereby better determine capabilities and limitations.

Increased employee motivation—The unified company direction established by goal setting and planning underscores a "corporate culture," emphasizes mutuality and cooperation, and reduces employee anomie and frustration.

Improved understanding of opportunities, problems, and weaknesses—Planning involves programs and activities that are geared to assessing the business's environment—internal and external—and reacting positively to challenges and problems and taking advantage of opportunities.

Greater organizational control—Planning encourages and in some cases enforces adherence to project completion dates and performance standards essential to maintaining control.

Information for third parties—Written plans and objectives are useful in seeking financing, in planning mergers and acquisitions, and in a host of situations involving third parties.

3. CONTENTS OF A BUSINESS PLAN

Plans vary according to the type and complexity of the business, the stage of the business in its economic life cycle, and the intended purpose of the plan and its audience.

There are certain generally accepted formats for business plans. Usually, the narrative sections (descriptions of the business and the product) go up front, while the prospective financial statements — which are by far the most important component for most readers — usually go in the back.

Appendix 1, "Sample Business Plan Outline," provides a comprehensive overview of what a business plan might include.

Not all the information discussed in this section belongs in every business plan. The sample outline in appendix 1 tries to cover all possible considerations, which makes it more useful as a checklist, than as a model to follow for each and every business plan.

A business plan should not be cluttered with unnecessary detail. It should include objectives, major assumptions, concerns, and projected results of the business, but should omit information and data that might obscure the main outlines of what must be communicated.

The following sections provide additional information about each major heading of the outline shown in appendix 1.

3.1 Cover Sheet and Table of Contents

Cover sheets of business plans provide:

— The name and address of the business.

— The names, addresses, and phone numbers of the contacts (the lead entrepreneurs, ordinarily).

A cover sheet might also include a disclaimer about the projections, such as the following example, which has been adapted from the AICPA's Statements on Standards for Attestation Engagements, *Financial Forecasts and Projections,* and the AICPA Audit and Accounting Guide *Guide for Prospective Financial Information:*

> The projections in this business plan reflect our best judgment of the company's future operating results at the time this plan was prepared. The numbers used are based on expected conditions and our expected course of action. Since there will usually be differences between projected and actual results, because events and circumstances frequently do not occur as expected, and those differences may be material, the planned results may not be achieved.

This paragraph, of course, contains the essential written representations that accountants must obtain from the client for a compilation.

If a plan contains important proprietary information, it might be advisable to include a paragraph, such as the one shown below, to restrict further distribution of the plan or disclosures of its contents:

> This business plan is being submitted confidentially. It contains proprietary information. You should not disclose the contents of the plan or distribute this or other copies of the plan to others without our authorization. By accepting this copy of the plan, you agree to these conditions and agree to return this copy upon our request.

When such a paragraph is to be included, it is generally advisable to obtain receipt signatures acknowledging the terms specified.

Although many business plans do not contain a table of contents, it makes sense to include one as a means by which readers can identify important elements in the plan and readily locate data.

3.2 Executive Summary

A typical venture capital firm probably receives numerous business plans every day, which means that the time and attention devoted to any one plan is scant. Unless the executive summary can command the interest of potential creditors or investors, the remainder of the plan may never be read.

Whether a business plan is intended for outsiders or as an internal working document, the executive summary should be short and succinct—probably no longer than one page. A longer summary suggests the plan preparer is unable to see the "big picture" or focus on particular challenges. The summary should be prepared after the rest of the business plan is complete.

An executive summary must cause its reader to want more information. It should explain in broad terms what the company intends to do and how it intends to do it. These goals and objectives should be followed by a brief explanation of the resources that will be used in obtaining them.

The executive summary should briefly

- — Explain what the company's products or services are.
- — Give an overview of the present market conditions and expected fluctuations.
- — Review the industry.
- — Explain the company's projected financial performance, discussing profitability and projected return on investment.

The executive summary briefly explains the company's critical success factors by setting forth its objectives, strategies, and tactics, and the internal and external influences affecting them.

3.3 Organization, Management, and Human Resources

This section should help provide answers to five questions:

- — What business is the enterprise in?
- — What management, key personnel, and employees are in place or available to make the venture succeed?

— What are the company's strengths and weaknesses, and what problems does it face?

— How much capital (and is it in the form of debt or equity) does the business need?

— How will the funds be used?

3.3.1 Organization

This section presents the basic facts about the business, such as

— A brief history of the business, including when the business began and (if applicable) the date and state of incorporation.

— The legal form of business (for example, partnership, limited partnership, corporation) and its tax status (S corporation, C corporation, partnership).

— The location of headquarters and principal offices.

— Major successes or achievements to date.

— Major problems or obstacles facing the company.

— Risks and potential liabilities (insurability and coverage, potentially dangerous products, unasserted claims).

— Funding required, specifying percentage of debt versus equity.

— How funds will be used.

— Current and proposed capital structure (common and preferred stock issued and outstanding, with descriptions of rights; major shareholders; long-term debt or bonds, with descriptions of each type; relationships with major banks; discussions of leverage and the pricing of additional equity interests).

3.3.2 Management and human resources

When asked what venture capitalists look for in a business plan, the response of one major venture capitalist was: "Three things—people, people, and then people."[2] Because events never turn out exactly as projected, a skilled and experienced management team is the best insurance a creditor or lender can have that a business can adapt to change. Such a team should be able to direct and focus a company toward the achievement of its objectives.

A business plan intended for outside use should explain relevant education and skill, business experience (including knowledge of the

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[2]Lawrence M. Alleva and Steven W. Barnes, "Marrying for Money: The Venture into Venture Capital," *Price Waterhouse Review*, 1988, no. 2:47.

industry), and applicable technical knowledge. Depth of management is also important. Brief biographies are frequently presented, and detailed resumes are sometimes included in the exhibits section (see section 3.8 following).

Management alone cannot make a business successful. Other human resource issues should be covered, including

— Special technicians that are needed and their availability.
— Current and proposed number of employees, with a breakdown of functional areas (for example, fifty-five manufacturing personnel, twelve supervisors, three managers, four administrative personnel).
— Availability of personnel in this geographic region or nationwide (and any special ability to attract personnel).
— Compensation and benefits policies (especially incentive performance programs).
— Union affiliations (current or foreseen).

3.4 Objectives and Action Plan

The section that explains the company's objectives and action plan draws all areas of an enterprise together—finance, marketing, and operations. It explains what the company wants to accomplish and by what means. Both short- and long-term objectives should be covered, which means also covering specific actions needed to meet both types of objectives.

3.4.1 Strategies and Objectives

Business planning is projecting

— **What** the entity will do with its resources.
— **When** it will do it.
— **How** it proposes to do it.

Objectives must be stated in terms that are measurable and based on specified intervals of time (for example, "by July 199X, sales will reach . . . "). A goal like "obtain financing" or "reach our market" is of no value because achievement cannot be measured or gauged. Examples of objectives that are specific enough to include in a business plan are these:

— "Attain a return on equity of 40 percent by the fourth year of operation."
— "Increase sales by 50 percent per year for the first two years, then by 25 percent for the next three years."

— "Install 100 systems by the end of 199Y."

— "Capture a 15 percent share of the market by 199X."

3.4.2 Action plan

The action plan must explain how the objectives will be accomplished, relating them in terms of dates and priorities. It should tie together management's or the owner's objectives (for example, to go public in five years after expanding sales by a factor of five), overall financial objectives (for example, specific return on equity and growth in sales amounts), marketing objectives (such as attaining a 10 percent share of the market by 199X), and the operating and production objectives (such as opening two new retail outlets on the West Coast, three in the Southeast, and four in the Northeast by 199Y).

This section also itemizes the specific and detailed steps that explain how these objectives will be accomplished: *who,* in other words, is responsible for doing precisely *what,* and by *when.*

3.5 Marketing

The marketing section of business plans should include

— A discussion of the product or service.

— A market and industry analysis.

— Marketing objectives and strategies.

3.5.1 Product or service

The section that explains the company's product or service is especially important for start-ups as well as for going concerns that wish to add or expand a line of business. A company must be able to predict customers' needs and wants, because these define the business. The emphasis, therefore, should be not on what the company has to sell, but on what it offers that *people want or need to buy.*

The section on the product or service must make clear

— What customers will be buying when they choose what the company sells.

— Why customers will buy the product or service from the company.

— Who in the market will make the buying decision.

If the company hopes to garner venture capital, it must usually have a proprietary product or a service that no one else can offer or that no one else can offer in the same way. The company's product or service must be explained in detail; often it is even appropriate to include illustrations, drawings, or photographs (either in this section or as one of the exhibits; see section 3.8 herein).

Brand names, if applicable, and prices should also be discussed and the product or service must be compared to the competition, which means discussing competitive strengths and weaknesses (such as price, serviceability, distribution networks, warranties, timeliness, convenience, and prestige).

Results of relevant market research (whether primary research, like focus groups and surveys, or secondary research) can also be presented. Patents, trademarks, copyrights, franchises, and licensing agreements (owned, obtainable, and competing) should be covered.

The section on products or services must also take a broader view of what the company has to offer. Specifically, what are the implications of the company's product or services to customers or consumers?

The owners and managers of the business should identify such underlying assumptions so that they can be evaluated objectively both within the company and by potential outside creditors or investors.

3.5.2 Market analysis

Offering a product or service that a company *thinks* customers need and want does not necessarily mean that a viable market already exists.

The market analysis covers

— Who will buy the product or service.

— The size of the market.

— Projected sales.

— The projected growth of the industry and market.

A company whose "top line" (sales) isn't big enough has no chance of having a satisfactory bottom line. Particularly with start-ups, the business plan must generally demonstrate the prospect of dramatic and sustainable growths in sales; otherwise, there's no use in starting up. To attract venture capital, in particular, growth must be emphasized.

These matters are addressed first by analyzing the current status of the product or service. More specifically, the market analysis discusses

— Customer preferences and needs (for example, whether preferences have changed or trends or events will influence preferences).

— Customers versus end users (that is, for example, mothers who buy children's cereal).

— Demographics and segments of the market (age, gender, location, income, ethnic background, "lifestyle," values, and so forth) and how the company can reach them.
— Size, history, and trends in the market.
— The target market segments, including apparent market opportunities (geographical expansion, niches to exploit, new uses of the product).
— Market threats (new products, new technology, changing customer preferences).

3.5.3 Industry analysis

The industry analysis further considers the product or service in terms of the competition:

— Critical success factors in the market
— Important risks (for example, cheaper, knock-off imports or technological obsolescence)
— Barriers to or ease of entry into the market
— Stage and maturity of the market (take-off, growing, stable, or declining)
— Seasonality
— Sensitivity to business cycles
— Government regulation
— Normal credit policies
— Advertising and promotion
— Trends, fads, and the importance of innovations and technological changes (including possible obsolescence)
— Price sensitivity and possible product or service substitutions
— Major competitors, including their strengths and weaknesses, market shares, and prospects
— Location of competitors
— Varying methods and levels of distribution
— Important trade associations
— Varying sales methodologies (for example, salaried sales staff versus commission-only sales, direct marketing trade shows, and so forth)

3.5.4 Marketing strategy

The marketing strategy explains the company's marketing goals and objectives and tells how the desired results will be achieved. The strategy must follow logically and persuasively from the product or service analysis, the market analysis, and the industry analysis described in the three preceding sections.

The section on marketing strategy should answer questions about

— Product or market attributes.
— Pricing policies.
— Development or evolutionary plans (spin-offs, organizational changes, mergers, acquisitions).
— Research and development efforts.
— Competitive responses.
— Distribution channels.
— Service or warranty policies.
— Credit policies.
— Advertising and promotion.
— Service and customer support.
— Sales personnel or direct marketing staffing and the compensation policies.

3.6 Production and Operations

The production and operations section covers how products will be manufactured or brought to market or, in the case of a service, how the service will be delivered.

The elements this section addresses include

— Processes or equipment used.
— Facilities requirements.
— Sources of supplies, equipment, raw materials, purchased components, and direct labor (including plans for purchasing operations and hiring).
— Major components of operating expenses (labor versus direct materials) and the resulting cash flow implications.
— Inspections and quality control.
— Logistics (notably, how products or services will actually be delivered to customers, dealers, and brokers).

More specifically, the production and operations sections should include items such as these:

- A brief description of the manufacturing operations, purchasing operations (especially, for example, in the case of retail operations), or method of delivering services
- Location and description of plants, warehouses, headquarters, and any other significant offices
- Capacity and utilization
- Expansion plans
- Major fixed assets (current and planned)
- Make-versus-buy considerations
- Quality control
- Changes in production technology and threats from imports
- Shelf life and potential obsolescence of inventory
- Current and expected inventory turnover
- Major suppliers (including their financial services, benefits, credit policies, locations, and risks of inadequate or subnormal supplies or availability)
- Major cost components (such as direct labor versus specific direct material costs)

3.7 Financial Presentations and Data

The heart of a business plan is the projected financial statements. They provide answers to the most fundamental questions about any business:

- What is the business worth now?
- What will the business be worth in the future?

Since value is a function of cash flows, including the initial investment and residual values, the cash flow statement is the first place to which a banker, venture capitalist, or any other sophisticated reader of a business plan usually turns.

The information that should be provided in this section about the company's future includes

- The company's cash position.
- The company's projected financial performance.
- The company's financial position.
- The significant assumptions that underlie the projections.

Specific items included in this section include

— Audited financial statements, including notes and audit opinions (existing companies).

— Detailed description of accounting principles and practices (new companies).

— Projected balance sheets, income statements, and cash flow statements for five years (usually monthly for the first year or two, then quarterly for the second or third year, and yearly thereafter).

— A statement of significant assumptions used in preparing the projected financial statements (such as interest rates, profit margins, inflation, turnover ratios, and expansion rates).

— Key financial ratios (past, if available, and projected).

— Cost/volume analysis (break-even).

— Sensitivity analyses.

3.7.1 Feasibility studies

Especially for start-ups, financial feasibility studies, which may consist of little more than projected cash flow statements, should be a first step. An entrepreneur who does not do a cash flow projection (or hire an accountant to do one) cannot truly understand the financial considerations with which the person is dealing.

A minimum of detail is needed in the initial figures to determine whether a proposed venture is worth pursuing at all. If the preliminary numbers look promising, a full-blown business plan with complete financial statements should be prepared, and detailed projections (particularly for all material sources and uses of cash) should be accumulated.

3.7.2 Different scenarios and time periods

Ordinarily, three different financial scenarios are covered in the prospective financial statements: the best case, the most likely case, and the worst case. Whether prospective financial information is considered a forecast or projection depends on the company's objectives. A *forecast* is defined by the AICPA Statement on Standards *Financial Forecasts and Projections* as prospective financial statements that present information that reflects conditions as they are expected to exist. A *projection* answers the question "What would happen if . . . ." Generally, in a business plan, the most likely scenario would be considered a forecast while the best and worst case scenarios would be projections (see section 5.2.4 in this chapter).

Sales is usually the only variable changed in this type of sensitivity analysis, though other variables or assumptions could also be tested.

See section 3.7.5 in this chapter for a discussion of "what if . . . " analyses using computer spreadsheets and specialized software for projections.

The time horizon for presenting projected financial statements depends on the intended audience and their use of the business plan, as well as on how meaningful the projections will be. For example, trying to project more than five years into the future is probably a vain undertaking. But, whatever the time horizon in years, the periods for the first year, at least, should be months. Thereafter, quarters may be used. Statements should, for the final year or two, show only yearly projections.

3.7.3 Assumptions

Unless the assumptions are documented and can be changed (for example, "40 percent growth in sales over seven years"), the projected financial statements and data are suspect, however well presented and mathematically correct they may be.

Among the assumptions that need to be discussed, analyzed, and documented are the following:

— Beginning and ending dates of the plan
— Appropriate time periods (months, quarters, years)
— Interest rates used on debt
— Interest rates used on short-term investments of excess cash
— Effective income tax rates (federal, state, and local)
— Growth in sales (for example, by a constant percentage, by product, in specific units sold, or in dollar increments)
— Capital expenditures
— Inventory levels maintained (turnover rates)
— Inflation
— Seasonality
— Business cycles
— Wage and salary growth
— Incentive compensation to be paid
— Service, replacement, and warranty costs
— Sales returns
— Accounts receivables collection periods
— Accounts receivables discounts taken
— Accounts receivables write-off rates
— Accounts payable payment periods

— Accounts payable discounts taken
— Aggregate gross margin for all products and gross margin by product line
— Dividend (or withdrawal) policy
— Accounting policies (for example, useful lives of assets, depreciation, and amortization methods)
— Tax policies (such as use of an accelerated depreciation method or the availability of the research credit)
— Beginning financial statement amounts (including assumptions about capital structure) for start-ups
— Debt or equity financing anticipated

See section 5.2 for a discussion of the reporting requirements imposed by professional standards regarding assumptions used in a business plan.

3.7.4 Detail and financial statement presentation

If historical financial statements (preferably audited) exist, they should be provided for the past three years. (See section 5.2 on professional standards when historical financial statements are included in a business plan.) Especially for start-up businesses, however, cash is most important, so this section focuses on cash flow statements from which the projected balance sheets and income statements can be derived.

The projected cash flow statements identify and provide for all possible cash inflows and outflows. A detailed buildup of budgets and schedules for all significant line items on the balance sheet and income statement is equally important.

Although all appropriate subsidiary budgets and schedules should be prepared, they should *not* all be included in the business plan. Many banks prefer specific formats. In particular, many use Robert Morris Associates forms, a sample of which is shown in appendix 2. Since many bankers receive their credit training using this form, and many former bankers are venture capitalists, using a familiar presentation is helpful.

Even if an original form is not used, its format (as reproduced on a spreadsheet) can be used to demonstrate the interrelationships between the financial statements and to show the effect that various decisions have on all three statements. The same data would be available from financial statements on separate pages, but seeing the offsetting effects all at once on all three statements often helps in understanding the important variables.

3.7.5 Use of spreadsheets and other business planning software

Most accountants are adept enough with spreadsheets to prepare templates for integrated financial statement projections. The template should be as general as possible so that changing assumptions and facts won't invalidate prior programming. A general model can be used for many business plans. For ease in updating, make a separate assumptions screen for every parameter that could conceivably change (for example, interest rates, returned sales, and day's sales outstanding). See section 3.7.3 for a list of assumptions used in a business plan and section 5.2 for a discussion of professional standards regarding assumptions.

Several commercial business planning packages are available. Exhibit 3 lists many of them and provides a brief explanation of what they do.

3.7.6 Sales forecasts

The first step in preparing a cash flow statement is to project sales, after which other significant line items to be shown must be determined. Sales should be based on the market analysis (see section 3.5.2) done for the product or service. The sales forecast largely determines what must be accomplished by the various functions (such as manufacturing, marketing, personnel) of the business.

Existing businesses can usually predict sales figures with relative confidence; their main interest may instead be in controlling or reducing costs. For start-ups, however, estimating sales is the most important step, because if actual sales prove to be higher or lower than expected, the company's cash needs can increase or decrease significantly.

Forecasting sales can be especially difficult for high-growth start-ups, because their whole operating strategy depends on enormous and rapid increases in sales.

3.7.7 Cash flow statements

In its most basic terms, a cash flow statement is just three things: cash in, cash out, and timing—the familiar sources and uses of cash.

Unlike cash flow statements prepared in accordance with generally accepted accounting principles (GAAP), cash flow projections in business plans often begin with sales in units. Showing units and unit prices adds another dimension to a cash flow analysis: The figures for units sold tie in to the projected production schedule (see section 3.6), while the figures for price per unit and volume in units tie in to the break-even analysis (see section 3.7.8). Often only net cash sales are shown, though sometimes the presentation of gross sales and returns (or deductions) and of the resulting net sales may be justified. A sample projected cash flow presentation is shown in appendix 4. Note that the periods can be months, quarters, or years.

Preparing cash flow projections usually requires many iterations. Among the important variables or assumptions to test are varying levels of inventory (a notorious cash drain), short-term debt (which increases the company's risk and vulnerability to recession), and accounts receivable (because bad debt or slow-paying customers can ruin the company). Iterated cash flow projections help to determine the ultimate appearance of the other financial statements, the appropriate debt/equity decision for the business, and the percentage of ownership that outsiders should get for their investments.

3.7.8 Other financial analyses

Many business plans include a break-even (or cost/volume) analysis, usually in graph form. Even if break-even figures or graphs are not included in plans intended for outside use, they can be very useful for internal management purposes because they underscore the fact that there are only three possible ways to increase profitability: increase prices, increase volume, and decrease costs (whether fixed or variable). Either break-even sales revenue or break-even unit sales could be provided. Both analyses require assumptions regarding sales volume and prices.

Key financial ratios are sometimes also presented, especially for bank loans. The ratios usually included are

— Current ratio.

— Debt-to-net-worth ratio.

— Return on equity.

— Gross margin percentage.

These ratios are discussed in the chapter on Obtaining Financing.

3.8 Supporting Documents and Exhibits

The supporting documents section of most business plans is somewhat general. It includes any information relevant to the business plan that is not segregated elsewhere. Occasionally, historical financial statements are also put in this section. Organizational charts are sometimes provided, and some business plans place biographies of the lead entrepreneurs or of important owners and managers here. Articles from trade magazines about the industry, product, or service may be relevant to substantiate or corroborate positions presented in the plan. Finally, copies of significant contracts or agreements might also be shown (for example, leases, union agreements, line-of-credit agreements, patents, and licensing agreements).

4. FINANCING

This section discusses financing considerations, especially venture capital. The chapter on Obtaining Financing provides an overview of the various sources of debt and equity financing available.

4.1 Debt Versus Equity

The reward an entrepreneur reaps from a business varies tremendously depending on whether debt or equity financing is used. Using all debt is seldom feasible. It is also very risky, because as leverage increases, risk escalates from the ever-increasing drain of cash caused by servicing the debt. If the business fails (the probability of which increases as leverage increases), the entrepreneur often faces personal as well as professional disaster because, typically, the entrepreneur is forced to guarantee the business debt personally.

Alternatively, using all equity is usually equally repugnant to entrepreneurs, because doing so means having to relinquish a significant share of the business—sometimes even majority control.

Leverage affects risk, as does the type and stage of a business venture; both, therefore, affect whether debt or equity financing should be used. In the early stages of a venture, equity financing is often the only choice. As the business grows, establishes a record, and thus appears less risky, debt financing becomes more available and more attractive. The newer and the more untested the company, the greater the risk presented by debt financing.

4.2 Venture Capital

Large growth potential and large capital needs, together with potentially large payoffs (and big risks), are the signs that point to seeking venture capital as a source of funds.[3] Venture capitalists have to see significant potential before they will be interested in a company.

4.2.1 Characteristics of venture capital

Depending on the risk, venture capitalists may require an annual return on investment of from 30 percent to 80 percent. In return for their investment, they usually obtain a significant share of the business—often majority control and always significant influence over decision

[3]This section draws on the excellent discussion of venture capital found in Alleva and Barnes, *Price Waterhouse Review*, 1988, no. 2:42–51.

making. If the business begins to collapse, they may take over daily control or replace management. Finally, although venture capitalists provide long-term capital and are willing to wait from three to ten years for a return on their investment, they want to be able to bail out. Venture capitalists want to be able to liquidate their investments by a sale or merger of the company or else by taking it public through an initial public offering.

Although venture capitalists expect a high return, the degree of risk of the businesses funded by venture capital should always be kept in mind. Even if an entrepreneur must relinquish a major share of the business, it is better to own part of a well-capitalized company that stands a good chance of success than to own 100 percent of a company that will fail or never even get off the ground for lack of capital.

Many venture capital firms specialize in certain industries—for example, computer hardware or software, genetic engineering, or publishing. Some fund only companies in the conceptual stage by providing "seed money," whereas others will not even consider funding a business until it has a track record of a few years.

4.2.2 Pricing of venture capital deals

There are many ways to value a business (see the chapter on Business Valuations herein). A typical venture capital pricing, however, involves the use of price/earnings (P/E) ratios (earnings multiples) and discounted cash flow techniques.

To illustrate, assume that a venture capitalist agrees to invest $1 million in a privately held manufacturing company that expects $3 million net earnings five years from now. The company has one million shares of stock outstanding. Similar public companies have P/E ratios of 10, and the same earnings multiples are expected to hold true for the next five years. The venture capitalist requires a 50-percent return on its investment and plans to cash out at the end of the fifth year by taking the company public.

The calculation of the share of the business that goes to the venture capitalist is as follows:

Projected Earnings Per Share (EPS):

$$\frac{\text{\$3 million projected net earnings in fifth year}}{\text{1 million shares outstanding}} = \text{\$3 EPS}$$

Projected Stock Price When Company Goes Public:

$3 EPS × 10 P/E ratio = $30 per share

Projected Value of Company When Company Goes Public:

$30 per share × 1 million shares = $30 million

Present Value of Business:

$30 million future value of company

(1 + 0.50%) Discount factor (50% return for 5 years)

= $3,950,617 Present value of business

Percentage Ownership Venture Capitalist Gets for $1 Million Invested:

= $1 million invested

$3,950,617 present value of business

25% ownership interest

5. THE ACCOUNTANT'S ROLE

An accountant's training and experience provide an overall business sense that few other professionals can match. Financial projections and the related financial analyses make up the inner workings of a business plan. Accountants (whether practicing CPAs or part of financial management in industry) should, therefore, be closely involved in all aspects of business planning.

Especially with start-ups, the immediate concern is raising capital and, based on projected financial statements, showing some evidence that the business will ultimately be able to generate enough operating income to repay creditors and provide a return on investment commensurate with the risk of the venture.

Although most accountants should be able to help project financial statements, many businesses—especially start-ups—need extensive help in targeting how much debt or equity to seek, which creditors or investors to approach, and how to minimize the usually lengthy delay from business-plan completion to obtainment of suitable financing. In part, this means maintaining close relationships with banks, other commercial lenders, large private investors, and a range of venture capital firms.

5.1 Business Planning Engagements and Clients

Business planning clients must usually be sought out. Perhaps the best way to build a business planning practice is to build on existing client relationships: Many of an accountant's existing write-up, audit, and tax clients need business plans, even if they don't know it.

The following situations all suggest the need for formal business planning help that accountants can provide:

— Additional capital for needed growth
— Cash flow difficulties (for example, trouble in paying suppliers, meeting payrolls, or servicing debt)
— Impending bankruptcy
— New competition or changed technology in the industry
— Changes in management
— Calls for help with specific problems that may be symptomatic of bigger problems (for example, chaotic record keeping suggests underlying management problems)
— Mergers and acquisitions

Of course, many companies do some sort of budgeting, but few take the added step of formally tying a budget to the company's overall strategic plan for marketing, production and operations, and logistics. For those clients who do budget already, accountants should help them make the leap to incorporating the yearly budget into an annual business plan. For those clients who do not even have a formal budgeting system, the accountant can urge beginning with a formal business plan (which is simply a far more comprehensive budget document) or can suggest that the client start with a one- or two-year budget, then later integrate the budgeting system into a continually updated business plan. A company's tactics—and often even its goals and objectives—need to change. The important thing is to regularly compare actual results with projections and to update and adapt plans accordingly. Sometimes clients can do this themselves, but often accountants can gain valuable ongoing planning engagements by simply being alert to opportunities.

5.1.1 Undertaking a planning engagement

A client may request a consulting engagement for assistance in establishing business goals and developing plans, or the practitioner may recommend it, based on knowledge of the client's operations and need for planning. When a client requests assistance, the practitioner may want to determine whether there are any underlying reasons or special purposes for the request. The practitioner needs to know the pertinent facts to help the client develop goals and plans that are appropriate and well matched to the needs of the organization.

In deciding whether to accept the engagement, the practitioner considers the nature of the client's business and the specific request for service in light of the practitioner's own standards, policies, and capabilities. If the request for services is from a prospective client, the practitioner might ask the following pertinent questions:

— Who referred the prospective client?
— Has the prospective client previously engaged another accountant, and if so, why is a new one being sought?
— Is the prospective client seeking to establish a continuing relationship with the practitioner or asking for one-time-only assistance?
— How long has the client been in business?
— Who are the owners/partners?
— What is the nature of the client's current business?
— What is the financial history of the client's current business?
— Were there any earlier business ventures, and what resulted from them?
— With whom does the client bank?
— What law firm does the client use?

The practitioner may conduct a brief preliminary fact-finding survey to develop an understanding of the client. The most critical factors are the benefits the client anticipates and what the practitioner needs to do to accomplish the engagement objectives. The time devoted to a preliminary survey may be less for an existing client because of the practitioner's familiarity with the client's operations, personnel, and other key factors.

From the information obtained during discussions with the client and from the preliminary fact-finding survey, the practitioner might prepare notes for reaching an oral understanding with the client or might develop a written engagement proposal. If the client accepts the proposal, the practitioner develops an engagement schedule, which establishes target dates or time allocations and the responsibilities of persons involved in the engagement work phases and activities.

5.2 Professional Standards for Business Plans

The close relationship of business planning to other types of professional engagements provided by CPAs makes determining the scope of service important. Understanding the requirements is especially so, because the procedures and reports required by the various professional standards and the resulting fees that must be charged have to be explained to the client in advance. The client must understand and agree to both the ultimate scope and the cost of the engagement.

Briefly, business planning engagements that involve the use of historical financial information should be conducted in accordance with the AICPA's Statements on Auditing Standards (SASs) or Statements on Standards for Accounting and Review Services (SSARSs). In addition, since prospective financial information is the main core of business plans, *Financial Forecasts and Projections,* and *Guide for Prospective Financial Statements* (February 1993) apply to all business plan engagements that involve a financial forecast or projection for third-party use.

The *Guide* incorporates SOP 89-3, *Questions Concerning Accountants' Services on Prospective Financial Statements,* and SOP 92-2, *Questions and Answers on the Term "Reasonably Objective Basis" and Other Issues Affecting Prospective Financial Statements.* Also included in the Guide is SOP 91-1, *Accountants' Services on Prospective Financial Statements for Internal Use Only and Partial Presentations.* This SOP applies to prospective information that is not intended for general use.

Note that in 1987 the Auditing Standards Board implicitly recognized the difficulty of sorting out all the existing professional guidance by establishing a Forecasts and Projections Task Force whose goals were to identify problems in implementing the SPFI and the *Guide for Prospective Financial Statements.* Questions or problems regarding forecasts or projections may be directed to the Task Force as follows: AICPA, Auditing Standards Division, File 2660, 1211 Avenue of the Americas, New York, NY 10036-8775. In addition, the Management Advisory Services (MAS) Practice Standards and Administration Subcommittee issued a Management Advisory Services Special Report in 1988 entitled *Comparing Attest and Management Advisory Services: A Guide for the Practitioner.* See the next section for a discussion of professional standards for management consulting services engagements. In 1991, the Management Advisory Services Executive Committee changed the MAS designation to Management Consulting Services (MCS) to more closely reflect industry usage.

Note that attestation standards—which one might logically think would be applicable to the projected financial information in business plans—in fact do *not* apply. As the Introduction to Statement on Standards for Attestation Engagements *Attestation Standards* states, CPAs should instead follow the guidance provided in SPFI:

> The attestation standards do not supersede any of the existing standards in Statements on Auditing Standards (SASs), Statements on Standards for Accounting and Review Services (SSARSs), and Statement on Standards for Accountants' Services on Prospective Financial Information. Therefore, the practitioner who is engaged to perform an engagement subject to these existing standards should follow such standards.

The applicable professional guidance and standards for business planning engagements are discussed in the sections that follow.

5.2.1 Business plans as management consulting services

Work on business plans is a form of management consulting service. The authoritative professional literature on management consulting services is contained in the Statement on Standards for Consulting Services (SSCS) issued by the Management Consulting Services Executive Committee of the AICPA.

Statement on Standards for Consulting Services No. 1, *Definitions and Standards,* requires that MCS consultants be professionally competent and that they exercise due professional care. MCS engagements must be adequately planned and supervised, and sufficient relevant data must be obtained to afford a reasonable basis for conclusions or recommendations.

Among other requirements, SSCS No. 1 requires a CPA who performs a business plan engagement to *reach an understanding with the client.* Although either oral or written understandings are permitted, reducing the understanding to a clear, unequivocal written agreement signed by both parties is the preferable approach.

SSCS No. 1 states that agreements with clients should address:

— Nature of the services

— Scope of engagement, including limitations or constraints

— Roles, responsibilities, and relationships of all parties involved

The following issues may also be made explicit in the agreement for this type of engagement (although not specified in the SSCS):

— Overall approach to the engagement, including major tasks, activities, and methods

— Form and timing of both status reports and the final report

— Work schedule

— Fee arrangement

— Whether historical financial statements will be included in the business plan

— How the client intends to use the business plan (that is, strictly for internal use or for the use of certain contemplated third parties, such as prospective lenders or creditors)

— Whether the accountant's name will be associated with any of the financial information presented (whether historical or prospective)

— Whether specialists will be used (for example, marketing experts)

In discussing fee arrangements, the CPA must take into account all the professional standards that must be met for the engagement and make sure that the client understands the required work, time commitments, and resulting fees.

After completing the engagement, the CPA should provide a report (oral or written, though, again, a written document should virtually always be prepared) on all significant results, assumptions made (see section 3.7.3 herein for a discussion of financial assumptions used in business plans), and any qualifications or reservations the CPA may have.

5.2.2 Historical financial statements and SSARS No. 1

If a business plan includes unaudited historical financial statements of a nonpublic company, SSARS No. 1, *Compilation and Review of Financial Statements*, issued in December 1988, sets forth the accountant's responsibility as such:

> An accountant should not consent to the use of his name in a document or written communication containing unaudited financial statements of a nonpublic entity unless (*a*) he has compiled or reviewed the financial statements and his report accompanies them, or (*b*) the financial statements are accompanied by an indication that the accountant has not compiled or reviewed the financial statements and that he assumes no responsibility for them.

SSARS No. 1 makes no exception according to the intended use of the statements—that is, business plans that will be used only internally versus those that will be distributed to certain contemplated third parties. The conclusion to be reached, therefore, is that accountants must always indicate their responsibility for historical financial statements included in a business plan.

One exception that SSARS No. 1 does make applies if only *selected* financial information is included in a business plan. Examples include specified elements of financial statements (such as sales figures) or certain accounts. However, a CPA may attest to such specified elements under the Statement on Standards for Attestation Engagements *Attestation Standards.*

5.2.3 Financial Forecasts and Projections

SSAE No. 1, AT sec. 200, "Financial Forecasts and Projections," applies only to complete presentations; essentially, this means full basic financial statements of prospective financial information that is intended for use by third parties.

SSAE No. 1 defines *financial forecasts* as the expected, or best, estimate of future financial results. *Financial projections* is a broader term that includes financial forecasts. Projections are "what if . . ." results that assume certain specified hypothetical circumstances or courses of action.

CPAs are required to examine or at least compile financial statements submitted to clients (or others) that are intended for third parties (or reasonably expected to be used by third parties). Alternatively, the accountant can perform agreed-upon procedures to the prospective financial information. The procedures and reports required depend, of course, on the type of engagement: an examination, compilation, or agreed-upon procedures.

5.2.4 Guide for Prospective Financial Statements

Although the AICPA audit and accounting guide *Guide for Prospective Financial Information* does not have the authority of pronouncements enforceable under rule 202 of the AICPA Code of Professional Conduct, it provides suggestions and recommendations on the preparation and presentation of prospective financial information. A CPA who fails to follow what the guide recommends should be prepared to justify departures from the recommended practice.

Among the many topics covered in the guide are

— Definitions, types, and uses of prospective financial statements.

— Responsibility for prospective financial statements.

— Preparation and presentation guidelines.

— Types of accountants' services.

— Appropriate procedures, representation letters, engagement letters, and reports for compilations, examinations, and agreed-upon procedures.

— Partial presentations.

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APPENDIX 1: Sample Business Plan Outline

I. COVER SHEET
II. TABLE OF CONTENTS
III. EXECUTIVE SUMMARY
  A. Product or service
  B. Market
  C. Objectives, strategies, and critical success factors
  D. Funding needed and purpose
  E. Projected financial performance
IV. ORGANIZATION, MANAGEMENT, AND HUMAN RESOURCES
  A. Organization
    1. Description and history
    2. Legal form and tax status
    3. Locations of headquarters, plants, offices
    4. Achievements and problems (both past and foreseen)
    5. Capital (debt or equity) sought and uses planned
    6. Current and planned capital structure
  B. Management and human resources
    1. Short biographies or resumes of key managers and other personnel
    2. Current and proposed number of employees
    3. Compensation and benefits policies
    4. Union affiliations (present or foreseen)
    5. Management and human resources budget
V. OBJECTIVES
  A. Projected returns, plans to go public
  B. Expected use of resources
  C. Timing of expected use
  D. Methods planned
VI. ACTION PLAN
  A. Detailed, specific, and coordinated steps to be taken to meet objectives specified
VII. MARKETING
  A. Product or service
    1. Description (plus broader implications of product or service sold)
    2. Brand names, if applicable, and prices
    3. Patents, trademarks, copyrights, franchises, or licensing agreements
    4. Budget

B. Market analysis
  1. Target market
  2. Customer preferences and needs
  3. Customers versus end users
  4. Size, history, and trends market
  5. Demographics
  6. Market research

C. Industry analysis
  1. Critical success factors
  2. Projected growth of industry, market, and company
  3. Important risks
  4. Ease of entry into market
  5. Industry patents, trademarks, copyrights, franchises, and licensing agreements
  6. Stage and maturity of the market
  7. Seasonality
  8. Sensitivity to business cycles
  9. Government regulation
  10. Normal credit policies
  11. Advertising and promotion
  12. Trends, fads, and importance of innovations and technological changes
  13. Price sensitivity analyses and possible substitutions
  14. Major competitors
  15. Distribution
  16. Prevailing sales methods

D. Marketing strategy
  1. Attributes of the product or service to be emphasized
  2. Pricing policies
  3. Distribution channels
  4. Service and warranties
  5. Credit policies
  6. Advertising and promotion
  7. Sales personnel or direct-marketing staffing and compensation

VIII. PRODUCTION AND OPERATIONS

A. Description of manufacturing, purchasing (retail), or delivery of services

B. Location, description of plants or offices

C. Capacity and utilization

D. Major cost components (e.g., direct labor versus specific direct material costs)

E. Expansion plans

F. Major fixed assets (current and planned)

G. Make-versus-buy considerations
H. Quality control
I. Changes in production technology and threats from imports
J. Shelf-life, potential obsolescence of inventory
K. Current and expected inventory turnover
L. Discussion of major suppliers
M. Budget

IX. FINANCIAL PRESENTATION AND DATA
A. Feasibility studies
B. Scenarios and time horizons
C. Assumptions
D. Historical financial statements
E. Prospective sales forecasts, cash flow statements, balance sheets, and income statements
F. Other financial analyses (e.g., break-even analyses, financial ratios)

X. SUPPORTING DOCUMENTS AND EXHIBITS
A. Management biographies or resumes (optional)
B. Organizational charts
C. Pictures of product
D. Historical financial statements (optional)
E. Significant contracts or agreements
F. Articles from trade magazines

APPENDIX 2: Sample Format for Financial Statement Projections

PROJECTION OF FINANCIAL STATEMENTS

SUBMITTED BY

			ACTUAL		PROJECTIONS							
	SPREAD IN HUNDREDS O	DATE										
	SPREAD IN THOUSANDS O	PERIOD										
PROFIT AND LOSS	1	NET SALES										1
	2											2
	3											3
	4	Less Materials Used										4
	5	COST OF GOODS SOLD										5
	6	GROSS PROFIT										6
	7	Less Sales Expense										7
	8	General & Administrative Expense										8
	9	Depreciation										9
	10											10
	11	OPERATING PROFIT										11
	12	Less Other Expense										12
	13	Add Other Income										13
	14	PRE TAX PROFIT										14
	15	Income Tax Provision										15
	16	NET PROFIT										16
CASH PROJECTION	17	CASH BALANCE (Opening)										17
	18	Add Receipts Cash Sales & Other Income										18
	19	Cash Sales Plus Receivable Collections										19
	20											20
	21											21
	22	Bank Loan Proceeds										22
	23	Other Loan Proceeds										23
	24	TOTAL CASH AND RECEIPTS										24
	25	Less Disbursements Trade Payables										25
	26	Direct Labor										26
	27	OPERATING & OTHER EXPENSES										27
	28											28
	29	Capital Expenditures										29
	30	Income Taxes										30
	31	Dividends or Withdrawals										31
	32	Bank Loan Repayment										32
	33	Other Loan Repayment										33
	34	TOTAL CASH DISBURSEMENTS										34
	35	CASH BALANCE (Closing)										35
BALANCE SHEET	36	ASSETS Cash and Equivalents										36
	37	Receivables										37
	38	Inventory (Net)										38
	39											39
	40	CURRENT ASSETS										40
	41	Fixed Assets (Net)										41
	42											42
	43											43
	44											44
	45	TOTAL ASSETS										45
	46	LIABILITIES Notes Payable Banks										46
	47	Notes Payable Others										47
	48	Trade Payables										48
	49	Income Tax Payable										49
	50	Current Portion L T D										50
	51											51
	52	CURRENT LIABILITIES										52
	53	Long Term Liabilities										53
	54											54
	55											55
	56	TOTAL LIABILITIES										56
	57	NET WORTH Capital Stock										57
	58	Retained Earnings										58
	59											59
	60	TOTAL LIABILITIES AND NET WORTH										60

(Text continued on page 33)

HOW TO USE THIS FORM

RMA s Projection of Financial Statements, Form C 117 may be completed by the banker the customer or both working together It is designed to be flexible and may be used as a

1) Projection tool to provide a picture of the customer s present and future financial condition Actual and estimated financial data form the basis of the calculations
2) Tool for analysis of the customer s borrowing needs and debt repayment ability
3) Budget to aid in planning for the customer s financial requirements and repaying the banker s credit accommodation

INSTRUCTIONS In the first column, enter the actual PROFIT AND LOSS STATEMENT and BALANCE SHEET of the date immediately prior to projection period Then, in each subsequent column, covering a projection period (e g month quarter annual)

- Enter on the date line the ending date of each projection period (e g 1 31 3 31 19____)
- Enter on the period line the length of each projection period (e g 1 mo 3 mos 12 mos)
- Then follow the line by line instructions below

Line No	Title	Instructions
PROFIT AND LOSS STATEMENT		
1	NET SALES	Enter actual or beginning net sales figure in the first vertical column We suggest you project future net sales based upon a % sales increase or decrease Estimate acceptable % figure and record here _____ % (This % is generally calculated based on historical changes in net sales However consideration must also be given to factors such as general business conditions, new products and services and competition)
2 through 5	COST OF GOODS SOLD	Enter all relevant components of customer s cost of goods sold calculation Project future cost of goods sold based upon % increase or decrease Estimate acceptable percentage figure and insert here ___ % (This figure is generally estimated as a percentage of sales based on prior years)
6	GROSS PROFIT	Line 1 minus line 5
7 through 10	Sales Expense General and Administrative Expenses, Other	Enter all items Project future expenses based on an increase or decrease Estimate acceptable percentage figure and insert here _____ % (This figure is generally estimated as a percentage of sales based on prior years Anticipated increases in major expenses such as lease officers salaries etc should also be considered)
11	OPERATING PROFIT	Line 6 minus the sum of lines 7 through 10
12 through 13	Various adjustments to Operating Profit	Enter all items and estimate future adjustments
14	PRE TAX PROFIT	Line 11 minus the sum of lines 12 through 13
15	Income Tax Provision	Common methods used for calculating Income Tax Provision include the most current year s tax as a % of the Pre Tax Profit
16	NET PROFIT	Line 11 minus the sum of lines 12 through 15
CASH PROJECTION CALCULATION		
17	CASH BALANCE	Enter opening cash balance For subsequent periods enter the closing cash balance (Line 35) from previous period Or enter an adjusted amount to reflect a desired cash balance
18 through 21	Receipts	Enter total cash sales & other income plus receivables collected Receivable collections must be calculated separately This requires an analysis of the customer s sales and collection patterns

(1) Estimate the portion of each month s sales collected in that month and subsequent months

(2) From the sale s figure last month and the previous month(s) calculate how much of the existing receivable figure will be collected in the current month

(3) Deduct the collected receivables balance calculated in (2) above from the month end balance of accounts receivables

(4) Add this month s sales figure to the remainder of receivables calculated in (3) above This figure is the new accounts receivable figure for the end of the current month

EXAMPLE Assumptions
Projection calculation monthly

Monthly Net Sales	9 30	$250M
	10 31	$300M
	11 30	$150M
Accounts Receivable balance	9 30	$250M
	10 31	$367M

The average collection period is 45 days This means that 66 7% (30 days 45 days) of each month s sales will be collected the following month and the remaining 33 3% in the second month

To determine receivable collections for November

Accounts Receivable balance 10 31		$367M
Deduct 66% of 10 31 sales	200M	
33% of 9 30 sales	83M	283M
		84M
Add 11 30 sales		150M
Accounts Receivable Balance 11 30		$234M

Line No	Title	Instructions
22 through 23	Bank Loan Proceeds Other	Enter actual or projected bank loan proceeds on line 22 Enter any other receipts on line 23
24	TOTAL CASH AND RECEIPTS	Enter sum of lines 17 through 23
25 through 33	Disbursements	Enter actual or estimated cash disbursements on these lines
34	TOTAL DISBURSEMENTS	Enter sum of lines 25 through 33
35	CASH BALANCE (Closing)	Line 24 minus line 34 Note The closing cash balance on line 35 may be entered on line 17 in the next column However if the closing cash balance is negative or below the desired opening cash balance then bank loans (line 22) may be needed to raise the closing cash balance to zero or to the desired opening cash balance The bank loan necessitates planning for repayment (line 31 and 32) in subsequent columns

BALANCE SHEET

(36 through 44)	ASSETS	
36	Cash and Equivalents	Enter cash and readily marketable securities--current year only. For subsequent years use the closing cash balance (line 35).
37	Receivables	Enter actual receivables in the first column. To project, use previous receivables figure plus projected net sales (line 1), minus projected cash sales and receivables collections (line 19).
38	Inventory	Enter actual inventory in the first column. To project, add purchases to beginning inventory. Then, subtract materials used to calculate the ending inventory amount (lines 2 through 4). If the inventory purchase figure is not available, balances can be calculated based on historic turnover ratios.
40	Current Assets	Enter sum of lines 36 through 39.
41	Fixed Assets (Net)	Enter fixed assets. To project, add previous year's fixed assets and any fixed asset additions. Then, deduct estimated accumulated depreciation.
42 through 44		Enter other non-current assets (stockholder's receivables, intangibles, etc.).
45	TOTAL ASSETS	Add lines 40 through 44.
(46 through 56)	LIABILITIES	
46	Notes Payable-Banks	Prior period balance plus loan proceeds (line 22), less repayments (line 32).
47	Notes Payable-Others	Prior period balance plus note proceeds (line 23), less repayments (line 32).
48	Trade Payables	Prior period balance plus purchases less payments (line 25). If the inventory purchase figure is not available, balances can be projected based on historic payables turnover.
49	Income Tax Payable	Add prior period balance to income tax provision (line 14) and deduct income taxes paid (line 30).
50	Current Portion Long-Term Debt	Estimate current maturities by entering the sum of prior period debt's maturities and additional bank loan proceeds scheduled repayments.
51		Enter the sum of any other current liabilities.
52	CURRENT LIABILITIES	Enter the sum of lines 46 through 51.
53 through 55	Long-Term Liabilities	Enter long-term liabilities here. Calculate long-term debt by adding previous period long-term debt (line 53) to loan proceeds (line 22 & 23), and subtracting current maturities (line 50).
56	TOTAL LIABILITIES	Enter sum of lines 52 through 55.
(57 through 59)	NET WORTH	
57	Capital Stock	Enter current capital stock figure. An increase will occur if capital stock is sold, a decrease will occur if existing stock is repurchased or retired.
58	Retained Earnings	Add prior period retained earnings to projected net profit (line 16), and deduct dividends or withdrawals (line 31).
59		Enter other equity items.
60	TOTAL LIABILITIES AND NET WORTH	Enter sum of lines 56 through 59.

APPENDIX 3: Business Planning Software

This exhibit lists software that can be used to help assemble business plans. All can be used on IBM and compatible microcomputers.

FORE-CAST FOR VENTURES

Lotus Selects
Catalog Center A
P.O. Box 25367
Rochester, NY 14624
1-800-635-6887

This Village Software FastAnswers template product produces detailed business forecasts. You can create over 20 different schedules for fixed assets, capitalization, debt, asset dispositions, expenses, sales, taxes, etc. Quarterly, monthly and annual schedules are supported.

Based upon Lotus 1-2-3, the template requires 1-2-3 for Windows, Release 4 or 5. (Part No. HM5982)

Price: $49.95

PROSHEETS FINANCIAL TEMPLATES

Lotus Selects
Catalog Center A
P.O. Box 25367
Rochester, NY 14624
1-800-635-6887

ProSheets Financial Templates allows you to choose from four different modules. The modules can be used individually, or combined to create business plans and loan packages.

Module 1 (Financial Statement Forecasting) allows projection of up to five years of income statements, balance sheets, and cash flows. Module 2 (Business Valuation) provides the ability to value a company using eight different methods. Module 3 (Financial Statement Analysis) compares any company's performance to business standards. Module 4 (Lease vs. Buy) provides asset acquisition guidance. The templates require Lotus 1-2-3 for DOS or Windows.

	Individual Modules	$29.95	(Part No. HK 6015-Mod. 1)
			(Part No. HK 6010-Mod. 2)
Price:			(Part No. HK 6014-Mod. 3)
			(Part No. HK 6017-Mod. 4)
	All Four Modules	$79	(Part No. HK 6008)

FORECAST PRO

Lotus Selects
Catalog Center A
P.O. Box 25367
Rochester, NY 14624
1-800-635-6887

Allows importation of data from Lotus 1-2-3 or virtually any other source. The program evaluates available data, chooses among several forecasting methods, and produces both a detailed forecast and a full explanation.

Forecast Pro, produced by BFS, may be used in either a Windows or DOS environment. A math-coprocessor is recommended for the DOS version.

Price: (Windows or DOS) $495 (Part No. Windows HK 5166)
(Part No. DOS HK 5176)

BIZ PLAN BUILDER

JIAN
P.O. Box 120
Buffalo, NY 14207-9966
Phone: 1-800-346-5426
Fax: 1-716-873-0906

A complete business plan, including word processing and spreadsheet files, is provided. Text is provided (but may be edited), only financial data needs to be entered. Includes a sample completed business plan illustrating possibilities for publishing a finished copy. Built-in tutorials and a comprehensive reference are included.

Word processing and spreadsheet software that can read ASCII files (for example, Lotus 1-2-3, QuattroPro, Symphony) is required. MacIntosh version requires MS Excel. Produced by Jian.

Price: (Windows, DOS or MacIntosh) $129

APPENDIX 4: Sample Cash Flow Statement Format

(All figures in dollars except units)

	Period 1	*Period 2*	*Period 3*	*(etc.)*	*Total*
Sources of Cash					
Units sold					
Price/unit					
Net sales					
Net sources of cash					
Uses of Cash					
Cost of goods sold					
Purchases					
Materials					
Labor					
Management					
Marketing/sales					
Administration					
Rent and utilities					
Taxes and fees					
Net uses of cash					
Starting cash					
Net cash flow/Period					
Cumulative cash flow					

APPENDIX 5: Sample Business Plan

MERRILL ENTERPRISES, INC.: New Business Proposal

Table of Contents

*These supporting documents have been omitted

Statement of Purpose

Merrill Enterprises, Inc., is seeking capital of approximately $400,000 to purchase an existing Class B or Class C FM radio station in the United States.

The acquired FM station will have tangible and intangible assets whose market value will be approximately $1 million. Merrill Enterprises will make an equity investment of $10,000, which together with other equity and debt financing, will be sufficient cash reserves, and provide adequate working capital to expand an existing market share in listeners and advertising revenues. These funds will finance the transition through an expansion phase which will allow the station to operate as an ongoing, highly profitable business entity.

PART I: THE BUSINESS

Business Strategy

The overall strategy of Merrill Enterprises is to identify and acquire an FM station that has the potential to be a first-class technical facility and does not compete directly with one or more stations owned by the large conglomerates that control a dominant share of the market.

Only stations that satisfy these two conditions will be possible acquisition candidates.* The rationale for this acquisition policy is that billings (and ultimately profitability) are a function of listenership and ratings which, in turn, are functions partly of coverage and the ability of a station to be heard relative to its competitors. Consequently, a powerful technical facility is a necessary condition of future growth in any given market.

For various reasons, an acquisition candidate may not have realized its full technical and marketing capability. Merrill Enterprises will identify such stations and the changes required to realize full potential. Upon successful acquisition, Merrill Enterprises will implement these changes.

The market needed to sustain a technically powerful station must be a relatively large one in order to achieve high profitability. However, the particular market cannot be dominated by one (or a few) station(s) with access to substantial capital and managerial resources. Capturing market share from such a competitor will prove to be both difficult and risky as a long-term strategy.

Key Objectives, Policies, and Plans

The key corporate objectives are to acquire and operate an FM station in the second 50's market† which has the potential to produce:

1) Sales of approximately $2 million in five years (15 percent growth rate);

*The acquisition candidates may also include: 1) stations that have both AM/FM licenses and are being sold as a package; 2) AM stations that have a Construction Permit to establish an FM station.

† Market size is determined by ratings of the American Research Bureau, on the basis of net weekly circulation for the most recent year. The selling prices of FM stations in the first 50's markets will be beyond our purchase capability.

2) Operating profits of 50 percent of net revenues within five years of acquisition;

3) Profit before taxes of 15 percent of net revenues within five years of acquisition.

The principal policies are:

1. Acquisition Policy

Only stations with upside potential from technical and marketing changes will be considered. Given available financial resources and future objectives, FM stations with annual billings of approximately \$400,000 to \$500,000 will be possible candidates. At an industry multiple of 2 to 2 1/2 times sales, the price range will be approximately \$800,000 to \$1,250,000 for an FM station with these billings.

2. Marketing Policy

Our marketing policy is to identify the market segments and programming which provide the optimum coverage given the geographic scope of our radio signal.

This policy may seem overly general to individuals who are unfamiliar with the radio broadcasting business. Nevertheless, the general nature of this policy is its strength in that it recognizes the unique situations of most radio stations. It is flexible in spirit and recognizes that pat marketing formulas generally do not work when applied "across the board."

3. Technical Facility Policy

Our policy is to create and maintain the best technical FM facility in terms of coverage and ability to be heard relative to local competition. This policy requires the acquisition of a Class B or Class C station.

NOTE: The FCC grants commercial licenses to three types of FM stations. Class A stations are licensed throughout the United States. However, they are low powered with a maximum of 3 Kw of power. Both Class B and Class C stations are licensed in noncompeting sections of the United States and have considerably higher power capabilities which provide them with a competitive edge.

4. Financial Policy

Our principal financial policy is to limit debt financing within acceptable boundaries to provide:

1) Adequate cash flow for operations;

2) Above-average returns for equity investors.

The present market for FM stations is one which requires a buyer to have established lines of equity capital *before* entering negotiations for a specific site. FM stations with potential do not remain long enough on the market; consequently, prospective buyers must be capable of entering meaningful negotiations quickly and from a position of financial strength when an opportunity presents itself.

Key Skills and Resources

A quality broadcasting property is a scarce commodity. One reason they are scarce is because the FCC limits the supply of all broadcasting stations. But within the existing supply of stations, the acquisition of a station with a high-quality potential is also affected by the ability of potential owners to—

1) Find and identify a property with upside potential;
2) Negotiate a sale at a favorable price and terms;
3) Seek FCC licensing approval in an efficient and effective manner;
4) Identify and implement the steps needed to realize the station's full potential.

Merrill Enterprises has the expertise to successfully realize the above requirements. The principal skills possessed by Merrill Enterprises are the skills, capabilities, and experience embodied in its president, Mr. David Merrill.

The track record of Mr. Merrill speaks for itself (see Personal Resume in Section III*). He has demonstrated a strong management capability with the special ability to turn marginal FM stations into much improved performers. While he has had numerous successes in his 20-year career in the radio business, his current position as General Manager of one of the top hundred stations in the United States has demonstrated particularly that he can handle even the bleakest of situations and is capable of taking proper and decisive action when required.

Overall, Mr. Merrill brings together several skills not usually found in a single person in the radio broadcast business. He has an above-average knowledge of the technical aspects of broadcasting. He is one of the best FM marketing managers in the United States. He has numerous contacts throughout the industry, which will provide a source of acquisition candidates and management technical personnel. He has a working knowledge of FCC regulations and an established relationship with them. He has strong sales and sales management capability. Finally, he has developed the skills needed for general management.

---

*Omitted from this sample plan.

Furthermore, Mr. Merrill is willing to relocate anywhere in the United States where a high-potential FM radio station is discovered and acquired.

Management and Personnel

Mr. Merrill will be president and general manager of the acquired station. Prior to takeover, he will staff the station with the best available personnel.

Personal Objectives of Mr. David Merrill

Mr. Merrill's personal objectives are:

1) to apply his management experience and expertise in the FM radio business;
2) to obtain a majority equity position in an FM radio station in order to fully exercise his capabilities.

Relevant Industry Trends

A number of industry trends are emerging which are relevant to this investment proposal.

These trends include the following:

1) Several sources indicate that:
   a) FM stations have performed well above average as a group, especially those stations employing a "beautiful music" format (see "FMs Continue to Show Strength in Latest Arbitron Sweep." Section III*);
   b) FM stations have achieved their growth at the expense of AM radio stations (see "Cox Study." Section III*);
   c) FM stations have achieved a position of strong positive cash flow which is expected to improve even further by 199X ("Cox Study." Section III*).

2) Market surveys indicate that radio listening habits are becoming more diverse. This trend suggests that creative marketing, including program definition, will become even more critical in the future. (See "Arbitron Sweep Shows Listening Habits Diversifying." Section III*).

3) The expectation is that independent FM stations in the top 125 markets will experience a sales growth of 25% to 30% in 199X. (See "Doherty Memo." Section III*).

Excerpts from an FCC publication, "The Nature of American Broadcasting," present other trends relevant to this proposal. It is included in Section III*.

PART II: FINANCIAL DATA

Sources and Applications of Funds

The likelihood is that the search process for an FM station will uncover two kinds of potential acquisitions.

One kind is the FM station that has a facility with appropriate technical capability in place. The second kind is a station that does not have the appropriate facility but, for example, possesses a construction permit to establish the required plant and equipment. Our assumption is that the asking price for the former facility will be considerably higher than the station requiring incremental capital investment. Consequently, the application of funds will differ for the two different kinds of acquisitions.

Exhibit 1 shows a sources and applications statement assuming no incremental investment in plant and equipment.

Exhibit 2 presents a similar statement assuming additional plant and equipment are required to achieve FM Class B or C status.

Professional and ethical considerations will require Mr. Merrill to inform his present employers that he intends to actively seek an FM station for purchase. He will probably have to relinquish his present position at the time he announces his intentions.

However, Mr. Merrill estimates that it will require between six to twelve months to locate, negotiate a purchase, and obtain FCC approval for the transfer of ownership. During this interim period, Mr. Merrill requires a salary that will allow him to meet his existing financial commitments. This salary is figured at an annual rate of $45,000.

Balance Sheet, P&Ls, and Cash Flow

The following exhibits demonstrate the potential of Merrill Enterprises to generate cash and profits.

Exhibit 3 shows a simple, opening balance sheet.

Exhibits 4 and 5 present a balance sheet and income statement for a potential acquisition XYZ, which is an "average" operation according to industry statistics.

Exhibit 6 shows the effect of acquiring XYZ on the balance sheet of Merrill Enterprises.

Exhibit 7 presents the consequences of retiring XYZ's debt immediately after acqusition.

Exhibits 8-12 provide income statements, cash flows, and balance sheets for Merrill Enterprises after one year of operations.

Exhibit 13 provides a five-year projection of income. One major assumption is that the company attains its five-year goal of reducing operating expenses to 50 percent of sales. A second assumption is that a 25 percent growth in sales is realized in year three from marketing changes instituted by Mr. Merrill during the previous two years.

Exhibit 1
Sources and Applications of Cash
(No Incremental P&E)

Sources		
	Mr. David Merrill	$ 10,000
	Venture Capital	400,000
	Bank Loan	800,000
	Total	$1,210,000
Applications		
	Purchase Stock of Station	$1,050,000
	Working Capital	100,000
	Reserve for Contingencies	15,000
	Pre-purchase salary for Mr. Merrill	45,000
	Total	$1,210,000

Exhibit 2
Sources and Applications of Cash
(Incremental P&E Investment)

Sources		
	Mr. David Merrill	$ 10,000
	Venture Capital	400,000
	Bank Loan	800,000
	Total	$1,210,000
Applications		
	Purchase Stock of Station	$ 800,000
	Plant, Equipment & Renovations	250,000
	Working Capital	100,000
	Reserve for Contingencies	15,000
	Pre-purchase salary for Mr. Merrill	45,000
	Total	$1,210,000

Exhibit 3
Balance Sheet for September 1, 19X1

Assets		**Liabilities and Equity**	
Cash (Equity)	$ 410,000	Long-Term Debt	$ 800,000
Cash (Bank loan)	800,000	Equity	410,000
Total Assets	$1,210,000	Total Liabilities and Equity	$1,210,000

Exhibit 4
Balance Sheet for December 31, 19XI
of Acquisition Company XYZ

Assets		**Liabilities**	
Cash	$ 6,889	Accounts Payable	$ 41,667
Accounts Receivable	76,444	Notes Payable	13,050
Prepaids	2,640	Accrued Expense	14,711
Deferred Reciprocal Expense	9,775	Deferred Reciprocal Revenue	17,322
Total Current	$ 95,748	Total Current	$ 86,750
Net P&E	200,000	Net Long-Term Debt	86,286
Net Goodwill	103,527	Total Equity	226,239
Total Assets	$399,275	Total Liabilities and Equity	$399,275

Notes for Exhibit 4

The figures in Exhibit 4 are derived from the operations of an actual station that is considered a representative example.

Cash — Cash balances are traditionally low in the radio business. The equivalent of about 5.7 days is assumed in this example.

A/R — Projected at about 63 days. 435,000/360 × 63 = 76,444.

Deferred — Reciprocal Expenses and Revenues are trade accounts where radio advertising time is exchanged for goods and services. They are projected conservatively to show a net liability.

P&E — Plant and equipment. Estimated by Mr. Merrill.

Goodwill — Estimated from private source.

Accounts Payable — Projected at 35 days based on sales since information was not available for "purchases" nor "cost of goods sold."

Notes Payable — The current portion of long-term debt.

Exhibit 5
Income Statement for December 31, 19XI
of Acquisition Company XYZ

Sales	$435,000	100%
Agency Commissions	52,519	–12
Net Sales	382,481	88
Operating Expenses (includes Depreciation)	304,994	–70
Operating Income	77,487	18
Other Expenses (interest, amortization)	12,487	– 3
Profit before Taxes	65,000	15
Taxes	19,700	– 5
Net Profit	45,300	10
Depreciation	12,900	+ 3
Approximate Cash Flow	58,200	13

Notes for Exhibit 5

Agency commissions, operating expenses, other expenses, taxes, and depreciation in Exhibit 5 are derived from the operations of an actual station that is considered a representative example.

These calculations are supported by the National Association of Broadcasters (NAB) data which show that the average pre-tax profit of FM stations with sales in the $500,000 range is 14–15 percent of sales.

Exhibit 6
Balance Sheet for January 19X2
Merrill Enterprises, Inc.

(Buys Station XYZ for $1,050,000 with net tangible assets of $122,712.)

Cash	$ 160,000	A/P	$ 41,667
Cash	6,889	N/P	13,050
Accounts Receivable	76,444	Accrued Expense	14,711
Prepaids	2,640	Deferred Reciprocal Revenue	17,322
Deferred Reciprocal Revenue	9,775	Total Current	86,750
Total Current	255,748		
P&E	200,000	Long-Term Debt	86,286
		Long-Term Debt	800,000
Goodwill	927,288		
		Total Liabilities	973,036
		Equity	410,000
Total Assets	$1,383,036		$1,383,036

Notes for Exhibit 6

Net tangible assets = 122,712 = (from Exhibit 4)
(95,748 + 200,000) minus (86,750 + 86,286)

Cash = 160,000 = (1,210,000 − 1,050,000) + 6,889 from cash account of acquired company.

All other current assets and liabilities from acquisition company.

P&E = Plant and equipment subtracted from Exhibit 4

Goodwill = difference between selling price (1,050,000) and net tangible assets (122,712).

Exhibit 7
Balance Sheet for January 2, 19X2
Merrill Enterprises, Inc.

Given excess working capital position, assume Note Payable and respective long-term debt are retired immediately.

Cash	$ 67,553	A/P	$ 41,667
A/R	76,444	Accrued Expense	14,711
Prepaids	2,640		
Deferred Reciprocal Expense	9,775	Deferred Reciprocal Revenue	17,322
Total Current	156,412	Total Current	73,700
P&E	200,000	Long-Term Debt	800,000
Goodwill	927,288	Equity	410,000
Total Assets	$1,283,700		$1,283,700

Notes for Exhibit 7

Cash balance of $166,889 reduced by 13,050 + 86,286 to $67,553.

Exhibit 8
Income Statement for December 31, 19X2
Merrill Enterprises

Sales (15% growth assumed)	$500	100%
Agency Commissions	60	12
Net Sales	440	88
Depreciation	20	4
Operating Expenses	305	61
Operating Income	115	23
Interest	45	9
Amortization	45	9
Pre-Tax Profit	25	5
Tax	4	1
Profit After Tax	21	4
Depreciation & Amortization	65	13
Cash Flow	86	17

Notes for Exhibit 8

This pro forma is actually quite conservative since it reflects no significant reduction of costs which Mr. Merrill states is usually possible when taking over most FM properties. For instance, it is not unusual to find a station that is overstaffed. Still, we have projected operating expenses plus depreciation at 65 percent of sales. At the pre-acquisition sales level of $435,000, this is equivalent to 75 percent of sales. ($325,000/435,000). Even under these conservative conditions, a profit after tax is realized plus a cash flow equivalent roughly to a 20 percent return on equity.

Exhibit 9
Cash Flow for 12 Months Ending December 31, 19X2
Merrill Enterprises

Sales	$500,000
Cash Inflows:	
Collection of January 1, 19X2 A/R	76,444
Cash Receipts from 19X2 sales (45-day lag)	437,500
Total Cash Inflows	513,944
Cash Outflows:	
Operating Expenses	305,000
Debt Service (interest only required)	45,000
Commissions (12 percent of sales)	60,000
Income Tax Estimates	4,000
Total Cash Outflows	414,000
Net Cash Flow	$ 99,944

Exhibit 10
Changes in Balance Sheet Derived from 12 Months
P&L and Cash Flow Statements

Cash	+	$99,944	Acct's Pay. plug — 1956	
Acc'ts Rec.	–	13,944	Accrued + 1956 held at 12 days	
Plant & Equip.	–	20,000	Deferred Reciprocal Revenue —no change	
Goodwill	–	45,000	Long-Term Debt & Equity — no change	
Prepaids & Deferred Reciprocal Expense		0	Retained Earnings + $21,000	
Total		$21,000	Total	+$21,000

Notes for Exhibit 10

Cash is derived from net cash flow of Exhibit 9 which is slightly higher but more accurate than rough cash flow shown in Exhibit 8.

Accounts Receivable is also derived from Exhibit 9 (sales $500,000 – cash receipts of $437,500 – $76,444 January 1, 19X2 A/R).

Plant and equipment is depreciated straight-line over ten years ($200,000/10) – $20,000.

Goodwill is amortized over 20 years. Actual figure is $46,364, but this was rounded to $45,000.

No change was assumed for prepaids, deferred reciprocal expenses and revenues, long-term debt, equity.

For conservatism, accrued expenses were held at a rate equivalent to 12 days of sales over 360-day year.

Exhibit 11
Balance Sheet for December 31, 19X2
Merrill Enterprises

Cash	$ 167,497	Accounts Payable	$ 39,711
Accounts Receivable	62,500	Accrued Expense	16,667
Prepaids	2,640		
Deferred Reciprocal Expense	9,775	Deferred Reciprocal Revenue	17,322
Total Current	242,412	Total Current	73,700
Plant & Equipment	180,000	Long-Term Debt	800,000
Goodwill	882,288	Equity	410,000
		Retained Earnings	21,000
	$1,304,700		$1,304,700

Exhibit 12
Balance Sheet for January 1, 19X3
Merrill Enterprises

Cash Position Reduced to Retire 1/8th of Long-Term Debt and Make Dividend Payment to Preferred Stockholders

Cash	$ 48,497	Accounts Payable	$ 39,711
Accounts Receivable	62,500	Accrued Expense	16,667
Prepaids	2,640		
Deferred Reciprocal Expense	9,775	Deferred Reciprocal Revenue	17,322
Total Current	123,412	Total Current	73,700
Plant & Equipment	180,000	Long-Term Debt	700,000
Goodwill	882,288	Equity	412,000
Total Assets	$1,185,700		$1,185,700

Notes for Exhibit 12

Cash accounts reduced to adjust for principal payment of long-term debt ($100,000) and dividend payment ($19,000). Acid test or liquidity ratio still about 1:0.

Exhibit 13
Five-Year Income Projection

Growth Rate:	15%	15%	25%	15%	15%
End of Year:	1	2	3	4	5
Sales	500	575	719	827	951
Agency Commissions	60	69	86	99	114
Net Sales	440	506	633	728	837
Expenses					
Depreciation	20	20	20	20	20
Other Operating*	305	334	395	430	475
Operating Income	115	152	218	278	342
Other Expenses					
Interest	45	45	45	45	45
Amortization	45	45	45	45	45
Profit Pre-Tax	25	62	128	188	252
Taxes	6	18	50	79	109
Net Profit	19	44	78	109	143
Depre. & Amort.	65	65	65	65	65
Cash Flow	84	109	143	174	208

*As a % of Sales 61% 58% 55% 52% 50%

Breakeven Analysis

Radio broadcasting is a relatively high fixed-cost business. The only variable cost element that changes month-to-month with sales is commissions. These commissions include payments to agency and internal sales personnel.

Consequently, the basic cost structure of the business is:

Sales	=	100%
Variable Costs	=	27%
Contribution		73%

Using a contribution margin of 73 percent, we can calculate a sales (profit) breakeven and a cash breakeven.

As noted in Exhibit 8, the percentage of agency commissions to total sales is 12 percent. The difference between 12 percent and 27 percent (total variable costs) represents commissions paid to representatives and manager overrides. This 15 percent amounts to $75,000, which is included in operating expenses of Exhibit 8. Once removed, total fixed costs are:

$340,000 = ($305,000 − 75,000) + 20,000 + 45,000 + 45,000

Consequently, "profit" breakeven is:

$$\$466{,}000 = \frac{\$340{,}000}{.73}$$

By removing non-cash expenses (depreciation and amortization of goodwill), a "cash" breakeven can be calculated as:

$$\$377{,}000 = \frac{\$340{,}000 - 20{,}000 - 45{,}000}{.73}$$

These breakevens represent, respectively, 93 percent and 75 percent of gross sales.

Risk Analysis

Compared to most new venture investments, the risks associated with the proposed venture are considerably lower.

One reason for this lower risk is that the product (FM broadcasting) is a known and successful medium. Also, FM and FM/AM combinations appear to be entering the growth phase of their product life cycles and supplanting the more mature AM radio broadcasting.

A second reason for lower risk is that the entrepreneur in question is deeply familiar with the proposed business. He has direct management experience with the product, as opposed to someone with a new product but no experience managing a business built around the product.

A third reason is that the proposal calls for the acquisition of an ongoing business, as opposed to a startup. This will maximize Mr. Merrill's strengths as quickly as possible.

Fourth, a minimum amount of capital will be exposed before an FCC licensing decision is reached. The sum in question is approximately $20,000 to $25,000 for Mr. Merrill's salary during this interim period. Also, the estimated probability of denial is extremely low given the FCC's goals.

Trade and Professional Organizations

TRADE AND PROFESSIONAL ORGANIZATIONS

This chapter contains names and addresses of leading governmental and professional trade organizations and associations roughly grouped to correspond to the chapter content of the *Accountant's Business Manual.*

These organizations have been selected because they publish materials and provide information to their members and to the general public. These organizations are excellent sources for the most current practices and latest developments within their interest groups.

At the end of the chapter is a reference list of publications that provide additional information about the organizations listed here plus many other federal, state, and private agencies and organizations. These publications should be consulted as thorough, cross-reference finding sources for a wealth of information in business, government, economics, and finance.

BANKRUPTCY/ INSOLVENCY

Governmental

Administrative Office of the U.S. Courts, Bankruptcy Div
One Columbus Circle, N.E.
Washington, D.C. 20544
(202) 273-1900

Nongovernmental

American Bankruptcy Institute
44 Canal Center Plaza, Ste. 404
Alexandria, VA 22314
(703) 739-0800

Association of Insolvency Accountants
31360 Via Colinas, Suite 108
Westlake Village, CA 91362
(818) 889-8317

Budget and Credit Counseling Services
55 5th Ave.
New York, NY 10003
(212) 675-5070

National Association of Bankruptcy Trustees
3008 Millwood Avenue
Columbia, SC 29205
(803) 252-5646

National Conference of Bankruptcy Judges
c/o Christine J Molick
235 Secret Cove Dr.
Lexington, SC 29072
(803) 957-6225

National Foundation for Consumer Credit
c/o William Furmanski
8611 2nd Avenue, Suite 100
Silver Spring, MD 20910
(301) 589-5600

BUSINESS/ECONOMIC STATISTICS

Governmental

Bureau of Economic Analysis
Dept. of Commerce
1441 L St., N.W.
Washington, D.C. 20230
(202) 606-9900

Bureau of the Census
Dept. of Commerce
Washington, D.C. 20233
(301) 457-2794

Council of Economic Advisers
Statistical Office
Old Executive Office Bldg., Rm. 419
Washington, D.C. 20500
(202) 395-5062

Economic Development Administration
Department of Commerce
Washington, D.C. 20230
(202) 482-5081

Federal Reserve System
Research and Statistics
20th and Constitution Ave., N W
Washington, D.C. 20551
(202) 452-3301

General Services Administration (GSA)
1800 F St., N.W.
Washington, D C 20405
(202) 501-0800

International Trade Administration
Trade Information and Analysis
Commerce Dept.
Main Commerce Bldg.
Washington, D.C. 20230
(202) 482-0543

Office of Management and Budget
Executive Office Bldg.
Washington, D.C. 20503
(202) 395-3093

Nongovernmental

American Economic Association
2014 Broadway, Ste. 305
Nashville, TN 37203
(615) 322-2595

American Economic Development Council
9801 W Higgins Rd., Suite 540
Rosemont, IL 60018-4726
(847) 692-9944

American Enterprise Institute for Public Policy Research
Economic Policy Studies
1150 17th St., N.W.
Washington, D.C. 20036
(202) 862-5914

American Institute for Economic Research
Division Street
Great Barrington, MA 01230
(413) 528-1216

Brookings Institution
1775 Massachusetts Ave., N.W.
Washington, D.C. 20036
(202) 797-6000

The Conference Board
845 Third Ave.
New York, NY 10022
(212) 759-0900

Economic Policy Institute
1606 L St., N W., Suite 1200
Washington, D.C. 20036
(202) 775-8810

Institute for Contemporary Studies
720 Market St., 4th Fl.
San Francisco, CA 94102
(415) 981-5353

National Association of Business Economists
1233 20th St., N W., Suite 505
Washington, D.C. 20036
(202) 463-6223

National Bureau of Economic Research
1050 Massachusetts Ave.
Cambridge, MA 02138
(617) 868-3900

National Chamber Foundation
1615 H St., N W.
Washington, D.C. 20062
(202) 463-5552

National Planning Association
1424 16 St., N.W., Suite 700
Washington, D.C. 20036
(202) 265-7685

U.S. Chamber of Commerce
1615 H St., N.W
Washington, D.C. 20062
(202) 659-6000

BUSINESS ENTITIES/GENERAL INFORMATION

Governmental

Dept. of Commerce
Business Liaison
Main Commerce Bldg.
Washington, D.C. 20230
(202) 377-3942

Federal Trade Commission
Office of Public Affairs
Sixth St. and Pennsylvania Ave., N W
Washington, D.C. 20580
(202) 326-2222

National Institute of Standards & Technology
Dept. of Commerce
Gaithersburg, MD 20899
(301) 975-2300

Nongovernmental

Accountants for the Public Interest
1012 14th St., N W., Suite 906
Washington, D.C. 20005
(202) 347-1668

American Accounting
Association
5717 Bessie Dr
Sarasota, FL 34233
(941) 921-7747

American Association of
Attorney-CPAs
24196 Alicia Pkwy ,
Suite K
Mission Viejo, CA 92691
(714) 768-0336

American Business Association
292 Madison Ave
New York, NY 10017
(212) 949-5900

American Business Conference
1730 K St., N W , Suite 1200
Washington, D C. 20006
(202) 822-9300

American Business Women's
Association
9100 Ward Pkwy
P O Box 8728
Kansas City, MO 64114
(816) 361-6621

American Institute of CPAs
1211 Ave of the Americas
New York, NY 10036-8775
(212) 596-6200

American Management
Association
1601 Broadway
New York, NY 10019
(212) 586-8100

American Small Business
Association
1800 N Kent St., Suite 910
Arlington, VA 22209
(800) 235-3298

American Society of Women
Accountants
1255 Lynnfield Rd , Suite 257
Memphis, TN 38119-7235
(901) 680-0470

American Woman's Society of
Certified Public Accountants
401 N Michigan
Chicago, IL 60611
(800) 297-2721

Association of Certified Fraud
Examiners
716 West Avenue
Austin, TX 78701
(512) 478-9070

The Business Council
888 17th St., N W., No. 506
Washington, D.C. 20006
(202) 298-7650

The Business Roundtable
1615 L St., N W , Suite 1100
Washington, D C. 20036
(202) 872-1260

The Conference Board
845 Third Ave
New York, NY 10022
(212) 759-0900

Corporate Data Exchange
225 Broadway, Suite 2625
New York, NY 10007
(212) 962-2980

Council of Better Business
Bureaus
4200 Wilson Blvd., Suite 800
Arlington, VA 22203
(703) 276-0100

EDP Auditors Association/
EDP Auditors Foundation
3701 Algonquin Rd.
Rolling Meadows, IL 60008
(708) 253-1545

Ethics Resource Center
1747 Pennsylvania Ave , N W.,
Ste. 400
Washington, D.C. 20007
(202) 737-2258

Financial Accounting Standards
Board
401 Merritt 7
P.O. Box 5116
Norwalk, CT 06856
(203) 847-0700

Financial Executives Institute
10 Madison Ave.
P O Box 1938
Morristown, NJ 07962
(201) 898-4600

Governmental Accounting
Standards Board
401 Merritt 7
P O. Box 5116
Norwalk, CT 06856
(203) 847-0700

Institute of Certified Business
Counselors
P O Box 70326
Eugene, OR 97401
(541) 345-8064

Institute of Internal Auditors
249 Maitland Ave
Altamonte Springs, FL
32701-4201
(407) 830-7600

Institute of Certified
Management Accountants
10 Paragon Dr
Montvale, NJ 07645
(201) 573-9000

Interamerican Accounting
Association
275 Fountainbleau Blvd.
Miami, FL 33172
(305) 225-1991

International Association of
Merger and Acquisition
Consultants
600 Revere Dr , Ste 500
Northbrook, IL 60062
(708) 480-9037

International Federation of
Accountants
114 W. 47th St , Ste 2410
New York, NY 10036
(212) 302-5952

National Association of
Certified Valuation Analysts
Brickyard Towers, Ste. 110
1245 E. Brickyard Rd
Salt Lake City, UT 84106
(801) 486-0600

National Association of
Corporate Directors
1707 L St., N W , Suite 560
Washington, D C. 20036
(202) 775-0509

National Association for Female
Executives
30 Irving Pl , 5th Fl
New York, NY 10003
(212) 477-2200

National Association of
Manufacturers
1331 Pennsylvania Ave , N W ,
Suite 1500N
Washington, D C. 20004
(202) 637-3000

National Association of Minority
Women in Business
906 Grand Ave., Suite 200
Kansas City, MO 64109
(816) 421-3335

National Association of State
Boards of Accountancy
150 Fourth Ave , North
Nashville, TN 37219
(615) 880-4200

National Business League
1511 K St., N W , Suite 432
Washington, D.C. 20005
(202) 737-4430

National Chamber Foundation
1615 H St., N W.
Washington, D.C. 20062
(202) 463-5552

National Chamber Litigation
Center
1615 H St , N W
Washington, D.C. 20062
(202) 463-5337

National Federation of
Independent Business
53 Century Blvd., Suite 300
Nashville, TN 37214
(615) 872-5800

National Industrial Council
1331 Pennsylvania Ave , N W.,
Suite 600N
Washington, D.C. 20004
(202) 637-3052

National Minority Business
Council
235 E. 42nd St.
New York, NY 10017
(212) 573-2385

Strategic Leadership Forum
435 N Michigan Ave , Ste. 1700
Chicago, IL 60611
(312) 644-0829

U S. Chamber of Commerce
1615 H St., N.W
Washington, D C. 20062
(202) 659-6000

U.S. Council for International
Business
1212 Ave of the Americas
New York, NY 10036
(212) 354-4480

EMPLOYMENT REGULATIONS AND INSURANCE/WORKERS' COMPENSATION

Governmental

Bureau of Labor Statistics
Wages and Industrial Relations
Dept. of Labor
2 Massachusetts Ave., N.W
Washington, D.C. 20212
(202) 606-5900

Employment and Training
Administration
Federal Unemployment
Insurance Service
Dept. of Labor
200 Constitution Ave., N W
Washington, D C. 20210
(202) 219-7831

Employment Standards
Administration
Workers' Compensation
Programs
Dept. of Labor
200 Constitution Ave , N W
Washington, D C. 20210
(202) 219-6692

Equal Employment Opportunity
Commission
1801 L St., N W.
Washington, D.C. 20507
(202) 663-4001

Dept. of Labor
200 Constitution Ave , N W
Washington, D.C. 20210
(202) 219-5000

Occupational Safety and Health
Administration
Dept. of Labor
200 Constitution Ave., N.W
Washington, D.C. 20210
(202) 219-8151

Nongovernmental

American Compensation
Association
14040 N Northsight Blvd.
Scottsdale, AZ 85260
(602) 951-9191

American Insurance Association
1130 Connecticut Ave., N W
Ste 1000
Washington, D C. 20036
(202) 828-7100

ERISA Industry Committee
1400 L St., N.W., Suite 350
Washington, D.C. 20005
(202) 789-1400

International Association of
Industrial Accident Boards
and Commissions
1575 Aviation Ctr. Pkwy.,
Suite 509
Daytona Beach, FL 32114
(904) 252-2915

International Foundation of
Employee Benefit Plans
18700 W Bluemound Rd.
P.O Box 69
Brookfield, WI 53008
(414) 786-6700

Interstate Conference of
Employment Security
Agencies
444 N Capitol St., N W ,
Suite 142
Washington, D.C. 20001
(202) 628-5588

National Association of
Manufacturers
1331 Pennsylvania Ave., N W.,
Suite 1500N
Washington, D.C. 20004
(202) 637-3000

National Employee Benefits
Institute
601 Pennsylvania Ave., N.W.,
Ste. 750
Washington, D.C. 20004
(800) 558-7258

National Foundation for
Unemployment
Compensation and Workers
Compensation
1201 New York Avenue, N.W
Suite 750
Washington, D.C. 20005
(202) 682-1517

Society for Human Resource
Management
606 N Washington St.
Alexandria, VA 22314
(703) 548-3440

EMPLOYMENT OF FOREIGN NATIONALS

Governmental

Employment and Training
Administration
U.S. Employment Service
Dept. of Labor
200 Constitution Avenue, N.W
Washington, D.C. 20210
(202) 219-5257

Executive Office for
Immigration Review
Department of Justice
Falls Church, VA 22041
(703) 305-0289

Immigration and Naturalization
Service
Justice Department
425 I St., N W.
Washington, D.C. 20536
(202) 514-1900

Office of Special Counsel for
Immigration-Related Unfair
Employment Practices
Department of Justice
P.O. Box 27728
Washington D.C. 20038-7728
(800) 255-7688

Office of Refugee Resettlement
Dept. of Health and Human
Services
370 L'Enfant Promenade, S.W.
Washington, D C. 20447
(202) 401-9246

Nongovernmental

American Council on
International Personnel
515 Madison Ave , 15th Fl
New York, NY 10022
(212) 688-2437

ESTATES AND TRUSTS

American Council for Capital
Formation
1750 K St., N W., Suite 400
Washington, D.C. 20006
(202) 293-5811

Association for Advanced Life
Underwriting
1922 F St., N.W.
Washington, D.C. 20006
(202) 331-6081

National Association of
Charitable Estate Counselors
P.O. Box 1290
Lake Worth, FL 33460
(407) 434-0100

National Association of Estate
Planning Councils
840 Kennesaw Ave
Marietta, GA 30060
(404) 427-4930

INSURANCE

Nongovernmental

American Academy of Actuaries
1100 17th St., N.W., 7th Fl
Washington, D.C. 20036
(202) 223-8196

American Association of
Insurance Services
1035 S. York Rd
Bensenville, IL 60106
(630) 595-3225

American Council of Life
Insurance
1001 Pennsylvania Ave., N.W.
Washington, D.C. 20004
(202) 624-2000

American Insurance Association
1130 Connecticut Ave., N.W.
Ste. 1000
Washington, D.C. 20036
(202) 828-7100

American Insurance Services
Group
85 John St
New York, NY 10038
(212) 669-0455

American Society of CLU and
ChFC
270 S. Bryn Mawr Ave
Bryn Mawr, PA 19010
(610) 526-2500

Associated Risk Managers
International
816 Congress Ave.,
Ste. 990
Austin, TX 78701
(512) 479-6886

Health Insurance Association of
America
555 13 St., N.W.,
Suite 600E
Washington, D.C. 20004
(202) 824-1600

Independent Insurance Agents
of America
127 S. Peyton St
Alexandria, VA 22314
(703) 683-4422

Insurance Accounting and
Systems Association
P.O. Box 51340
Durham, NC 27717
(919) 489-0991

Insurance Information Institute
110 William St
New York, NY 10038
(212) 669-9200

Insurance Institute of America
P.O. Box 3016
Malvern, PA 19355
(215) 644-2100

Insurance Services Office
7 World Trade Center
New York, NY 10048
(212) 898-6000

International Insurance Council
900 19th St., N.W., Ste. 250
Washington, D.C. 20006
(202) 682-2345

Life Insurance Marketing and
Research Association
P.O. Box 208
Hartford, CT 06141
(860) 688-3358

Life Office Management
Association
2300 Windy Ridge Pkwy.,
Ste. 600
Atlanta, GA 30339
(770) 951-1770

Life Underwriter Training
Council
7625 Wisconsin Ave
Bethesda, MD 20814
(301) 913-5882

Million Dollar Round Table
325 W. Touhy
Park Ridge, IL 60068
(847) 692-6378

Mortgage Insurance Companies
of America
727 15th St., N.W., 12th Fl
Washington, D.C. 20005
(202) 393-5566

National Association of Health
Underwriters
1000 Connecticut Ave., N.W.,
Suite 810
Washington, D.C. 20036
(202) 778-8767

National Association of
Independent Insurers
2600 River Rd
Des Plaines, IL 60018
(708) 297-7800

National Association of
Insurance Brokers
1300 I St., N.W.,
Suite 900E
Washington, D.C. 20005
(202) 628-6700

National Association of
Insurance Commissioners
120 W. 12th St., Suite 1100
Kansas City, MO 64105
(816) 842-3600

National Association of Life
Underwriters
1922 F St., N.W.
Washington, D.C. 20006
(202) 331-6000

National Association of Mutual
Insurance Companies
3601 Vincennes Rd
P.O. Box 68700
Indianapolis, IN 46268
(317) 875-5250

National Association of
Professional Insurance Agents
400 N. Washington St
Alexandria, VA 22314
(703) 836-9340

Risk and Insurance
Management Society
655 3rd Ave., 2nd Fl
New York, NY 10017
(212) 286-9292

Society for Risk Analysis
1313 Dolly Madison Blvd.,
Ste. 402
McLean, VA 22101
(703) 790-1745

Society of Actuaries
475 N. Martingale Rd., Ste. 800
Schaumburg, IL 60173
(708) 706-3500

Society of Chartered Property
and Casualty Underwriters
Kahler Hall
720 Providence Rd
P.O. Box 3009
Malvern, PA 19355
(215) 251-2728 (CPCU)

Society of Insurance Financial
Management
Box 61, Bates Rd
Hollowville, NY 12530
(518) 851-9780

Society of Insurance Research
691 Crossfire Ridge
Marietta, GA 30064
(770) 426-9270

INVESTMENT

Governmental

International Finance Corporation
1818 I St., N W.
Washington, D.C. 20433
(202) 477-1234

International Trade Administration
Trade and Investment Analysis
Dept. of Commerce
Main Commerce Bldg.
Washington, D.C. 20230
(202) 482-3809

Overseas Private Investment Corporation
U.S. International Development Cooperation Agency
1100 New York Avenue
Washington, D.C. 20527
(202) 336-8799

Nongovernmental

American Association of Individual Investors
625 N Michigan Ave, Suite 1900
Chicago, IL 60611
(312) 280-0170

American Financial Services Association
919 18th St., N W
Washington, D.C. 20006
(202) 296-5544

Association for Investment Management and Research
5 Boar's Head Lane
P O Box 3668
Charlottesville, VA 22903
(804) 977-6600

Emergency Committee for American Trade
1211 Connecticut Ave, N.W., Suite 801
Washington, D.C. 20036
(202) 659-5147

Independent Investor Protective League
P O Box 5031
Ft. Lauderdale, FL 33310
(954) 749-1551

Institute of Certified Financial Planners
3801 East Florida Ave., Ste. 708
Denver, CO 80210
(303) 759-4900

International Association for Financial Planning
5775 Glenridge Dr, N.E. Suite B-300
Atlanta, GA 30328
(404) 845-0011

Investment Company Institute
1401 H St., N W., 12th Fl.
Washington, D.C. 20005
(202) 326-5800

Investment Counsel Association of America
1050 17th St., N.W, Suite 725
Washington, DC 20036
(202) 293-4222

National Association of Investors Corporation
711 W 13 Mile Rd.
Madison Heights, MI 48071
(810) 583-6242

National Association of Small Business Investment Companies
666 11th St., N W., No. 750
Washington, D.C. 20001
(202) 628-5055

National Investor Relations Institute
8045 Leesburg Pike, Ste. 600
Vienna, VA 22182
(703) 506-3570

National Venture Capital Association
1655 N. Fort Myer Dr., Suite 700
Arlington, VA 22209
(703) 351-5269

Registered Financial Planners Institute
2001 Cooper Foster Park Rd.
Amherst, OH 44001
(216) 282-7176

Small Business Assistance Center
554 Main St., P O Box 15014
Worcester, MA 01615
(508) 756-3513

OBTAINING FINANCING

Nongovernmental

American Bankers Association
1120 Connecticut Ave, N.W.
Washington, D.C. 20036
(202) 663-5000

American Council for Capital Formation
1750 K St., N W., Suite 400
Washington, D C. 20006
(202) 293-5811

American Council of State Savings Supervisors
P.O. Box 34175
Washington, D.C. 20043
(202) 371-0666

Bank Administration Institute
1 N Franklin St., Ste 1000
Chicago, IL 60606
(312) 553-4600

Bankers' Round Table
805 15th St., N W, Ste 600
Washington, D.C. 20005
(212) 289-4322

Commercial Finance Association
225 W 34th St., Ste. 1815
New York, NY 10122
(212) 594-3490

Consumer Bankers Association
1000 Wilson Blvd., Ste 3012
Arlington, VA 22209
(703) 276-1750

Eastern Finance Association
c/o Prof. Donald A. Nast
Dept. of Finance
Florida State University
Tallahassee, FL 32306
(904) 644-4220

Financial Managers Society
230 W. Monroe, Suite 2205
Chicago, IL 60606
(312) 578-1300

International Society of Financiers
P.O. Box 18508
Asheville, N.C. 28814
(704) 252-5907

Mortgage Bankers Association of America
c/o Janice Stango
1125 15th St., N.W
Washington, D.C. 20005
(202) 861-6500

National Accounting and Finance Council
2200 Mill Rd.
Alexandria, VA 22314
(703) 838-1915

National Association of Development Companies
4301 N Fairfax Dr., Ste. 860
Arlington, VA 22203
(703) 812-9000

National Association of Small Business Investment Companies
666 11th St., N.W., No. 750
Washington, D.C. 20001
(202) 628-5055

National Society for Real Estate Finance
2300 M St., N.W., Suite 800
Washington, D.C. 20037
(202) 973-2801

National Venture Capital Association
1655 N. Fort Myer Dr., Suite 700
Arlington, VA 22209
(703) 351-5269

Robert Morris Associates/ Association of Lending and Credit Risk Professionals
One Liberty Pl.
1650 Market St., Suite 2300
Philadelphia, PA 19103
(215) 446-4000

Savings and Community Bankers of America
900 19 St., N.W., Suite 400
Washington, D.C. 20006
(202) 857-3100

PENSIONS/SOCIAL SECURITY

Governmental

Joint Board for the Enrollment of Actuaries
Internal Revenue Service
Dept. of the Treasury
Washington, D.C. 20220
(202) 376-1421

Dept. of Labor
Pension and Welfare Benefits Administration
200 Constitution Ave., N.W.
Washington, D.C. 20210
(202) 219-8921

Pension Benefit Guaranty Corporation
1200 K St., N.W
Washington, D.C. 20005
(202) 326-4000

Social Security Administration
Central Operations
6401 Security Blvd.
Baltimore, MD 21235
(410) 965-1234

Nongovernmental

American Academy of Actuaries
1100 17th St., N.W., 7th Fl.
Washington, D.C. 20036
(202) 223-8196

American Association of Retired Persons
601 E St., N W
Washington, D.C. 20049
(202) 434-2277

American Enterprise Institute for Public Policy Research
1150 17th St., N.W.
Washington, D.C. 20036
(202) 862-5914

American Society of Pension Actuaries
4350 N. Fairfax Dr., Ste. 820
Arlington, VA 22203
(703) 516-9300

Association of Private Pension and Welfare Plans
1212 New York Ave., N.W., Suite 1250
Washington, D.C. 20005
(202) 289-6700

Council of Institutional Investors
1730 Rhode Island Ave., N.W., Suite 512
Washington, D.C. 20036
(202) 822-0800

Council on Employee Benefits
c/o Goodyear Relief Association
1212 New York Avenue, N.W., Suite 1225
Washington, D.C. 20005
(202) 408-3192

ESOP Association
1726 M St., N.W., Suite 501
Washington, D.C. 20036
(202) 293-2971

Employee Benefit Research Institute
2121 K St., N.W., Suite 600
Washington, D.C. 20037
(202) 659-0670

Employers Council on Flexible Compensation
927 15th St., N.W., Suite 1000
Washington, D.C. 20005
(202) 659-4300

International Foundation of Employee Benefit Plans
P.O. Box 69
18700 W Bluemound Rd.
Brookfield, WI 53008
(414) 786-6700

National Association of Manufacturers
Employee Benefits Committee
1331 Pennsylvania Ave., N W, Suite 1500N
Washington, D.C. 20004
(202) 637-3000

National Committee to Preserve Social Security and Medicare
2000 K St., N.W., Suite 800
Washington, D.C. 20006
(202) 822-9459

National Council of Real Estate Investment Fiduciaries
2 Prudential Plz.
180 N. Stetson Ave., Ste 2515
Chicago, IL 60601
(312) 819-5890

National Employee Benefits Institute
601 Pennsylvania Ave., N.W., Suite 750
Washington, D.C. 20004
(800) 558-7258

National Organization of Social Security Claimants' Representatives
6 Prospect St.
Midland Park, NJ 07432
(201) 444-1415

Pension Real Estate Association
95 Glastonbury Blvd.
Glastonbury, CT 06033
(203) 657-2612

Pension Research Council
Univ. of Pennsylvania
304 Colonial Penn Center
Philadelphia, PA 19104
(215) 898-7620

Pension Rights Center
918 16th St., N.W., Suite 704
Washington, D.C. 20006
(202) 296-3776

Small Business Council of America
4800 Hampden Lane, 7th Fl.
Bethesda, MD 20814
(301) 656-7603

SECURITIES

Governmental

Commodity Futures Trading Commission
1155 21st St., N W
Washington, D.C. 20581
(202) 418-5000

Federal Reserve System
Board of Governors
20th St. and Constitution Ave., N W
Washington, D.C. 20551
(202) 452-3000

Securities and Exchange Commission
Office of Public Affairs
450 Fifth St., N W.
Washington, D.C. 20549
(202) 942-0100

Nongovernmental

American Stock Exchange
86 Trinity Pl
New York, NY 10006
(212) 306-1000

Association for Investment
Management and Research
5 Boar's Head Lane
P.O Box 3668
Charlottesville, VA 22903
(804) 977-6600

Chicago Board Options
Exchange
400 S. LaSalle St.
Chicago, IL 60605
(312) 786-5600

Chicago Stock Exchange
One Financial Pl.
440 S. LaSalle St.
Chicago, IL 60605
(312) 663-2222

Financial Accounting Standards
Board
401 Merritt 7
P.O Box 5116
Norwalk, CT 06856
(203) 847-0700

Futures Industry Association
2001 Pennsylvania Ave., N.W.,
Suite 600
Washington, D.C. 20006
(202) 466-5460

Industry Council for Tangible
Assets
P.O. Box 1365
Severna Park, MD 21146-8365
(410) 626-7005

Investment Company Institute
1401 H St., N.W., 12th Fl.
Washington, D.C. 20005
(202) 326-5800

National Association of
Securities Dealers
1735 K St., N.W
Washington, D.C. 20006
(202) 728-8000

National Futures Association
200 W. Madison St.,
Suite 1600
Chicago, IL 60606
(312) 781-1300

National Investor Relations
Institute
8045 Leesburg Pike, Ste. 600
Vienna, VA 22182
(703) 506-3570

New York Society of Security
Analysts
1 World Trade Center,
Ste. 4447
New York, NY 10048
(212) 912-9249

New York Stock Exchange
11 Wall St.
New York, NY 10005
(212) 656-3000

Public Securities Association
40 Broad St., 12th Fl.
New York, NY 10004
(212) 809-7000

Securities Industry Association
120 Broadway
New York, NY 10271
(212) 608-1500

Security Traders Association
One World Trade Center,
Suite 4511
New York, NY 10048
(212) 524-0484

SMALL BUSINESS

Governmental

Minority Business Development
Agency
Office of External Affairs
Department of Commerce
Washington D.C. 20230
(202) 482-4547

Small Business Administration
409 3rd St., S.W.
Washington, D.C. 20416
(202) 205-6600

U.S. Chamber of Commerce
Small Business Center
1615 H St., N.W.
Washington, D.C. 20062
(202) 463-5503

Nongovernmental

American Small Business
Association
1800 N. Kent St., Ste. 910
Arlington, VA 22209
(800) 235-3298

American Woman's Economic
Development Corporation
71 Vanderbilt Ave., 3rd Fl.
New York, NY 10169
(212) 692-9100

Association of African-American
Women Business Owners
c/o Brenda Alford
P.O. Box 13858
Silver Spring, MD 20911
(301) 585-8051

Association of Small Business
Development Centers
1300 Chain Bridge Rd., Ste. 201
McLean, VA 22101
(703) 448-6124

Best Employers Association
2515 McCabe Way
Irvine, CA 92614
(714) 756-1000

Center for Entrepreneurial
Management
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IRS Practice and Procedure

IRS PRACTICE AND PROCEDURE

APPENDIX 1: Where to Obtain Out-of-State Tax Forms

APPENDIX 2: Record Retention

APPENDIX 3: Recognition and Authorization Requirements for Persons Appearing Before the IRS

1. ORGANIZATION OF THE INTERNAL REVENUE SERVICE

The Internal Revenue Service (IRS) is a branch of the Treasury Department. The commissioner of the IRS is the top official. From the national office in Washington, D.C., the commissioner oversees operations and sets policy.

There are ten service centers that process returns and conduct correspondence examinations. Taxpayers and tax practitioners have most of their dealings with district offices. Sixty-three district offices—there is at least one in each state—are grouped under four regional offices, each headed by a regional commissioner charged with supervising district directors. Office and field audits, collections, and investigations are conducted by divisions of the district offices. The components of the typical district office are these:

— Office of the district director

— Taxpayer service division

— Examination division

— Collection division

— Criminal investigation division

— Employee plans and exempt organizations division

The office of the chief counsel of the IRS is a division of the Treasury Department. Legal counsel are located in each region. Many district offices also have legal counsel. One of the tasks of the counsel's office is to resolve the taxpayer's administrative appeals.

Tax examiners, also called office auditors, conduct their examinations within the IRS office, by correspondence, or by office appointment. Revenue agents handle field examinations at a tax practitioner's or taxpayer's place of business. Revenue officers are agents of the collection division. Special agents handle criminal investigations.

1.1 Restructuring the IRS

The IRS Restructuring and Reform Act of 1998 (1998 Act) revises the structure of national, regional, and district offices. The new focus is on four groups of taxpayers involved in similar activities: individuals, tax-exempts, small businesses, and large businesses. A nine-member board will oversee the Service, particularly its law enforcement and collection procedures—two IRS activities that the U.S. Senate found to be problem-prone.

2. PRACTICE BEFORE THE IRS

Any person may prepare a tax return for himself or herself or for any other person. If that return is audited, the preparer, without further credentials or qualification, may appear to explain the return and represent the taxpayer before tax examiners, revenue agents, or other examining officers of the district audit division. Authorization from the taxpayer is required. Authorization should be indicated on Form 2848. Tax return preparers who are not CPAs, attorneys, or enrolled agents cannot represent the taxpayer at any level of proceedings beyond the examination level, even if they hold the taxpayer's power of attorney. They cannot, for example, appear before the appeals division. They cannot execute documents that limit or bind the taxpayer's rights of action, such as waivers of time limits, consents to immediate assessment of tax, or closing agreements assenting to a deficiency.

The IRS assigns a centralized authorization file number (CAF) to each person granted "representative authority." The centralized file indicates the extent of a representative's authority. A tax preparer who is assigned more than one CAF should choose one of the numbers to use exclusively in subsequent communications with the IRS.

2.1 Persons Authorized to Practice Before the IRS

Corporations may be represented by their officers, partnerships by their partners, and estates or trusts by their fiduciaries.

Treasury Department Circular 230 (hereafter called Circular 230) explains who has the right to practice before the IRS and specifies standards of conduct. This circular is available at most local IRS offices or through the toll-free "forms" number listed in most telephone directories.

2.1.1 Attorneys

Any attorney not currently under suspension or disbarment may practice before the IRS provided that a written document, stating that the attorney is currently admitted as an attorney, and a power of attorney (Form 2848), signed by the taxpayer and the attorney, are filed with the IRS. This written document should fully specify the addresses and identification numbers of the attorney and the taxpayer. In addition, attorneys can gain limited authority to receive and inspect tax information from the IRS by filing an authorization and declaration (Form 8821) that has been signed by the client and the attorney. Attorneys must, however, apply to the Tax Court and other federal courts and be admitted to them before representing clients in those courts.

2.1.2 CPAs

Certified public accountants not currently under suspension may practice before the IRS provided that Form 2848 has been filed with the IRS. CPAs may not, however, perform any activity that constitutes the practice of law, including most aspects of tax litigation such as the filing of a petition or pleading with any court. A CPA may be admitted to practice before the Tax Court, as may any person, by passing an examination on court procedures.

2.1.3 Enrolled persons

Any person, even though he or she is not an attorney or CPA, may seek to pass an IRS examination on technical aspects of taxation, thus gaining the right to be designated an enrolled person (also called an enrolled agent). Enrolled persons may represent taxpayers, just as may attorneys or CPAs. They may not practice law, nor may they practice before the Tax Court. The examination for enrollment is given in September. Application for the September exam must be made on Form 2587 by August 15. A sample examination is in IRS Publication 693.

Former IRS employees who were engaged in applying and interpreting tax matters for a minimum of five years may apply to become enrolled agents by filing a Form 23 within three years of leaving the IRS (no examination is necessary).

Regulations require enrolled persons to complete continuing education courses prior to renewal of their enrollment. (Bar associations and state licensing boards now require continuing education of CPAs and attorneys.)

2.1.4 Limited practice

Any person whose presence is determined to be necessary to explain facts may appear before the IRS as a witness.

2.1.5 Authorizations and powers of attorney

IRS employees are required to verify the authority of any person who seeks access to a taxpayer's records or who wishes in any manner to represent a taxpayer. The extent of this authority should be indicated by the taxpayer on IRS Form 2848, which may be filed by FAX. IRS Form 8821 can be used to authorize disclosure of information. If the taxpayer's authorization is on file, IRS employees are told to extend the "courtesy of having all arrangements in furtherance of the matter" made through the representative. Additionally, the representative has a right to be present when the client is interviewed and to receive copies of all written communication from the IRS (Internal Revenue Manual Sec. 4055). The taxpayer must also be present at an IRS interview if required to do so by an IRS summons.

IRS Form 8821 (tax information authorization) replaces now-obsolete Form 2848-D. With Form 8821, the taxpayer authorizes another person to inspect in an IRS office or to receive by mail all tax information, notices, or other written communication related to a specifically identified tax matter. No authority to represent the taxpayer is granted. A newly filed information authorization revokes one previously filed concerning the same tax matters.

IRS Form 2848 (power of attorney and declaration of representative) can be used to grant to a representative the power to

— Inspect and receive tax information, notices, and communications.

— Receive (but not negotiate) the taxpayer's refund check.

— Sign a tax return, in certain cases, on behalf of the taxpayer (Regs. Sec. 1.6012-1(a)(5)).

— Execute waivers and offers of waivers of restrictions on assessment or collection of deficiencies in tax, or waivers of notice of disallowance of a claim for refund or credit.

— Execute consents extending the statute of limitations.

— Execute a closing argument (IRC Sec. 7121).

— Delegate authority or substitute another representative, if expressly authorized to do so by the taxpayer.

Form 2848 may be executed on behalf of the taxpayer by an attorney-in-fact designated as such in a non-IRS document such as a general, limited, or durable power of attorney. A taxpayer must be present in an IRS interview if required to do so by an IRS summons.

According to a report by the Cincinnati IRS Service Center, the most common reasons for IRS rejection of a power of attorney are

— Lack of signature of representative or failure to indicate status, such as CPA, attorney, or enrolled agent.

— Failure to provide all necessary information required by Form 2848.

— Failure to include the title of a person signing for a business.

— Tax period not clearly identified.

— Omitting EIN or SSN for the taxpayer.

2.1.6 Privileged communications

The attorney-client privilege is extended to provide confidentiality between a taxpayer-client and any individual authorized to practice before the IRS. The privilege applies in noncriminal proceedings before the IRS and in federal courts if the IRS is a party. Certain communications relating to tax shelters are not included in this privilege.

2.2 Persons Who May Not Practice Before the IRS

According to Circular 230, officers and employees of the United States in the executive, legislative, or judicial branch of the government may practice before the IRS only to represent a member of the person's immediate family or any other person or estate for which the person serves as guardian, executor, administrator, trustee, or other personal

(Text continued on page 9)

fiduciary (18 U.S.C. 205). No member of Congress or resident commissioner (elect or serving) may practice in connection with any matter for which he or she directly or indirectly receives, agrees to receive, or seeks any compensation. Officers and employees of any state or subdivision whose jobs entail passing upon, investigation of, or dealing with tax matters of their state or subdivision may not practice if their employment may disclose facts or information applicable to federal tax matters.

2.3 Rules Governing Conduct

2.3.1 Circular 230

Rules of practice before the IRS are spelled out in Circular 230. Disreputable acts or violations of regulations may lead to suspension or disbarment. Such acts include but are not limited to the following:

— Conviction of any criminal offense

— Giving false or misleading information

— False advertising or other impermissible forms of solicitation of clients

— Willfully failing to make a federal tax return

— Misappropriation of, or failure to properly and promptly remit funds received from a client for the purpose of payment of taxes or other obligations due the United States

— Disbarment or suspension of his or her professional license

— Aiding or abetting another person to practice before the IRS who is not properly qualified to do so

— Contemptuous conduct in connection with practice before the IRS (Circular 230; Subpart C)

— Conviction of any offense involving dishonesty or breach of trust

— Charging an unconscionable fee

— Charging a contingent fee for preparing an original return

An unconscionable fee is based on a percentage of the refund shown on a return or of the taxes saved or that otherwise depends on the result obtained by the preparer. Such a fee may not be charged for preparation of an *original* return. If a preparer anticipates that a claim for refund or an amended return will receive substantive review by the IRS, a contingent fee may be charged. See also Sec. 2.4 Tax Preparer's Liability.

2.3.2 AICPA tax standards

The American Institute of Certified Public Accountants' (AICPA's) Division of Federal Taxation has adopted standards for tax practice through the Statements on Responsibilities in Tax Practice (SRTP). The office of the IRS director of practice reportedly views the SRTPs as extensions and interpretations of Circular 230. The current eight statements, adopted in August 1988, can be summarized as follows:

SRTP No. 1—Tax Return Positions A tax return position is one that the CPA has specifically advised the client to follow or one about which the CPA who signs the return has knowledge of all material facts. The position may be on a tax return or on a claim for refund.

The CPA should not recommend a position unless he or she has a *good-faith belief that the position has a realistic possibility of being sustained administratively or judicially* on its merits if challenged. (No position should be taken merely to obtain leverage in negotiating a settlement.) Nevertheless, a CPA may recommend a position not fulfilling these requirements if the position is not frivolous and is adequately disclosed on the return. A frivolous position is one that is knowingly advanced in bad faith and is patently improper, for example, a position that cannot be sustained but is advanced in the hope of winning the "audit lottery." According to the IRS, disclosure may be made on Form 8275. The CPA should advise the client about the potential penalties that might result from taking such a position.

According to Interpretation No. 1-1 of SRTP No. 1, a CPA must have a good-faith and honest belief that a tax return position is *warranted by existing law* or can be supported by a *good-faith argument for an extension, modification, or reversal of existing law* through administrative or judicial means. The likelihood of audit or other detection must not be taken into account when evaluating the client's tax position.

The standard of realistic possibility is less stringent than that of both the substantial authority and the more-likely-than-not standards applicable to substantial understatements of liability under the Internal Revenue Code (IRC Sec. 6662). It is more strict than the reasonable basis standard under Treasury regulations issued before the Revenue Reconciliation Act of 1989.

A CPA may find it possible to rely on certain sources of tax authority that would not meet the substantial authority criteria and to demonstrate that a tax return position possessed a realistic possibility of being sustained. These additional sources include well-reasoned treatises, articles in recognized professional tax publications, and other sources commonly used by tax advisors and return preparers. The relative weight of each authority depends on its persuasiveness, relevance, and source.

Additionally, a CPA may conclude that the realistic possibility standard has been met when the position is *supported only by a well-reasoned construction of the applicable statutory provision.*

> *Example:* The client has obtained from its attorney an opinion on the tax treatment of an item and requests that the CPA rely on the opinion. The CPA may rely on that opinion if satisfied as to the source, relevance, and persuasiveness of the legal opinion.

In evaluating the realistic possibility standard, a CPA's decision process should include

— Establishing relevant facts.

(Text continued on page 11)

— Developing questions from those facts regarding possible tax positions.

— Searching acceptable sources for authoritative answers.

— Answering the questions and weighing the authorities.

— Arriving at a conclusion supported by authority.

The realistic possibility standard of SRTP No. 1 is incorporated by the Omnibus Budget Reconciliation Act of 1989 into amended Internal Revenue Code Section 6694(a), which reads as follows:

> If (1) any part of any understatement of liability with respect to any return or claim for refund is due to a position for which there was not a realistic possibility of being sustained on its merits, and (2) any person who is an income tax return preparer with respect to such return or claim knew (or reasonably should have known) of such position, such person shall pay a penalty of $250 with respect to such return or claim.

SRTP No. 2—Answers to Questions on Returns Before signing as preparer, *the CPA should make a reasonable effort to obtain from the client and provide appropriate answers* to all questions. In this context, the term "questions" includes requests for information on the return, in the instructions, or in the regulations, whether or not stated in the form of a question. Omitting an answer is not justified by its potential damage to the client. If reasonable grounds exist for omission of an answer, the CPA is not required to provide an explanation of the reason for the omission. Reasonable grounds include the following:

— The information is not readily available and the answer is not significant in terms of taxable income or loss or the tax liability.

— Genuine uncertainty exists regarding the meaning of the question in relation to the particular return.

— The answer is voluminous; in such cases, assurance should be given on the return that the data will be supplied upon examination.

SRTP No. 3—Need to Verify Supporting Data or to Consider Other Information The CPA *may rely on information furnished by the client or by third parties unless it appears to be incorrect, incomplete, or inconsistent.* The CPA may rely on unsupported data from the client in the form of lists of information such as dividend, contribution, and medical expenses unless the data appear to be faulty. If a condition is imposed with regard to a tax treatment—for example, that there be documentation substantiating a deduction—the CPA should inquire to determine whether the taxpayer has met the condition.

The CPA should make use of the client's prior years' tax returns wherever feasible. There is no requirement that the CPA examine underlying documentation.

SRTP No. 4—Use of Estimates *The client has responsibility for the estimated data and should be the one who provides it.* (Note: Presumably this means that when the CPA aids the client in preparing the estimate, the estimate must be adopted by the client as his or her responsibility.) Appraisals or valuations are not considered to be estimates.

The CPA *may prepare and sign a tax return* involving the use of a taxpayer's estimates *if it is impracticable to obtain exact data, and the estimated amounts are reasonable.* Estimates should not be presented in a manner to imply greater accuracy than exists. (Note: Presumably this means that cash contributions for which no exact amount can be calculated should be stated as, for example, $500 rather than $505.62.)

To avoid misleading the IRS about the accuracy of an item, in unusual circumstances the use of an estimate must be disclosed. Examples of unusual circumstances include the following.

— The taxpayer has died or is ill and is thus unable to provide the estimates.

— The taxpayer has not received a K-1 from a flow-through entity such as a partnership.

— Litigation is pending that impacts the return, for example, a bankruptcy proceeding.

— Fire or computer failure destroyed the relevant records.

SRTP No. 5—Departure from a Position Previously Concluded This rule concerns tax return positions that depart from the treatment accorded to a similar item in an administrative or court proceeding regarding a prior tax return. "Administrative proceeding" includes an examination by the IRS or an appeals conference relating to a return or a claim for refund.

Unless the taxpayer is bound to a specified treatment in the later year, for example, by a formal closing agreement, *a different treatment may be recommended* by the practitioner.

After giving consideration to the fact that the taxpayer gave consent in an earlier proceeding or to the existence of an unfavorable court decision, *the CPA may prepare and sign a tax return containing this different treatment* as long as this is done consistently with SRTP No. 1 requiring that the CPA have a good faith belief in the sustainability of the position.

SRTP No. 6—Knowledge of Error in a Tax Return or of the Client's Failure to File *The CPA should inform the client promptly upon becoming* *aware of an error or failure to file and should recommend the measures to be taken.* The advice may be given orally.

If the client fails to take what the CPA believes to be appropriate action, *the CPA should consider whether to prepare the return and whether to continue a professional relationship* with the client. (Treasury Circular 230 similarly requires that a practitioner inform the client when an error has been found.) The CPA may inform the IRS *only with the client's permission or when required to do so by law.*

Excluded from this statement are instances in which (1) the original position taken by the client satisfied SRTP No. 1, (2) the matter in question has no more than an insignificant effect on the client's tax, or (3) an erroneous method of accounting was continued in the prior year under circumstances that required the permission of the IRS to change.

SRTP No. 7—Knowledge of Error: Administrative Proceedings When a CPA becomes aware of an error in a return that is the subject of an administrative proceeding, such as an examination by the IRS or an appeals conference, these actions are appropriate:

The CPA should inform the client promptly upon becoming aware of an error and should recommend the measures to be taken, whether or not the CPA prepared or signed the return that contains the error. The advice can be given orally. The CPA should not inform the IRS without the client's permission unless required to do so by law.

The CPA should request the client's agreement to disclose the error to the IRS. The decision, however, is the client's responsibility. If the CPA believes the IRS might view the error as evidence of fraud the client should be advised to consult legal counsel before taking any action. Lacking the client's agreement to disclose the error to the IRS, the CPA should consider withdrawing from representation of the client.

Because of possible conflict of interest between the CPA and the client, the CPA should consider consulting his or her own legal counsel.

SRTP No. 8—Form and Content of Advice to Clients Advice given to a client need not follow a standard format but should reflect professional competence and serve the client's needs.

There is no responsibility to update previously given advice unless there is a specific agreement or unless the CPA is assisting in implementing the advice, although the CPA may choose to do so.

A CPA should inform the client that advice reflects professional judgment based on the existing situation, that subsequent developments could affect previous professional advice, and that the advice is based on facts as stated to the CPA and on tax authorities that are subject to change.

2.3.3 AICPA Code of Professional Conduct

Contingent Fees. Rule 302 of the Code of Professional Conduct of the AICPA states that

> A member in public practice shall not prepare an original or amended tax return or claim for a tax refund for a contingent fee for any client.

Contingent fees are fees established for the performance of any service within an arrangement in which no fee will be charged unless a specified finding or result is attained, or in which the amount of the fee is otherwise dependent upon the finding or result of such service.

Fees are not regarded as contingent if they are fixed by courts or other public authorities, or, in tax matters, if the fees are determined based on the result of judicial proceedings or on the findings of governmental agencies.

A fee is considered to be "determined based on the findings of governmental agencies" if the member can demonstrate a reasonable expectation at the time of a fee arrangement of substantive consideration by an agency with respect to the member's client. Such an expectation is not reasonable in the case of preparation of original tax returns.

Examples of Contingent-Fee Situations. The following are examples, not all-inclusive, of circumstances where a contingent fee would be permitted.

- — Representing a client in an examination by a revenue agent of the client's federal or state income tax return.
- — Filing an amended federal or state income tax return claiming a tax refund based on a tax issue that is either the subject of a test case (involving a different taxpayer) or with respect to which the taxing authority is developing a position.
- — Filing an amended federal or state income tax return (or refund claim) claiming a tax refund in an amount greater than the threshold for review by the Joint Committee on Internal Revenue Taxation ($1 million at March 1991) or state taxing authority.
- — Requesting a refund of either overpayments of interest or penalties charged to a client's account or deposits of taxes improperly accounted for by the federal or state taxing authority in circumstances where the taxing authority has established procedures for the substantive review of such refund requests.
- — Requesting, by means of "protest" or similar document, consideration by the state or local taxing authority of a reduction in the "assessed value" of property under an established taxing authority

review process for hearing all taxpayer arguments relating to assessed value.

— Representing a client in connection with obtaining a private letter ruling or influencing the drafting of a regulation or statute.

The following is an example of a circumstance where a contingent fee would not be permitted:

— Preparing an amended federal or state income tax return for a client claiming a refund of taxes because a deduction was inadvertently omitted from the return originally filed. There is no question as to the propriety of the deduction; rather the claim is filed to correct an omission.

Discreditable Acts. Rule 501 of the AICPA's Code of Professional Conduct states that a member shall not commit an act discreditable to the profession. Disciplinary actions under this rule have been taken against AICPA members in connection with income tax violations. For example, a practitioner was given a ninety-day membership suspension for assisting a client in preparing a return that included an improper depreciation deduction related to a tax shelter.

Disciplinary Actions by the AICPA, State Boards of Accountancy, and State CPA Societies. The Bylaws of the AICPA provide for a professional ethics division and for a trial board to hear charges of violations of the bylaws or of the Code of Professional Conduct. Disciplinary actions against members are reported in the *CPA Letter,* the semimonthly newsletter of the AICPA. A membership can be suspended without a hearing, and then terminated upon final conviction, for any of these offenses:

— A crime punishable by imprisonment for more than one year

— The willful failure to file any income tax return that the member, as an individual taxpayer, is required by law to file

— The filing of a false or fraudulent income tax return on the member's or a client's behalf

— The willful aiding in the preparation and presentation of a false and fraudulent income tax return of a client (AICPA Bylaws 7.3.1)

2.3.4 Conduct of IRS employees

The IRS must terminate an employee (absent direct intervention by the IRS Commissioner as explained below) if there is a final administrative or judicial determination that, in the course of his or her official duties, the employee committed any of the following acts:

1. Willfully failed to obtain the required approval signatures on documents authorizing the seizure of a taxpayer's home, personal belongings, or business assets
2. Provided a false statement under oath with respect to a material matter involving a taxpayer or a taxpayer representative
3. Violated the rights of a taxpayer, taxpayer representative, or other employee of the IRS under the U.S. Constitution or under specified civil rights acts
4. Falsified or destroyed documents to conceal mistakes made by any employee with regard to a matter involving a taxpayer or taxpayer representative
5. Assaulted or battered a taxpayer, taxpayer representative, or other employee of the IRS, but only if there is a criminal conviction or a final civil judgment to that effect
6. Violated the 1986 IRC, Treasury regulations, or IRS policies (including the IRS Manual) for the purpose of retaliating against or harassing a taxpayer or other employee of the IRS
7. Willfully misused the provisions of IRC Sec. 6103 (regarding confidentiality of returns and return information) for the purpose of concealing information from congressional inquiry
8. Willfully failed to file any tax return required under the IRC on or before the required date, unless the failure is due to reasonable cause and not willful neglect
9. Willfully understated federal tax liability, unless such understatement is due to reasonable cause and not willful neglect
10. Threatened to audit a taxpayer for the purpose of extracting personal gain or benefit

2.4 Tax Preparer's Liability

2.4.1 Definition of "tax return preparer"

The term *tax return preparer* (TRP) applies to any person who prepares for compensation, or who employs one or more persons to prepare for compensation, any return of tax or claim for refund of tax. Income tax return preparers must manually sign the returns they prepare and must include their name and identification number. To be classified as a TRP a person must prepare all or a substantial portion of the return, but the person does not have to be the one physically to enter the figures on the form or schedule, nor does entering these figures automatically make a person a TRP (IRC Sec. 7701). Anyone may be held to be a TRP (even if he or she does not sign the return) who

— Provides advice that reduces filling out a return to a mere clerical task.

— Provides tax advice about completed transactions directly relating to a specific entry on a return.

— Recommends substantial changes in a draft of a return (even if the draft was prepared by the taxpayer) and the taxpayer follows the recommendations.

— Reviews the return, concludes no changes are required, and mails in the return under the taxpayer's instructions.

— Makes entries on one return—for example, a partnership return—that constitute a substantial portion of a partner's return, thus becoming a TRP with regard to both the partnership and the partner's return.

Example: An attorney who prepared Forms 1065 for three limited partnerships was held also to be a preparer of the tax returns of the limited partners themselves. (*Randall S. Goulding v. U.S.*, 92-1 USTC 50,174 (7th Cir., 1992), aff'g D.C. 89-1 USTC 9309.) In a case with somewhat similar facts, however, the accountant who prepared the Schedules K-1 for partners was not deemed a preparer of the partners' individual returns. The court reasoned that the single figure signifying the partnership's losses should not be considered a substantial portion of a partner's return when judged in comparison with the complexities of a partner's complete return. (*Adler and Drobny, Ltd, an Illinois Professional Corporation, and Sheldon Drobny v. U.S.*, 92-2 USTC 50,378, N.D. Ill., 3/24/92.)

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On the other hand, merely typing or photocopying the return does not make one a preparer, and neither does preparing a return

— For an employer, officer of the employer, or for a fellow employee, or for one or more general partners in a partnership in which the preparer is a general partner or an employee.
— As a fiduciary.
— For a friend, relative, or neighbor with no agreement for compensation (either stated or implicit), even though a favor or gift is received in return.

If more than one person worked on a return (or claim for refund), a determination of who is the preparer will be made according to rules of substantial preparation.

2.4.2 Substantial preparation

Each schedule, entry, or portion of a return or claim for refund is reviewed separately to determine who is the preparer. One who renders advice concerning the existence, characterization, or amount of a schedule or entry is subject to IRS regulation as an income tax preparer for that return, including the penalties to which preparers are subject, if the item is a substantial portion of the return. It is not necessary that the person signed the return.

There is a quantitative test to determine when a schedule, entry, or portion of a return is substantial: An item is not substantial if it is less than $2,000, or is less than $100,000 while also less than 20 percent of adjusted gross income (Treas. Reg. 301.7701-15).

2.4.3 What constitutes an income tax return

Preparer penalties relate only to the preparation of certain specified forms that constitute tax returns (Treas. Reg. 301.7701-15(c)):

— Individual or corporate income tax return
— Fiduciary income tax return for an estate or trust
— Undistributed capital gains tax return for a regulated investment company
— Charitable remainder trust return
— Return for a transferor of stock or securities to a foreign entity
— S corporation return
— Partnership return for a Domestic International Sales Corporation (DISC)

— Refund claim for a credit against any income tax
— Information return on behalf of a person or entity that is not a taxable entity but reports information that may be reported on the return of a taxpayer.

On the other hand, these are not "tax returns" for purposes of determining preparer penalties:

— Gift or estate tax return
— Returns for excise tax or tax collected at the source on wages
— Individual or corporate declaration of estimated tax
— Application for an extension of time to file an individual or corporate return
— An informational statement on Form 990, Form 1099, or a similar form

2.4.4 Potential penalties facing preparers

Penalties on preparers of $50 per instance ($25,000 maximum per year) may be assessed under IRC Sec. 6695 for failure to

— Furnish a copy of the return or refund claim to the taxpayer.
— Sign a return or claim when required to do so.
— Include the preparer's identifying number.
— Retain for three years copies of all returns and refund claims or a list of taxpayers, identification numbers, and type of filing.
— File an annual information return reporting names of employees who prepare returns for other than the employer.

Certain offenses carry significantly larger penalties:

— Negotiating or endorsing taxpayer refund checks: $500 (IRC 6695(f))
— Assisting in organizing a tax shelter, or making a false or fraudulent or a gross valuation overstatement: $1,000 (IRC 6700)
— Aiding and abetting an understatement of tax liability in connection with a corporation: $10,000; other returns or claims: $1,000 (IRC Sec. 6701)
— An understatement of tax liability due to a position (of which the preparer knew or should have known), for which there was not a realistic possibility of being sustained on its merits and not disclosed as provided in IRC Sec. 6662(d) or the position was frivolous: $250 (IRC 6694(a)) (Discussed more fully in section 2.5)

— An understatement of tax liability due to a willful attempt to understate liability by a preparer or a reckless or intentional disregard of rules or regulations: $1,000 (IRC Sec. 6694(b))

— Disclosing or using information received in connection with the preparation of a return: $250 (IRC Sec. 6713)

— Willfully failing, while acting as a "responsible person," to collect or pay over any tax: penalty is the amount of the tax (IRC Sec. 6672)

In addition to the items on this list, a preparer might be charged with a related crime, for which a jail sentence could be imposed, for example, disclosure or use of tax return information: $1,000 fine or imprisonment not more than one year (IRC Sec. 7216).

Generally, a TRP may rely on information supplied by the taxpayer client. Only when the information appears incorrect, inconsistent, or incomplete must inquiries be made. In one instance a preparer had to pay a penalty when he knew that in a prior year a similar deduction had been attempted but denied upon audit, even though that prior return had been prepared by another.

If the law requires specific conditions in order for a deduction to be properly claimed, a TRP must inquire about the conditions. For example, if travel and entertainment expenses, or business use of a listed asset, are claimed, the TRP should ask if the taxpayer has the records to substantiate the deduction. The preparer may accept the taxpayer's affirmative answer and need not examine the records. Neither is it necessary, under law, for the preparer to examine information returns the taxpayer has received, such as Forms 1099, but many preparers feel it is prudent to do so.

TRPs paid penalties in the following instances:

— The alternative minimum tax was overlooked by a TRP who admitted no knowledge of its existence.

— Through negligence, the amount of a net operating loss was overstated when carried back to prior years. Penalties were paid for each prior year.

— A net operating loss carryforward was mistakenly and negligently overstated, causing penalties to the TRP involved in the calculation.

— The TRP allowed a client to claim five dependents while knowing the client had only two.

— The TRP ignored a bookkeeper's comment that shareholders' personal expenses had been paid from corporate funds.

2.4.5 Recordkeeping

Preparers, or their employers, must retain for a three-year period following the close of the return period a record of the name, Social Security number, and place of work of each employed preparer. (The return period is defined as a twelve-month period beginning on July 1 of each year.) These records must be made available for inspection by the district director. The penalty is $50 for each failure to retain and make available a record, plus a $50 penalty for each missing but required item. The maximum penalty for any return period is $25,000 (IRC Sec. 6695).

2.4.6 Procedures for assessing penalties

The IRS must assess a penalty within three years after the improperly handled return. There are no limitations if willful understatement of tax liability has occurred. Computer-generated account information called PINEX (Penalty and Interest Notice Explanation) is available from IRS service centers and district offices.

The IRS issues a thirty-day letter as notification of a proposed penalty. Burden of proof is on the preparer as to whether he or she intentionally or willfully disregarded rules or regulations. The IRS bears the burden of proof concerning the preparer's willful attempt to understate tax liability.

If a penalty for understatement of tax is assessed (and the preparer either chooses against an administrative remedy or receives an adverse administrative determination), the preparer has two alternatives:

— Pay the amount assessed and file a claim for refund.

— Pay 15 percent of the amount assessed within thirty days of the demand for payment and file a claim for refund of the amount paid within the same thirty-day period.

2.4.7 Injunctions against preparers

Injunctions are sometimes sought by the IRS in federal district court to prohibit improper conduct by a preparer. Penalties may or may not have already been assessed. Violations related to the following activities may be the basis for the injunction:

— Conduct subject to disclosure requirement penalties

— Conduct subject to the understatement of tax liability penalties

— Conduct subject to criminal penalties under the Internal Revenue Code

— Misrepresentation of eligibility to practice before the IRS
— Misrepresentation of experience or education as a tax preparer
— Guaranteeing payment of a tax refund or allowance of a credit
— Engaging in other fraudulent or deceptive conduct that interferes with administration of the tax laws

2.5 Understatement Penalties

Internal Revenue Code Sec. 6694 aims a penalty at a preparer if there is an understatement of liability due to a tax position for which there was not a realistic possibility of being sustained on its merits *and* the position was not properly disclosed *or* the position was properly disclosed but was frivolous. (Circular 230 defines *frivolous* as patently improper.) According to Circular 230 a preparer may not advise a client to take a tax position, nor himself or herself prepare the portion of the return on which the position is taken unless

— The preparer determines that the position satisfies the realistic possibility standard; or
— The position is not frivolous and the preparer advises the client of (1) any opportunity to avoid the accuracy-related penalty of IRC Sec. 6662 by adequately disclosing the position and (2) the requirements for adequate disclosure.

A preparer also must advise his or her client of penalties reasonably likely to apply to a tax position that has been advised, prepared, or reported by the preparer. The preparer must inform the client of opportunities of avoiding these penalties by disclosure and of the means for disclosure. The advice recommended in this paragraph must be given even if the preparer is not subject to a penalty as a consequence of the tax position.

The following are situations in which no additional disclosure need be made.

1. Schedule A, Itemized Deductions:
    a. Medical and Dental Expenses, lines 1-4.
    b. Taxes, lines 5-9. Line 8 must list each type of tax and the amount paid.
    c. Interest Expense, lines 10-14. Not applicable to (i) disallowed investment interest unless Form 4952 is completed, or (ii) amounts disallowed under IRC Sec. 265 (i.e., interest related to tax-exempt income).
    d. Contributions, lines 15-18. Not applicable to (i) donations where the taxpayer receives a substantial benefit, (ii) noncash

contributions in excess of $500 unless Form 8283 is attached, or (iii) any contribution of $250 or more unless contemporaneous written substantiation is obtained.
   e. Casualty and Theft Losses, line 19. Form 4684 listing each item for which a loss is claimed must be attached to the return.
2. Certain Trade or Business Expenses:
   a. Casualty and Theft Losses. Same as item 1(e) above.
   b. Legal Expenses. Amount must be stated and cannot be a capital, personal, or nondeductible lobbying or political expenditure.
   c. Specific Bad Debt Charge-off. Amount written off must be stated.
   d. Repair Expenses. Amount claimed must be stated and cannot be characterized as a capital or personal expenditure.
   e. Taxes (other than foreign taxes). Amount claimed must be stated.
3. Other Items:
   a. Moving Expenses. Form 3903 or 3903-F must be attached to the return.
   b. Sale or Exchange of Main Home. Form 2119 must be attached to the return.
   c. Employee Business Expenses. Form 2106 or 2106 EZ must be attached to the return. Does not apply to club dues or travel expenses for any non-employee accompanying the taxpayer.
   d. Fuels Credit. Form 4136 must be attached to the return.
   e. Investment Credit. Form 3468 must be attached to the return.

An employer (or partnership) can be assessed penalties for *participation* in the negligent, intentional, willful conduct of the person who is technically considered to be the preparer (Regs. Sec. 1.6694-1(a)(1)). A penalty connected with understatement of a taxpayer's liability is not imposed on an employer solely because he or she employs a preparer who becomes subject to penalty. The penalty applies to an employer who knows the employee is understating tax and does not attempt to prevent it (IRC Sec. 6701(c)). Congressional comments suggest negligence might be attributed to a supervisor or reviewer who had responsibility for determining that rules and regulations were being followed but failed to do so. (S. Rep. No. 938, Pt. 1, 94th Cong., 2d Sess. 355 (1976).)

If any part of the understatement of tax liability (or overstatement of a claim for refund) is due to a willful attempt by a tax preparer to understate liability or to the preparer's willful or intentional disregard of tax provisions, the penalty is $1,000 for each return or claim (IRC

Sec. 6694(b)(1),(2)). A preparer who received but then ignored information furnished by the taxpayer or by others might be held liable for this penalty.

2.5.1 Effect of understatement of tax liability

If there is no understatement, there can be no penalty. The IRS does not attempt to assert a penalty if there is no more than a relatively immaterial understatement (Revenue Procedure 80-40, 1980 CB 774). No penalty for understatement applies if a final determination of the tax indicates there is no understatement, and any penalties that have been collected will be refunded.

2.5.2 Multiple penalties

In certain cases a preparer may create multiple opportunities for penalty. A negligent claim of a net operating loss in one year may create an understatement of tax liability in each of the carryover years. An understatement on a partnership return that flowed through to be a substantial portion of many limited partners' returns could subject the preparer of the partnership returns to understatement penalties on each of the limited partners' returns.

2.5.3 Negligent disregard for rules and regulations

Guidelines have been issued by the IRS as to what constitutes "negligence" in the context of the former version of IRC Sec. 6694(a). Congressional committee reports indicate that conduct previously considered to be negligent should continue to be penalized after 1989. The relevant definition is this: *Negligence* refers to a lack of due care or a failure to do what a reasonable and prudent person would do under the circumstances (Rev. Proc. 80-4 1980-2 CB 774); (*Brockhouse v. U. S.*, 749 F.2d 1248 (7th Cir. 1984)); IRM Sec. 4297.2). The revenue procedure cited states the IRS considers the nature, frequency, and materiality of errors when determining if negligence has occurred. These factors need to be considered by preparers seeking to avoid negligence:

- — Negligence does not result where the code section is so complex or highly technical that a competent TRP might misapply it.
- — Isolated clerical or mathematical errors are not negligence, but the failure to detect conspicuous examples of these does constitute negligence.
- — Ignorance or oversight of a rule or regulation does constitute negligence.

— Information supplied by the taxpayer may be relied upon by a preparer unless it appears incorrect, incomplete, or contradictory.

2.5.4 Normal business practices

The IRS does not assert a negligence penalty if the preparer's *normal business practices* indicate the error would rarely occur and these practices were followed in preparing the faulty return (Treas. Reg. 1.6694-

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1(a)(5)). Repeated errors of the same type, or a pattern of errors, indicate negligence. Revenue Procedure 80-40 (1980-2 CB 774, 775) cites the following as desirable office practices:

— Worksheets to accumulate data from the taxpayer

— Checklists to indicate returns and schedules suggested by the information

— Review of prior two years' returns

— Supervision of preparation by experienced persons and establishment of means for researching difficult questions

— Review procedures for completed returns

— Sign-off sheets to indicate compliance with prescribed office procedures

2.5.5 Substantial authority

Tax return positions for which the taxpayer has substantial authority are treated as if properly shown on the return, and no substantial understatement penalty is asserted against a preparer. The Omnibus Budget Reconciliation Act of 1989 expanded upon the list of authorities in Regs. Sec. 1.6661-3(b)(2) upon which a taxpayer may rely. The complete list of authorities includes

— Internal Revenue Code and other statutory provisions.

— Temporary and final regulations.

— Court cases.

— Administrative pronouncements (including revenue rulings and revenue procedures).

— Tax treaties and regulations thereunder and Treasury Department explanations of treaties.

— Congressional intent as reflected in committee reports, joint explanatory statements of managers included in conference committee reports, and floor statements made prior to enactment by one of the bill's managers.

— Proposed regulations.

— Private letter rulings.

— Technical advice memoranda.

— Actions on decisions.

— General counsel memoranda.

— Information releases or press releases, notices, and any other similar documents published by the IRS in the Internal Revenue Bulletin.

— General Explanations of tax legislation prepared by the Joint Committee on Taxation (called the "Blue Book").

Additionally, the 1989 Omnibus Budget Reconciliation Act required the IRS to publish, not less frequently than annually, a list of tax return positions for which the IRS believes there is no substantial authority and which affect a significant number of taxpayers. The purpose of this list is to assist taxpayers in determining whether a position should be disclosed to avoid the penalties for substantial understatement provided in IRC Sec. 6662(d). Thus, a taxpayer might choose to disclose having taken a position enumerated on the list in order to avoid imposition of the substantial understatement penalty. Disclosure of a tax return position should be on Form 8275-R.

3. IRS PROCEDURE FOR EXAMINING RETURNS

3.1 Initial Review and Screening

The review process begins with routine checks for obvious errors, such as mathematical mistakes and omissions of signatures and Social Security numbers, for all returns filed. These procedures constitute only a cursory review and fall far short of an audit. An audit, also referred to as an examination, may require the taxpayer to respond to questions or to provide supporting data or documentation for elements of his or her tax return. Because of the large volume of returns filed each year, the IRS cannot possibly audit every return filed; only about 2 percent of all returns are audited. To ensure that IRS audit time is expended productively, the IRS uses several techniques for selecting which returns to audit.

3.2 Selection for Audit

3.2.1 Discriminate Function System (DIF)

After the initial checks, information about individual returns is stored on magnetic tape and sent to the national computer center in Martinsburg, West Virginia. Here the information is processed by computers and rated for potential errors by a selection program known as the Discriminate Function System (DIF). DIF is a statistical system that assigns numerical values to various items on the return and then produces a composite score for each return. The formulas for developing the DIF score are kept secret from the public. The standards used in developing these formulas are based on the results of examinations from previous years, particularly the results of the TCMP program (see section 3.2.3, which follows). If the composite score indicates that a reasonable chance for error exists in a return, the return can usually be treated by correspondence from an IRS service center. Returns with scores indicating a greater possibility of error are considered for possible office or field examinations.

3.2.2 Manual identification

If a return is singled out by DIF or by other means, experienced IRS auditors apply what can be called a "sniff" test. Various aspects of the return are considered, including the taxpayer's occupation and amounts and types of deductions claimed.

3.2.3 Taxpayer Compliance Measurement Program (TCMP)

In mid-October of 1995, the IRS announced indefinite suspension of the TCMP program. The DIF standards used to determine which returns should be audited are constantly updated using information received from an examination program called the Taxpayer Compliance Measurement Program (TCMP). TCMP selects random returns and subjects them to a thorough audit that examines every aspect of the return. Taxpayers may be required to furnish the examiner with canceled checks, broker's statements, bank receipts, and any other item that might be needed to verify every entry on the return. Full compliance with TCMP audits is mandatory but time-consuming and expensive for the taxpayer. The only excuses permitted for avoiding a TCMP audit are the following:

— The taxpayer is outside the United States and unavailable for an interview.

— The taxpayer cannot be located.

— The taxpayer is too ill, has become incompetent, or has died, and the guardian or executor cannot be located.

3.2.4 IRS instructions to classifiers and auditors

IRS instructions are contained in the *Internal Revenue Manual* (IRM). Excerpts from the manual are available from commercial publishers. Reviewers and auditors are told to consider

— Comparative size of an item in relation to income and other expenses.

— Evidence of intent to mislead, such as missing or incomplete information.

— Beneficial effect of the manner of reporting—for example, expenses are recorded on a business schedule rather than treated as an itemized deduction.

— Relationships such as lack of dividend income while there are sales of securities.

3.3 Chances of Selection

The chance that a return will be selected for audit is determined by several factors, among which is total positive income (TPI). TPI is the sum of all positive income values appearing on a return. Higher amounts of TPI increase a taxpayer's chance of being selected for audit. In recent years, the probability of audit has ranged from 1 to 4 percent for Form 1040 filers, depending on the level of TPI.

Corporations having assets of $1 million or less face a 3 percent or less chance of selections. For corporations with assets over $100 million, the audit percentage is greater than 50 percent.

3.4 Items That May Trigger an Audit

While the actual items that may cause the computer or an examiner to flag a return for audit are not in the public record, there is general agreement among accountants that the following situations tend to increase the chance of audit:

— Deduction for items obviously not authorized by law

— Medical deductions without any insurance reimbursements

— Large casualty-loss deductions

— Large noncash contributions, particularly when out of proportion with the taxpayer's income

— Large deductions for travel and entertainment expenses not consistent with the nature of the taxpayer's business

— Large interest expense in relation to amount of income reported
— Standard deduction used with high gross and low net income
— Occupations normally more lucrative than indicated by the return
— Return on an investment significantly lower than expected
— Taxpayer's occupation known for its opportunity for receiving income in cash
— Taxpayer under investigation by the Bureau of Narcotics
— Amended returns claiming large refunds in connection with tax shelters.

3.5 How to Reduce the Likelihood of an Audit

The following may reduce the likelihood of an audit:

— Attach all correct W-2 forms. Your client should be instructed to check W-2s as closely as possible and immediately request a corrected W-2 if an error appears.
— Report as a separate identifiable item every Form 1099, even if several come from the same payor.
— If the client requests a replacement for an incorrect Form 1099, but it has not been received by the filing date, report the incorrect amount, then deduct it, report the result as the proper amount and state that a corrected Form 1099 has been requested. Use the same procedure for a Form 1099 for which the payor reports income in the wrong year.
— Be sure the payor's name on the return is identical to the name on the Form 1099.
— Show detail of computations of significant items that might be questioned, such as calculation of basis.
— Explain allocations between personal and business use such as might appear between Schedule C and Schedule A.

3.6 Safeguards During an Audit (IRC Sec. 7520)

Either before or at the initial interview with the taxpayer, the IRS must provide an explanation of the audit process and the taxpayer's rights, and an explanation of the collection process and the taxpayer's rights, if the interview relates to collection.

At any time during an interview (other than an interview initiated by an administrative summons), the taxpayer can terminate the interview by clearly stating to the IRS a desire to consult with an attorney, CPA, enrolled agent, enrolled actuary, or other authorized representative. The IRS has reaffirmed that taxpayers do not have to answer "economic reality" questions such as types of automobiles owned and the frequency and cost of vacations.

An authorized representative with a written Power of Attorney executed by a taxpayer can represent the taxpayer at an audit. The taxpayer is not required to accompany the representative, unless an administrative summons has been issued to the taxpayer. The IRS can notify the taxpayer that the representative is responsible for unreasonable delay or hindrance of the IRS examination.

If requested to do so in advance, the IRS must allow the taxpayer to make an audio recording of an in-person interview. The audio recording must be made at the taxpayer's own expense and with the taxpayer's own equipment.

The IRS itself may record an in-person interview if

— The taxpayer is informed prior to the interview.

— The IRS provides the taxpayer with a transcript or copy of the recording upon the request (and cost) of the taxpayer.

Regulations are to provide that it is generally not reasonable for the IRS to require a taxpayer to attend an examination at an IRS office other than the office located closest to the taxpayer's home. Regulations also are to be written to specify that it is generally not reasonable for the IRS to audit a taxpayer at his or her place of business if the business is so small that doing so essentially requires the taxpayer to close the business. The IRS would still be able to go to the place of business to establish facts that require a direct visit, such as inventory and asset verification.

3.7 Advance Warning of an Audit

An entry labeled "examination indicator" in the taxpayer's individual master file sometimes can give warning of an impending audit. See also section 8.2.4 of this chapter.

4. TYPES OF EXAMINATIONS

4.1 Examinations In or From an IRS Office

4.1.1 Correspondence examination

Examination is by correspondence when information concerning questionable items can be readily furnished by mail. Examples of items a taxpayer might be asked to verify by mail include

— Interest.

— Taxes.

— Charitable contributions.

— Medical and dental expenses.

From the taxpayer's point of view, drawbacks to a correspondence audit are said to be that the IRS examiner cannot hear oral arguments and cannot judge the sincerity of the taxpayer. Also, the examiner has the opportunity to review documents at his or her convenience, thus providing time to formulate other questions. On the other hand, in a face-to-face meeting, the agent can initiate a new line of questioning if it appears warranted.

Taxpayers believing the matter cannot be settled satisfactorily by correspondence can request an appointment. If a notice setting up an appointment for an office interview is received, a written request—together with documents supporting the taxpayer's position—can be made that the audit be handled by correspondence.

4.1.2 Office examination

The IRS may request that the taxpayer appear in an IRS office to discuss and provide documentation for matters such as the following:

— Income from tips, pensions, annuities, rents, royalties

— Determination of gain or loss as capital or ordinary income

— Deductions for employee business expenses

— Determination of the basis of property

— Bad-debt deductions

— Questions regarding low income in comparison to exemptions and deductions

The scope of an office examination is normally limited to the items listed on the appointment letter. If necessary to do so, the examiner can be reminded that the taxpayer came prepared to support only those matters listed in the letter.

4.2 Field Examinations

For the majority of business returns, and for some large and complex individual returns, the predominant type of audit is the field audit. The examination usually takes place at the taxpayer's place of business. The revenue agent has full license to examine all books, records, and documents necessary to determine the accuracy of the return. No items on the return are shielded from inquiry. Federal payroll returns and excise tax returns may be examined at the same time. Often all open (unaudited) years of corporation returns as well as the personal returns of officers are audited. Field audits can take several days or weeks. In some cases, it may be possible, by written request, to change the audit location to the office of the taxpayer's authorized representative, if books and records are maintained there or are transferred there for purposes of the audit.

4.3 Team Examinations

In the case of large corporations, a team of revenue agents may be permanently assigned to examine the tax returns and supporting documentation.

4.4 Select Employee Plans Return Examination (SEPRE)

SEPRE is an investigation for determining if problems exist in the returns of tax-exempt organizations. Tax-exempt organizations are supervised by the employee plans and exempt organization division of the district office to make sure that organizations adhere to the conditions of their tax-exempt status.

4.5 Repetitive Examinations

It has been policy in recent years for the IRS to reduce the incidence of repetitive examinations. This policy is now codified in the Taxpayer Bill of Rights. The IRS will not conduct an examination on an item if there were no changes involving the item during the examinations of the two preceding years, it is unlikely that a change will be made for the year in question, and no significant issues were overlooked during previous years. The agent responsible for the examination may not have access to the returns of the two preceding years, in which case the taxpayer should bring the facts to the agent's attention. If the examination is part of the Taxpayer Compliance Measurement Program (TCMP), these provisions do not apply and the return must be examined.

4.6 Audits of Partnerships

4.6.1 Consistency of treatment of partnership items

The tax treatment of partnership items is determined at the partnership level in a unified partnership proceeding. Special rules provide for notice and other types of participation by the individual partners. All entities required to file returns as partnerships are handled under the Tax Equity and Fiscal Responsibility Act of 1982 (TEFRA) rules, with the exception of partnerships with

— Ten or fewer partners who are either natural persons (but not nonresident aliens) or estates (husband and wife are considered one partner for this purpose).

— Each partner's share of any partnership item being the same as his or her distributive share of every other partnership item.

If one of these small partnerships so desires, it can elect to be governed by the TEFRA provisions. TEFRA requires that all partners treat partnership items as they were treated on the partnership return. In an attempt to reduce inconsistencies, the IRS requires that a copy of the information in the partnership return be given to each partner. A partner who decides to treat a partnership item in a way inconsistent with the partnership return must disclose the inconsistency to the IRS on Form 8082. A partner's return should also make a disclosure if the partnership (1) fails to file a return or (2) provides the partner with incorrect information. If an inconsistency in reporting—for example, attempting to expense the partner's share of an item that was capitalized on the partnership return without the partner's filing a notice of inconsistent treatment—leads to a deficiency in tax payment, the IRS makes an adjustment to the partner's return so that it is in conformance with the treatment on the partnership return. Any additional tax resulting from this adjustment is immediately assessed and collected as though it were a mathematical error—that is, without the issuance of a notice of deficiency to the partner. At that point the partner's recourse is to file a claim for refund and sue in U.S. Claims Court. Any underpayment due to inconsistency in reporting, coupled with the taxpayer's failure to file Form 8082, will be treated as intentional or negligent disregard of the rules and regulations and therefore will be subject to penalty.

4.6.2 Partnership audit procedures

To commence an audit of a partnership, the IRS issues a notice of commencement of an administrative proceeding. This notice is sent to every partner. Audits of partnerships impact all partners, but one specific partner, called the tax matters partner (TMP), should be designated by the partnership to be its primary representative. If a TMP is not selected by the partnership, the IRS will choose the partner with the largest profit interest in the tax year in question (in case two or more partners have the same profit interest, the TMP will be chosen alphabetically). Within thirty days of selecting a TMP the IRS must notify all partners entitled to receive notice under IRC Sec. 6223(a) of the selected TMP's name and address. Partners entitled to receive notice are those whose names appear on the partnership returns as well as those whose names and addresses have been timely furnished to the IRS. The TMP is responsible for keeping all partners informed of the proceedings of the audit and has sole authority to seek judicial review of an audit adjustment. IRC Section 6231(a)(7) defines a tax matters partner.

Any partner entitled to notice is known as a notice partner. No partner can be a notice partner unless the IRS has received name, address, and indication of interest in profits at least thirty days before it mails a notice to the TMP. The term "notice partner" does not include partners with less than a 1 percent interest in partnerships consisting of more than 100 partners. In these partnerships, notice to the TMP is considered to be notice to each partner. Thus, the IRS is not obligated to send individual partners, except the TMP, any of the notices. Any group of partners having together a 5 percent or greater interest in profits, however, may designate one of their group as a notice partner.

4.6.3 Notices to partners

The IRS must mail notices to every notice partner as well as to the TMP when it begins the audit proceedings. At the conclusion of the audit, a notice of final partnership administrative adjustments (FPAA) is mailed to the notice partners. The notice of the start of the proceeding must be mailed to the other partners no later than 120 days before the notice of the final adjustment is mailed to the TMP. In other words, there must be a lapse of 120 days between these two events. Notice of the FPAA may be mailed to the other partners no later than sixty days after this notice is mailed to the TMP. If, when any notice is mailed, it is too late for a notice partner to join in any judicial proceeding, this partner, while not joining in the proceeding, may still elect to have any decision or agreement apply to him or her and the group the partner represents. Otherwise, partnership items affected in the proceeding are, to that partner, treated as nonpartnership items. If an item is treated as a nonpartnership item, determination of its treatment at the partnership level is not applicable. Nonpartnership items may not be brought into issue by the IRS or by the partner in a partnership proceeding, and partnership items may not be raised in a nonpartnership-item proceeding. Items become nonpartnership items on the date

— The IRS enters into a settlement agreement with the partner.

— The IRS fails to make a timely mailing to a partner concerning a partnership proceeding.

— The partner files suit after the IRS has denied his or her request.

— The IRS notifies a partner that a partnership item is to be treated as a nonpartnership item.

4.6.4 Participation by a partner in an administrative proceeding

Any partner may choose to participate in a proceeding relating to the tax treatment of a partnership item. A settlement agreement between the IRS and one or more partners is binding on the parties to that agreement for the taxable year. Any other partner may obtain the same treatment by requesting it before the expiration of 150 days after the day the FPAA is mailed to the TMP.

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4.6.5 Agreements binding on partners

If the TMP enters into a settlement agreement, all partners except notice partners (and members of a 5 percent group who have designated from their group a notice partner) are bound by the agreement. Any partner not wishing to be bound may file a statement with the IRS stating that the TMP does not have authority to enter into such a settlement agreement in this partner's behalf. The time for filing this statement is to be determined by the commissioner.

4.6.6 Provision of judicial review

Once notice of an FPAA is mailed to the TMP, ninety days are allowed to petition for a redetermination. The petition may be addressed to the Tax Court, the U.S. district court, or the U.S. Claims Court. Except for the Tax Court, petitions require that the additional tax due be paid to the commissioner. Any notice partner, upon failure of the TMP to do so within the prescribed ninety-day period, may file the petition and has sixty additional days to do so. The first petition filed takes precedence over all such petitions, and the later ones will be dismissed.

4.6.7 Computational adjustments

Adjustments of mathematical or clerical errors can be corrected by the IRS as partnership items, thus affecting the partners, without applying the usual deficiency procedures. Within sixty days after such a correction notice is mailed to him or her, however, a partner may request that the IRS not make the correction.

4.6.8 Credits or refunds

A partner may not file suit for a credit or refund arising out of a partnership item without first filing a request for administrative adjustment (RAA). The RAA must be filed within three years after the later of the date of actual filing of the partnership return or the last day prescribed for filing the return without regard to extensions. The RAA must be filed before IRS notice of an FPAA. If the RAA is not fully allowed, the TMP may file a petition for adjustment of the disallowance with the tax, district, or claims court. This petition must be filed after expiration of six months from the filing of the RAA but within two years of the filing. See IRC Section 6227(c) for rules regarding filings of RAA by partners on their own behalf.

4.6.9 Limitation periods for assessments and refund claims

Assessments relating to a partnership item

— May not be filed before close of the 150th day after mailing to the TMP notice of an FPAA.

— May not be filed until completion of proceedings in Tax Court (if begun within the 150-day period).
— Must be made within three years following the later of the date of actual filing or the last day prescribed for filing of a partnership return (unless extended by the commissioner).
— May be made within six years if a false return has been filed.
— May be made within six years if partnership income that exceeded 25 percent of stated gross income was omitted.

For refund claims or claims for credit, the time limitations are generally the same as for assessments. When an RAA is timely filed, however, the period with respect to such a request does not expire until the period has expired for filing suit.

4.7 Audits of S Corporations

New audit procedures were created by the Subchapter S Revision Act of 1982. The intent is to follow the partnership model (see section 4.6) in a unified corporate proceeding. Each shareholder must be given notice and an opportunity to participate in administrative or judicial proceedings. Shareholders must treat corporate items consistently with their treatment on the S corporation's return. Rules relating to assessments, limitation periods, and appeals follow the partnership rules (see IRC Sections 6241, 6242, and 6243).

5. HOW TO PREPARE FOR AN EXAMINATION

The IRS' audit procedures handbook can be ordered from Commerce Clearing House in three volumes entitled *Internal Revenue Manual: Audit.*

5.1 Preparing for Office or Field Examinations

In many office examinations and in most field examinations, the taxpayer is wise to have an accountant or other authorized representative present in place of the taxpayer. Note, however, that IRC Section 7602(a)(2) allows the IRS to summon the taxpayer to appear. This potential use of the administrative summons continues in force despite the Taxpayer Bill of Rights.

If an audit has begun without the presence of the taxpayer's professional adviser, the taxpayer can terminate the interview and request a new appointment at which the adviser will be present. The advantages to a taxpayer of professional representation center around the professional's

— Knowledge of tax law and interpretation.
— Familiarity with the audit process and the rules of disclosure.
— Ability to exhibit professional behavior toward the IRS agent.

Tax professionals should make clear to their clients, at the time a return is prepared, whether representation in an examination is included in the fee for preparing the return or will be extra. Normally, because of the difficulty in forecasting the amount of time required to represent a client in an audit, this service is billed separately when needed. Even if not appearing at the examination, the professional tax adviser may provide valuable assistance by putting together the documentation that will be needed at the interview.

5.1.1 Obtaining a copy of a tax return

Use IRS Form 4506 to request a copy of a tax return together with W-2 Forms. Form 4506 should be mailed to the office of the IRS where the return was originally filed. There is a small charge. An abbreviated version of a return, called a transcript, is available at no cost.

5.2 Burden of Proof: Documenting the Taxpayer's Position

The burden of proof for items in the return is on the taxpayer. Evidence, such as receipts and canceled checks, should be organized for presentation to the examiner. Important items of documentation should be photocopied in advance since examiners frequently request them. Original documents should be retained in case they will be needed in litigation.

Items about which doubt exists should be thoroughly traced to source documents. Ordinarily, inadvertent omissions or mistakes that are clearly minor in their effect can safely be admitted to the agent unless their total impact suggests a pattern of disregard of the rules. On the other hand, if the taxpayer provides the IRS with a voluntary admission of *fraud* plus the documentation to back it up, the taxpayer is in a precarious position. If a taxpayer has been dishonest in any but the most trivial matters, he or she should consult a criminal tax lawyer prior to attending an IRS audit.

5.3 Beginning the Examination

Reassurance should be sought from the IRS examiner that a *civil* examination is in progress. If more than one examiner is present, each should be asked to identify his or her position in the IRS. There have been instances in which IRS special agents investigating fraud have apparently failed to identify themselves adequately or to give the IRS' modified form of the Miranda warning before the taxpayer made damaging admissions. The taxpayer's experienced tax lawyer will ordinarily be able to get this evidence suppressed in court. In most cases, however, the special agent will identify himself or herself properly. Upon any suspicion or suggestion that the IRS is considering a fraud investigation, the taxpayer should answer no questions and provide no documents until he or she has consulted a criminal tax attorney.

5.3.1 Tips for conduct

Experienced tax practitioners agree on the following tips for behavior during an examination:

— Contact the IRS agent before the audit to try to see the case with his or her eyes.

— Review the facts and the law relevant to the case well in advance of the audit date; know facts and the law better than the IRS agent.

— Organize documentation for presentation to the auditor.

— Advise the client on proper, respectful behavior or suggest that he or she not be present.

— Establish a courteous yet businesslike rapport with the agent.

Some practitioners advise allowing the agent to direct the audit; others try to lead the agent. The best approach is probably dependent on the personalities of the participants. Answer questions briefly, completely, and substantiate them by evidence.

Present only evidence asked for by the agent; do not give open access to the taxpayer's files or records.

5.3.2 Negotiation and settlement

Settlement with the examining revenue agent is usually advisable in order to resolve a case at the lowest level of inquiry. Revenue agents technically have no authority to make settlements with the taxpayer. They do, however, have discretion in determining the adequacy of documentation of factual issues. Negotiation may be entered into regarding items for which the agent proposes an adjustment.

If the issue in question is solely legal, rather than factual, the agent will take the IRS' stated position. Once this stance has been taken, any attempt at a different settlement will lead to an impasse.

In an effort to assist IRS personnel in settling cases, the national office can provide technical advice memorandums (TAMs), either during the examination or during an appeal. The revenue agents have instructions on how to obtain a technical advice memorandum. A request for a TAM may be made by the agent or the taxpayer.

6. CRIMINAL AND CIVIL TAX FRAUD

Civil tax fraud differs from *criminal* tax fraud in that the latter is punishable by *imprisonment*, by fines, or by both. Civil tax fraud, on the other hand, is punishable exclusively by a monetary penalty. An example is the 75 percent civil penalty provided in IRC Sec. 6663 for underpayments of tax that are due to fraud.

IRS special agents—members of the Criminal Investigation Division (CID)—seek first of all to discover and build a case for the prosecution of criminal fraud. According to the Internal Revenue Manual, CID is responsible for recommending and supporting with evidence whatever civil penalties may also be appropriate. If the criminal case fails, the IRS may propose civil fraud penalties. Acquittal of the criminal charges does *not* bar further pursuit of the taxpayer for civil fraud penalties. (*Helvering v. Mitchell*, 303 U.S. 391 (1938); *Spear v. Commissioner*, 91 T.C. 63 (1988)).

Some federal tax crimes are felonies, carrying possible incarceration for longer than one year. Assisting in the preparation of a false tax return (IRC Sec. 7206(2)), for example, is a felony. It carries a maximum three-year jail sentence.

Certain other federal tax crimes are misdemeanors, punishable by imprisonment for one year or less. Failure to file a return, IRC Sec. 7203, is an example of a misdemeanor, carrying a possible maximum jail term of one year.

The standard of persuasion (also called the standard of proof) for any criminal conviction is that of proof of guilt *beyond a reasonable doubt.* In a civil case, ordinarily, proof need be only by a *preponderance of the evidence.* (That phrase is interpreted to mean that the great weight and merit of the evidence (over half) is against the defendant.) In U. S. Tax Court, however, Rule 142 requires that the government sustain its burden of proof of fraud by *clear and convincing evidence,* a more demanding standard than *preponderance* but less than *reasonable doubt.* (For further discussion of the Tax Court's standard see *Amos v. Commissioner,* 43 T.C. 50 (1964), aff'd, 360 F.2d 358 (4th Cir. 1965)).

Whenever fraud is an element of the offense, the government has the burden of proof. Because the standard of criminal proof, once achieved by the government, is higher than that for civil proof, the IRS will ordinarily recommend the 75 percent civil fraud penalty of IRC Sec. 6663 whenever a taxpayer is found guilty of a tax crime (or pleads no contest).

"Willfulness," an element of all of the major Internal Revenue Code tax crimes (and also an element in those statutes that prescribe civil penalties for fraud), refers to an intent to perform the illegal act—a voluntary, intentional violation of a known duty. An act done inadvertently or by mistake, on the other hand, is not a crime. For example:

> A tax practitioner who for training purposes directed an employee to prepare a refund claim for a hypothetical client would not be guilty of a crime if a different employee inadvertently filed the claim with the IRS.

Some IRC sections specify civil penalties only, and the element of willfulness or intent to evade taxes is not pertinent. An example is IRC Sec. 6698 concerning failure to file a partnership return. In the case of a violation of these and similar statutes, penalties against a taxpayer or tax practitioner may be assessed by the IRS in a manner similar to the assessment of taxes. If the IRS cannot be convinced to remove the penalty administratively, the burden of proof in court is on the person against whom the penalty was assessed.

The 1998 Act shifts the burden of proof in any court proceeding to the IRS on issues of fact if the taxpayer

— Introduces creditable evidence.

— Complies with any required substantiation requirements.

— Maintains adequate records.

— Cooperates with the IRS' reasonable requests for witnesses, documents, and meetings.

6.1 How Fraud Investigations Are Initiated

Most fraud investigations arise by referral from an IRS agent who is examining a tax return, but they may also be prompted by a tip from a taxpayer's spouse, neighbor, employee, or from a lead supplied by another government program, such as drug enforcement. A referral is a transfer to IRS special agents working from the criminal investigation division (CID) of an IRS district office. CID special agents conduct fraud examinations.

6.2 How to Detect That a Fraud Referral Has Been Made

Criminal division referral should be suspected if the revenue agent abruptly postpones or suspends the examination while being vague about the reason, particularly if preceding this action by

— Discovering false statements made by the taxpayer during interviews concerning income, deposits, or lifestyle.

— Interviewing the taxpayer's customers, employees, suppliers, bankers, and stockbrokers.

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— Showing interest in beginning-of-the-year cash balances and asking probing questions about cash expenditures.

— Requesting cash-related documentation such as deposit slips, bank and brokerage statements, and canceled checks.

— Asking for permission to go through the taxpayer's files.

— Requesting photocopies of income-related items such as sales and accounts receivable records, shipping records, and bank statements.

— Asking for written statements of net worth, sources of cash, or expenditures of cash.

If a fraud referral is suspected, the taxpayer should immediately consult an experienced criminal tax attorney prior to making any statements or providing any documents to the IRS.

6.3 Cash Reporting Requirements

Any person in a trade or business who receives more than $10,000 in cash, either in a single transaction or in related transactions, must report these transactions to the IRS on Form 8300. Financial institutions and casinos report on Forms 4789 and 8362. A "person" is an individual, company, corporation, partnership, association, or estate.

"Cash" consists of coins and currency, whether of U.S. or foreign issue. Not presently included in the definition are bank checks, travelers checks, bank drafts, wire transfers, or any other instrument not usually accepted as money. However, the 1990 Revenue Reconciliation Act extends the definition of cash to certain monetary instruments, other than personal checks, that will be specified in upcoming regulations. Until these regulations are issued, only coin and currency need be reported.

"Related transactions" are those that occur within a twenty-four-hour period. If more than twenty-four hours pass between receipts of cash, and the total is greater than $10,000, the transactions must be reported if the recipient knows or has reason to know that each is one of a series of connected transactions.

Form 8300 must be filed within fifteen days of receipt of a payment. After filing, a new count of cash receipts begins. Additional receipts of over $10,000 must also be reported.

Persons reporting cash receipts must give a written statement to each payer named on any Form 8300, showing the name and address of the person reporting and the amount reported. This statement must be sent by January 31 of the year following the year in which the cash that triggered the IRS filing was received. A copy of Form 8300 must be retained for five years.

Civil and criminal penalties for intentional or willful disregard are provided in the amount of $25,000 ($100,000 for corporations) or the amount of cash received in the transaction or related transactions (but no more than $100,000), and sentencing up to five years in prison, or both. Civil penalties apply for any failure to

— File a correct Form 8300.

— Provide the required statement to those named in the form.

— Comply with other information reporting requirements.

Criminal penalties apply in any instance of willful or intentional

— Failure to file a report.

— Filing a false or fraudulent report.

— Stopping or trying to stop a report from being filed.

— Structuring a transaction to make it appear unnecessary to file a report.

Voluntary filings may be made of cash transactions under $10,000 if the transaction appears suspect. Questionable cases may be discussed with the local IRS Criminal Investigation Division or by phoning 1-800-272-2877. A transaction is suspect if

— It provides an indication of possible illegal activity.

— It indicates an attempt by the payer to convince the recipient not to file Form 8300, or to file a false or incomplete form.

— The payer's appearance, demeanor, statements, or any other facts or circumstances arouse the suspicion of the recipient.

For further reference, see 26 USC 60501, IRS Announcement 90-142 (1990-53 IRB 1), and IRS Publication 1544, "Rules for Reporting Large Cash Payments."

7. RESULTS OF THE EXAMINATION

7.1 Consent to Assessment: Form 870

When the IRS revenue agent has completed the examination, the taxpayer or authorized representative has an opportunity to discuss the proposed adjustments and to argue, for example, that the taxpayer's substantial compliance justifies acceptance of inadequately substantiated amounts. Experienced tax practitioners believe they can do a better job here than the taxpayer can. The IRS agent may act in a more conciliatory fashion when dealing with a fellow professional who may be perceived as a peer seeking a common goal, that of reaching a mutually agreeable and prompt resolution.

If the taxpayer and the agent reach an agreement as to liability, the agent will ask the taxpayer to sign a waiver, Form 870. Form 870 sets forth the taxpayer's name, taxable year, amount of tax due (including any penalties incurred) or amount of refund due to the taxpayer. This agreement at the district office level is not binding on either the taxpayer or the IRS, but the agent's recommendations will normally be accepted. The taxpayer who subsequently wishes to change position must pay the assessment and file a claim for a refund.

Taxpayers ordinarily sign the waiver if the assessment is based on obvious errors that they made in the return. Small assessments are best not disputed under the guise of standing up for a principle. (Interest charges stop running thirty days after signing of the waiver.) On the other hand, no taxpayer who feels the assessment is seriously overstated should sign the waiver.

If the taxpayer and the agent cannot agree on all the issues in question, they may still be able to reach a partial agreement and execute a waiver. A partial agreement allows computation of dollar amounts for at least some previously unresolved issues, calculation of the additional tax, and cessation of interest. The taxpayer must decide whether to yield on uncertain issues and save money on interest payments or take a chance that a better agreement can be reached on all issues at the appeals level.

Signing Form 870 does not prevent later filing for a claim for refund for any concessions the taxpayer agreed to but then decided were erroneous. Form 870-AD is an agreement form used in the appeals division. It specifies the taxpayer's agreement that "no claim for refund or credit shall be filed or prosecuted for the year(s) [covered by the agreement] other than for amounts attributed to carrybacks provided by law." Although there have been court decisions to the contrary, signing Form 870-AD makes it very unlikely that a taxpayer will be able to recover on a concession that is subsequently viewed as unwise.

Form 4549, Income Tax Examination Changes, is a similar agreement used in the audit division. If this agreement is signed, the taxpayer consents to immediate assessment and loses the right to challenge the liability in the Tax Court.

7.2 Extending the Statute

If negotiations at the examination stage (or later) continue until the statute of limitations runs out, the IRS agent may ask the taxpayer to extend the statute. Form 872 extends the statute for assessment of taxes under examination to a time specified in the form. Form 872-A, Special Consent to Extend the Time to Assess Tax, extends the statute for an indefinite period. The taxpayer's consent to an indefinite extension on Form 872-A can be terminated *only* by use of the specific procedures stated in the form. Termination occurs ninety days after the date on which Form 872-T is mailed or 150 days after the date on which the IRS mails a notice of deficiency. (Form 872-T terminates the consent given on Form 872-A.)

Extending the statute extends the period during which negotiation or compromise can take place. Extension for a period of time different from that requested by the IRS can be requested and could possibly be of value to the taxpayer. If the taxpayer refuses to agree to extend the statute, the IRS normally issues a notice of deficiency requiring payment or the filing of a petition to the Tax Court within ninety days.

7.3 IRS Review of Agreed Cases

Although most agreed cases are not changed later, returns for these cases are subject to review by the district office. This provides the IRS with a safety valve to guard against improper agreements by inexperienced agents. A district examination case that has been closed will not be reopened except in the case of fraud, collusion, concealment, or misrepresentation of a material fact, or if there has been an error in the agreement based on the IRS position at the time of the agreement.

8. ASSESSMENT AND COLLECTION OF TAX

8.1 Assessment

The first step in the collection process is the assessment of the tax owed to the government. To assess means to create an account receivable on the government's books. Any tax, interest, or penalty the taxpayer owes to the government becomes an account receivable.

Regional service centers have assessment officers who sign summary records of assessment for each taxpayer for every taxable period. The date the summary assessment is signed is considered the date of the assessment. Taxpayers who wish to receive a copy of their assessments may do so upon request.

8.2 What the IRS May Assess

The IRS has the authority to assess the amount of tax shown on the return, with adjustments made for any mathematical or clerical errors appearing on the return. Additional tax may be assessed if there is a deficiency. (Also, certain penalties are assessable.)

8.2.1 Deficiency

A deficiency is defined as the portion of an income tax liability (including estate, gift, and other tax liabilities) for a taxable period that exceeds the tax previously paid with respect to the taxpayer's return for that particular period. If the IRS determines that a deficiency is present, the IRS must mail a notice of deficiency to the taxpayer by either certified or registered mail. Once the notice has been received, the taxpayer has the right to file a petition with the Tax Court asking that the deficiency be redetermined. If the taxpayer chooses to file such a petition, the IRS cannot assess the deficiency until the Tax Court issues a ruling on the case. If the taxpayer fails to file such a petition within ninety days of having received a notice of deficiency (150 days if the notice was addressed to a taxpayer outside the United States) or if the taxpayer waives the right to formal notice of the determination of a deficiency, the IRS may assess the deficiency.

8.2.2 Exceptions to the regular deficiency notice procedure

In several situations the IRS can follow a procedure other than the deficiency notice procedure described in section 8.2.1:

— *Mathematical and clerical errors.* If the IRS discovers mathematical or clerical errors on a return made after 1976, it must mail the taxpayer notice of assessment of the additional tax and allow the taxpayer sixty days after receipt of the notice to file a request for abatement of the assessment. During the sixty-day period, the IRS can make no efforts to collect the assessment. If the taxpayer chooses to file a request for abatement of the assessment, the IRS must abate the assessment and make any reassessments using the regular notice of deficiency procedure.

— *Voluntary payments before assessment.* The taxpayer may make a voluntary payment to prevent the accumulation of interest. Once the IRS receives the payment, it may assess the tax for the purpose of balancing its books. If the taxpayer wishes to take the case to the Tax Court, he or she must wait until after the IRS issues a notice of deficiency before submitting the payment, because making the payment before the notice is received would eliminate the deficiency and cause the Tax Court to lose its jurisdiction over the case.

— *Appeals of Tax Court decisions.* If a deficiency in tax is found by the Tax Court, the tax will be assessed and collection efforts will begin even if the Tax Court's decision is not yet final. Collection may be deferred if the taxpayer posts a bond.

— *Bankruptcies and receiverships.* In the case of bankruptcies and receiverships, assessments are made immediately.

— *Waiver of restrictions.* The taxpayer who chooses to waive the restrictions on assessment may do so by filing Form 870 (Form 4549 if the matter is in the audit division, or Form 870-AD if the matter is at the appeals office). Filing a waiver of restriction allows the IRS to assess the deficiency immediately and terminates interest charges beginning thirty days after the effective date of the waiver. (See section 7.1.)

8.2.3 Statute of limitations on assessment

The general statute of limitations on assessments is three years after the later of the date the return was filed or the date the return was due. Before expiration of the three-year period, the taxpayer may consent to extend the period of assessment (except for estate taxes). Extensions may benefit taxpayers who expect that they can eventually negotiate a favorable settlement with the IRS. If a taxpayer refuses to consent to the extension, the IRS will issue a ninety-day letter (notice of deficiency) to protect itself against expiration of the assessment period. Taxpayer consent is indicated on Form 872. In the following situations, the statute is extended to six years:

— Omission of more than 25 percent of gross income

— Failure to report foreign personal holding company income

— Failure to provide the information requested on Schedule 1120 PH by a domestic personal holding company

In addition, deficiencies that result from the deduction of a carryback of a net operating loss can be assessed within the time period applicable to the year in which the net operating loss originated. If a false or fraudulent return has been filed with the intent to evade tax, or if no return is filed, there is no limitation on the period for assessment. Subsequent, voluntary filing of an amended return showing correct information does not limit the open-ended assessment period if the original return was false.

8.2.4 Individual master file

The IRS maintains an accounting for each taxpayer, showing debit and credit activity. An entry in this file, labeled "examination indicator," may signal that an audit is likely. A copy of this Individual Master File is available from the local district office.

8.3 Collection

If the taxpayer fails to take advantage of opportunities to appeal an IRS decision to assess additional tax (see section 9), the IRS will use its powers of levy to collect the tax (IRC Section 6331(b)). The power of levy gives the government the right to seize and sell an asset.

Within sixty days after the expiration of the period begun with the mailing of a ninety-day deficiency letter, the IRS issues a notice and demand for payment. Collection cannot be enjoined by the taxpayer if the assessment itself is valid. At this point, the taxpayer can pay the tax and file a claim for refund with the IRS. If the claim is disallowed, the taxpayer can file an action in U.S. district court or in U.S. Claims Court. Alternatively, the taxpayer may file a petition with the U. S. Tax Court prior to making payment.

If the taxpayer fails to pay, the additional tax plus penalties and interest become a lien on property owned by the taxpayer or acquired after the lien is effective. The IRS has ten years to collect. The lien is not valid against certain claims, such as mortgages and other recorded liens, until a notice of tax lien (Form 668) is filed. The taxpayer has thirty days after the mailing of the notice of lien in which to demand a hearing before an appeals officer who has had no prior involvement in the case.

A notice of levy (Form 668-A) must be either (1) given to the taxpayer in person, (2) left at the taxpayer's home or usual place of business, or (3) sent to the taxpayer by registered or certified mail. The notice must be provided at least thirty days prior to seizure of the asset and must describe the procedures for sale and the appeals process available to the taxpayer, including that of a pre-levy hearing (IRC Sec. 6331(a)).

Levies against personal property are valid when notice is given to the holder of the property, such as a bank that holds the taxpayer's checking or savings account. Notice to the taxpayer may be made afterward. The effect of a levy is to transfer "constructive possession" of the property to the government, and any subsequent attempted assignment of the property by the taxpayer is invalid. A levy covers property owned by the taxpayer at the date of the levy or later acquired. A levy on salary or wages continues in effect until the liability is satisfied or the statutory period (usually six years) expires. Once the property has been levied upon, the taxpayer may redeem it by purchase from the IRS (satisfying the tax deficiency) prior to public sale. Real property may be redeemed by the former owner within 180 days after its public sale by payment of the sale price plus 20 percent per annum to the purchaser (IRC Sec. 6337(b)). Certain property is exempt from IRS seizure, including

— Clothing, food, fuel, and schoolbooks
— Furniture and personal effects (limit of $6,250)
— Books and tools used in a trade, business, or profession (limit of $3,125)
— Salary, wages, or other income to the extent ordered by a court to support minor children
— Payments for disabilities in connection with military service
— Certain federal or state public assistance payments, such as supplemental income for the aged or blind
— Other items specified in IRC Sec. 6334(a) and Treas. Reg. Sections 301.6334-1 through 301.6334-7

Ordinarily, the taxpayer's principal residence is exempt from levy unless an IRS district director or assistant director personally approves the levy in writing and the Secretary of the Treasury finds that collection is in jeopardy (IRC Sec. 6334). A federal judge or magistrate also must approve the levy in writing.

According to IRS policy, levies are not made against qualified pension plan benefits or IRAs, or against Social Security, Medicare, or welfare payments (Internal Revenue Manual 5331.6). This IRS policy is subject to change.

Exemptions provided by state law are not effective to prevent levy for the collection of any federal tax.

8.4 Safeguards Against IRS Seizure

— No levy can be made on property if the estimated amount of expenses to be incurred during sale exceeds the fair market value of the property (IRC Sec. 6331).
— A levy must not be made on a day when the owner of the property is required by summons to appear before the IRS, unless collection of the tax is in jeopardy (IRC Sec. 6331).
— After receiving official notice of levy, banks and other financial institutions cannot release garnished accounts for twenty-one days (IRC Sec. 6332).

— Levies must be released if the liability is satisfied, release facilitates collection, an installment agreement has been signed, economic hardship results, or the fair market value of the property exceeds the liability. Determination of economic hardship must be expedited in the case of tangible personal property essential to the taxpayer's trade or business (IRC Sec. 6343).

— The taxpayer's residence cannot be seized for a liability of $5,000 or less.

— The IRS cannot seize the taxpayer's business unless other assets are not sufficient to cover the liability.

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— At the taxpayer's request, seized property must be sold within sixty days (IRC Sec. 6335).

— Jeopardy assessments or jeopardy levies must be explained in writing and reviewed by the IRS within thirty days if the taxpayer requests (IRC Sec. 7429).

— Civil actions to review the reasonableness of jeopardy assessments and levies may be brought in federal district court or, in certain circumstances, in Tax Court (IRC Sec. 7429).

8.5 Compromise

After assessment, but before payment (or levy), one additional recourse may be available. It may be to the taxpayer's advantage to attempt a compromise with the IRS. In exchange for a speedy and relatively certain settlement, the IRS may be willing to accept less than the full amount of liability. Acceptance of an offer in compromise (Form 656) is discretionary with the IRS.

A compromise must have as its basis doubt about either liability or collectibility. A compromise offer based on doubt about liability will be rejected by the IRS if the liability has been determined by the Tax Court or by the IRS appeals office. An offer to compromise based on collectibility must be accompanied by a statement on Form 433-A of the taxpayer's assets, liabilities, income, and living expenses, since the taxpayer's argument is that he or she will be unable to pay the amount of tax that was assessed. (Form 433-B is used for businesses.) No compromise is accepted unless the taxpayer agrees to extend the period of limitation on collection for the time the offer is under consideration, plus one year (Treas. Reg. Sec. 301.7122-1(f)).

Taxpayers who owe $10,000 or more are subject to new collection and budget rules. If there are no readily available assets to sell or borrow against, the taxpayer's monthly gross income less necessary living expenses is calculated to yield a minimum acceptable installment payment. The housing and transportation component of necessary living expenses is dependent upon local conditions. National standard expenses have been calculated to cover other necessary expenses such as housekeeping supplies, clothing and clothing services, personal care products and services, food and miscellaneous. Dollar amounts are derived from the Bureau of Labor Statistics Consumer Expenditure Survey and are updated periodically (see Internal Revenue Manual, Sec. 5323). The Survey can be obtained from the Bureau of Labor Statistics, 2 Massachusetts Avenue, Room 3985, Washington D.C. 20212, (202) 606-6900.

The taxpayer will be expected to offer to pay the net realizable value of his or her equity in the assets. This value is equal to the quick-sale value of all assets minus debts that have priority over the IRS. For nonliquid assets, such as real estate or closely held business interests, quick-sale value is 80 percent of fair market value. Additionally, the taxpayer will be expected to pay the present value of five years of future income less certain necessary expenses.

8.6 Installment Payment (IRC Sec. 6159)

The IRS is authorized to enter into a written agreement with any taxpayer allowing satisfaction of a tax liability through payments under an installment plan, if it facilitates the collection of the liability.

IRS Divisions of Appeals, Employee Plans and Exempt Organizations, Examination, Problem Resolution, Returns Processing (in service centers), and Taxpayer Service are authorized to make installment agreements up to $10,000. Their authority extends over individual, corporate accounts involving Form 1120, and out-of-business sole proprietor accounts. Larger amounts are addressed by the Collection Division.

It is not necessary for a taxpayer to be assessed a deficiency before opening the possibility of installment payment. On IRS Form 9465, Installment Agreement Request, the taxpayer proposes a monthly payment at any time he or she is unable to satisfy the tax liability. A small fee is imposed by the IRS for such an agreement. The IRS will respond within thirty days, approving or denying the request or asking for more information.

Interest and penalties continue to accrue until the liability is satisfied. (Financial sources other than the Treasury may provide the taxpayer with lower rates of interest.)

Generally, an agreement entered into will remain in effect for the term of the agreement. On thirty days' notice, however, the government may alter or terminate the agreement if it finds the following:

— The taxpayer provided information prior to the date of the agreement which was inaccurate or incomplete.

— The collection of the tax is in jeopardy.

— The financial condition of the taxpayer has significantly changed.

8.7 Dischargeability of Taxes in Bankruptcy

8.7.1 Individuals

The discharge of a particular tax obligation depends on the nature of the tax, the priority status granted to tax obligations under the Bankruptcy Code, and the chapter of the Bankruptcy Code under which the case is filed or to which a case may later be converted. 11 U.S.C. §523(a) details debts of an individual, including various taxes, that, unless paid, are not discharged in a bankruptcy proceeding under Chapter 7, Chapter 11, Chapter 12, or by a debtor who receives a "hardship" discharge under Chapter 13. See 11 U.S.C. §1328(b).[1]

Taxes exempted from discharge include instances when a debtor failed to file a required return, filed a late return within two years of filing the bankruptcy petition, filed a fraudulent return, or willfully attempted to evade such tax. In a case filed under Chapter 13 and upon completion by the debtor of all payments under the plan, the court will grant the debtor discharge of all debts provided for in the plan, including taxes (including those related to unfiled returns or fraud) (See 11 U.S.C. §1328(a)). Prepetition penalties and interest related to taxes that are not discharged are likewise not discharged.

Priority taxes under 11 U.S.C. §507(a)(2) that are exempted from discharge relate to taxes incurred by a debtor in an involuntary proceeding between the date the involuntary petition is filed and the date the Bankruptcy Court enters an order for relief. Priority taxes under 11 U.S.C. §507(a)(7) that are exempted from discharge include the following:

— Income taxes due within three years of the filing of the petition, assessed within 240 days of the filing of the petition, or unassessed but assessable as of the filing of the petition. See 11 U.S.C. §507(a)(7)(A).

— Property taxes. See 11 U.S.C. §507(a)(7)(B).

— Withholding taxes, such as income tax or FICA and "collected" taxes, such as telephone excise tax, airport ticket tax, and windfall profits tax. See 11 U.S.C. §507(a)(7)(C).

— Certain employment taxes, such as FICA and federal and state unemployment taxes due on wages earned or paid before the petition is filed. See 11 U.S.C. §507(a)(7)(D).

— Excise taxes for a return, if required, that are past due within three years of the filing of the petition. See 11 U.S.C. §507(a)(7)(E).

— Certain customs duties. See 11 U.S.C. §507(a)(7)(F).

— Penalties that represent compensation for actual pecuniary loss for a governmental unit involving a tax listed in items A through F above. See 11 U.S.C. §507(a)(7)(G).

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[1]Material in this section is adapted from AICPA, Tax Division, *Bankruptcy Tax Practice Reference Guide.* New York: AICPA, 1992.

8.7.2 Partnerships and corporations

In a case filed under Chapter 7, 11 U.S.C. §727(a)(1) provides that only an individual can be granted a discharge. As such, partnerships and corporations involved in a proceeding under Chapter 7 are not granted a discharge. Therefore, if shareholders keep dormant a corporate shell for later reactivation, the unpaid tax liabilities remain in existence.

In a case filed under Chapter 11, 11 U.S.C. §1141(d) provides that upon confirmation of a plan of reorganization—unless otherwise provided for in the plan, in the order confirming the plan, or in that subsection of the statute—a debtor is discharged from any debt that arose before the date of confirmation. The historical notes to 11 U.S.C. §1141 clearly indicate that nondischargeable taxes in such reorganizations are priority taxes under 11 U.S.C. §507, and postpetition payments are due under agreements reached with the tax authorities before the commencement of the case.

In a case filed under Chapter 12, 11 U.S.C. §1228(a) provides that after completion by the debtor of all payments under the plan, the debtor is discharged from all debts provided for by the plan, except any debt (e.g., taxes as described above) specified in 11 U.S.C. §523(a). Since the "family farmer" debtors eligible to file under Chapter 12 include partnerships and corporations, it would appear that this discharge, which is not as comprehensive as that under Chapter 11, applies to partnerships and corporations that are eligible and choose to file under Chapter 12 instead of Chapter 11.

9. APPEALS PROCESS

Upon a taxpayer's disagreement with a revenue agent's determination of deficiency, a review and appeals process begins. When the taxpayer declines to sign Form 870 or Form 4549, the agent prepares a report that is reviewed by a supervisor and then sent to a technical branch of the district office examination division. (See section 7.1.) In most cases, the technical reviewer approves the findings of the agent and the taxpayer is sent a "thirty-day letter."

9.1 The Thirty-Day Letter

The thirty-day letter informs the taxpayer of proposed changes in tax liability. In addition, the thirty-day letter invites the taxpayer to a hearing before the appeals office, a division of the Office of the Regional Counsel that is answerable to the Secretary of the Treasury rather than to the Commissioner of the IRS.

Tax practitioners who are on record as the taxpayer's representative receive the letter instead of the taxpayer if a power of attorney (Form 2848) or information authorization form (Form 8821) is on file. As the name implies, the taxpayer has thirty days to respond to a thirty-day letter.

Upon receipt of a thirty-day letter that proposes a deficiency, the taxpayer may request a conference with the appeals office. An oral request is sufficient if the deficiency resulted from a field examination in which the proposed deficiency is $2,500 or less or from an office or correspondence examination. If the deficiency resulted from a field examination in which the proposed amount exceeded $2,500 but did not exceed $10,000, a simple recitation of disputed issues to the appeals office is sufficient to get consideration. The dollar limits are calculated to include proposed additional tax, including penalties, proposed over-assessment, and claimed refund (or, in an offer in compromise, the total amount of assessed tax, penalty, and interest sought to be compromised) (Code of Federal Regulations [CFR], 601.106(a)(iii)).

If the proposed amount arising from a field examination is over $10,000, a formal written "protest" must be filed. Additionally, a written protest is required in cases involving all employee plan and exempt organization cases and all partnership and S corporation cases. When a formal protest is required, it must contain

— A statement that the taxpayer wishes to appeal the findings of the IRS agent.

— The taxpayer's name, address, and identification number.

— Identification of the years or periods involved.

— An itemized schedule of the proposed adjustment with which the taxpayer disagrees.

— A statement of facts that support the taxpayer's position, declared to be true under penalties of perjury.

— A statement of the law or other authority relied upon by the taxpayer.

If an authorized tax representative submits the protest, it must state whether he or she knows personally that the statement of facts is true and correct. Guidance regarding protests is given in IRS Publication 5, *Appeals Rights and Preparation of Protests.*

IRS field examiners must inform taxpayers of the IRS's rebuttal position in protested cases, according to the executive director of the IRS Office of Coordinated Examination Programs. In cases where unagreed issues are being forwarded to the IRS Appeals Division, the

Examination Division will provide taxpayers with the IRS's rebuttal position on the issues in question.

9.1.1 The appeals office

The appeals office normally receives a case within thirty days of filing of a protest. It is policy to acknowledge receipt of the case within twenty-five days. A conference at the appeals office will then be offered within ninety days of receipt. Conferences are scheduled for both docketed and undocketed Tax Court cases. Approximately 85 to 90 percent of cases it receives are agreed and resolved by the appeals office, about 80 to 90 percent of them within one year.

Hearings at the appeals office are informal sessions in which no sworn testimony is taken. In matters in which facts are being alleged, however, affidavits may be required or it may be required that facts be declared to be true under the penalties of perjury. Practitioners who attend hearings without the taxpayer must have a power of attorney.

9.1.2 The appeals officer

Nationally, there are about 1,500 appeals officers. Many of them are CPAs or attorneys, reporting to regional (legal) counsel's office. They have the job of settling legal and factual issues raised by agents without resorting to litigation. They will not reopen issues that have been agreed upon by the taxpayer and the agent. They may, however, raise new issues if they feel there is a substantial reason for doing so—a possibility to be weighed when considering an appeal.

Appeals officers can request technical advice from the national office if either they or the taxpayer desires. The appeals officer is obligated to follow technical advice that is favorable to the taxpayer but may still negotiate if the advice is unfavorable to the taxpayer. If the taxpayer reaches an agreement with the appeals officer, the taxpayer signs Form 870-AD. If no agreement can be reached, a notice of deficiency (ninety-day letter) is issued and the taxpayer is invited to start proceedings in Tax Court. Even if an appeals officer reaches an agreement with a taxpayer, the agreement is not binding on the IRS unless approved by the associate chief or chief of the appeals branch office.

9.2 The Ninety-Day Letter

The ninety-day letter is the notice of deficiency received by a taxpayer who makes no response to a thirty-day letter, who requests immediate assessment in order to go to court, or who has reached no settlement in the appeals office. A taxpayer receiving a ninety-day letter has ninety days to file a petition with the Tax Court (150 days if it was addressed to a taxpayer outside the United States). The taxpayer who chooses to appear before the Tax Court does not first have to pay the proposed deficiency. If the taxpayer fails to respond in time to the ninety-day letter, the deficiency is assessed and the taxpayer loses the right to have his or her case reviewed by the Tax Court. A taxpayer who chooses to have the case reviewed by the U.S. district court or the U.S. Claims Court must pay the tax and then file for a refund.

9.3 Appeals Before the Courts

9.3.1 The U.S. Tax Court

Ordinarily, the Tax Court presents the taxpayer's only opportunity for entry into court without first paying the alleged deficiency. Timing is critical when petitioning the Tax Court. The petition must be received by the court no more than ninety days from the date the deficiency notice was mailed to the taxpayer.

If the case had been to the appeals office before the ninety-day letter was issued, IRS regional counsel has jurisdiction from the time the taxpayer files a petition in Tax Court. If the case had not been to the appeals office, regional counsel will refer it there. If the appeals office sees no prospect for settlement, and the deficiency is more than $10,000, the case will promptly be returned to regional counsel for trial preparation. If the deficiency is $10,000 or less, the appeals office will retain jurisdiction for at least six months, which period may be extended

(Text continued on page 47)

if there appears to be likelihood of settlement. In most cases it will be to the taxpayer's benefit to achieve settlement as rapidly as possible.

When jurisdiction of a case passes to IRS regional counsel, all relevant facts and legal positions will be pieced together to develop the case for trial. Once the case is developed, regional counsel may attempt settlement with the taxpayer, regardless of prior settlement attempts by the IRS appeals division.

In contrast to other U.S. courts, representation before the U.S. Tax Court is not limited to attorneys. A taxpayer can represent himself or herself before the Tax Court or may be represented by anyone authorized to practice before the Tax Court (see section 2.1). Only tax cases are heard in Tax Court, and the court is accustomed to the complexities of the Internal Revenue Code. Cases heard by the Tax Court can be appealed to the U.S. Court of Appeals and may be heard in some instances by the U.S. Supreme Court.

For cases involving disputes of $10,000 or less for a taxable year, the taxpayer has the option of choosing to use the Small Tax Case Procedure. This procedure uses special trial judges whose decisions cannot be appealed. Results cannot be used as a precedent for any other case. Overall, the Small Tax Case Procedure is quicker, less expensive, and less formal; however, there can be no appeal. Recent statistics indicate that the IRS achieves a clear victory in 45 to 60 percent of the cases, regardless of the forum (Tax Court, district court, or Claims Court), although "split decisions" carrying some benefit to the taxpayer are more common in Tax Court. (The booklet *Election of Small Tax Case Procedure and Preparation of Petitions* is available from the Clerk of the Tax Court, 400 Second Street, N.W., Washington, D.C. 20217.) Once a taxpayer has filed a petition to the Tax Court it cannot be withdrawn, except with IRS counsel's agreement.

9.3.2 The U.S. District Court and the U.S. Claims Court

If a taxpayer has paid the assessed tax and has filed a claim for a refund, but the claim either has been denied with a notice of disallowance or has not been acted upon within six months from the date it was filed, the case may be taken to a U.S. district court or the U.S. Claims Court. In almost all district courts and the Claims Court, the government is represented by attorneys from the tax division of the Department of Justice.

District courts provide a taxpayer with the opportunity to have the case decided upon by a jury. In addition, since the district court is a local court, its members are likely to be familiar with local conditions and circumstances that may have a bearing on the outcome of the case.

The U.S. Claims Court is not a local court, but the trial may be held in or near the taxpayer's home city. Since the judge in a Claims Court case will hear evidence at several locations for the convenience of parties involved, the Claims Court can often ease problems created by having witnesses residing in widely scattered locations.

Decisions made by a district court can be appealed to the respective courts of appeal and ultimately, under the proper circumstances, to the Supreme Court. Decisions made by the Claims Court can be appealed to the U.S. Court of Appeals for the federal circuit and to the Supreme Court. Experienced tax attorneys choose a court based upon their experience with the court and subjective judgments about what is best for the taxpayer.

10. OBTAINING A REFUND

10.1 Claims Procedures

A taxpayer who has made an overpayment of taxes to the IRS is eligible for a refund. Overpayments exist when the taxpayer makes a tax payment exceeding his or her correct tax liability and include payments of taxes assessed or collected after the expiration of the period of limitations on assessment. If the IRS learns of an overpayment, either through notification by the taxpayer or through an audit, it will credit or refund the overpayment provided that the statute of limitations for filing claims (IRC Sec. 6511) has not expired.

Filing a refund claim puts the IRS on notice that there may be an overpayment. No lawsuit for a refund may be brought unless a timely and valid refund claim is filed. Although the IRS has issued denials, many tax practitioners believe filing a refund claim can sometimes trigger an audit, particularly if the refund is large or is made in connection with a tax shelter. A claim for refund may be made by

— Form 1040X or 1120X, Amended Returns, in the case of individual or corporate income tax.

— A regular tax form marked *Amended* and showing overpayment of income taxes.

— A letter to the appropriate IRS official stating all information necessary for the IRS to determine the nature of the claim.

— Form 870 showing an overpayment, solicited by a revenue agent and signed by the taxpayer.

— A Tax Court petition, or protest, containing allegations that a refund is due, partially mitigating a proposed deficiency and stating the reasons therefor.

10.2 Speedy or Quick Refund Procedures

Taxpayers may avail themselves of an expedited refund procedure referred to as "speedy" or "quick" because the IRS must either pay the refund or deny the application within ninety days from the later of either the date the application was filed or the last day of the month the return was due (considering extensions). If the IRS later audits the tax year, the refund may be denied retroactively, and the taxpayer may have to return the refund.

The forms to be filed are Form 1045, for an individual, or Form 1139, for a corporation. Technically, these forms constitute applications for a tentative carryback adjustment when a prior taxable year has been affected by

— A net operating loss carryback.

— An investment credit carryback.

— A work-incentive program carryback.

— A capital loss carryback.

10.3 Interest on Refunds and Underpayments

For refunds originating in the current-year tax return, there is a forty-five-day interest-free period starting with the due date or the filing date, whichever is later. For refunds based on a claim—the usual case—interest is payable to the taxpayer from the date of the overpayment to a date as much as forty-five days prior to the refund check date.

For an overpayment arising from a carryback, interest is payable to the taxpayer from the due date for filing the loss-year return (without regard to extensions) to a date not more than thirty days preceding the date of the refund check (IRC Sec. 6611(a), (b)(2), and (f)).

10.4 Protective Refund Claim

A claim for refund must be filed within three years from the time the return was filed or two years from the time of payment of the tax. The claim must set forth in detail the basis for the refund (Treas. Reg. Sec. 301.6402-2). However, facts necessary to detail the claim may be unavailable to the taxpayer before the expiration of the limitation period, such as the exact amount, or the effect of pending litigation. A claim for refund may be filed as a protective measure, however, even without complete detail. A general counsel memorandum acknowledges that the claim will be valid if it apprises the IRS of the essential nature of the claim (GCM 38786).

11. RULINGS, DETERMINATIONS, TECHNICAL ADVICE

11.1 Private Letter Rulings

A private letter ruling or, simply, a letter ruling is a written statement from the national office of the IRS specifying the tax treatment to be accorded a transaction or proposed transaction prior to its inclusion in a tax return. To the practitioner, a letter ruling is a planning tool, enabling taxpayers to obtain definitive guidance in structuring transactions. This guidance is particularly important if substantial amounts are involved and the transaction can be structured in different ways, depending on the IRS view as expressed in the letter ruling. The ruling may also motivate the taxpayer to avoid an as-yet-uncompleted transaction.

Rulings may not be cited as authority for another taxpayer's situation nor, technically, are they binding on the IRS. Only in rare instances, however, do examining agents attempt not to follow the ruling, in which case the ruling should be called to their attention. Rulings, with identifying characteristics removed, are available for public scrutiny and appear in tax publications. A ruling has no value, even to the taxpayer who received it, if the facts of the transaction are not in agreement with those supplied when the ruling was requested.

A conference at the national office may be requested to sound out the government's position, particularly if the transaction is complex or unique, without fully exposing the taxpayer's proposed situation. Taxpayers or authorized representatives should go to a conference with a draft of their request. Nothing said at the pre-submission conference is binding on either party.

The taxpayer must sign a statement attesting to the accuracy of the facts submitted in the filing. A thirty-day period will be allowed for submission of missing information. A request may be withdrawn by a taxpayer prior to the time the ruling is signed by the IRS. Rulings normally require several months for the IRS to process.

Although it is normal procedure to file the request and then to receive one conference as a matter of right, a phone call to the deputy associate chief counsel for technical matters in the national office may prove useful in sounding out, before filing, whether the IRS is likely to issue a favorable ruling. No ruling will be made orally. The telephone call can also be used to straighten out procedural questions regarding the form of the submission. The telephone conference will proceed on a "time available" basis at the discretion of the deputy counsel.

If a formal ruling is sought, the request must be in writing and should be accompanied by copies of financial statements, minutes of meetings, and other pertinent documents. These will not be returned if the ruling is denied, but will become part of the taxpayer's file at the district level. Tax returns reflecting transactions carried out despite a prior unfavorable ruling are likely to be audited. Each year guidelines for securing letter rulings are detailed in a Revenue Procedure, for instance Rev. Proc. 91-1, including such matters as the following:

— Submit in duplicate if more than one issue is requested, or if a closing agreement is requested.

— Do not submit alternative plans as backup in case your ruling is denied.

— Include complete facts, names, addresses, and identification numbers of all interested parties; copies of all pertinent documents should have an attestation that they are the same as the originals.

— Include a balance sheet nearest the date of the transaction.

— Include analyses that tie together the business reasons for the transaction.

— Give appropriate grounds and authority for the ruling.

— State the outcome of any previous request for rulings on similar issues for the taxpayer.

— State whether the same issue is in the taxpayer's return that (1) is under examination or appeal and without a closing agreement, or (2) is in litigation.

The areas in which the IRS will not issue letter rulings are set forth in Rev. Proc. 95.3.

11.2 Determination Letters

A determination letter, issued by a district director at the taxpayer's request, is a written response to a set of facts regarding a completed transaction. The determination is made only if it can be based on precedents and policies previously expressed by the national office. Procedures for requesting determinations are the same as for a letter ruling, but the request should be directed to the district director. Forms are available for determining the tax qualified status of tax-exempt organizations (Form 1023), or pension, profit-sharing, or retirement plans and the trust or custodial arrangements associated with them (forms in the 5300 series). The procedures for requesting determination letters are set forth in Rev. Proc. 95.4.

11.3 Technical Advice Memoranda (TAM)

These memos are statements written by the national office to provide instruction to a district or appeals office regarding the national office view of the treatment of a technical matter on a return under examination. These memos have other uses; for example, a district director might request technical advice concerning a taxpayer's request for a determination letter. Although the formal request to the national office must come from the district office, a taxpayer may request that this be done. Practitioners usually encounter TAMs when they are requested by a revenue agent. Taxpayers may submit their arguments either in writing or orally before the national office writes its memo.

A TAM may be particularly useful for the taxpayer who believes that lack of uniformity exists in treatment of an issue or that the issue is unusual enough to justify national office attention, while at the same time believing the national office will endorse the taxpayer's point of view, even if the examining agent does not.

An agent who has received a TAM is bound to follow its guidance. The legal issue involved may not be negotiated at the examination nor at the conference level, although a factual or monetary compromise may still be possible. The taxpayer's only other recourse is to go to court.

If the taxpayer asks for a TAM but the agent declines to request it from the national office, the taxpayer, within ten calendar days, should appeal in writing to the Chief, Examinations Office, or the Chief, Appeals Office. If another denial is received, the taxpayer has ten days in which to request that all data regarding the request be submitted to the national office. Details may be found in Statement of Procedural Rules 601.105(b)(5). Procedures for obtaining TAMs are set forth in Rev. Proc. 91-2.

11.4 Freedom of Information Act

The Freedom of Information Act (5 USC 552) requires the IRS to make available a variety of information if it has not already been published in the Federal Register, including

— Final opinions and other orders made in the adjudication of cases.

— Statements of policy and interpretations adopted by the IRS.

— Administrative staff manuals and instructions to staff that affect a member of the public.

Public reading rooms where these and other materials are available for inspection are maintained in the national office and in each regional office. Subject to exceptions set out in Statement of Procedural Rules

601.701(b)(1), a taxpayer may request that the IRS make available its "reasonably described records" concerning the taxpayer. (Exceptions relate primarily to IRS personnel rules and to enforcement tactics, including criteria for selection of returns for audit.) A request for records and files must be made in writing, stating it is made pursuant to the Freedom of Information Act and sent to the IRS official responsible for the records. Addresses for the responsible district officers, as well as details for making the requests, may be found in Statement of Procedural Rules 601.702. IRS Publication 876 gives information about the nature and possible use of IRS data banks.

11.5 User Fees for IRS Services

The IRS is required by statute to collect fees for certain services, such as processing a request for change in accounting period or in accounting method. The fee must be paid in advance and varies in amount depending on the time required or the complexity of the response to the taxpayer's request. Fee amounts are set in a revenue procedure issued early each year and vary, depending upon the service, between $100 and $1,000.

11.6 Closing Agreements

IRC Section 7121 authorizes the IRS to enter into agreements in writing that "shall be final and conclusive" regarding a person's tax liability. Shareholders desiring to sell a closely held corporation might seek a closing agreement to definitely establish the amount of the corporation's tax liability. An individual might seek a closing agreement to present to other creditors to help prove his or her financial position. Closing agreements might be used to

— Determine the amount of deficiency dividend to be paid to avoid personal holding company tax.

— Release the executor of an estate from tax liability.

— Determine the amount of a final distribution from a trust or estate.

According to Statement of Procedural Rules 601.202 (26 CFR 601.202), a taxpayer request for a closing agreement should be submitted to one of the following:

— District director with whom the return was filed

— Appeals division, if the matter is under appeal

— Commissioner of Internal Revenue, if the matter relates only to a subsequent period

Form 866, "Agreement of Final Determination of Tax Liability," is used to close out the total tax liability of the taxpayer—for example, by a fiduciary seeking to close an estate or by a corporation being liquidated. Form 906 is for a closing agreement covering specific issues. It might be used for matters having a continuing relevance to future tax years, such as to settle the basis of property or method of depreciation.

11.7 Correspondence

The IRS has provided an explanation of the notice routine and time frames for accounts with outstanding balances and accounts where no tax return has been filed. The first notice a taxpayer receives indicating a balance due is called an *adjustment/error notice.* There are several different adjustment/error "CP" notices that are used to alert the taxpayer of an outstanding balance.

Time Frames for IRS Notices

Balance Due Accounts

Individual Tax Accounts: Adjustment/Error Notice:
- –5 weeks - 1st Notice, CP501
- –5 weeks - 2nd Notice, CP502
- –5 weeks - 3rd Notice, CP503
- –5 weeks - 4th Notice, CP504

Business Tax Accounts: Adjustment/Error Notice:
- –5 weeks - 1st Notice, CP503
- –4 weeks - Final Notice, CP504

Return Delinquency

Individual Tax Accounts: 1st Notice, CP515
- –8 weeks - 2nd Notice, CP516
- –6 weeks - 3rd Notice, CP517
- –6 weeks - 4th Notice, CP518

Business Tax Accounts: 1st Notice, CP515
- –10 weeks - 2nd Notice, CP517
- –6 weeks - 3rd Notice, CP518

12. PROBLEM RESOLUTION: TAXPAYER ADVOCATE

The Office of the Taxpayer Advocate administers the IRS' Problem Resolution Program (PRP) and is responsible for representing the taxpayer's point of view within the Service. Taxpayers feeling that their problems are not resolved through normal IRS channels may request an Advocate's help by filing Form 911, Application for Taxpayer Assistance Order (TAO). The form is available by phone (800-829-1040) or at a local IRS office.

The Advocate must be satisfied that the taxpayer has been unable to get relief through usual IRS channels. If, as determined by the Advocate, the taxpayer is suffering or about to suffer a significant hardship as a result of IRS administration of laws, a TAO will be issued. A TAO may require the IRS to take one of these actions immediately:

— Release property of the taxpayer levied upon, or

— Cease any action, or refrain from taking any action, with respect to the taxpayer under
  - Chapter 64 (relating to collections),
  - Subchapter B of Chapter 70 (relating to bankruptcy and receiverships),
  - Chapter 78 (relating to discovery of liability and enforcement of title), or
  - Any other provision of law that is specifically described by the ombudsman in the order.

The TAO suspends the statute of limitations related to the subject of the order (for example, under IRC Section 6501 relating to the assessment or collection of tax) and immediately stops an IRS action or proposed action (such as a levy on the taxpayer's property). The period of suspension begins on the date of the taxpayer's application for a TAO and ends on the date of the Advocate's decision. Additionally, the Advocate can specify in the TAO any further suspension period.

The IRS has told its employees that it is never wrong to stop collection activities once a TAO has been requested. Advocates are expected to refer a case to the IRS district director if other IRS officials ignore a TAO.

Once a TAO has been issued, it is binding on the IRS unless modified by the Advocate, a district director, a service center director, a compliance center director, a regional director of appeals, or any superior of these officers.

Suggested steps for dealing with the PRO:

1. Phone the Taxpayer's Advocate at the district office to learn what steps must be taken before a TAO will be issued.
2. Tell the officer you are sending the application for a TAO, and record his or her name for follow-up.
3. Send the application and, later, check back with the PRO to confirm that it has been received and learn whether more information is needed.

Form 911 is used to request the TAO, but the IRS says that a written statement will serve as well if the form is not available. The "significant hardship" described in the statute is defined as "more than an inconvenience to the taxpayer or a financial hardship, as such, but rather as a hardship from which the resultant disruption caused or to be caused to the taxpayer by the Internal Revenue Service's action or proposed action is such that it would offend the sense of fairness of taxpayers in general were they aware of all the surrounding facts and circumstances."

The Taxpayer Advocate must consider, among other things, the following four specific factors when determining whether there is a "significant hardship" and whether a TAO should be issued:

1. Whether there is an immediate threat of adverse action
2. Whether there has been a delay of more than thirty days in resolving the taxpayer's account problems
3. Whether the taxpayer will have to pay significant costs (including fees for professional representation) if relief is not granted
4. Whether the taxpayer will suffer irreparable injury, or a long-term adverse impact, if relief is not granted (IRC Sec. 7811(a)(2), as amended by the 1998 Act)

Significant hardships sometimes occur during IRS action to collect tax. Specific examples of hardships are

— Threat of a poor credit rating caused by erroneous enforcement action.

— Possible loss of employment.

— Pending eviction.

— Refusal of the IRS to rescind an erroneous statutory notice (ninety-day letter).

— Significant personal emergency, such as payment for medical treatment.

— Imminent bankruptcy.

— Inability to meet payroll.

The national Office of Taxpayer Advocate submits two reports to Congress annually. One lists goals for the coming year, and the second report lists the twenty most serious problems encountered by taxpayers and suggests ways for solving these problems.

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APPENDIX 1: Where to Obtain Out-of-State Tax Forms

ALABAMA
Dept. of Revenue, Income Tax Forms
P.O. Box 327460
Montgomery, AL 36132-7460
(334) 242-1000

ALASKA
Dept. of Revenue
State Office Bldg.
P.O. Box 110420
Juneau, AK 99811-0420
(907) 465-2320

ARIZONA
Dept. of Revenue
1600 West Monroe
Phoenix, AZ 85007-2650
(602) 542-4260

ARKANSAS
Department of Finance and Administration
Revenue Division
P.O. Box 8054
Little Rock, AR 72203
(501) 682-7255

CALIFORNIA
Franchise Tax Board/Forms Request
P.O. Box 942840
Sacramento, CA 94240-0040
(800) 852-5711

COLORADO
Dept. of Revenue
State Capitol Annex
1375 Sherman St.
Denver, CO 80261
(303) 534-1208

CONNECTICUT
Dept. of Revenue Services
State Tax Dept.
25 Sigourney Street
Hartford, CT 06106
(203) 297-4753

DELAWARE
Division of Revenue, Att: Forms Dept.
State Office Bldg
820 N. French Street
Wilmington, DE 19801
(302) 571-3300

DISTRICT OF COLUMBIA
Government of District of Columbia
Dept. of Finance & Revenue
300 Indiana Ave., NW, Rm. 1046
Washington, DC 20001
(202) 727-6170

FLORIDA
Dept. of Revenue
5050 West Tennessee St., Rm. 104
Tallahassee, FL 32399-0100
(904) 922-9645

GEORGIA
Income Tax Unit, Dept. of Revenue
Trinity-Washington Bldg.
Atlanta, GA 30334
(404) 656-4293 or 4071

HAWAII
Taxpayer Service Branch
State of Hawaii, Dept. of Taxation
P.O. Box 259
Honolulu, HI 96809
(800) 222-3229

IDAHO
State Tax Commission
P.O. Box 36
Boise, ID 83722
(208) 334-7789

ILLINOIS
Dept. of Revenue
101 W. Jefferson
Springfield, IL 62794-9010
(217) 782-3336
in IL (800) 732-8866

INDIANA
Dept. of Revenue
State Office Bldg , Room 104
100 N. Senate Ave.
Indianapolis, IN 46204-2253
(317) 484-5103

IOWA
Iowa Dept. of Revenue
Hoover State Office Bldg.
Services Section
P.O. Box 10457
Tax Form Ordering Center
Des Moines, IA 50306
(515) 281-3114

KANSAS
Kansas Dept. of Revenue
Taxpayer Bureau
Box 12001
Topeka, KS 66612-2001
(913) 296-4937

KENTUCKY
Revenue Cabinet
Property-Mail Services
200 Fair Oaks Lane, Bldg. 2
Frankfort, KY 40602
(502) 564-3658

LOUISIANA
State Dept. of Revenue & Taxation
P.O. Box 201
Baton Rouge, LA 70821
(504) 925-7532

MAINE
Bureau of Taxation
Income Tax Section
State Office Bldg., Station 24
Augusta, ME 04332
(207) 624-7894

MARYLAND
Comptroller of the Treasury
Revenue Administration
110 Carroll St.
Annapolis, MD 21411
(301) 974-3951

MASSACHUSETTS
Dept. of Revenue
100 Cambridge St.
Boston, MA 02204
(617) 727-4545

MICHIGAN
Revenue Admin. Services Division
Treasury Building
Walnut & Allegan St.
Lansing, MI 48922
(517) 367-6263

MINNESOTA
Dept. of Revenue
Forms Distribution Center
Mail Station 4450
St. Paul, MN 55146-4450
(612) 296-3781

MISSISSIPPI
State Tax Commission
750 South Galatin
Jackson, MS 39204
(601) 359-6247

MISSOURI
Dept. of Revenue
Income Taxes Bureau
P.O. Box 3022
Jefferson City, MO 65105-3022
(314) 751-5337 or (800) 877-6881

MONTANA
Dept. of Revenue, Income Tax Div
Attn. Form Dept.
P.O. Box 5805
Helena, MT 59604
(406) 444-2837

NEBRASKA
Nebraska Dept. of Revenue
Office Services
P.O. Box 94818
Lincoln, NE 68509-4818
(402) 471-2971

NEVADA
Nevada Dept. of Taxation
Capitol Complex
Carson City, NV 89710-0003
(702) 885-4892

NEW HAMPSHIRE
Dept. of Revenue
Administration
61 South Spring St.
Concord, NH 03301
(603) 271-2192

NEW JERSEY
Div. of Taxation
Taxpayer Information Services
CN269
50 Barrack St.
Trenton, NJ 08646
(609) 292-7613

NEW MEXICO
Taxation & Revenue Dept.
Manuel Lujan Sr. Bldg.
P.O. Box 630
Santa Fe, NM 87509-0630
(505) 827-0700

NEW YORK STATE
Dept. of Taxation & Finance
Forms & Control Unit
Bldg. 12, W.A. Harriman
Campus
Albany, NY 12227
(518) 438-1073

NEW YORK CITY
Finance Administration
Dept. of Tax Collection
P.O. Box 446, Canal St. Station
New York, NY 10013
For Businesses:
25 Elm Place
Brooklyn, NY 11201
(718) 935-6739
(718) 935-6000

NORTH CAROLINA
Dept. of Revenue
P.O. Box 25000
Raleigh, NC 27640
(919) 715-0397

NORTH DAKOTA
Tax Commissioner
State Capitol
600 E. Blvd. Ave.
Bismarck, ND 58505
(701) 328-3017

OHIO
Ohio Dept. of Taxation
P.O. Box 2476
Columbus, OH 43266-0176
(614) 433-7750

OKLAHOMA
Tax Commission
2501 Lincoln Blvd.
Oklahoma City, OK 73194
(405) 521-3108

OREGON
Oregon Dept. of Revenue
955 Center St. N.E.
Salem, OR 97310
(503) 378-4988

PENNSYLVANIA
Dept. of Revenue
Tax Forms Services Unit
Strawberry Square
Harrisburg, PA 17128
(717) 787-8201

RHODE ISLAND
Dept. of Administration
Div. of Taxation
1 Capitol Hill
Providence, RI 02908-5800
(401) 277-3934

SOUTH CAROLINA
South Carolina Tax
Commission
P.O. Box 125
Columbia, SC 29214
(803) 737-5000

SOUTH DAKOTA
Dept. of Revenue
700 Governor's Dr.
Pierre, SD 57501-2276
(605) 773-3311

TENNESSEE
Tennessee Dept. of Revenue
Andrew Jackson State Office
Bldg.
500 Deadereck St., 4th Fl.
Nashville, TN 37242
(615) 741-4465

TEXAS
Comptroller of Public Accounts
State of Texas
111 West 6th, Starr Bldg.
Austin, TX 78701
(512) 463-4600

UTAH
State Tax Commission
Heber M. Wells Bldg.
160 East 300 South
Salt Lake City, UT 84134
(801) 297-2200

VERMONT
Vermont Dept. of Taxes
109 State St.
Montpelier, VT 05609
(802) 828-2515

VIRGINIA
Dept. of Taxation
Taxpayers Assistance
P.O. Box 1880
Richmond, VA 23282
(804) 367-8031

WASHINGTON
Dept. of Revenue
General Administration Bldg.
P.O. Box 47478
Olympia, WA 98504
(206) 786-6100

WEST VIRGINIA
State Tax Dept., Taxpayer
Service
P.O. Drawer 3784
Charleston, WV 25337
(304) 344-3333

WISCONSIN
Wisconsin Dept. of Revenue
Attn: Shipping & Mailing
Section
P.O. Box 8903
Madison, WI 53708
(608) 266-1961

WYOMING
Revenue Dept.
Herschler Bldg.
Cheyenne, WY 82002
(307) 777-5200

APPENDIX 2: Record Retention

Record retention is a must, whether for personal, business, or tax reasons. However, record retention is necessary only to the extent it serves a useful purpose or satisfies legal requirements. For example, generally the IRS must assess additional tax within three years after the later of filing of a return or its due date. The period is six years if the taxpayer omits items of gross income that in total exceed 25 percent of gross income reported on the return. If a fraudulent return is filed or if no return is filed there is no limit to the period the tax can be assessed. In practice, however, most individuals and businesses retain records based on available space.

Many accounting firms maintain permanent files for their clients. In a permanent file, such legal documents as wills, leases, employment agreements, and debt instruments are kept. In addition, other pertinent tax documents such as Subchapter S Election Approval or Keogh plans may be kept in this file. Non-tax records that establish the due professional care with which an accountant has performed an accounting or auditing service should be retained as long as a legal action could be filed by an injured party. This time period varies from state to state and according to whether the action alleges contract or tort damages. Seven years, in most states, would be a satisfactory period for retention. Permanent files are not unique to accounting firms alone. Other businesses can also benefit from the establishment of permanent files to retain the documents listed on the following chart.

Advanced technology has somewhat eliminated the inconvenience of retaining records—the use of microfilm can condense reams of paper to the size of a single sheet. Microfilm is not without disadvantages: It is relatively expensive, nonbillable to clients, and, once the system is adopted, it generally becomes permanent.

Individuals, businesses, and accounting firms facing record retention must answer two questions: "What must I keep?" and "How long do I have to keep it?" Following are charts devised for individuals, businesses, and accounting firms. These charts may be used as a guideline for most records; however, always be sure to check local and state record retention requirements.

Detail on many aspects of record retention, including tax records, can be found in *Guide to Record Retention Requirements in the Code of Federal Regulations,* a publication available from the Superintendent of Documents or from Commerce Clearing House.

NOTE: Because statutes of limitation and state and governmental agency requirements vary from state to state, each firm should carefully consider its requirements and consult with legal counsel before adopting a retention policy.

RETENTION SCHEDULE: CLIENT RECORDS

	*Retention period in years**			*Disposition after retention period*
	In office	*In storage*	*Total*	
Correspondence files	3	7	10	Destroy
Annual financial statements	3	Permanent	—	—
Typed reports				
Auditors' reports, opinion and disclaimer	3	Permanent	—	—
Compiled or reviewed monthly and quarterly financial statements	3	7	10	Destroy
Reports filed with government agencies	3	Permanent	—	—
Special reports (fire losses, special investigations, etc.)	3	Permanent	—	—
Systems reports	3	Permanent	—	—
Pencil drafts of reports	—	—	—	Destroy
Tax files				
Tax returns:				
Present clients	3	Permanent	—	—
Former clients	3	7	10	Destroy
Tax surveys, research reports, agents' examinations, and other special tax reports:				
Present clients	3	Permanent	—	—
Former clients	3	7	10	Destroy
Working paper files				
Audited financial statements:				
Present clients	3	Permanent	—	—
Former clients	3	7	10	Destroy
Compiled or reviewed monthly and quarterly financial statements	3	7	10	Destroy
Systems assignments	3	7	10	Destroy
Special reports	3	7	10	Destroy
Securities registrations and other SEC work:				
Present clients	3	Permanent	—	—
Former clients	3	7	10	Destroy
Special tax assignments (includes IRS examination documents, etc.):				
Present clients	3	Permanent	—	—
Former clients	3	7	10	Destroy
Permanent files				
Present clients	Permanent	—	—	—
Former clients	3	7	10	Destroy

*Whenever records are relevant to a pending lawsuit or charge of discrimination, they must be retained until final disposition of the lawsuit or charge.

Source: *AICPA Management of an Accounting Practice Handbook.* New York: American Institute of Certified Public Accountants, Inc., 1995.

RETENTION SCHEDULE: FIRM RECORDS

Description	*Retention period in years**
Accounting Records	
General ledger	Permanent
Accounts receivable	10 (3 in office; 7 in storage)
Accounts payable	10 (3 in office; 7 in storage)
Clients' invoices	7
Payroll records (journals, ledgers, W-2s, 940s, 941s, etc.)	Permanent
Data transmittal (in central processing system)	7
Expense reports	7
Time reports	7
Other charges to clients' voucher	7
Bill draft	7
Voucher check copies	7
Canceled checks, bank statements, and deposit slips	10 (3 in office, 7 in storage)
Journal voucher	Permanent
Interoffice client charges	7
Client coding form—masters	1 + current
Payroll data and authorization	7
Correspondence	1 + current
Cash receipts and disbursements journals	Permanent
Billed accounts receivable aged trial balance	7
Client unbilled receivables ledger	7
Unbilled accounts receivable status	7
Employee time analysis	7
Analysis of billing adjustments	7
Client charges and billing report	7
Analysis of gross and net fees by service classification	7
Depreciation schedules	Permanent
Administrative Records	
Accident reports and claims	6 (after accident or settlement)
Partnership or corporate records, including local, state and federal licenses, annual reports, capital stock and bond ledger, canceled stock and bond certificates, articles of incorporation, bylaws, and minutes from partner meetings or stockholder and director meetings	Permanent
Legal correspondence, including those pertaining to copyrights, permits, and bills of sale	Permanent
Equipment records	5 (after disposition)
Warranties and service agreements	1 (after expiration)
User's manuals	(until disposition)
Insurance documents, including policies, reports, claims, and coverage information	3–10 (after expiration or settlement)
Leases and contracts	10 (after termination)
Property records, including blueprints, appraisals, and permits	Permanent

*Ordinarily, canceled checks and paid vendors' invoices are destroyed after seven years. However, checks and invoices for purchase of assets, where the determination of basis might be important in the future, are retained indefinitely.

Description	*Retention period in years**
Annual Financial Reports	
Firm tax returns, annual statements, and working papers—operating offices and consolidated	Permanent
Monthly or Periodic Financial Reports	
Monthly statements—operating offices	7
Interim statements—consolidated	7
Other periodic financial reports	3
Supplemental Accounting Data	
Daily cash reports, remittance advices, and bank deposit slips	1
Vendors' invoices and petty cash slips	7
Current Legal Documents	
Partnership agreements or corporate documents	Permanent
Special contracts	Permanent
Noncurrent Legal Documents	
Partnership agreements or corporate documents-superseded	Permanent
Personnel: Post-Employment	
Counseling records	7 (after termination)
Disability benefits	6 (after expiration/settlement)
Discrimination charges	3–4 (after settlement)
Education, training, and CPE records	7 (after termination)
Employee contracts	7 (after termination)
Employee medical history	6 (after termination)
INS 1-9 forms. Complies with Immigration Reform & Control Act	3 from date of filing or 1 year after termination, whichever is longer.
Performance reviews	7 (after termination)
Personnel data, applications, and contracts—present employees	Permanent
Personnel data, applications, and contracts—former employees	7 (after termination)
Salary rates and changes	3 (after termination)
Personnel: Pre-Employment	
Position applications, resumes, tests, or other job advertisements and replies relating to employees	7 (after termination)
Position applications, resumes or other job advertisements and replies relating to non-employees	1 (after completion)
Promotion, demotion, layoff, or discharge of an employee	7 (after completion)
Miscellaneous	
Firm meetings files (annual and special meetings)	7
Attendance records	7 (after termination)
New business reports	7
Interoffice correspondence	7
Bulletins to clients, firm executives, and staff	7
Firm publications, including promotional and recruiting brochures, personnel guide, and client newsletter	7

APPENDIX 3: Recognition and Authorization Requirements for Persons Appearing Before the IRS

Capacity of Person Appearing (Each category includes all categories listed below it)	Attorneys and CPAs	Enrolled Agents	Unenrolled Persons who are not Attorneys or CPAs: Qualified for Limited Practice Under Sec. 10.7 of Cir. No. 230 — Return Preparers	Unenrolled Persons who are not Attorneys or CPAs: Qualified for Limited Practice Under Sec. 10.7 of Cir. No. 230 — Other	Others
1 As an advocate who is to perform certain acts for taxpayer as prescribed in 26 CFR 601.502(c)(1) (Constitutes "Practice" as defined in Cir. No. 230)	P/A and D Exception (2) may apply	P/A and E	Ineligible	P/A Exception (2) may apply	Ineligible
2. As an advocate (Constitutes "Practice" as defined in Cir. No. 230) who may receive tax information of a confidential nature but is not to perform other acts for taxpayer as prescribed in 26 CFR 601.502(c)(1)	TIA and D Exception (1), (2) or (3) may apply	TIA and E Exception (3) may apply	TIA Exception (4) applies	TIA Exception (2) or (3) may apply	Ineligible
3. As a witness who may receive or inspect tax information of a confidential nature (Does not include "Practice" as defined in Cir. No. 230)	TIA Exception (1) or (2) may apply	TIA	TIA	TIA Exception (2) may apply	TIA
4. As a witness for taxpayer to present his books, records or returns to the examining officer (Does not include "Practice" as defined in Cir. No. 230)	No requirements	No requirements	No requirements	No requirements	No requirements

CODE FOR REQUIREMENTS	EXCEPTIONS
P/A—Must present or have Power of Attorney on file	(1) An attorney who prepared the estate tax return and is the attorney of record for the estate will not be required to have a TIA on file, but a Declaration must be on file. (26 CFR 601.502(c)(3)(ii))
TIA—Must present or have a Tax Information Authorization (or Power of Attorney) on file if taxpayer is not also present.	(2) A trustee, receiver, or an attorney (designated to represent a trustee, receiver, or debtor in possession) may substitute a proper court certificate or a copy of a district court order approving bond in lieu of a P/A or TIA. (26 CFR 601.502(c)(3)(iii))
D—Must present or have a Declaration on file. Declaration may be in combination with a TIA or Power of Attorney.	(3) A TIA is not required if the advocacy can be performed without necessitating Service disclosure of tax information of a confidential nature. (26 CFR 601.502(c))
E—Must present evidence of current enrolled status or temporary recognition status.	(4) Unenrolled return preparers are limited to representation of persons during the examination process (ineligible for practice at Appeals Conferences) (Sec. 10.7(a)(7) Cir. No. 230)

Source: *Internal Revenue Manual — Audit.*

FINANCIAL MATHEMATICS

This chapter has been reprinted and adapted from material appearing in *The Accountant's Manual* (Toronto: Canadian Institute of Chartered Accountants, 1984, 1986).

1. COMPOUND INTEREST THEORY

There are many practical formulas which are derivatives of compound interest theory.

The following symbols, unless otherwise described, have a common meaning within this section:

P = principal sum invested;

S = accumulated value including interest;

i = rate of interest (assumed here to be paid once at the end of each period);

n = number of periods (these can be of any uniform length, e.g., years).

The following formulas can, in conjunction with other techniques, provide simple answers to many complex financial questions.

With modern calculators and microcomputers, the solving of such formulas is both quick and accurate. Consequently, the reliance on tables has now been greatly diminished.

1.1 Compound Interest

Formula	**Explanation**
$S = P(1 + i)^n$	S equals the accumulated value of an amount P invested now together with interest, compounded at the rate of interest i each period for n periods.
	— see Table I (multiply principal by factor contained in relevant column)
	An obvious application of this formula is the calculation of the terminal value of the loan repayment where interest has been credited and compounded over the period of the loan in preference to interest remittance.

Example

	(i)	(ii)
P	= \$1,000	= \$1,000
i	= 15% p.a.	= 15% p.a. credited quarterly
n	= 2 years	= 2 years

Solution for "S"
(Accumulated Value at end of period including interest)

	(i)	(ii)
	$= 1{,}000\,(1 + .15)^2$	$= 1{,}000\left(1 + \frac{.15}{4}\right)^8$
	$= 1{,}000\,(1.15)^2$	$= 1{,}000\,(1.0375)^8$
	$= 1{,}000\,(1.3225)$	$= 1{,}000\,(1.34247)$
	= *$1,322.50*	= *$1,342.47*

1.2 Compound Present Value

Formula

$$P = \frac{S}{(1 + i)^n}$$

or

$$P = S(1 + i)^{-n}$$

Explanation

P equals the present day value of a *single* amount S received at time period n in the future, discounting at the rate of interest i per period.

— see Table II

Note that: $\frac{1}{(1 + i)^n}$ is interchangeable with $(1 + i)^{-n}$

This formula is useful for determining the present worth of a debt due in a fixed number of years in the future.

Example

	(i)	(ii)
S	= $1,000 due in 2 years	= $1,000 due in 2 years
i	= 15% p.a. (opportunity cost discount rate)	= 15% p.a. discounted on a quarterly basis
n	= 2 years	= 2 years

Solution for "P"
(Present Value of S)

	(i)	(ii)
	$= \frac{1{,}000}{(1 + .15)^2}$	$= \frac{1{,}000}{\left(1 + \frac{.15}{4}\right)^8}$
	$= \frac{1{,}000}{(1.15)^2}$	$= \frac{1{,}000}{(1.0375)^8}$
	$= \frac{1{,}000}{1.3225}$	$= \frac{1{,}000}{1.34247}$
	= *$ 756.14*	= *$ 744.90*

1.3 Future Value of Annuity

Formula

$$S_n = P\,\frac{(1 + i)^n - 1}{i}$$

Explanation

S_n equals the future value of an amount of P invested at the end of each period for n periods earning interest at the compound rate of i.

— see Table III (multiply installment by factor contained in relevant column)

Where the annual installment is known, e.g., a commitment to pay a fixed amount for a given period, then the terminal payout figure can be estimated by adopting various earning rates (i).

CAUTION: For this formula to work properly, the compounding periods *must* equal the number of payment periods.

Example

	(i)	(ii)
P	= Yearly installment of $1,000	= Quarterly installment of $250
i	= 15% p.a.	= 15% p.a. adjusted quarterly
n	= 20 years	= 20 years

Solution for "S_n" (Future Value of installments plus interest)

(i)

$$= 1{,}000\left[\frac{(1+.15)^{20}-1}{.15}\right]$$

$$= 1{,}000\left[\frac{(1.15)^{20}-1}{.15}\right]$$

$$= 1{,}000\left[\frac{16.366532-1}{.15}\right]$$

$$= 1{,}000\,(102.44354)$$

$$= \$\,102{,}443.54$$

(ii)

$$= 250\left[\frac{\left(1+\frac{.15}{4}\right)^{80}-1}{\frac{.15}{4}}\right]$$

$$= 250\left[\frac{(1.0375)^{80}-1}{.0375}\right]$$

$$= 250\left[\frac{19.012874-1}{.0375}\right]$$

$$= 250\,(480.3433)$$

$$= \$\,120{,}085.82$$

1.4 Present Value of Annuity

Formula

$$P_n = A\left[\frac{\dfrac{1}{1-(1+i)^n}}{i}\right]$$

or

$$P_n = A\left[\frac{1-(1+i)^{-n}}{i}\right]$$

Explanation

A equals the annual amount received at the end of each period.

P_n equals the present value (today's value) of an amount A received once each period for n periods discounted compoundly at rate i.
— see Table IV (multiply annuity by this factor)

An obvious application is in discounted cash flow calculations where there are uniform cash flows for each period.

CAUTION: For this formula to work properly, the compounding periods *must* equal the number of payment periods.

Example

	(i)	(ii)
A	= \$1,000 p.a.	= \$250 per quarter
i	= 15% p.a.	= 15% p.a. adjusted quarterly
n	= 3 years	= 3 years

Solution for "P_n" (Present Value, or capital worth, of the stream of payments)

(i)

$$= 1{,}000\left[\frac{1-\dfrac{1}{(1+.15)^3}}{.15}\right]$$

$$= 1{,}000\left[\frac{1-\dfrac{1}{1.520875}}{.15}\right]$$

$$= 1{,}000\left(\frac{.3424838}{.15}\right)$$

$$= 1{,}000\ (2.2832253)$$

$= \textit{\$ 2,283.22}$

(ii)

$$= 250\left[\frac{1-\dfrac{1}{\left(1+\dfrac{.15}{4}\right)^{12}}}{\dfrac{.15}{4}}\right]$$

$$= 250\left[\frac{1-\dfrac{1}{1.5554537}}{.0375}\right]$$

$$= 250\left(\frac{.3571008}{.0375}\right)$$

$$= 250\ (9.522688)$$

$= \textit{\$ 2,380.67}$

1.5 Capital Recovery (Rate of Discharge of Debt)

Formula

$$A = P\left[\frac{i}{1-\frac{1}{(1+i)^n}}\right]$$

or

$$A = P\left[\frac{i}{1-(1+i)^{-n}}\right]$$

Explanation

A equals the amount of each installment including interest to repay a debt of P at a compound interest rate of i over n periods. Note one installment per period.

— see Table V (multiply factor by the principal outstanding)

Example

	(i)	(ii)
P	= Debt \$30,000	= Debt \$30,000
i	= 15% p.a.	= 15% p.a. adjusted half yearly
n	= 30 years	= 30 years

(*Text continued on page* 7)

Solution for "A"
(Installments required to extinguish debt plus interest)

(i)

$$= 30{,}000\left[\frac{.15}{1-\dfrac{1}{(1+.15)^{30}}}\right]$$

$$= 30{,}000\left[\frac{.15}{1-\dfrac{1}{(1+.15)^{30}}}\right]$$

$$= 30{,}000\left[\frac{.15}{1-\left(\dfrac{1}{66.211739}\right)}\right]$$

$$= 30{,}000\left[\frac{.15}{.984897}\right]$$

$$= 30{,}000\ (.1523001)$$

$= \textit{\$ 4,569}$ p.a.

(ii)

$$= 30{,}000\left[\frac{\dfrac{.15}{2}}{1-\dfrac{1}{\left(1+\dfrac{.15}{2}\right)^{60}}}\right]$$

$$= 30{,}000\left[\frac{.075}{1-\dfrac{1}{(1.075)^{60}}}\right]$$

$$= 30{,}000\left[\frac{.075}{1-\left(\dfrac{1}{76.64947}\right)}\right]$$

$$= 30{,}000\left[\frac{.075}{.9869536}\right]$$

$$= 30{,}000\ (.0759914)$$

$= \textit{\$ 2,279.74}$ per half year

1.6 Sinking Fund

Formula

$$A_n = S\left[\frac{i}{(1+i)^n - 1}\right]$$

Explanation

A_n equals the amount of each installment to be invested at the end of each period for n periods at compound rate of interest i to accumulate the capital sum S at the end.

Conversely A_n also represents the equivalent periodic cash flow per period of a capital sum (S) received at the end of n periods, i.e., an effective measure of the yield of a bond premium on redemption.

— take the reciprocal of Table III

Example

	(i)	(ii)
S	= \$100,000	= \$100,000
i	= 15% p.a.	= 15% p.a. compounded half-yearly
n	= 10 years	= 10 years

Solution for "A_n" (Level periodic payment to fund capital sum)

	(i)	(ii)
	$= 100{,}000\left[\dfrac{.15}{(1+.15)^{10}-1}\right]$	$= 100{,}000\left[\dfrac{\frac{.15}{2}}{(1+.15)^{20}-1}\right]$
	$= 100{,}000\left[\dfrac{.15}{(1.15)^{10}-1}\right]$	$= 100{,}000\left[\dfrac{.075}{(1.075)^{20}-1}\right]$
	$= 100{,}000\left[\dfrac{.15}{4.046-1}\right]$	$= 100{,}000\left[\dfrac{.075}{4.2478-1}\right]$
	$= 100{,}000\ (.0492449)$	$= 100{,}000\ (.0230925)$
	= *$ 4,924.50* per year	= *$ 2,309.25* per half year

1.7 "Rule of 78"

Formula

$$\frac{n(n+1)}{2}$$

Explanation

This formula calculates the accumulated number of months of a fixed period, e.g., 12 months equals 12 + 11 + 10, etc., = "78."

— see Table VI (multiply total interest by the interest factor, the interest factor being unexpired months divided by accumulated months)

The "Rule of 78" applies the proportion of the unexpired time period to the total time period as a basis of calculating the known interest component of a fixed period financial agreement in circumstances where there is a uniform repayment by installments, e.g., personal loans.

Example

Interest = 8% simple over 3 years ($240)
Principal = $1,000
Period = 36 months
Installments = monthly
Therefore, accumulated months for the period $= \dfrac{36(36+1)}{2}$
= 666

To find the interest in relation to month number one $= \frac{36}{666} (\$240.00)$
$= \$12.97$

that is, $\frac{\text{(Unexpired months)}}{\text{(Accumulated months)}}$ (total interest)

Limitations

The "Rule of 78" is based on the assumption that the amount of principal is reduced evenly by each installment. This is not so under the strict rules of compound interest. However, for short period loans, say up to five years, the "Rule of 78" does provide a reasonable approximation.

2. ELEMENTARY STATISTICS

The following is aimed to serve one of the following purposes:

— an introduction to statistical analysis for the uninitiated, particularly as a starting point for accountants being confronted with statistical terminology for the first time;

— as a means of revision for those who have had some previous formal training in statistical analysis, but who have not had recent exposure to the subject.

It cannot be stressed too strongly that the following is an overview of a very complex subject and is no substitute for a detailed reference text.

2.1 Basic Terminology

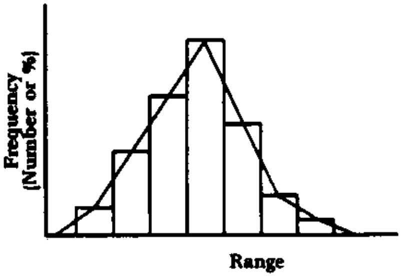
Sample — A selection of part of the population of a category of items;

— For statistical results to be meaningful it should be unbiased. Therefore, all members of the population should have the same chance of selection for inclusion in the sample.

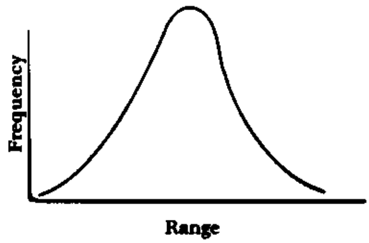
Population — The entire group of items under analysis from which the sample is selected.

Frequency Distribution — The frequency with which members of the sample fall within certain ranges, e.g., mea-

Histogram & Frequency Polygon



Frequency Probability Curve



suring the number of blue-eyed people in the sample;

— Derived from this distribution are three other terms depicting the same occurrences, namely:

(i) Histogram block (diagram);
(ii) Frequency Polygon (linear graph dissecting midpoints of each range);
(iii) Frequency Probability Curve.

Mode — The most frequent or most popular value or range of variable under consideration.

Median — The midpoint between highest and lowest values in the sample, i.e., half the sample or population lies each side of this value;

— The range of values can be divided up into quantities of a given proportion, e.g.:

.1 quartile 10% below 90% above
.8 quartile 80% below 20% above.

— The median is the .5 quartile

.25 is the lower quartile
.75 is the upper quartile.

Mean — The average of the observations:

(i) in the case of a sample expressed:

$$\bar{X} = \frac{\Sigma X}{n} = \frac{\text{Sum of all observations in the sample}}{\text{number of observations}}$$

(ii) in the case of the population expressed:

$$\mu = \frac{\Sigma X}{N} = \frac{\text{Sum of all observations in the population}}{\text{number in the population}}$$

Standard Deviation — A measure of dispersion of the sample or population about the mean. It can be expressed as follows:

(i) for the sample

$$s = \sqrt{\frac{\Sigma[X - \chi]^2}{n - 1}}$$

(ii) for the population

$$\sigma = \sqrt{\frac{\Sigma[X - \mu]^2}{N - 1}}$$

Coefficient of Variation — A measure of the magnitude of the deviation (dispersion) relative to the magnitude or size of the mean via a percentage:

(i) sample $\frac{s}{\bar{X}}(100)$

(ii) population $\frac{\sigma}{\mu}(100)$

2.2 Probability

2.2.1 Symbols

P(A) The probability of event "A" occurring, e.g., heads from a flip of a coin,

$$P(H) = \frac{1}{2} = .5$$

P(A or B) For mutually exclusive events the probability of either event "A" or event "B" occurring, e.g., the selection of the Ace of Hearts or the Ace of Diamonds from a pack of cards:

$$P(H \text{ or } D) = \frac{1}{52} + \frac{1}{52} = .03846$$

P(AB) Joint probabilities of events "A" and "B" occurring:

(i) if sequence is important, e.g.:
1 head, followed by 1 tail, followed by 1 head out of 3 tosses of a coin:

$$P(HTH) = \frac{1}{2} \times \frac{1}{2} \times \frac{1}{2}$$
$$= .125$$

(ii) if sequence is unimportant, e.g., 2 heads and 1 tail from 3 tosses, the results could be:

$$\text{H, H, T or} = \frac{1}{2} \times \frac{1}{2} \times \frac{1}{2} = .125$$

$$\text{H, T, H or} = \frac{1}{2} \times \frac{1}{2} \times \frac{1}{2} = .125$$

$$\text{T, H, H} = \frac{1}{2} \times \frac{1}{2} \times \frac{1}{2} = \underline{.125}$$

$$.375$$

P(B/A) The probability of event "B" given that event "A" has occurred $= \frac{P(BA)}{P(A)}$

e.g. A = probability of selecting a female applicant (.5)
B = probability of selecting an adult female applicant (.2)

Event "A" has occurred, therefore, the probability of selecting an adult female applicant is:

$$= \frac{.2}{.5}$$

$$= .4 \text{ or } 40\%$$

2.2.2 Probability distributions

A *frequency distribution* is a listing of the frequency of all observations of a sample or population.

A *probability distribution* is a listing of the probabilities of all of the *possible* observations of a sample or population.

2.2.3 Binomial distributions

Applicable situations

There are three mandatory requirements before this type of probability distribution technique can be used:

(i) There are only two possible mutually exclusive outcomes (e.g., yes/no, success/fail).
(ii) Each observation is statistically independent, that is, the outcome does not depend on the outcome of an earlier observation.
(iii) There are a fixed number of observations.

Formula

$$P(r) = \frac{n!}{r!(n-r)!} p^r q^{n-r}$$

Key:
r = number of successful observations desired
n = number of observations tested or tried
p = probability of success
q = probability of failure $(1-p)$

Note: ! represents factorial, e.g., the factorial of $4 = 4 \times 3 \times 2 \times 1$

Example

Product X is faulty 10% of the time. The probability of finding 2 faulty products out of a total of 3 selected is:

$$\begin{aligned} P(2) &= \frac{3!}{2!(3-2)!}(.1^2)(.9)^{3-2} \\ &= \frac{3 \times 2 \times 1}{(2 \times 1)(1)}(.01)(.9) \\ &= \frac{6}{2}(.009) \\ &= .027 \\ &= 2.7\% \text{ probability} \end{aligned}$$

2.2.4 Poisson distribution

Applicable situations

(i) The mean of the sample or population which is to be observed (tested) is known.
(ii) The random variable, the subject of the probability evaluation, has a whole value (zero upwards).
(iii) The possible outcomes, unlike Binomial Distributions, do not have

to be mutually exclusive, but observations are still to be statistically independent of each other.

Formula

$$P(x) = \frac{m^x e^{-m}}{x!}$$

Key:

x = number of exact occurrences, the probability of which is to be calculated

m = mean of occurrences (known)

e = 2.71828, the base of natural logarithms

Note: ! represents factorial, e.g., the factorial of $4 = 4 \times 3 \times 2 \times 1$

Example

Average daily sales is 10 units, therefore, the probability of selling only 5 units is:

$$\begin{aligned} P(5) &= \frac{10^5 e^{-10}}{5!} \\ &= \frac{(100{,}000)\ (.0000454)}{120} \\ &= \frac{4.54}{120} \\ &= .0378 \\ &= 3.8\% \end{aligned}$$

2.2.5 Normal distribution

Characteristics of a normal curve

— The normal probability curve is bell shaped, as illustrated below. Many other distributions where the intervals are small, but numerous, would give a similar shaped curve.

— The mean, median, and mode are all equal and the population lies evenly on each side of this figure (the peak of the curve).

— The tails of the curve (the extremities) never reach zero and extend to infinity.

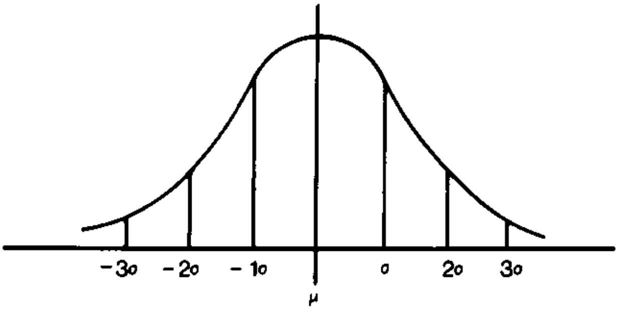
The area under a normal curve is deemed to equal 1. The proportionate area under a section of the curve can then be used as a measure of probability.

Despite there being a multitude of differing normal curves (their position and shape being governed by their respective μ and σ) the following is true for all normal curves:

— Approximately 68 per cent of all the values lie within 1 standard deviation from the mean.

— Approximately 95.5 per cent of all the values lie within 2 standard deviations from the mean.

— Approximately 99.7 per cent of all the values lie within 3 standard deviations from the mean.



Conversion to standard normal probability distribution

By converting a normal curve to what is known as a standard normal curve, the probability that a variable will lie in a certain distance (expressed in standard deviations) from the mean can be calculated by using a standard set of tables:

Formula

$$Z = \frac{\chi - \mu}{\sigma}$$

Key:

Z = the number of standard deviations between the value of the random variable and the mean

χ = the value of the random variable in the probability distribution of which we are concerned

μ = the mean

σ = standard deviation

Use of tables

Attached are tables (Table VII) which give the residual area of one tail (asymptote) at a certain number of standard deviations from the mean.

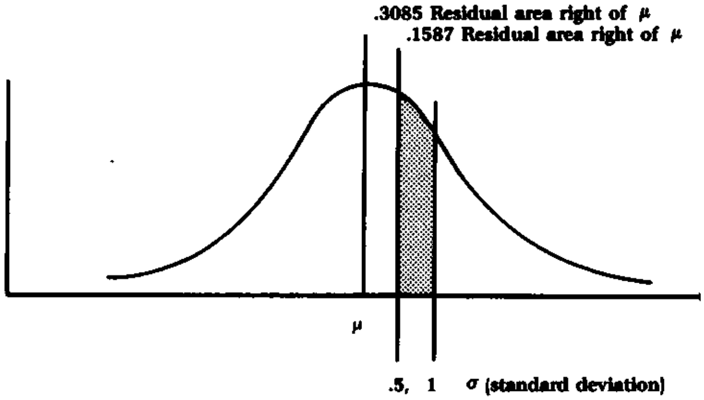
Example

Known μ = 1,000
σ = 200

Question What is the probability of variable χ falling in the range 1,100 to 1,200?

	(i)	(ii)
	$\dfrac{1{,}100-1{,}000}{200}$	$\dfrac{1{,}200-1{,}000}{200}$
	= .5 standard deviations	= 1 standard deviation
Table VII attached	= .3085	= .1587

Area of range is (i) minus (ii) = .1498 or 14.98 probability.



2.3 Random Sampling

Various methods

(i) **Simple Random Sampling.** This method allows each possible item in the population to have an equal chance (probability) of selection in the sample. A basis often used is a table of random numbers with each item in the population having some ascribed number (e.g., employee number, voucher number).

(ii) **Systematic Sampling.** This method broadly picks a random starting point and then systematically selects the sample from that point, e.g., the first item of the sample is randomly selected and then consecutively at intervals of say 10, namely 4, 14, 24, 34, etc. This method is not as theoretically correct as the simple method above, although probably more expedient.

(iii) **Stratified Sampling.** The population is divided into stratas (age, product, type, etc.) and then within each stratum a sample is randomly selected. Each stratum is given appropriate weighting as to their known proportion in the population by either greater sample numbers or weighting of the results. The results of stratified sampling are only as good as its design as this reflects the population structure. It has merit where there are *small* variations within, but large variations between each stratum.

(iv) **Cluster Sampling.** Samples can be selected on the basis of dividing the population up into groups (e.g., geographically). A random sample is then taken within each group (cluster). The results are expected to show a large variation within, but not between, each cluster.

It should be noted that methods (ii), (iii) and (iv) are merely techniques attempting to achieve a simple random sample where there are practical difficulties in identifying each member of the population.

2.4 Standard Error

2.4.1 What is it?

If all possible combinations of samples of size n were taken for a population, thereby giving a second population consisting of the means for each of the samples, then such a population would have its own mean equal to the first population mean and its own standard deviation.

This standard deviation of the distribution of sample means is called the *Standard error* of the mean ($\sigma\chi$).

Obviously, the larger the number of items in the sample the smaller the standard error, as each sample mean would be more likely to be closer to the population mean.

Furthermore, the *Central Limit Theorem* holds that as a sample size increases, the sampling distribution of the means will approach normality regardless of the shape of the population distribution.

2.4.2 How is the standard error calculated?

$$\sigma\chi = \frac{\sigma}{n} \quad \text{(infinite population)}$$

$$\sigma\chi = \frac{\sigma}{\sqrt{n}} \times \sqrt{\frac{N-n}{N-1}} \quad \text{(finite population—i.e., known N)}$$

Key:

$\sigma\bar{\chi}$ = standard error (standard deviation of sample means)

σ = standard deviation of population

n = number in sample
N = number in population
Where n is small compared to N then there is little to be gained by using the finite population multiplier $\left(\sqrt{\frac{N-n}{N-1}}\right)$ as it approaches 1.

Therefore, in these instances the formula:

$$\sigma_{\bar{\chi}} = \frac{\sigma}{\sqrt{n}}$$

is used.

Probability Formula

The previous formula of:

$$z = \frac{\chi - \mu}{\sigma}$$

for standard normal probability tables is now:

$$z = \frac{\bar{\chi} - \mu}{\sigma_{\bar{\chi}}}$$

The new formula determines the distance of the sample mean from the population mean and, therefore, the probability of its occurrence.

2.5 Confidence Limits

The mean

$\bar{\chi}$, or the mean of a sample, is an estimator of the population mean. The distributions of sample means where they are based on a large number of sample items approximate normal distributions (irrespective of the nature of the population).

Under normal curves the areas within the limits of certain standard deviations are known. It is the proportionate area that determines the level of confidence, e.g., $\pm$ 2σ = 95.5% confidence as to the probability of the result. (See paragraph 2.2.5.) Therefore, applying the following formula, the probability of a result within a range can be described.

Example	(i)	(ii)
sample size n	= 100	= 100
sample mean $\bar{\chi}$	= 20	= 20
population stat. deviation σ	= 5	= unknown
simple stat. deviation s	= n.a.	= 5.5

	(i)	(ii)
Confidence limit required	= 90%	= 90%

Note: where "χ" is not known "s" is used as an approximate and denoted χ

Solution: (i) (ii)

standard error

$$\sigma_{\bar{\chi}} = \frac{\sigma}{\sqrt{N}} \qquad \sigma_{\chi} = \frac{5.5}{\sqrt{100}}$$

$$= \frac{5}{\sqrt{100}} \qquad = \frac{5.5}{10}$$

estimate of the standard error of the mean of the population $= .5$ $\qquad = .55$

Refer to body of Table VII for area of tail approximating .05 = approximately 1.64 standard deviations.

Note: .05 each side of $\bar{\chi}$ = 10% outside confidence limits.

Result is ± 1.64 standard deviation equals approximately 90% confidence (.45 × 2).

Answer is $\bar{\chi} \pm 1.64$ standard deviations

(i)	(ii)
$= 20 \pm (1.64)(.5)$	$= 20 \pm (1.64)(.55)$
$= 20 \pm .82$	$= 20 \pm .902$

Therefore with 90% confidence the mean of the population will range between:

(i)	(ii)
19.18 to 20.82	19.098 to 20.902

The probability

In circumstances where the population proportion (probability) of an occurrence is not known, the standard error of the proportion can be estimated in the same way as the estimate of the population standard deviation.

Formula

$$\hat{\sigma}_{\bar{p}} = \sqrt{\frac{\bar{p}\ \bar{q}}{n}}$$

Key:

$\hat{\sigma}_{\bar{p}}$ = estimate of standard error of the proportion (probability) of the expected event

$\bar{p}$ = proportion of sample with favorable result (e.g., it may be the purpose to determine the percentage of defective products, therefore, the finding of a defect is regarded as a favorable occurrence)

$\bar{q}$ = proportion of sample with unfavorable result (e.g., conversely, if it is desired to measure the occurrence of defective products, the selection of non-defective product is regarded as an unfavorable occurrence or result)

n = sample size

Given the sample probability (proportion), namely $\bar{p}$, then with the desired confidence limits, i.e., ± the desired $\hat{\sigma}_{\bar{p}}$, the same tables as for the estimation of the range mean in the previous example are used.

TABLE I COMPOUND INTEREST (Principal $1) $S = P(1+i)^n$

Years Hence	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	Years Hence
1	1.010	1.020	1.030	1.040	1.050	1.060	1.070	1.080	1.090	1.100	1
2	1.020	1.040	1.061	1.082	1.102	1.124	1.145	1.166	1.188	1.210	2
3	1.030	1.061	1.093	1.125	1.158	1.191	1.225	1.260	1.295	1.331	3
4	1.041	1.082	1.125	1.170	1.215	1.262	1.311	1.360	1.412	1.464	4
5	1.051	1.104	1.159	1.217	1.276	1.338	1.403	1.469	1.539	1.610	5
6	1.061	1.126	1.194	1.265	1.340	1.418	1.501	1.587	1.677	1.772	6
7	1.072	1.149	1.230	1.316	1.407	1.504	1.606	1.714	1.828	1.949	7
8	1.083	1.172	1.267	1.369	1.477	1.594	1.718	1.851	1.993	2.144	8
9	1.094	1.195	1.305	1.423	1.551	1.689	1.838	1.999	2.172	2.358	9
10	1.105	1.219	1.344	1.480	1.629	1.791	1.967	2.159	2.367	2.594	10
11	1.116	1.243	1.384	1.539	1.710	1.898	2.105	2.332	2.580	2.853	11
12	1.127	1.268	1.426	1.601	1.796	2.012	2.252	2.518	2.813	3.138	12
13	1.138	1.294	1.468	1.665	1.886	2.133	2.410	2.720	3.066	3.452	13
14	1.149	1.319	1.513	1.732	1.980	2.261	2.578	2.937	3.342	3.797	14
15	1.161	1.346	1.558	1.801	2.079	2.397	2.759	3.172	3.642	4.177	15
16	1.173	1.373	1.605	1.873	2.183	2.540	2.952	3.426	3.970	4.595	16
17	1.184	1.400	1.653	1.948	2.292	2.693	3.159	3.700	4.328	5.054	17
18	1.196	1.428	1.702	2.026	2.407	2.854	3.380	3.996	4.717	5.560	18
19	1.208	1.457	1.753	2.107	2.527	3.026	3.616	4.316	5.142	6.116	19
20	1.220	1.486	1.806	2.191	2.653	3.207	3.870	4.661	5.604	6.727	20
21	1.232	1.516	1.860	2.279	2.786	3.400	4.141	5.034	6.109	7.400	21
22	1.245	1.546	1.916	2.370	2.925	3.603	4.430	5.436	6.659	8.140	22
23	1.257	1.577	1.974	2.465	3.071	3.820	4.740	5.872	7.258	8.954	23
24	1.270	1.608	2.033	2.563	3.225	4.049	5.072	6.341	7.911	9.850	24
25	1.282	1.641	2.094	2.666	3.386	4.292	5.427	6.848	8.623	10.835	25
26	1.295	1.673	2.157	2.772	3.556	4.549	5.807	7.396	9.399	11.918	26
27	1.308	1.707	2.221	2.883	3.733	4.822	6.214	7.988	10.245	13.110	27
28	1.321	1.741	2.288	2.999	3.920	5.112	6.649	8.627	11.167	14.421	28
29	1.334	1.776	2.357	3.119	4.116	5.418	7.114	9.317	12.172	15.864	29
30	1.348	1.811	2.427	3.243	4.322	5.743	7.612	10.063	13.268	17.449	30

TABLE I (continued) COMPOUND INTEREST

(Principal $1) $S = P(1+i)^n$

Years Hence	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%	Years Hence
1	1.110	1.120	1.130	1.140	1.150	1.16	1.17	1.18	1.19	1.2	1
2	1.232	1.254	1.277	1.300	1.322	1.3456	1.3689	1.3924	1.4161	1.44	2
3	1.368	1.405	1.443	1.481	1.521	1.5609	1.6016	1.6430	1.6852	1.728	3
4	1.518	1.573	1.630	1.689	1.749	1.8106	1.8739	1.9388	2.0053	2.0736	4
5	1.685	1.762	1.842	1.925	2.011	2.1003	2.1924	2.2878	2.3864	2.4883	5
6	1.870	1.974	2.082	2.195	2.313	2.4364	2.5652	2.6996	2.8398	2.9860	6
7	2.076	2.211	2.353	2.502	2.660	2.8262	3.0012	3.1855	3.3793	3.5832	7
8	2.304	2.476	2.658	2.853	3.059	3.2784	3.5115	3.7589	4.0214	4.2998	8
9	2.558	2.773	3.004	3.252	3.518	3.8029	4.1084	4.4355	4.7854	5.1598	9
10	2.839	3.106	3.395	3.707	4.046	4.4114	4.8068	5.2338	5.6947	6.1917	10
11	3.152	3.478	3.836	4.226	4.652	5.1173	5.6239	6.1759	6.7767	7.4301	11
12	3.498	3.896	4.334	4.818	5.350	5.9360	6.5801	7.2876	8.0642	8.9161	12
13	3.883	4.363	4.898	5.492	6.153	6.8858	7.6987	8.5994	9.5964	10.6993	13
14	4.310	4.887	5.535	6.261	7.076	7.9875	9.0075	10.1472	11.4198	12.8392	14
15	4.785	5.474	6.254	7.138	8.137	9.2655	10.5387	11.9737	13.5895	15.4070	15
16	5.311	6.130	7.067	8.137	9.358	10.7480	12.3303	14.1290	16.1715	18.4884	16
17	5.895	6.866	7.986	9.276	10.761	12.4677	14.4265	16.6722	19.2441	22.1861	17
18	6.543	7.690	9.024	10.575	12.375	14.4625	16.8790	19.6733	22.9005	26.6233	18
19	7.263	8.613	10.197	12.056	14.232	16.7765	19.7484	23.2144	27.2516	31.9480	19
20	8.062	9.646	11.523	13.743	16.366	19.4608	23.1056	27.3930	32.4294	38.3376	20
21	8.949	10.804	13.021	15.668	18.821	22.5745	27.0336	32.3238	38.5910	46.0051	21
22	9.934	12.100	14.714	17.861	21.645	26.1864	31.6292	38.1421	45.9233	55.2061	22
23	11.026	13.552	16.627	20.362	24.891	30.3762	37.0062	45.0076	54.6487	66.2474	23
24	12.239	15.179	18.788	23.212	28.625	35.2364	43.2973	53.1090	65.0320	79.4968	24
25	13.585	17.000	21.230	26.462	32.919	40.8742	50.6578	62.6686	77.3881	95.3962	25
26	15.080	19.040	23.990	30.167	37.857	47.4141	59.2697	73.9490	92.0918	114.4755	26
27	16.739	21.325	27.109	34.390	43.535	55.0004	69.3455	87.2598	109.5893	137.3706	27
28	18.580	23.884	30.633	39.204	50.066	63.8004	81.1342	102.9666	130.4112	164.8447	28
29	20.624	26.750	34.616	44.693	57.575	74.0085	94.9271	121.5005	155.1893	197.8136	29
30	22.892	29.960	39.116	50.950	66.212	85.8499	111.0646	143.3706	184.6753	237.3763	30

TABLE II COMPOUND PRESENT VALUE

(Assuming that the $1 is received in a single payment on the last day of the year)

$$P = \frac{S}{(1+i)^n}$$

Years Hence	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	Years Hence
1	.990	.980	.971	.962	.952	.943	.935	.926	.917	.909	.901	.893	.885	.877	.870	1
2	.980	.961	.943	.925	.907	.890	.873	.857	.842	.826	.812	.797	.783	.769	.756	2
3	.971	.942	.915	.889	.864	.840	.816	.794	.772	.751	.731	.712	.693	.675	.658	3
4	961	.924	.888	.855	.823	.792	.763	.735	.708	.683	.659	.636	.613	.592	.572	4
5	.951	.906	.863	.822	.784	.747	.713	.681	.650	.621	.593	.567	.543	.519	.497	5
6	.942	.888	.837	.790	.746	.705	.666	.630	.596	.564	.535	.507	.480	.456	.432	6
7	.933	.871	.813	.760	.711	.665	.623	.583	.547	.513	.482	.452	.425	.400	.376	7
8	.923	.853	.789	.731	.677	.627	.582	.540	.502	.467	.434	.404	.376	.351	.327	8
9	914	.837	.766	.703	.645	.592	.544	.500	.460	.424	.391	.361	.333	.308	.284	9
10	905	.820	.744	.676	.614	.558	.508	.463	.422	.386	.352	.322	.295	270	.247	10
11	.896	.804	.722	.650	.585	.527	.475	.429	.388	.350	.317	.287	.261	.237	.215	11
12	.887	.788	.701	.625	.557	.497	.444	.397	.356	.319	.286	.257	.231	.208	.187	12
13	.879	.773	.681	.601	.530	.469	.415	.368	.326	.290	.258	.229	.204	.182	.163	13
14	.870	.758	.661	.577	.505	.442	.388	.340	.299	.263	.232	.205	.181	.160	.141	14
15	.861	.743	.642	.555	.481	.417	.362	.315	.275	.239	.209	.183	.160	.140	.123	15
16	.853	.728	.623	.534	.458	.394	.339	.292	.252	.218	.188	.163	.141	.123	.107	16
17	.844	.714	.605	.513	.436	.371	.317	.270	.231	.198	.170	.146	.125	.108	.093	17
18	.836	.700	.587	.494	.416	.350	.296	.250	.212	.180	.153	.130	.111	.095	.081	18
19	.828	.686	.570	.475	.396	.331	.277	.232	.194	.164	.138	.116	.098	.083	.070	19
20	.820	.673	554	.456	.377	.312	.258	.215	.178	.149	.124	.104	.087	.073	.061	20
21	.811	.660	.538	.439	.359	.294	.242	.199	.164	.135	.112	.093	.077	.064	.053	21
22	.803	.647	.522	.422	.342	.278	.226	.184	.150	.123	.101	.083	.068	.056	.046	22
23	.795	.634	.507	.406	.326	.262	.211	.170	.138	.112	.091	.074	.060	.049	.040	23
24	.788	.622	492	.390	.310	.247	.197	.158	.126	.102	.082	.066	.053	.043	.035	24
25	.780	.610	478	.375	.295	.233	.184	.146	.116	.092	.074	.059	.047	.038	.030	25
30	.742	.552	.412	.308	.231	.174	.131	.099	.075	.057	.044	.033	.026	.020	.015	30

TABLE II (continued) COMPOUND PRESENT VALUE

$$P = \frac{S}{(1+i)^n}$$

Years Hence	16%	18%	20%	22%	24%	25%	26%	28%	30%	35%	40%	45%	50%	55%	60%	Years Hence
1	.862	.847	.833	.820	.806	.800	.794	.781	.769	.741	.714	.690	.667	.645	.625	1
2	.743	.718	.694	.672	.650	.640	.630	.610	.592	.549	.510	.476	.444	.416	.391	2
3	.641	.609	.579	.551	.524	.512	.500	.477	.455	.406	.364	.328	.296	.269	.244	3
4	.552	.516	.482	451	.423	.410	.397	.373	.350	.301	.260	.226	.198	.173	.153	4
5	.476	.437	.402	.370	.341	.328	.315	.291	.269	.223	.186	.156	.132	.112	.095	5
6	.410	.370	.335	.303	.275	.262	.250	.227	.207	.165	.133	.108	.088	.072	.060	6
7	.354	.314	.279	.249	.222	.210	.198	.178	.159	.122	.095	.074	.059	.047	.037	7
8	.305	.266	.233	.204	.179	.168	.157	.139	.123	.091	.068	.051	.039	.030	.023	8
9	.263	.225	.194	167	.144	.134	.125	.108	.094	.067	.048	.035	.026	.019	.015	9
10	.227	.191	.162	137	.116	.107	.099	.085	.073	.050	.035	.024	.017	.012	.009	10
11	.195	.162	.135	112	.094	.086	.079	.066	.056	.037	.025	.017	.012	.008	.006	11
12	.168	.137	.112	.092	.076	.069	.062	.052	.043	.027	.018	.012	.008	.005	.004	12
13	.145	.116	.093	.075	.061	.055	.050	.040	.033	.020	.013	.008	.005	.003	.002	13
14	.125	.099	.078	.062	.049	.044	.039	.032	.025	.015	.009	.006	.003	.002	.001	14
15	.108	.084	.065	.051	.040	.035	.031	.025	.020	.011	.006	.004	.002	.001	.001	15
16	.093	.071	.054	.042	.032	.028	.025	.019	.015	.008	.005	.003	.002	.001	.001	16
17	.080	.060	.045	.034	.026	.023	.020	.015	.012	.006	.003	.002	.001	.001		17
18	.069	.051	.038	.028	.021	.018	.016	.012	.009	.005	.002	.001	.001			18
19	.060	.043	.031	.023	.017	.014	.012	.009	.007	.003	.002	.001				19
20	.051	.037	.026	.019	.014	.012	.010	.007	.005	.002	.001	.001				20
21	.044	.031	.022	.015	.011	.009	.008	.006	.004	.002	.001					21
22	.038	.026	.018	.013	.009	.007	.006	.004	.003	.001	.001					22
23	.033	.022	.015	.010	.007	.006	.005	.003	.002	.001						23
24	.028	.019	.013	.008	.006	.005	.004	.003	.002	.001						24
25	.024	.016	.010	.007	.005	.004	.003	.002	.001	.001						25
30	.012	.007	.004	.003	.002	.001	.001	.001								30

TABLE III FUTURE VALUE OF ANNUITY

$$S_n = P\left[\frac{(1+i)^n - 1}{i}\right]$$

Years Hence	4%	5%	6%	7%	8%	9%	10%	11%	Years Hence
1	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1
2	2.0400	2.0500	2.0600	2.0700	2.0800	2.0900	2.1000	2.1100	2
3	3.1216	3.1525	3.1836	3.2149	3.2464	3.2781	3.3100	3.3421	3
4	4.2465	4.3101	4.3746	4.4399	4.5061	4.5731	4.6410	4.7097	4
5	5.4163	5.5256	5.6371	5.7507	5.8666	5.9847	6.1051	6.2278	5
6	6.6320	6.8019	6.9753	7.1533	7.3359	7.5233	7.7156	7.9129	6
7	7.8933	8.1420	8.3938	8.6540	8.9228	9.2004	9.4872	9.7833	7
8	9.2147	9.5491	9.8975	10.2598	10.6366	11.0285	11.4360	11.8594	8
9	10.5828	11.0266	11.4913	11.9780	12.4876	13.0210	13.5796	14.1640	9
10	12.0061	12.5779	13.1808	13.8164	14.4866	15.1929	15.9376	16.7220	10
11	13.4364	14.2063	14.9716	15.7836	16.6455	17.5603	19.5314	19.5614	11
12	15.0258	15.9171	16.8699	17.8885	18.9771	20.1407	21.5346	22.7132	12
13	16.6263	17.7130	18.8821	20.1406	21.4953	22.9534	24.5231	26.2116	13
14	18.2919	19.5986	21.0151	22.5505	24.2149	26.0192	27.9755	30.0949	14
15	20.0236	21.5786	23.2760	25.1290	27.1521	29.3609	31.7731	34.4054	15
16	21.8245	23.6575	25.6725	27.8881	30.3243	33.0034	35.9503	39.1899	16
17	23.6975	25.8404	28.2129	30.8402	33.7502	36.9737	40.5456	44.5008	17
18	25.6454	28.1324	30.9057	33.9990	37.4502	41.3013	45.6001	50.3959	18
19	27.6712	30.5390	33.7600	37.3790	41.4463	46.0185	51.1601	56.9395	19
20	29.7731	33.0660	36.7856	40.9955	45.7620	51.1601	57.2761	64.2028	20

$$S_n = P\left[\frac{(1+i)^n - 1}{i}\right]$$

TABLE III (continued) FUTURE VALUE OF ANNUITY

Years Hence	4%	5%	6%	7%	8%	9%	10%	11%	Years Hence
21	31.9692	35.7192	39.9927	44.3652	50.4229	56.7645	64.0025	72.2651	21
22	34.2480	38.5052	43.3923	49.0057	55.4568	62.8733	71.4027	81.2143	22
23	36.6179	41.4305	46.9958	53.4361	60.8933	69.5319	79.5430	91.1479	23
24	39.0826	44.5020	50.8156	58.1767	66.7648	76.7898	88.4973	102.1741	24
25	41.6549	47.7271	54.8645	63.2490	73.1059	84.7009	98.3471	114.4133	25
26	44.3117	51.1134	59.1564	68.6765	79.9544	93.3240	109.1818	127.9988	26
27	47.0542	54.6691	63.7058	74.4838	87.3508	102.7231	121.0999	143.0786	27
28	49.9676	58.4026	68.5281	80.6977	95.3388	112.9682	134.2099	159.8173	28
29	52.9663	62.3227	73.6398	87.3465	103.9659	124.1353	148.6309	178.3972	29
30	56.0849	66.4388	79.0582	94.4608	113.2832	136.3075	164.4940	199.0209	30
31	59.3283	70.7608	84.8017	102.0730	123.3459	149.5752	181.9434	221.9131	31
32	62.7015	75.2988	90.8898	110.2182	134.2135	164.0370	201.1378	247.3236	32
33	66.2095	80.0638	97.3432	118.9334	145.9506	179.8003	222.2515	275.5292	33
34	69.8579	85.0670	104.1838	128.2588	158.6267	196.9823	245.4767	306.8374	34
35	73.6522	90.3203	111.4348	138.2369	172.3168	215.7107	271.0244	341.5895	35
36	77.5983	95.8363	119.1209	148.9135	187.1021	236.1247	299.1268	380.1644	36
37	81.7022	101.6281	127.2681	160.3374	203.0703	258.3759	330.0395	422.9824	37
38	85.9703	107.7095	135.9042	172.5610	220.3159	282.6298	364.0434	470.5105	38
39	90.4091	114.0950	145.0585	185.6403	238.9412	309.0664	401.4475	523.2667	39
40	95.0255	120.8000	154.7620	199.6351	259.0565	337.8824	442.5926	581.8260	40

$$S_n = P\left[\frac{(1+i)^n - 1}{i}\right]$$

TABLE III (continued) FUTURE VALUE OF ANNUITY

Years Hence	12%	13%	14%	15%	16%	17%	18%	19%	20%	Years Hence
1	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1
2	2.1200	2.1300	2.1400	2.1500	2.1600	2.1700	2.1800	2.1900	2.2000	2
3	3.3744	3.4069	3.4396	3.4725	3.5056	3.5389	3.5724	3.6061	3.3400	3
4	4.7793	4.8498	4.9211	4.9934	5.0665	5.1405	5.2154	5.2913	5.3680	4
5	6.3528	6.4803	6.6101	6.7424	6.8771	7.0144	7.1542	7.2966	7.4418	5
6	8.1152	8.3227	8.5355	8.7537	8.9775	9.2068	9.4420	9.6829	9.9299	6
7	10.0890	10.4047	10.7305	11.0668	11.4139	11.7720	12.1415	12 5227	12.9159	7
8	12.2997	12.7573	13.2328	13.7268	14.2401	14.7732	15.3270	15.9020	16.4991	8
9	14.7756	15.4157	16.0853	16.7858	17.5185	18.2847	19.0859	19.9234	20.7989	9
10	17.5487	18.4197	19.3373	20.3037	21.3215	22.3931	23.5213	24.7088	25.9587	10
11	20.6546	21.8143	23.0445	24.3493	25.7329	27.1999	28.7551	30.4035	32.1504	11
12	24.1331	25.6502	27.2707	29.0017	30.8502	32.8239	34.9311	37.1802	39.5805	12
13	28.0291	29.9847	32.0886	34.3519	36.7862	39.4039	42.2187	45.2444	48.4966	13
14	32.3926	34.8827	37.5811	40.5047	43.6720	47 1026	50.8180	54.8408	59.1959	14
15	37.2797	40.4175	43.8424	47.5804	51.6595	56.1100	60.9653	66.2605	72.0351	15
16	42.7533	46.6717	50.9803	55.7175	60.9250	66.6487	72.9390	79.8501	87.4421	16
17	48.8837	53.7391	59.1176	65.0751	71.6730	78.9791	87.0680	96.0215	105.9304	17
18	55.7497	61.7251	68.3941	75.8363	84.1407	93.4054	103.7401	115.2657	128.1165	18
19	63.4397	70.7494	78.9692	88.2118	98.6032	110.2843	123.4133	138.1661	154.7398	19
20	72.0524	80.9468	91.0249	102.4436	115.380	130.0328	146.6228	165.4177	186.6878	20

TABLE III (continued) FUTURE VALUE OF ANNUITY

$$S_n = P\left[\frac{(1+i)^n - 1}{i}\right]$$

Years Hence	12%	13%	14%	15%	16%	17%	18%	19%	20%	Years Hence
21	81 6987	92 4699	104 7684	118 8101	134.8402	153.1383	174 0208	197 8470	225.0253	21
22	92 5026	105.4910	120 4360	137 6316	157.4147	180.1718	206.3444	236.4380	271.0305	22
23	104.6029	120.2048	138.2970	159 2764	183.6011	211 8010	244 4865	282.3612	326.2365	23
24	118 1552	136.8314	158 6586	184 1678	213.9773	248 8072	289.4940	337.0098	392.4837	24
25	133 3338	155.6195	181.8708	212 7930	249.2136	292.1044	342 6029	402.0417	471.9806	25
26	150 3339	176.8501	208.3327	245 7119	290 0878	342.7621	405.2715	479 4296	567 3764	26
27	169 3740	200 8406	238 4993	283 5687	337 5018	402.0317	479.2203	571.5207	681 8513	27
28	190 6989	227 9499	272.8892	372.1041	392.5021	471.3771	566 4795	681 1097	819.2217	28
29	214 5827	258 5834	312 9037	377 1697	456.3024	552 5111	669 4461	811 5204	984 0661	29
30	241 3327	293 1992	356.7868	434 7451	530 3108	647 4379	790.946	966.7089	1181.8793	30
31	271 2926	332 3151	407.7370	500.9569	616 1606	758.5016	934 3162	1151.3843	1419.2556	31
32	304 8477	376.5160	465 8202	577.1004	715.7457	888.4469	1168.405	1371.1473	1704.1066	32
33	342 4294	426.4631	532 0350	664 6655	831.2648	1040.483	1303 122	1632.6655	2045.9287	33
34	384 5902	482 9033	607.5199	765 3653	965.2674	1218.3657	1538 6843	1943.872	2456 1135	34
35	431 6635	546.6808	693.5727	881 1701	1120.7101	1426.4877	1816 6472	2314.2075	2948.337	35
36	484 4631	618 7493	791.6728	1014 3456	1301 0242	1669 9901	2144.6435	2754.9067	3539.004	36
37	543 5986	700 1867	903.5070	1167 4974	1510.1881	1954.8889	2531 6802	3279.3394	4247.8048	37
38	609 8305	792.2109	1030 9980	1343 6220	1752.8174	2288 2199	2988 3827	3903 4131	5098.3655	38
39	684.0101	896.1984	1176.3371	1546 1653	2034 2688	2678 2175	3527.2911	4646.0613	6119.0375	39
40	767.0914	1013.7041	1342.0250	1779 0901	2360.7512	3134.5148	4163.2037	5529.8121	7343.8385	40

TABLE IV PRESENT VALUE OF ANNUITY

(Assuming that the $1 is received in a single payment on the last day of the year)

$$P_n = A \left[\frac{1 - \frac{1}{(1+i)^n}}{i} \right]$$

Years Hence	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	Years Hence
1	.990	.980	.971	.962	.952	.943	.935	.926	.917	.909	.901	.893	.885	.877	.870	1
2	1.970	1.942	1.913	1.886	1.859	1.833	1.808	1.783	1.759	1.736	1.713	1.690	1.668	1.647	1.626	2
3	2.941	2.884	2.829	2.775	2.723	2.673	2.624	2.577	2.531	2.487	2.444	2.402	2.361	2.322	2.283	3
4	3.902	3.808	3.717	3.630	3.546	3.465	3.387	3.312	3.240	3.170	3.102	3.037	2.974	2.914	2.855	4
5	4.853	4.713	4.580	4.452	4.329	4.212	4.100	3.993	3.890	3.791	3.696	3.605	3.517	3.433	3.352	5
6	5.795	5.601	5.417	5.242	5.076	4.917	4.767	4.623	4.486	4.355	4.231	4.111	3.998	3.889	3.784	6
7	6.728	6.472	6.230	6.002	5.786	5.582	5.389	5.206	5.033	4.868	4.712	4.564	4.423	4.288	4.160	7
8	7.652	7.325	7.020	6.733	6.463	6.210	5.971	5.747	5.535	5.335	5.146	4.968	4.799	4.639	4.487	8
9	8.566	8.162	7.785	7.435	7.108	6.802	6.515	6.247	5.995	5.759	5.537	5.328	5.132	4.946	4.772	9
10	9.471	8.983	8.530	8.111	7.722	7.360	7.024	6.710	6.418	6.145	5.889	5.650	5.426	5.216	5.019	10
11	10.368	9.787	9.253	8.760	8.306	7.887	7.499	7.139	6.805	6.495	6.207	5.938	5.687	5.453	5.234	11
12	11.255	10.575	9.954	9.385	8.863	8.384	7.943	7.536	7.161	6.814	6.492	6.194	5.918	5.660	5.421	12
13	12.134	11.348	10.635	9.986	9.394	8.853	8.358	7.904	7.487	7.103	6.750	6.424	6.122	5.842	5.583	13
14	13.004	12.106	11.296	10.563	9.899	9.295	8.745	8.244	7.786	7.367	6.982	6.628	6.302	6.002	5.724	14
15	13.865	12.849	11.938	11.118	10.380	9.712	9.108	8.559	8.061	7.606	7.191	6.811	6.462	6.142	5.847	15
16	14.718	13.578	12.561	11.652	10.838	10.106	9.447	8.851	8.313	7.824	7.379	6.974	6.604	6.265	5.954	16
17	15.562	14.292	13.166	12.166	11.274	10.477	9.763	9.122	8.544	8.022	7.549	7.120	6.729	6.373	6.047	17
18	16.398	14.992	13.754	12.659	11.690	10.828	10.059	9.372	8.756	8.201	7.702	7.250	6.840	6.467	6.128	18
19	17.226	15.678	14.324	13.134	12.085	11.158	10.336	9.604	8.950	8.365	7.839	7.366	6.938	6.550	6.198	19
20	18.046	16.351	14.877	13.590	12.462	11.470	10.594	9.818	9.129	8.514	7.963	7.469	7.025	6.623	6.259	20
21	18.857	17.011	15.415	14.029	12.821	11.764	10.836	10.017	9.292	8.649	8.075	7.562	7.102	6.687	6.312	21
22	19.660	17.658	15.937	14.451	13.163	12.042	11.061	10.201	9.442	8.772	8.176	7.645	7.170	6.743	6.359	22
23	20.456	18.292	16.444	14.857	13.489	12.303	11.272	10.371	9.580	8.883	8.266	7.718	7.230	6.792	6.399	23
24	21.243	18.914	16.936	15.247	13.799	12.550	11.469	10.529	9.707	8.985	8.348	7.784	7.283	6.835	6.434	24
25	22.023	19.523	17.413	15.622	14.094	12.783	11.654	10.675	9.823	9.077	8.422	7.843	7.330	6.873	6.464	25
30	25.808	22.396	19.600	17.292	15.372	13.765	12.409	11.258	10.274	9.427	8.694	8.055	7.496	7.003	6.566	30
40	32.835	27.355	23.115	19.793	17.159	15.046	13.332	11.925	10.757	9.779	8.951	8.244	7.634	7.105	6.642	40
50	39.196	31.424	25.730	21.482	18.256	15.762	13.801	12.233	10.962	9.915	9.042	8.304	7.675	7.133	6.661	50

TABLE IV (continued) PRESENT VALUE OF ANNUITY

(Assuming that the $1 is received in a single payment on the last day of the year)

$$P_n = A\left[\frac{1 - \frac{1}{(1+i)^n}}{i}\right]$$

Years Hence	16%	18%	20%	22%	24%	25%	26%	28%	30%	35%	40%	45%	50%	55%	60%	Years Hence
1	.862	.847	.833	.820	.806	.800	.794	.781	.769	.741	.714	.690	.667	.645	.625	1
2	1.605	1.566	1.528	1.492	1.457	1.440	1.424	1.392	1.361	1.289	1.224	1.165	1.111	1.061	1.016	2
3	2.246	2.174	2.106	2.042	1.981	1.952	1.923	1.868	1.816	1.696	1.589	1.493	1.406	1.330	1.260	3
4	2.798	2.690	2.589	2.494	2.404	2.362	1.320	2.241	2.166	1.997	1.849	1.720	1.605	1.503	1.412	4
5	3.274	3.127	2.991	2.864	2.745	2.689	2.635	2.532	2.436	2.220	2.035	1.876	1.737	1.615	1.508	5
6	3.685	3.498	3.326	3.167	3.020	2.951	2.885	2.759	2.643	2.385	2.168	1.983	1.824	1.687	1.567	6
7	4.039	3.812	3.605	3.416	3.242	3.161	3.083	2.937	2.802	2.508	2.263	2.057	1.883	1.734	1.605	7
8	4.344	4.078	3.837	3.619	3.421	3.329	3.241	3.076	2.925	2.598	2.331	2.109	1.922	1.764	1.628	8
9	4.607	4.303	4.031	3.786	3.566	3.463	3.366	3.184	3.019	2.665	2.379	2.144	1.948	1.783	1.642	9
10	4.833	4.494	4.192	3.923	3.682	3.571	3.465	3.269	3.092	2.715	2.414	2.168	1.965	1.795	1.652	10
11	5.029	4.656	4.327	4.035	3.776	3.656	3.543	3.335	3.147	2.752	2.438	2.185	1.977	1.804	1.657	11
12	5.197	4.793	4.439	4.127	3.851	3.725	3.606	3.387	3.190	2.779	2.456	2.196	1.985	1.809	1.661	12
13	5.342	4.910	4.533	4.203	3.912	3.780	3.656	3.427	3.223	2.799	2.469	2.204	1.990	1.812	1.663	13
14	5.468	5.008	4.611	4.265	3.962	3.824	3.695	3.459	3.249	2.814	2.478	2.210	1.993	1.814	1.664	14
15	5.575	5.092	4.675	4.315	4.001	3.859	3.726	3.483	3.268	2.825	2.484	2.214	1.995	1.816	1.665	15
16	5.668	5.162	4.730	4.357	4.003	3.887	3.751	3.503	3.283	2.834	2.489	2.216	1.997	1.817	1.666	16
17	5.749	5.222	4.775	4.391	4.059	3.910	3.771	3.518	3.295	2.840	2.492	2.218	1.998	1.817	1.666	17
18	5.818	5.273	4.812	4.419	4.080	3.928	3.786	3.529	3.304	2.844	2.494	2.219	1.999	1.818	1.666	18
19	5.877	5.316	4.843	4.442	4.097	3.942	3.799	3.539	3.311	2.848	2.496	2.220	1.999	1.818	1.666	19
20	5.929	5.353	4.870	4.460	4.110	3.954	3.808	3.546	3.316	2.850	2.497	2.221	1.999	1.818	1.667	20
21	5.973	5.384	4.891	4.476	4.121	3.963	3.816	3.551	3.320	2.852	2.498	2.221	2.000	1.818	1.667	21
22	6.011	5.410	4.909	4.488	4.130	3.970	3.822	3.556	3.323	2.853	2.498	2.222	2.000	1.818	1.667	22
23	6.044	5.432	4.925	4.499	4.137	3.976	3.827	3.559	3.325	2.854	2.499	2.222	2.000	1.818	1.667	23
24	6.073	5.451	4.937	4.507	4.143	3.981	3.831	3.562	3.327	2.855	2.499	2.222	2.000	1.818	1.667	24
25	6.097	5.467	4.948	4.514	4.147	3.985	3.834	3.564	3.329	2.856	2.499	2.222	2.000	1.818	1.667	25
30	6.177	5.517	4.979	4.534	4.160	3.995	3.842	3.569	3.332	2.857	2.500	2.222	2.000	1.818	1.667	30
40	6.233	5.548	4.997	4.544	4.166	3.999	3.846	3.571	3.333	2.857	2.500	2.222	2.000	1.818	1.667	40
50	6.246	5.554	4.999	4.545	4.167	4.000	3.846	3.571	3.333	2.857	2.500	2.222	2.000	1.818	1.667	50

TABLE V CAPITAL RECOVERY

(Assuming that each amount is a single payment on the last day of the year)

$$A = P\left[\frac{i}{1-\frac{1}{(1+i)^n}}\right]$$

Years Hence	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	Years Hence
1	1.010	1.020	1.030	1.040	1.050	1.060	1.070	1.080	1.090	1.100	1.110	1 120	1.130	1.140	1.150	1
2	.508	.515	.523	.530	.538	.545	.553	.561	.568	.576	.584	.592	.599	.607	.615	2
3	.340	.347	.353	.360	.367	.374	.381	.388	.395	.402	.409	.416	.424	.431	.438	3
4	.256	.263	.269	.275	.282	.289	.295	.302	.309	.315	.322	.329	.336	.343	.350	4
5	.206	.212	.218	.225	.231	.237	.244	.250	.257	.264	.271	.277	.284	.291	.298	5
6	173	179	185	191	.197	.203	210	.216	.223	.230	.236	.243	.250	.257	.264	6
7	.149	155	161	.167	.173	179	186	192	.199	.205	.212	.219	.226	.233	.240	7
8	.131	137	.142	.149	155	.161	167	174	181	.187	.194	201	.208	.216	.223	8
9	117	.123	128	.134	.141	147	153	.160	.167	.174	.181	188	.195	202	.210	9
10	.106	111	.117	123	130	136	142	149	.156	163	.170	177	184	.192	199	10
11	.096	102	108	114	120	127	.133	140	.147	154	.161	168	176	.183	191	11
12	.089	095	.100	107	113	119	126	.133	.140	.147	.154	.161	.169	.177	.184	12
13	.082	.088	094	.100	.106	.113	.120	.127	.134	.141	.148	156	.163	.171	.179	13
14	.077	.083	.089	.095	101	.108	.114	.121	.128	136	.143	151	.159	.167	.175	14
15	.072	078	.084	.090	.096	.103	110	.117	.124	.131	139	.147	.155	.163	.171	15
16	.068	074	.080	.086	092	.099	106	.113	120	.128	136	.143	.151	160	.168	16
17	.064	.070	.076	.082	089	.095	.102	110	.117	.125	132	.140	.149	.157	.165	17
18	.061	.067	.073	079	086	.092	.099	.107	.114	.122	.130	.138	.146	.155	.163	18
19	.056	.064	.070	.076	083	090	.097	104	.112	.120	.128	136	.144	.153	.161	19
20	.055	061	067	.074	080	.087	.094	.102	.110	117	126	134	.142	151	160	20
21	053	.059	.065	.071	078	085	092	.100	.108	116	124	132	141	.150	.158	21
22	.051	.057	.063	.069	.076	.083	.090	.098	.106	114	122	.131	.139	148	.157	22
23	.049	.055	061	.067	.074	081	089	096	104	113	121	130	.138	.147	.156	23
24	.047	.053	059	.066	072	.080	087	.095	.103	111	.120	128	137	146	.155	24
25	045	051	.057	.064	071	.078	086	.094	102	.110	.119	.127	.136	145	.155	25
30	.039	045	.051	.058	.065	.073	081	089	.097	.106	.115	.124	.133	.143	.152	30
40	.030	.037	.043	.051	058	066	.075	084	.093	102	112	121	131	.141	151	40
50	.026	.032	.039	.047	.055	063	.072	.082	.091	101	111	120	.130	140	.150	50

TABLE V (continued) CAPITAL RECOVERY

(Assuming that each amount is a single payment on the last day of the year)

$$A = P\left[\frac{1}{1-\frac{1}{(1+i)^n}}\right]$$

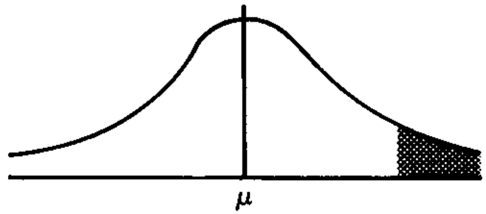
Years Hence	16%	18%	20%	22%	24%	25%	26%	28%	30%	35%	40%	45%	50%	55%	60%	Years Hence
1	1.160	1.180	1.200	1.220	1.240	1.250	1.260	1.280	1.300	1.350	1.400	1.450	1.500	1.550	1.600	1
2	.623	.639	.655	.670	.686	.694	.702	.719	.735	.776	.817	.858	.900	.942	.985	2
3	.445	.460	.475	.490	.505	.512	.520	.535	.551	.590	.629	.670	.711	.752	.794	3
4	.357	.372	.386	.401	.416	.423	.431	.446	.462	.501	.541	.582	.623	.665	.708	4
5	.305	.320	.334	.349	.364	.372	.379	.395	.411	.450	.491	.533	.576	.619	.663	5
6	.271	.286	.301	.316	.331	.339	.347	.362	.378	.419	.461	.504	.548	.593	.638	6
7	.248	.262	.277	.293	.308	.316	.324	.340	.357	.399	.442	.486	.531	.577	.623	7
8	.230	.245	.261	.276	.292	.300	.309	.325	.342	.385	.429	.474	.520	.567	.614	8
9	.217	.232	.248	.264	.280	.289	.297	.314	.331	.375	.420	.466	.513	.561	.609	9
10	.207	.223	.239	.255	.272	.280	.289	.306	.323	.368	.414	.461	.509	.557	.606	10
11	.199	.215	.231	.248	.265	.273	.282	.300	.318	.363	.410	.458	.506	.554	.603	11
12	.192	.209	.225	.242	.260	.268	.277	.295	.313	.360	.407	.455	.504	.553	.602	12
13	.187	.204	.221	.238	.256	.265	.274	.292	.310	.357	.405	.454	.503	.552	.601	13
14	.183	.200	.217	.234	.252	.262	.271	.289	.308	.355	.404	.452	.502	.551	.601	14
15	.179	.196	.214	.232	.250	.259	.268	.287	.306	.354	.403	.452	.501	.551	.601	15
16	.176	.194	.211	.230	.248	.257	.267	.285	.305	.353	.402	.451	.501	.550	.600	16
17	.174	.191	.209	.228	.246	.256	.265	.284	.304	.352	.401	.451	.501	.550	.600	17
18	.172	.190	.208	.226	.245	.255	.264	.283	.303	.352	.401	.451	.500	.550	.600	18
19	.170	.188	.206	.225	.244	.254	.263	.283	.302	.351	.401	.450	.500	.550	.600	19
20	.169	.187	.205	.224	.243	.253	.263	.282	.302	.351	.400	.450	.500	.550	.600	20
21	.167	.186	.204	.223	.243	.252	.262	.282	.301	.351	.400	.450	.500	.550	.600	21
22	.166	.185	.204	.223	.242	.252	.262	.281	.301	.350	.400	.450	.500	.550	.600	22
23	.165	.184	.203	.222	.242	.251	.261	.281	.301	.350	.400	.450	.500	.550	.600	23
24	.165	.183	.203	.222	.241	.251	.261	.281	.301	.350	.400	.450	.500	.550	.600	24
25	.164	.183	.202	.222	.241	.251	.261	.281	.300	.350	.400	.450	.500	.550	.600	25
30	.162	.181	.201	.221	.240	.250	.260	.280	.300	.350	.400	.450	.500	.550	.600	30
40	.160	.180	.200	.220	.240	.250	.260	.280	.300	.350	.400	.450	.500	.550	.600	40
50	.160	.180	.200	.220	.240	.250	.260	.280	.300	.350	.400	.450	.500	.550	.600	50

$\frac{n(n+1)}{2}$

TABLE VI "RULE OF 78"

Month	1 Year (12 months)		2 Years (24 months)		Month	3 Years (36 months)		4 Years (48 months)		Month	cont'd. 3 Years (36 months)		cont'd. 4 Years (48 months)	
	Weight	Interest Factor	Weight	Interest Factor		Weight	Interest Factor	Weight	Interest Factor		Weight	Interest Factor	Weight	Interest Factor
1	12	.154	24	.080	1	36	.0541	48	.0408	25	12	.0180	24	.0204
2	11	.141	23	.077	2	35	.0526	47	.0400	26	11	.0165	23	.0195
3	10	.128	22	.073	3	34	.0511	46	.0391	27	10	.0150	22	.0187
4	9	.115	21	.070	4	33	.0495	45	.0383	28	9	.0135	21	.0178
5	8	.103	20	.067	5	32	.0487	44	.0374	29	8	.0120	20	.0170
6	7	.090	19	.063	6	31	.0465	43	.0365	30	7	.0105	19	.0162
7	6	.077	18	.060	7	30	.0450	42	.0357	31	6	.0090	18	.0153
8	5	.064	17	.057	8	29	.0435	41	.0349	32	5	.0075	17	.0145
9	4	.051	16	.053	9	28	.0420	40	.0340	33	4	.0060	16	.0136
10	3	.038	15	.050	10	27	.0405	39	.0331	34	3	.0045	15	.0127
11	2	.026	14	.047	11	26	.0390	38	.0323	35	2	.0030	14	.0118
12	1	.013	13	.043	12	25	.0375	37	.0315	36	1	.0015	13	.0111
13	78	1.000	12	.040	13	24	.0360	36	.0306	37	666	1.0000	12	.0102
14			11	.037	14	23	.0345	35	.0298	38			11	.0094
15			10	.033	15	22	.0330	34	.0288	39			10	.0085
16			9	.030	16	21	.0315	33	.0281	40			9	.0077
17			8	.027	17	20	.0300	32	.0272	41			8	.0067
18			7	.023	18	19	.0285	31	.0264	42			7	.0060
19			6	.020	19	18	.0270	30	.0255	43			6	.0051
20			5	.017	20	17	.0255	29	.0247	44			5	.0043
21			4	.013	21	16	.0240	28	.0238	45			4	.0034
22			3	.010	22	15	.0225	27	.0230	46			3	.0026
23			2	.007	23	14	.0210	26	.0221	47			2	.0017
24			1	.003	24	13	.0195	25	.0213	48			1	.0009
			300	1.000		(continued next column)							1176	1.0000

TABLE VII NORMAL PROBABILITY (Area of one tail)



Number of Standard Deviations from (±) Mean (∓)	Area	Number of Standard Deviations from (±) Mean (∓)	Area	Number of Standard Deviations from (±) Mean (∓)	Area
0.00	.5000	1.00	.1587	2.00	.0228
0.05	.4801	1.05	.1469	2.05	.0202
0.10	.4602	1.10	.1357	2.10	.0179
0.15	.4404	1.15	.1251	2.15	.0158
0.20	.4207	1.20	.1151	2.20	.0139
0.25	.4013	1.25	.1056	2.25	.0122
0.30	.3821	1.30	.0968	2.30	.0107
0.35	.3632	1.35	.0885	2.35	.0094
0.40	.3446	1.40	.0808	2.40	.0082
0.45	.3264	1.45	.0735	2.45	.0071
0.50	.3085	1.50	.0668	2.50	.0062
0.55	.2912	1.55	.0606	2.55	.0054
0.60	.2743	1.60	.0548	2.60	.0047
0.65	.2578	1.65	.0495	2.65	.0040
0.70	.2420	1.70	.0446	2.70	.0035
0.75	.2264	1.75	.0401	2.75	.0030
0.80	.2119	1.80	.0359	2.80	.0026
0.85	1977	1.85	.0322	2.85	.0022
0.90	.1841	1.90	.0287	2.90	.0019
0.95	1711	1.95	.0256	2.95	.0016
				3.00	.0013

MONTHLY PAYMENT SCHEDULES

The loan payment tables found on the following pages can be used to determine the monthly payment needed to amortize a loan given a specific interest rate, term, and loan amount.

Each table presents loan amortizations at different interest rate increments. The loan term is expressed in the number of years remaining until maturity.

When there is a specific loan amount that cannot be found in the tables, the following example demonstrates how the appropriate monthly payment can be calculated:

Loan amount	$92,750
Rate	7%
Term	1 year

Loan Breakdown	*Monthly Payment*
$80,000	$6,922.14
10,000	865.27
2,000	173.05
700	60.57
50	4.33
Total monthly payment for $92,750 loan:	$8,025.36

TABLE VIII

Monthly Payment Schedule
Rate: 7.50%

Loan Amount	Term: 1	2	3	4	5	6	7	8	10	12	15	20	25	30
25	2.17	1.12	0.78	0.60	0.50	0.43	0.38	0.35	0.30	0.26	0.23	0.20	0.18	0.17
50	4.34	2.25	1.56	1.21	1.00	0.86	0.77	0.69	0.59	0.53	0.46	0.40	0.37	0.35
75	6.51	3.37	2.33	1.81	1.50	1.30	1.15	1.04	0.89	0.79	0.70	0.60	0.55	0.52
100	8.68	4.50	3.11	2.42	2.00	1.73	1.53	1.39	1.19	1.06	0.93	0.81	0.74	0.70
200	17.35	9.00	6.22	4.84	4.01	3.46	3.07	2.78	2.37	2.11	1.85	1.61	1.48	1.40
300	26.03	13.50	9.33	7.25	6.01	5.19	4.60	4.17	3.56	3.17	2.78	2.42	2.22	2.10
400	34.70	18.00	12.44	9.67	8.02	6.92	6.14	5.55	4.75	4.22	3.71	3.22	2.96	2.80
500	43.38	22.50	15.55	12.09	10.02	8.65	7.67	6.94	5.94	5.28	4.64	4.03	3.69	3.50
600	52.05	27.00	18.66	14.51	12.02	10.37	9.20	8.33	7.12	6.33	5.56	4.83	4.43	4.20
700	60.73	31.50	21.77	16.93	14.03	12.10	10.74	9.72	8.31	7.39	6.49	5.64	5.17	4.89
800	69.41	36.00	24.88	19.34	16.03	13.83	12.27	11.11	9.50	8.44	7.42	6.44	5.91	5.59
900	78.08	40.50	28.00	21.76	18.03	15.56	13.80	12.50	10.68	9.50	8.34	7.25	6.65	6.29
1000	86.76	45.00	31.11	24.18	20.04	17.29	15.34	13.88	11.87	10.55	9.27	8.06	7.39	6.99
2000	173.51	90.00	62.21	48.36	40.08	34.58	30.68	27.77	23.74	21.10	18.54	16.11	14.78	13.98
3000	260.27	135.00	93.32	72.54	60.11	51.87	46.01	41.65	35.61	31.66	27.81	24.17	22.17	20.98
4000	347.03	180.00	124.42	96.72	80.15	69.16	61.35	55.54	47.48	42.21	37.08	32.22	29.56	27.97
5000	433.79	225.00	155.53	120.89	100.19	86.45	76.69	69.42	59.35	52.76	46.35	40.28	36.95	34.96
6000	520.54	270.00	186.64	145.07	120.23	103.74	92.03	83.30	71.22	63.31	55.62	48.34	44.34	41.95
7000	607.30	315.00	217.74	169.25	140.27	121.03	107.37	97.19	83.09	73.87	64.89	56.39	51.73	48.95
8000	694.06	360.00	248.85	193.43	160.30	138.32	122.71	111.07	94.96	84.42	74.16	64.45	59.12	55.94
9000	780.82	405.00	279.96	217.61	180.34	155.61	138.04	124.95	106.83	94.97	83.43	72.50	66.51	62.93
10000	867.57	450.00	311.06	241.79	200.38	172.90	153.38	138.84	118.70	105.52	92.70	80.56	73.90	69.92
15000	1301.36	674.99	466.59	362.68	300.57	259.35	230.07	208.26	178.05	158.28	139.05	120.84	110.85	104.88
20000	1735.15	899.99	622.12	483.58	400.76	345.80	306.77	277.68	237.40	211.05	185.40	161.12	147.80	139.84
25000	2168.94	1124.99	777.66	604.47	500.95	432.25	383.46	347.10	296.75	263.81	231.75	201.40	184.75	174.80
30000	2602.72	1349.99	933.19	725.37	601.14	518.70	460.15	416.52	356.11	316.57	278.10	241.68	221.70	209.76
35000	3036.51	1574.99	1088.72	846.26	701.33	605.15	536.84	485.94	415.46	369.33	324.45	281.96	258.65	244.73
40000	3470.30	1799.98	1244.25	967.16	801.52	691.60	613.53	555.35	474.81	422.09	370.80	322.24	295.60	279.69
50000	4337.87	2249.98	1555.31	1208.95	1001.90	864.51	766.91	694.19	593.51	527.61	463.51	402.80	369.50	349.61
60000	5205.45	2699.98	1866.37	1450.73	1202.28	1037.41	920.30	833.03	712.21	633.14	556.21	483.36	443.39	419.53
70000	6073.02	3149.97	2177.44	1692.52	1402.66	1210.31	1073.68	971.87	830.91	738.66	648.91	563.92	517.29	489.45
80000	6940.59	3599.97	2488.50	1934.31	1603.04	1383.21	1227.06	1110.71	949.61	844.18	741.61	644.47	591.19	559.37
90000	7808.17	4049.96	2799.56	2176.10	1803.42	1556.11	1380.44	1249.55	1068.32	949.70	834.31	725.03	665.09	629.29
100000	8675.74	4499.96	3110.62	2417.89	2003.79	1729.01	1533.83	1388.39	1187.02	1055.23	927.01	805.59	738.99	699.21

TABLE VIII (continued)

Monthly Payment Schedule
Rate: 8.00%

Loan Amount	Term: 1	2	3	4	5	6	7	8	10	12	15	20	25	30
25	2.17	1.13	0.78	0.61	0.51	0.44	0.39	0.35	0.30	0.27	0.24	0.21	0.19	0.18
50	4.35	2.26	1.57	1.22	1.01	0.88	0.78	0.71	0.61	0.54	0.48	0.42	0.39	0.37
75	6.52	3.39	2.35	1.83	1.52	1.31	1.17	1.06	0.91	0.81	0.72	0.63	0.58	0.55
100	8.70	4.52	3.13	2.44	2.03	1.75	1.56	1.41	1.21	1.08	0.96	0.84	0.77	0.73
200	17.40	9.05	6.27	4.88	4.06	3.51	3.12	2.83	2.43	2.16	1.91	1.67	1.54	1.47
300	26.10	13.57	9.40	7.32	6.08	5.26	4.68	4.24	3.64	3.25	2.87	2.51	2.32	2.20
400	34.80	18.09	12.53	9.77	8.11	7.01	6.23	5.65	4.85	4.33	3.82	3.35	3.09	2.94
500	43.49	22.61	15.67	12.21	10.14	8.77	7.79	7.07	6.07	5.41	4.78	4.18	3.86	3.67
600	52.19	27.14	18.80	14.65	12.17	10.52	9.35	8.48	7.28	6.49	5.73	5.02	4.63	4.40
700	60.89	31.66	21.94	17.09	14.19	12.27	10.91	9.90	8.49	7.58	6.69	5.86	5.40	5.14
800	69.59	36.18	25.07	19.53	16.22	14.03	12.47	11.31	9.71	8.66	7.65	6.69	6.17	5.87
900	78.29	40.70	28.20	21.97	18.25	15.78	14.03	12.72	10.92	9.74	8.60	7.53	6.95	6.60
1000	86.99	45.23	31.34	24.41	20.28	17.53	15.59	14.14	12.13	10.82	9.56	8.36	7.72	7.34
2000	173.98	90.45	62.67	48.83	40.55	35.07	31.17	28.27	24.27	21.65	19.11	16.73	15.44	14.68
3000	260.97	135.68	94.01	73.24	60.83	52.60	46.76	42.41	36.40	32.47	28.67	25.09	23.15	22.01
4000	347.95	180.91	125.35	97.65	81.11	70.13	62.34	56.55	48.53	43.30	38.23	33.46	30.87	29.35
5000	434.94	226.14	156.68	122.06	101.38	87.67	77.93	70.68	60.66	54.12	47.78	41.82	38.59	36.69
6000	521.93	271.36	188.02	146.48	121.66	105.20	93.52	84.82	72.80	64.95	57.34	50.19	46.31	44.03
7000	608.92	316.59	219.35	170.89	141.93	122.73	109.10	98.96	84.93	75.77	66.90	58.55	54.03	51.36
8000	695.91	361.82	250.69	195.30	162.21	140.27	124.69	113.09	97.06	86.60	76.45	66.92	61.75	58.70
9000	782.90	407.05	282.03	219.72	182.49	157.80	140.28	127.23	109.19	97.42	86.01	75.28	69.46	66.04
10000	869.88	452.27	313.36	244.13	202.76	175.33	155.86	141.37	121.33	108.25	95.57	83.64	77.18	73.38
15000	1304.83	678.41	470.05	366.19	304.15	263.00	233.79	212.05	181.99	162.37	143.35	125.47	115.77	110.06
20000	1739.77	904.55	626.73	488.26	405.53	350.66	311.72	282.73	242.66	216.49	191.13	167.29	154.36	146.75
25000	2174.71	1130.68	783.41	610.32	506.91	438.33	389.66	353.42	303.32	270.61	238.91	209.11	192.95	183.44
30000	2609.65	1356.82	940.09	732.39	608.29	526.00	467.59	424.10	363.98	324.74	286.70	250.93	231.54	220.13
35000	3044.60	1582.96	1096.77	854.45	709.67	613.66	545.52	494.78	424.65	378.86	334.48	292.75	270.14	256.82
40000	3479.54	1809.09	1253.45	976.52	811.06	701.33	623.45	565.47	485.31	432.98	382.26	334.58	308.73	293.51
50000	4349.42	2261.36	1566.82	1220.65	1013.82	876.66	779.31	706.83	606.64	541.23	477.83	418.22	385.91	366.88
60000	5219.31	2713.64	1880.18	1464.78	1216.58	1051.99	935.17	848.20	727.97	649.47	573.39	501.86	463.09	440.26
70000	6089.19	3165.91	2193.55	1708.90	1419.35	1227.33	1091.04	989.57	849.29	757.72	668.96	585.51	540.27	513.64
80000	6959.07	3618.18	2506.91	1953.03	1622.11	1402.66	1246.90	1130.93	970.62	865.96	764.52	669.15	617.45	587.01
90000	7828.96	4070.46	2820.27	2197.16	1824.88	1577.99	1402.76	1272.30	1091.95	974.21	860.09	752.80	694.63	660.39
100000	8698.84	4522.73	3133.64	2441.29	2027.64	1753.32	1558.62	1413.67	1213.28	1082.45	955.65	836.44	771.82	733.76

TABLE VIII (continued)

Monthly Payment Schedule
Rate: 8.50%

Loan Amount	Term: 1	2	3	4	5	6	7	8	10	12	15	20	25	30
25	2.18	1.14	0.79	0.62	0.51	0.44	0.40	0.36	0.31	0.28	0.25	0.22	0.20	0.19
50	4.36	2.27	1.58	1.23	1.03	0.89	0.79	0.72	0.62	0.56	0.49	0.43	0.40	0.38
75	6.54	3.41	2.37	1.85	1.54	1.33	1.19	1.08	0.93	0.83	0.74	0.65	0.60	0.58
100	8.72	4.55	3.16	2.46	2.05	1.78	1.58	1.44	1.24	1.11	0.98	0.87	0.81	0.77
200	17.44	9.09	6.31	4.93	4.10	3.56	3.17	2.88	2.48	2.22	1.97	1.74	1.61	1.54
300	26.17	13.64	9.47	7.39	6.15	5.33	4.75	4.32	3.72	3.33	2.95	2.60	2.42	2.31
400	34.89	18.18	12.63	9.86	8.21	7.11	6.33	5.76	4.96	4.44	3.94	3.47	3.22	3.08
500	43.61	22.73	15.78	12.32	10.26	8.89	7.92	7.20	6.20	5.55	4.92	4.34	4.03	3.84
600	52.33	27.27	18.94	14.79	12.31	10.67	9.50	8.64	7.44	6.66	5.91	5.21	4.83	4.61
700	61.05	31.82	22.10	17.25	14.36	12.44	11.09	10.07	8.68	7.77	6.89	6.07	5.64	5.38
800	69.78	36.36	25.25	19.72	16.41	14.22	12.67	11.51	9.92	8.88	7.88	6.94	6.44	6.15
900	78.50	40.91	28.41	22.18	18.46	16.00	14.25	12.95	11.16	9.99	8.86	7.81	7.25	6.92
1000	87.22	45.46	31.57	24.65	20.52	17.78	15.84	14.39	12.40	11.10	9.85	8.68	8.05	7.69
2000	174.44	90.91	63.14	49.30	41.03	35.56	31.67	28.78	24.80	22.20	19.69	17.36	16.10	15.38
3000	261.66	136.37	94.70	73.94	61.55	53.34	47.51	43.18	37.20	33.30	29.54	26.03	24.16	23.07
4000	348.88	181.82	126.27	98.59	82.07	71.11	63.35	57.57	49.59	44.40	39.39	34.71	32.21	30.76
5000	436.10	227.28	157.84	123.24	102.58	88.89	79.18	71.96	61.99	55.50	49.24	43.39	40.26	38.45
6000	523.32	272.73	189.41	147.89	123.10	106.67	95.02	86.35	74.39	66.60	59.08	52.07	48.31	46.13
7000	610.54	318.19	220.97	172.54	143.62	124.45	110.86	100.74	86.79	77.70	68.93	60.75	56.37	53.82
8000	697.76	363.65	252.54	197.19	164.13	142.23	126.69	115.14	99.19	88.80	78.78	69.43	64.42	61.51
9000	784.98	409.10	284.11	221.83	184.65	160.01	142.53	129.53	111.59	99.90	88.63	78.10	72.47	69.20
10000	872.20	454.56	315.68	246.48	205.17	177.78	158.36	143.92	123.99	111.01	98.47	86.78	80.52	76.89
15000	1308.30	681.84	473.51	369.72	307.75	266.68	237.55	215.88	185.98	166.51	147.71	130.17	120.78	115.34
20000	1744.40	909.11	631.35	492.97	410.33	355.57	316.73	287.84	247.97	222.01	196.95	173.56	161.05	153.78
25000	2180.49	1136.39	789.19	616.21	512.91	444.46	395.91	359.80	309.96	277.51	246.18	216.96	201.31	192.23
30000	2616.59	1363.67	947.03	739.45	615.50	533.35	475.09	431.76	371.96	333.02	295.42	260.35	241.57	230.67
35000	3052.69	1590.95	1104.86	862.69	718.08	622.24	554.28	503.72	433.95	388.52	344.66	303.74	281.83	269.12
40000	3488.79	1818.23	1262.70	985.93	820.66	711.14	633.46	575.69	495.94	444.02	393.90	347.13	322.09	307.57
50000	4360.99	2272.78	1578.38	1232.42	1025.83	888.92	791.82	719.61	619.93	555.03	492.37	433.91	402.61	384.46
60000	5233.19	2727.34	1894.05	1478.90	1230.99	1066.70	950.19	863.53	743.91	666.03	590.84	520.69	483.14	461.35
70000	6105.38	3181.90	2209.73	1725.38	1436.16	1244.49	1108.55	1007.45	867.90	777.04	689.32	607.48	563.66	538.24
80000	6977.58	3636.45	2525.40	1971.86	1641.32	1422.27	1266.92	1151.37	991.89	888.04	787.79	694.26	644.18	615.13
90000	7849.78	4091.01	2841.08	2218.35	1846.49	1600.05	1425.28	1295.29	1115.87	999.05	886.27	781.04	724.70	692.02
100000	8721.98	4545.57	3156.75	2464.83	2051.65	1777.84	1583.65	1439.21	1239.86	1110.06	984.74	867.82	805.23	768.91

TABLE VIII (continued)

Monthly Payment Schedule
Rate: 9.00%

Loan Amount	Term: 1	2	3	4	5	6	7	8	10	12	15	20	25	30
25	2.19	1.14	0.79	0.62	0.52	0.45	0.40	0.37	0.32	0.28	0.25	0.22	0.21	0.20
50	4.37	2.28	1.59	1.24	1.04	0.90	0.80	0.73	0.63	0.57	0.51	0.45	0.42	0.40
75	6.56	3.43	2.38	1.87	1.56	1.35	1.21	1.10	0.95	0.85	0.76	0.67	0.63	0.60
100	8.75	4.57	3.18	2.49	2.08	1.80	1.61	1.47	1.27	1.14	1.01	0.90	0.84	0.80
200	17.49	9.14	6.36	4.98	4.15	3.61	3.22	2.93	2.53	2.28	2.03	1.80	1.68	1.61
300	26.24	13.71	9.54	7.47	6.23	5.41	4.83	4.40	3.80	3.41	3.04	2.70	2.52	2.41
400	34.98	18.27	12.72	9.95	8.30	7.21	6.44	5.86	5.07	4.55	4.06	3.60	3.36	3.22
500	43.73	22.84	15.90	12.44	10.38	9.01	8.04	7.33	6.33	5.69	5.07	4.50	4.20	4.02
600	52.47	27.41	19.08	14.93	12.46	10.82	9.65	8.79	7.60	6.83	6.09	5.40	5.04	4.83
700	61.22	31.98	22.26	17.42	14.53	12.62	11.26	10.26	8.87	7.97	7.10	6.30	5.87	5.63
800	69.96	36.55	25.44	19.91	16.61	14.42	12.87	11.72	10.13	9.10	8.11	7.20	6.71	6.44
900	78.71	41.12	28.62	22.40	18.68	16.22	14.48	13.19	11.40	10.24	9.13	8.10	7.55	7.24
1000	87.45	45.68	31.80	24.89	20.76	18.03	16.09	14.65	12.67	11.38	10.14	9.00	8.39	8.05
2000	174.90	91.37	63.60	49.77	41.52	36.05	32.18	29.30	25.34	22.76	20.29	17.99	16.78	16.09
3000	262.35	137.05	95.40	74.66	62.28	54.08	48.27	43.95	38.00	34.14	30.43	26.99	25.18	24.14
4000	349.81	182.74	127.20	99.54	83.03	72.10	64.36	58.60	50.67	45.52	40.57	35.99	33.57	32.18
5000	437.26	228.42	159.00	124.43	103.79	90.13	80.45	73.25	63.34	56.90	50.71	44.99	41.96	40.23
6000	524.71	274.11	190.80	149.31	124.55	108.15	96.53	87.90	76.01	68.28	60.86	53.98	50.35	48.28
7000	612.16	319.79	222.60	174.20	145.31	126.18	112.62	102.55	88.67	79.66	71.00	62.98	58.74	56.32
8000	699.61	365.48	254.40	199.08	166.07	144.20	128.71	117.20	101.34	91.04	81.14	71.98	67.14	64.37
9000	787.06	411.16	286.20	223.97	186.83	162.23	144.80	131.85	114.01	102.42	91.28	80.98	75.53	72.42
10000	874.51	456.85	318.00	248.85	207.58	180.26	160.89	146.50	126.68	113.80	101.43	89.97	83.92	80.46
15000	1311.77	685.27	477.00	373.28	311.38	270.38	241.34	219.75	190.01	170.70	152.14	134.96	125.88	120.69
20000	1749.03	913.69	635.99	497.70	415.17	360.51	321.78	293.00	253.35	227.61	202.85	179.95	167.84	160.92
25000	2186.29	1142.12	794.99	622.13	518.96	450.64	402.23	366.26	316.69	284.51	253.57	224.93	209.80	201.16
30000	2623.54	1370.54	953.99	746.55	622.75	540.77	482.67	439.51	380.03	341.41	304.28	269.92	251.76	241.39
35000	3060.80	1598.97	1112.99	870.98	726.54	630.89	563.12	512.76	443.37	398.31	354.99	314.90	293.72	281.62
40000	3498.06	1827.39	1271.99	995.40	830.33	721.02	643.56	586.01	506.70	455.21	405.71	359.89	335.68	321.85
50000	4372.57	2284.24	1589.99	1244.25	1037.92	901.28	804.45	732.51	633.38	569.02	507.13	449.86	419.60	402.31
60000	5247.09	2741.08	1907.98	1493.10	1245.50	1081.53	965.34	879.01	760.05	682.82	608.56	539.84	503.52	482.77
70000	6121.60	3197.93	2225.98	1741.95	1453.08	1261.79	1126.24	1025.51	886.73	796.62	709.99	629.81	587.44	563.24
80000	6996.12	3654.78	2543.98	1990.80	1660.67	1442.04	1287.13	1172.02	1013.41	910.42	811.41	719.78	671.36	643.70
90000	7870.63	4111.63	2861.98	2239.65	1868.25	1622.30	1448.02	1318.52	1140.08	1024.23	912.84	809.75	755.28	724.16
100000	8745.15	4568.47	3179.97	2488.50	2075.84	1802.55	1608.91	1465.02	1266.76	1138.03	1014.27	899.73	839.20	804.62

TABLE VIII (continued)

Monthly Payment Schedule
Rate: 9.50%

Loan Amount	Term: 1	2	3	4	5	6	7	8	10	12	15	20	25	30
25	2.19	1.15	0.80	0.63	0.53	0.46	0.41	0.37	0.32	0.29	0.26	0.23	0.22	0.21
50	4.38	2.30	1.60	1.26	1.05	0.91	0.82	0.75	0.65	0.58	0.52	0.47	0.44	0.42
75	6.58	3.44	2.40	1.88	1.58	1.37	1.23	1.12	0.97	0.87	0.78	0.70	0.66	0.63
100	8.77	4.59	3.20	2.51	2.10	1.83	1.63	1.49	1.29	1.17	1.04	0.93	0.87	0.84
200	17.54	9.18	6.41	5.02	4.20	3.65	3.27	2.98	2.59	2.33	2.09	1.86	1.75	1.68
300	26.31	13.77	9.61	7.54	6.30	5.48	4.90	4.47	3.88	3.50	3.13	2.80	2.62	2.52
400	35.07	18.37	12.81	10.05	8.40	7.31	6.54	5.96	5.18	4.67	4.18	3.73	3.49	3.36
500	43.84	22.96	16.02	12.56	10.50	9.14	8.17	7.46	6.47	5.83	5.22	4.66	4.37	4.20
600	52.61	27.55	19.22	15.07	12.60	10.96	9.81	8.95	7.76	7.00	6.27	5.59	5.24	5.05
700	61.38	32.14	22.42	17.59	14.70	12.79	11.44	10.44	9.06	8.16	7.31	6.52	6.12	5.89
800	70.15	36.73	25.63	20.10	16.80	14.62	13.08	11.93	10.35	9.33	8.35	7.46	6.99	6.73
900	78.92	41.32	28.83	22.61	18.90	16.45	14.71	13.42	11.65	10.50	9.40	8.39	7.86	7.57
1000	87.68	45.91	32.03	25.12	21.00	18.27	16.34	14.91	12.94	11.66	10.44	9.32	8.74	8.41
2000	175.37	91.83	64.07	50.25	42.00	36.55	32.69	29.82	25.88	23.33	20.88	18.64	17.47	16.82
3000	263.05	137.74	96.10	75.37	63.01	54.82	49.03	44.73	38.82	34.99	31.33	27.96	26.21	25.23
4000	350.73	183.66	128.13	100.49	84.01	73.10	65.38	59.64	51.76	46.65	41.77	37.29	34.95	33.63
5000	438.42	229.57	160.16	125.62	105.01	91.37	81.72	74.55	64.70	58.32	52.21	46.61	43.68	42.04
6000	526.10	275.49	192.20	150.74	126.01	109.65	98.06	89.47	77.64	69.98	62.65	55.93	52.42	50.45
7000	613.78	321.40	224.23	175.86	147.01	127.92	114.41	104.38	90.58	81.65	73.10	65.25	61.16	58.86
8000	701.47	367.32	256.26	200.99	168.01	146.20	130.75	119.29	103.52	93.31	83.54	74.57	69.90	67.27
9000	789.15	413.23	288.30	226.11	189.02	164.47	147.10	134.20	116.46	104.97	93.98	83.89	78.63	75.68
10000	876.84	459.14	320.33	251.23	210.02	182.75	163.44	149.11	129.40	116.64	104.42	93.21	87.37	84.09
15000	1315.25	688.72	480.49	376.85	315.03	274.12	245.16	223.66	194.10	174.96	156.63	139.82	131.05	126.13
20000	1753.67	918.29	640.66	502.46	420.04	365.49	326.88	298.22	258.80	233.27	208.84	186.43	174.74	168.17
25000	2192.09	1147.86	800.82	628.08	525.05	456.87	408.60	372.77	323.49	291.59	261.06	233.03	218.42	210.21
30000	2630.51	1377.43	960.99	753.69	630.06	548.24	490.32	447.33	388.19	349.91	313.27	279.64	262.11	252.26
35000	3068.92	1607.01	1121.15	879.31	735.07	639.61	572.04	521.88	452.89	408.23	365.48	326.25	305.79	294.30
40000	3507.34	1836.58	1281.32	1004.93	840.07	730.99	653.76	596.44	517.59	466.55	417.69	372.85	349.48	336.34
50000	4384.18	2295.72	1601.65	1256.16	1050.09	913.73	817.20	745.54	646.99	583.19	522.11	466.07	436.85	420.43
60000	5261.01	2754.87	1921.98	1507.39	1260.11	1096.48	980.64	894.65	776.39	699.82	626.53	559.28	524.22	504.51
70000	6137.85	3214.01	2242.31	1758.62	1470.13	1279.23	1144.08	1043.76	905.78	816.46	730.96	652.49	611.59	588.60
80000	7014.68	3673.16	2562.64	2009.85	1680.15	1461.98	1307.52	1192.87	1035.18	933.10	835.38	745.70	698.96	672.68
90000	7891.52	4132.30	2882.97	2261.08	1890.17	1644.72	1470.96	1341.98	1164.58	1049.74	939.80	838.92	786.33	756.77
100000	8768.35	4591.45	3203.29	2512.31	2100.19	1827.47	1634.40	1491.09	1293.98	1166.37	1044.22	932.13	873.70	840.85

TABLE VIII (continued) **Monthly Payment Schedule**
Rate: 10.00%

Loan Amount	Term: 1	2	3	4	5	6	7	8	10	12	15	20	25	30
25	2.20	1.15	0.81	0.63	0.53	0.46	0.42	0.38	0.33	0.30	0.27	0.24	0.23	0.22
50	4.40	2.31	1.61	1.27	1.06	0.93	0.83	0.76	0.66	0.60	0.54	0.48	0.45	0.44
75	6.59	3.46	2.42	1.90	1.59	1.39	1.25	1.14	0.99	0.90	0.81	0.72	0.68	0.66
100	8.79	4.61	3.23	2.54	2.12	1.85	1.66	1.52	1.32	1.20	1.07	0.97	0.91	0.88
200	17.58	9.23	6.45	5.07	4.25	3.71	3.32	3.03	2.64	2.39	2.15	1.93	1.82	1.76
300	26.37	13.84	9.68	7.61	6.37	5.56	4.98	4.55	3.96	3.59	3.22	2.90	2.73	2.63
400	35.17	18.46	12.91	10.15	8.50	7.41	6.64	6.07	5.29	4.78	4.30	3.86	3.63	3.51
500	43.96	23.07	16.13	12.68	10.62	9.26	8.30	7.59	6.61	5.98	5.37	4.83	4.54	4.39
600	52.75	27.69	19.36	15.22	12.75	11.12	9.96	9.10	7.93	7.17	6.45	5.79	5.45	5.27
700	61.54	32.30	22.59	17.75	14.87	12.97	11.62	10.62	9.25	8.37	7.52	6.76	6.36	6.14
800	70.33	36.92	25.81	20.29	17.00	14.82	13.28	12.14	10.57	9.56	8.60	7.72	7.27	7.02
900	79.12	41.53	29.04	22.83	19.12	16.67	14.94	13.66	11.89	10.76	9.67	8.69	8.18	7.90
1000	87.92	46.14	32.27	25.36	21.25	18.53	16.60	15.17	13.22	11.95	10.75	9.65	9.09	8.78
2000	175.83	92.29	64.53	50.73	42.49	37.05	33.20	30.35	26.43	23.90	21.49	19.30	18.17	17.55
3000	263.75	138.43	96.80	76.09	63.74	55.58	49.80	45.52	39.65	35.85	32.24	28.95	27.26	26.33
4000	351.66	184.58	129.07	101.45	84.99	74.10	66.40	60.70	52.86	47.80	42.98	38.60	36.35	35.10
5000	439.58	230.72	161.34	126.81	106.24	92.63	83.01	75.87	66.08	59.75	53.73	48.25	45.44	43.88
6000	527.50	276.87	193.60	152.18	127.48	111.16	99.61	91.04	79.29	71.70	64.48	57.90	54.52	52.65
7000	615.41	323.01	225.87	177.54	148.73	129.68	116.21	106.22	92.51	83.66	75.22	67.55	63.61	61.43
8000	703.33	369.16	258.14	202.90	169.98	148.21	132.81	121.39	105.72	95.61	85.97	77.20	72.70	70.21
9000	791.24	415.30	290.40	228.26	191.22	166.73	149.41	136.57	118.94	107.56	96.71	86.85	81.78	78.98
10000	879.16	461.45	322.67	253.63	212.47	185.26	166.01	151.74	132.15	119.51	107.46	96.50	90.87	87.76
15000	1318.74	692.17	484.01	380.44	318.71	277.89	249.02	227.61	198.23	179.26	161.19	144.75	136.31	131.64
20000	1758.32	922.90	645.34	507.25	424.94	370.52	332.02	303.48	264.30	239.02	214.92	193.00	181.74	175.51
25000	2197.90	1153.62	806.68	634.06	531.18	463.15	415.03	379.35	330.38	298.77	268.65	241.26	227.18	219.39
30000	2637.48	1384.35	968.02	760.88	637.41	555.78	498.04	455.22	396.45	358.52	322.38	289.51	272.61	263.27
35000	3077.06	1615.07	1129.35	887.69	743.65	648.40	581.04	531.10	462.53	418.28	376.11	337.76	318.05	307.15
40000	3516.64	1845.80	1290.69	1014.50	849.88	741.03	664.05	606.97	528.60	478.03	429.84	386.01	363.48	351.03
50000	4395.79	2307.25	1613.36	1268.13	1062.35	926.29	830.06	758.71	660.75	597.54	537.30	482.51	454.35	438.79
60000	5274.95	2768.70	1936.03	1521.75	1274.82	1111.55	996.07	910.45	792.90	717.05	644.76	579.01	545.22	526.54
70000	6154.11	3230.14	2258.70	1775.38	1487.29	1296.81	1162.08	1062.19	925.06	836.55	752.22	675.52	636.09	614.30
80000	7033.27	3691.59	2581.37	2029.01	1699.76	1482.07	1328.09	1213.93	1057.21	956.06	859.68	772.02	726.96	702.06
90000	7912.43	4153.04	2904.05	2282.63	1912.23	1667.33	1494.11	1365.67	1189.36	1075.57	967.14	868.52	817.83	789.81
100000	8791.59	4614.49	3226.72	2536.26	2124.70	1852.58	1660.12	1517.42	1321.51	1195.08	1074.61	965.02	908.70	877.57

TABLE VIII (continued)

Monthly Payment Schedule
Rate: 10.50%

Loan Amount	Term: 1	2	3	4	5	6	7	8	10	12	15	20	25	30
25	2.20	1.16	0.81	0.64	0.54	0.47	0.42	0.39	0.34	0.31	0.28	0.25	0.24	0.23
50	4.41	2.32	1.63	1.28	1.07	0.94	0.84	0.77	0.67	0.61	0.55	0.50	0.47	0.46
75	6.61	3.48	2.44	1.92	1.61	1.41	1.26	1.16	1.01	0.92	0.83	0.75	0.71	0.69
100	8.81	4.64	3.25	2.56	2.15	1.88	1.69	1.54	1.35	1.22	1.11	1.00	0.94	0.91
200	17.63	9.28	6.50	5.12	4.30	3.76	3.37	3.09	2.70	2.45	2.21	2.00	1.89	1.83
300	26.44	13.91	9.75	7.68	6.45	5.63	5.06	4.63	4.05	3.67	3.32	3.00	2.83	2.74
400	35.26	18.55	13.00	10.24	8.60	7.51	6.74	6.18	5.40	4.90	4.42	3.99	3.78	3.66
500	44.07	23.19	16.25	12.80	10.75	9.39	8.43	7.72	6.75	6.12	5.53	4.99	4.72	4.57
600	52.89	27.83	19.50	15.36	12.90	11.27	10.12	9.26	8.10	7.34	6.63	5.99	5.67	5.49
700	61.70	32.46	22.75	17.92	15.05	13.15	11.80	10.81	9.45	8.57	7.74	6.99	6.61	6.40
800	70.52	37.10	26.00	20.48	17.20	15.02	13.49	12.35	10.79	9.79	8.84	7.99	7.55	7.32
900	79.33	41.74	29.25	23.04	19.34	16.90	15.17	13.90	12.14	11.02	9.95	8.99	8.50	8.23
1000	88.15	46.38	32.50	25.60	21.49	18.78	16.86	15.44	13.49	12.24	11.05	9.98	9.44	9.15
2000	176.30	92.75	65.00	51.21	42.99	37.56	33.72	30.88	26.99	24.48	22.11	19.97	18.88	18.29
3000	264.45	139.13	97.51	76.81	64.48	56.34	50.58	46.32	40.48	36.72	33.16	29.95	28.33	27.44
4000	352.59	185.50	130.01	102.41	85.98	75.12	67.44	61.76	53.97	48.97	44.22	39.94	37.77	36.59
5000	440.74	231.88	162.51	128.02	107.47	93.89	84.30	77.20	67.47	61.21	55.27	49.92	47.21	45.74
6000	528.89	278.26	195.01	153.62	128.96	112.67	101.16	92.64	80.96	73.45	66.32	59.90	56.65	54.88
7000	617.04	324.63	227.52	179.22	150.46	131.45	118.02	108.08	94.45	85.69	77.38	69.89	66.09	64.03
8000	705.19	371.01	260.02	204.83	171.95	150.23	134.89	123.52	107.95	97.93	88.43	79.87	75.53	73.18
9000	793.34	417.38	292.52	230.43	193.45	169.01	151.75	138.96	121.44	110.17	99.49	89.85	84.98	82.33
10000	881.49	463.76	325.02	256.03	214.94	187.79	168.61	154.40	134.93	122.41	110.54	99.84	94.42	91.47
15000	1322.23	695.64	487.54	384.05	322.41	281.68	252.91	231.60	202.40	183.62	165.81	149.76	141.63	137.21
20000	1762.97	927.52	650.05	512.07	429.88	375.58	337.21	308.80	269.87	244.83	221.08	199.68	188.84	182.95
25000	2203.72	1159.40	812.56	640.08	537.35	469.47	421.52	386.00	337.34	306.04	276.35	249.59	236.05	228.68
30000	2644.46	1391.28	975.07	768.10	644.82	563.37	505.82	463.20	404.80	367.24	331.62	299.51	283.25	274.42
35000	3085.20	1623.16	1137.59	896.12	752.29	657.26	590.12	540.40	472.27	428.45	386.89	349.43	330.46	320.16
40000	3525.94	1855.04	1300.10	1024.14	859.76	751.16	674.43	617.60	539.74	489.66	442.16	399.35	377.67	365.90
50000	4407.43	2318.80	1625.12	1280.17	1074.70	938.95	843.03	772.00	674.67	612.07	552.70	499.19	472.09	457.37
60000	5288.92	2782.56	1950.15	1536.20	1289.63	1126.74	1011.64	926.40	809.61	734.48	663.24	599.03	566.51	548.84
70000	6170.40	3246.32	2275.17	1792.24	1504.57	1314.53	1180.25	1080.80	944.54	856.90	773.78	698.87	660.93	640.32
80000	7051.89	3710.08	2600.20	2048.27	1719.51	1502.32	1348.85	1235.20	1079.48	979.31	884.32	798.70	755.35	731.79
90000	7933.37	4173.84	2925.22	2304.30	1934.45	1690.11	1517.46	1389.60	1214.41	1101.73	994.86	898.54	849.76	823.27
100000	8814.86	4637.60	3250.24	2560.34	2149.39	1877.90	1686.07	1544.00	1349.35	1224.14	1105.40	998.38	944.18	914.74

TABLE VIII (continued)

Monthly Payment Schedule
Rate: 11.00%

Loan Amount	Term: 1	2	3	4	5	6	7	8	10	12	15	20	25	30
25	2.21	1.17	0.82	0.65	0.54	0.48	0.43	0.39	0.34	0.31	0.28	0.26	0.25	0.24
50	4.42	2.33	1.64	1.29	1.09	0.95	0.86	0.79	0.69	0.63	0.57	0.52	0.49	0.48
75	6.63	3.50	2.46	1.94	1.63	1.43	1.28	1.18	1.03	0.94	0.85	0.77	0.74	0.71
100	8.84	4.66	3.27	2.58	2.17	1.90	1.71	1.57	1.38	1.25	1.14	1.03	0.98	0.95
200	17.68	9.32	6.55	5.17	4.35	3.81	3.42	3.14	2.76	2.51	2.27	2.06	1.96	1.90
300	26.51	13.98	9.82	7.75	6.52	5.71	5.14	4.71	4.13	3.76	3.41	3.10	2.94	2.86
400	35.35	18.64	13.10	10.34	8.70	7.61	6.85	6.28	5.51	5.01	4.55	4.13	3.92	3.81
500	44.19	23.30	16.37	12.92	10.87	9.52	8.56	7.85	6.89	6.27	5.68	5.16	4.90	4.76
600	53.03	27.96	19.64	15.51	13.05	11.42	10.27	9.43	8.27	7.52	6.82	6.19	5.88	5.71
700	61.87	32.63	22.92	18.09	15.22	13.32	11.99	11.00	9.64	8.77	7.96	7.23	6.86	6.67
800	70.71	37.29	26.19	20.68	17.39	15.23	13.70	12.57	11.02	10.03	9.09	8.26	7.84	7.62
900	79.54	41.95	29.46	23.26	19.57	17.13	15.41	14.14	12.40	11.28	10.23	9.29	8.82	8.57
1000	88.38	46.61	32.74	25.85	21.74	19.03	17.12	15.71	13.78	12.54	11.37	10.32	9.80	9.52
2000	176.76	93.22	65.48	51.69	43.48	38.07	34.24	31.42	27.55	25.07	22.73	20.64	19.60	19.05
3000	265.14	139.82	98.22	77.54	65.23	57.10	51.37	47.13	41.33	37.61	34.10	30.97	29.40	28.57
4000	353.53	186.43	130.95	103.38	86.97	76.14	68.49	62.83	55.10	50.14	45.46	41.29	39.20	38.09
5000	441.91	233.04	163.69	129.23	108.71	95.17	85.61	78.54	68.88	62.68	56.83	51.61	49.01	47.62
6000	530.29	279.65	196.43	155.07	130.45	114.20	102.73	94.25	82.65	75.21	68.20	61.93	58.81	57.14
7000	618.67	326.25	229.17	180.92	152.20	133.24	119.86	109.96	96.43	87.75	79.56	72.25	68.61	66.66
8000	707.05	372.86	261.91	206.76	173.94	152.27	136.98	125.67	110.20	100.28	90.93	82.58	78.41	76.19
9000	795.43	419.47	294.65	232.61	195.68	171.31	154.10	141.38	123.98	112.82	102.29	92.90	88.21	85.71
10000	883.82	466.08	327.39	258.46	217.42	190.34	171.22	157.08	137.75	125.36	113.66	103.22	98.01	95.23
15000	1325.72	699.12	491.08	387.68	326.14	285.51	256.84	235.63	206.63	188.03	170.49	154.83	147.02	142.85
20000	1767.63	932.16	654.77	516.91	434.85	380.68	342.45	314.17	275.50	250.71	227.32	206.44	196.02	190.46
25000	2209.54	1165.20	818.47	646.14	543.56	475.85	428.06	392.71	344.38	313.39	284.15	258.05	245.03	238.08
30000	2651.45	1398.24	982.16	775.37	652.27	571.02	513.67	471.25	413.25	376.07	340.98	309.66	294.03	285.70
35000	3093.36	1631.27	1145.86	904.59	760.98	666.19	599.29	549.79	482.13	438.74	397.81	361.27	343.04	333.31
40000	3535.27	1864.31	1309.55	1033.82	869.70	761.36	684.90	628.34	551.00	501.42	454.64	412.88	392.05	380.93
50000	4419.08	2330.39	1636.94	1292.28	1087.12	951.70	856.12	785.42	688.75	626.78	568.30	516.09	490.06	476.16
60000	5302.90	2796.47	1964.32	1550.73	1304.55	1142.04	1027.35	942.51	826.50	752.13	681.96	619.31	588.07	571.39
70000	6186.72	3262.55	2291.71	1809.19	1521.97	1332.39	1198.57	1099.59	964.25	877.49	795.62	722.53	686.08	666.63
80000	7070.53	3728.63	2619.10	2067.64	1739.39	1522.73	1369.79	1256.67	1102.00	1002.84	909.28	825.75	784.09	761.86
90000	7954.35	4194.71	2946.48	2326.10	1956.82	1713.07	1541.02	1413.76	1239.75	1128.20	1022.94	928.97	882.10	857.09
100000	8838.17	4660.78	3273.87	2584.55	2174.24	1903.41	1712.24	1570.84	1377.50	1253.56	1136.60	1032.19	980.11	952.32

TABLE VIII (continued)

Monthly Payment Schedule
Rate: 11.50%

Loan Amount	Term: 1	2	3	4	5	6	7	8	10	12	15	20	25	30
25	2.22	1.17	0.82	0.65	0.55	0.48	0.43	0.40	0.35	0.32	0.29	0.27	0.25	0.25
50	4.43	2.34	1.65	1.30	1.10	0.96	0.87	0.80	0.70	0.64	0.58	0.53	0.51	0.50
75	6.65	3.51	2.47	1.96	1.65	1.45	1.30	1.20	1.05	0.96	0.88	0.80	0.76	0.74
100	8.86	4.68	3.30	2.61	2.20	1.93	1.74	1.60	1.41	1.28	1.17	1.07	1.02	0.99
200	17.72	9.37	6.60	5.22	4.40	3.86	3.48	3.20	2.81	2.57	2.34	2.13	2.03	1.98
300	26.58	14.05	9.89	7.83	6.60	5.79	5.22	4.79	4.22	3.85	3.50	3.20	3.05	2.97
400	35.45	18.74	13.19	10.44	8.80	7.72	6.95	6.39	5.62	5.13	4.67	4.27	4.07	3.96
500	44.31	23.42	16.49	13.04	11.00	9.65	8.69	7.99	7.03	6.42	5.84	5.33	5.08	4.95
600	53.17	28.10	19.79	15.65	13.20	11.57	10.43	9.59	8.44	7.70	7.01	6.40	6.10	5.94
700	62.03	32.79	23.08	18.26	15.39	13.50	12.17	11.19	9.84	8.98	8.18	7.47	7.12	6.93
800	70.89	37.47	26.38	20.87	17.59	15.43	13.91	12.78	11.25	10.27	9.35	8.53	8.13	7.92
900	79.75	42.16	29.68	23.48	19.79	17.36	15.65	14.38	12.65	11.55	10.51	9.60	9.15	8.91
1000	88.62	46.84	32.98	26.09	21.99	19.29	17.39	15.98	14.06	12.83	11.68	10.66	10.16	9.90
2000	177.23	93.68	65.95	52.18	43.99	38.58	34.77	31.96	28.12	25.67	23.36	21.33	20.33	19.81
3000	265.85	140.52	98.93	78.27	65.98	57.87	52.16	47.94	42.18	38.50	35.05	31.99	30.49	29.71
4000	354.46	187.36	131.90	104.36	87.97	77.16	69.55	63.92	56.24	51.33	46.73	42.66	40.66	39.61
5000	443.08	234.20	164.88	130.45	109.96	96.46	86.93	79.90	70.30	64.17	58.41	53.32	50.82	49.51
6000	531.69	281.04	197.86	156.53	131.96	115.75	104.32	95.88	84.36	77.00	70.09	63.99	60.99	59.42
7000	620.31	327.88	230.83	182.62	153.95	135.04	121.71	111.86	98.42	89.83	81.77	74.65	71.15	69.32
8000	708.92	374.72	263.81	208.71	175.94	154.33	139.09	127.83	112.48	102.67	93.46	85.31	81.32	79.22
9000	797.54	421.56	296.78	234.80	197.93	173.62	156.48	143.81	126.54	115.50	105.14	95.98	91.48	89.13
10000	886.15	468.40	329.76	260.89	219.93	192.91	173.86	159.79	140.60	128.33	116.82	106.64	101.65	99.03
15000	1329.23	702.60	494.64	391.34	329.89	289.37	260.80	239.69	210.89	192.50	175.23	159.96	152.47	148.54
20000	1772.30	936.81	659.52	521.78	439.85	385.82	347.73	319.59	281.19	256.66	233.64	213.29	203.29	198.06
25000	2215.38	1171.01	824.40	652.23	549.82	482.28	434.66	399.48	351.49	320.83	292.05	266.61	254.12	247.57
30000	2658.45	1405.21	989.28	782.67	659.78	578.73	521.59	479.38	421.79	384.99	350.46	319.93	304.94	297.09
35000	3101.53	1639.41	1154.16	913.12	769.74	675.19	608.53	559.28	492.08	449.16	408.87	373.25	355.76	346.60
40000	3544.60	1873.61	1319.04	1043.56	879.70	771.65	695.46	639.17	562.38	513.33	467.28	426.57	406.59	396.12
50000	4430.75	2342.02	1648.80	1304.45	1099.63	964.56	869.32	798.97	702.98	641.66	584.09	533.21	508.23	495.15
60000	5316.90	2810.42	1978.56	1565.34	1319.56	1157.47	1043.19	958.76	843.57	769.99	700.91	639.86	609.88	594.17
70000	6203.05	3278.82	2308.32	1826.23	1539.48	1350.38	1217.05	1118.56	984.17	898.32	817.73	746.50	711.53	693.20
80000	7089.20	3747.23	2638.08	2087.12	1759.41	1543.29	1390.92	1278.35	1124.76	1026.65	934.55	853.14	813.18	792.23
90000	7975.35	4215.63	2967.84	2348.01	1979.33	1736.20	1564.78	1438.14	1265.36	1154.98	1051.37	959.79	914.82	891.26
100000	8861.51	4684.03	3297.60	2608.90	2199.26	1929.12	1738.65	1597.94	1405.95	1283.32	1168.19	1066.43	1016.47	990.29

TABLE VIII (continued)

Monthly Payment Schedule
Rate: 12.00%

Loan Amount	Term: 1	2	3	4	5	6	7	8	10	12	15	20	25	30
25	2.22	1.18	0.83	0.66	0.56	0.49	0.44	0.41	0.36	0.33	0.30	0.28	0.26	0.26
50	4.44	2.35	1.66	1.32	1.11	0.98	0.88	0.81	0.72	0.66	0.60	0.55	0.53	0.51
75	6.66	3.53	2.49	1.98	1.67	1.47	1.32	1.22	1.08	0.99	0.90	0.83	0.79	0.77
100	8.88	4.71	3.32	2.63	2.22	1.96	1.77	1.63	1.43	1.31	1.20	1.10	1.05	1.03
200	17.77	9.41	6.64	5.27	4.45	3.91	3.53	3.25	2.87	2.63	2.40	2.20	2.11	2.06
300	26.65	14.12	9.96	7.90	6.67	5.87	5.30	4.88	4.30	3.94	3.60	3.30	3.16	3.09
400	35.54	18.83	13.29	10.53	8.90	7.82	7.06	6.50	5.74	5.25	4.80	4.40	4.21	4.11
500	44.42	23.54	16.61	13.17	11.12	9.78	8.83	8.13	7.17	6.57	6.00	5.51	5.27	5.14
600	53.31	28.24	19.93	15.80	13.35	11.73	10.59	9.75	8.61	7.88	7.20	6.61	6.32	6.17
700	62.19	32.95	23.25	18.43	15.57	13.69	12.36	11.38	10.04	9.19	8.40	7.71	7.37	7.20
800	71.08	37.66	26.57	21.07	17.80	15.64	14.12	13.00	11.48	10.51	9.60	8.81	8.43	8.23
900	79.96	42.37	29.89	23.70	20.02	17.60	15.89	14.63	12.91	11.82	10.80	9.91	9.48	9.26
1000	88.85	47.07	33.21	26.33	22.24	19.55	17.65	16.25	14.35	13.13	12.00	11.01	10.53	10.29
2000	177.70	94.15	66.43	52.67	44.49	39.10	35.31	32.51	28.69	26.27	24.00	22.02	21.06	20.57
3000	266.55	141.22	99.64	79.00	66.73	58.65	52.96	48.76	43.04	39.40	36.01	33.03	31.60	30.86
4000	355.40	188.29	132.86	105.34	88.98	78.20	70.61	65.01	57.39	52.54	48.01	44.04	42.13	41.14
5000	444.24	235.37	166.07	131.67	111.22	97.75	88.26	81.26	71.74	65.67	60.01	55.05	52.66	51.43
6000	533.09	282.44	199.29	158.00	133.47	117.30	105.92	97.52	86.08	78.81	72.01	66.07	63.19	61.72
7000	621.94	329.51	232.50	184.34	155.71	136.85	123.57	113.77	100.43	91.94	84.01	77.08	73.73	72.00
8000	710.79	376.59	265.71	210.67	177.96	156.40	141.22	130.02	114.78	105.07	96.01	88.09	84.26	82.29
9000	799.64	423.66	298.93	237.00	200.20	175.95	158.87	146.28	129.12	118.21	108.02	99.10	94.79	92.58
10000	888.49	470.73	332.14	263.34	222.44	195.50	176.53	162.53	143.47	131.34	120.02	110.11	105.32	102.86
15000	1332.73	706.10	498.21	395.01	333.67	293.25	264.79	243.79	215.21	197.01	180.03	165.16	157.98	154.29
20000	1776.98	941.47	664.29	526.68	444.89	391.00	353.05	325.06	286.94	262.68	240.03	220.22	210.64	205.72
25000	2221.22	1176.84	830.36	658.35	556.11	488.75	441.32	406.32	358.68	328.35	300.04	275.27	263.31	257.15
30000	2665.46	1412.20	996.43	790.02	667.33	586.51	529.58	487.59	430.41	394.03	360.05	330.33	315.97	308.58
35000	3109.71	1647.57	1162.50	921.68	778.56	684.26	617.85	568.85	502.15	459.70	420.06	385.38	368.63	360.01
40000	3553.95	1882.94	1328.57	1053.35	889.78	782.01	706.11	650.11	573.88	525.37	480.07	440.43	421.29	411.45
50000	4442.44	2353.67	1660.72	1316.69	1112.22	977.51	882.64	812.64	717.35	656.71	600.08	550.54	526.61	514.31
60000	5330.93	2824.41	1992.86	1580.03	1334.67	1173.01	1059.16	975.17	860.83	788.05	720.10	660.65	631.93	617.17
70000	6219.42	3295.14	2325.00	1843.37	1557.11	1368.51	1235.69	1137.70	1004.30	919.39	840.12	770.76	737.26	720.03
80000	7107.90	3765.88	2657.14	2106.71	1779.56	1564.02	1412.22	1300.23	1147.77	1050.74	960.13	880.87	842.58	822.89
90000	7996.39	4236.61	2989.29	2370.05	2002.00	1759.52	1588.75	1462.76	1291.24	1182.08	1080.15	990.98	947.90	925.75
100000	8884.88	4707.35	3321.43	2633.38	2224.44	1955.02	1765.27	1625.28	1434.71	1313.42	1200.17	1101.09	1053.22	1028.61

TABLE VIII (continued)

Monthly Payment Schedule
Rate: 12.50%

Loan Amount	Term: 1	2	3	4	5	6	7	8	10	12	15	20	25	30
25	2.23	1.18	0.84	0.66	0.56	0.50	0.45	0.41	0.37	0.34	0.31	0.28	0.27	0.27
50	4.45	2.37	1.67	1.33	1.12	0.99	0.90	0.83	0.73	0.67	0.62	0.57	0.55	0.53
75	6.68	3.55	2.51	1.99	1.69	1.49	1.34	1.24	1.10	1.01	0.92	0.85	0.82	0.80
100	8.91	4.73	3.35	2.66	2.25	1.98	1.79	1.65	1.46	1.34	1.23	1.14	1.09	1.07
200	17.82	9.46	6.69	5.32	4.50	3.96	3.58	3.31	2.93	2.69	2.47	2.27	2.18	2.13
300	26.72	14.19	10.04	7.97	6.75	5.94	5.38	4.96	4.39	4.03	3.70	3.41	3.27	3.20
400	35.63	18.92	13.38	10.63	9.00	7.92	7.17	6.61	5.86	5.38	4.93	4.54	4.36	4.27
500	44.54	23.65	16.73	13.29	11.25	9.91	8.96	8.26	7.32	6.72	6.16	5.68	5.45	5.34
600	53.45	28.38	20.07	15.95	13.50	11.89	10.75	9.92	8.78	8.06	7.40	6.82	6.54	6.40
700	62.36	33.12	23.42	18.61	15.75	13.87	12.54	11.57	10.25	9.41	8.63	7.95	7.63	7.47
800	71.27	37.85	26.76	21.26	18.00	15.85	14.34	13.22	11.71	10.75	9.86	9.09	8.72	8.54
900	80.17	42.58	30.11	23.92	20.25	17.83	16.13	14.88	13.17	12.09	11.09	10.23	9.81	9.61
1000	89.08	47.31	33.45	26.58	22.50	19.81	17.92	16.53	14.64	13.44	12.33	11.36	10.90	10.67
2000	178.17	94.61	66.91	53.16	45.00	39.62	35.84	33.06	29.28	26.88	24.65	22.72	21.81	21.35
3000	267.25	141.92	100.36	79.74	67.49	59.43	53.76	49.59	43.91	40.32	36.98	34.08	32.71	32.02
4000	356.33	189.23	133.81	106.32	89.99	79.24	71.68	66.12	58.55	53.75	49.30	45.45	43.61	42.69
5000	445.41	236.54	167.27	132.90	112.49	99.06	89.61	82.64	73.19	67.19	61.63	56.81	54.52	53.36
6000	534.50	283.84	200.72	159.48	134.99	118.87	107.53	99.17	87.83	80.63	73.95	68.17	65.42	64.04
7000	623.58	331.15	234.18	186.06	157.49	138.68	125.45	115.70	102.46	94.07	86.28	79.53	76.32	74.71
8000	712.66	378.46	267.63	212.64	179.98	158.49	143.37	132.23	117.10	107.51	98.60	90.89	87.23	85.38
9000	801.75	425.77	301.08	239.22	202.48	178.30	161.29	148.76	131.74	120.95	110.93	102.25	98.13	96.05
10000	890.83	473.07	334.54	265.80	224.98	198.11	179.21	165.29	146.38	134.39	123.25	113.61	109.04	106.73
15000	1336.24	709.61	501.80	398.70	337.47	297.17	268.82	247.93	219.56	201.58	184.88	170.42	163.55	160.09
20000	1781.66	946.15	669.07	531.60	449.96	396.22	358.42	330.58	292.75	268.77	246.50	227.23	218.07	213.45
25000	2227.07	1182.68	836.34	664.50	562.45	495.28	448.03	413.22	365.94	335.96	308.13	284.04	272.59	266.81
30000	2672.49	1419.22	1003.61	797.40	674.94	594.34	537.64	495.86	439.13	403.16	369.76	340.84	327.11	320.18
35000	3117.90	1655.76	1170.88	930.30	787.43	693.39	627.24	578.51	512.32	470.35	431.38	397.65	381.62	373.54
40000	3563.31	1892.29	1338.15	1063.20	899.92	792.45	716.85	661.15	585.50	537.54	493.01	454.46	436.14	426.90
50000	4454.14	2365.37	1672.68	1329.00	1124.90	990.56	896.06	826.44	731.88	671.93	616.26	568.07	545.18	533.63
60000	5344.97	2838.44	2007.22	1594.80	1349.88	1188.67	1075.27	991.73	878.26	806.31	739.51	681.68	654.21	640.35
70000	6235.80	3311.51	2341.75	1860.60	1574.86	1386.78	1254.49	1157.02	1024.63	940.70	862.77	795.30	763.25	747.08
80000	7126.63	3784.58	2676.29	2126.40	1799.84	1584.89	1433.70	1322.30	1171.01	1075.09	986.02	908.91	872.28	853.81
90000	8017.46	4257.66	3010.83	2392.20	2024.81	1783.01	1612.91	1487.59	1317.39	1209.47	1109.27	1022.53	981.32	960.53
100000	8908.29	4730.73	3345.36	2658.00	2249.79	1981.12	1792.12	1652.88	1463.76	1343.86	1232.52	1136.14	1090.35	1067.26

TABLE VIII (continued) **Monthly Payment Schedule**
Rate: 13.00%

Loan Amount	Term: 1	2	3	4	5	6	7	8	10	12	15	20	25	30
25	2.23	1.19	0.84	0.67	0.57	0.50	0.45	0.42	0.37	0.34	0.32	0.29	0.28	0.28
50	4.47	2.38	1.68	1.34	1.14	1.00	0.91	0.84	0.75	0.69	0.63	0.59	0.56	0.55
75	6.70	3.57	2.53	2.01	1.71	1.51	1.36	1.26	1.12	1.03	0.95	0.88	0.85	0.83
100	8.93	4.75	3.37	2.68	2.28	2.01	1.82	1.68	1.49	1.37	1.27	1.17	1.13	1.11
200	17.86	9.51	6.74	5.37	4.55	4.01	3.64	3.36	2.99	2.75	2.53	2.34	2.26	2.21
300	26.80	14.26	10.11	8.05	6.83	6.02	5.46	5.04	4.48	4.12	3.80	3.51	3.38	3.32
400	35.73	19.02	13.48	10.73	9.10	8.03	7.28	6.72	5.97	5.50	5.06	4.69	4.51	4.42
500	44.66	23.77	16.85	13.41	11.38	10.04	9.10	8.40	7.47	6.87	6.33	5.86	5.64	5.53
600	53.59	28.53	20.22	16.10	13.65	12.04	10.92	10.08	8.96	8.25	7.59	7.03	6.77	6.64
700	62.52	33.28	23.59	18.78	15.93	14.05	12.73	11.77	10.45	9.62	8.86	8.20	7.89	7.74
800	71.45	38.03	26.96	21.46	18.20	16.06	14.55	13.45	11.94	11.00	10.12	9.37	9.02	8.85
900	80.39	42.79	30.32	24.14	20.48	18.07	16.37	15.13	13.44	12.37	11.39	10.54	10.15	9.96
1000	89.32	47.54	33.69	26.83	22.75	20.07	18.19	16.81	14.93	13.75	12.65	11.72	11.28	11.06
2000	178.63	95.08	67.39	53.65	45.51	40.15	36.38	33.61	29.86	27.49	25.30	23.43	22.56	22.12
3000	267.95	142.63	101.08	80.48	68.26	60.22	54.58	50.42	44.79	41.24	37.96	35.15	33.84	33.19
4000	357.27	190.17	134.78	107.31	91.01	80.30	72.77	67.23	59.72	54.99	50.61	46.86	45.11	44.25
5000	446.59	237.71	168.47	134.14	113.77	100.37	90.96	84.04	74.66	68.73	63.26	58.58	56.39	55.31
6000	535.90	285.25	202.16	160.96	136.52	120.44	109.15	100.84	89.59	82.48	75.91	70.29	67.67	66.37
7000	625.22	332.79	235.86	187.79	159.27	140.52	127.34	117.65	104.52	96.22	88.57	82.01	78.95	77.43
8000	714.54	380.33	269.55	214.62	182.02	160.59	145.54	134.46	119.45	109.97	101.22	93.73	90.23	88.50
9000	803.86	427.88	303.25	241.45	204.78	180.67	163.73	151.27	134.38	123.72	113.87	105.44	101.51	99.56
10000	893.17	475.42	336.94	268.27	227.53	200.74	181.92	168.07	149.31	137.46	126.52	117.16	112.78	110.62
15000	1339.76	713.13	505.41	402.41	341.30	301.11	272.88	252.11	223.97	206.19	189.79	175.74	169.18	165.93
20000	1786.35	950.84	673.88	536.55	455.06	401.48	363.84	336.15	298.62	274.93	253.05	234.32	225.57	221.24
25000	2232.93	1188.55	842.35	670.69	568.83	501.85	454.80	420.18	373.28	343.66	316.31	292.89	281.96	276.55
30000	2679.52	1426.25	1010.82	804.82	682.59	602.22	545.76	504.22	447.93	412.39	379.57	351.47	338.35	331.86
35000	3126.10	1663.96	1179.29	938.96	796.36	702.59	636.72	588.25	522.59	481.12	442.83	410.05	394.74	387.17
40000	3572.69	1901.67	1347.76	1073.10	910.12	802.96	727.68	672.29	597.24	549.85	506.10	468.63	451.13	442.48
50000	4465.86	2377.09	1684.70	1341.37	1137.65	1003.71	909.60	840.36	746.55	687.31	632.62	585.79	563.92	553.10
60000	5359.04	2852.51	2021.64	1609.65	1365.18	1204.45	1091.52	1008.44	895.86	824.78	759.15	702.95	676.70	663.72
70000	6252.21	3327.93	2358.58	1877.92	1592.72	1405.19	1273.44	1176.51	1045.18	962.24	885.67	820.10	789.48	774.34
80000	7145.38	3803.35	2695.52	2146.20	1820.25	1605.93	1455.36	1344.58	1194.49	1099.70	1012.19	937.26	902.27	884.96
90000	8038.55	4278.76	3032.46	2414.47	2047.78	1806.67	1637.28	1512.65	1343.80	1237.16	1138.72	1054.42	1015.05	995.58
100000	8931.73	4754.18	3369.40	2682.75	2275.31	2007.41	1819.20	1680.73	1493.11	1374.63	1265.24	1171.58	1127.84	1106.20

TABLE VIII (continued)

Monthly Payment Schedule
Rate: 13.50%

Loan Amount	Term: 1	2	3	4	5	6	7	8	10	12	15	20	25	30
25	2.24	1.19	0.85	0.68	0.58	0.51	0.46	0.43	0.38	0.35	0.32	0.30	0.29	0.29
50	4.48	2.39	1.70	1.35	1.15	1.02	0.92	0.85	0.76	0.70	0.65	0.60	0.58	0.57
75	6.72	3.58	2.55	2.03	1.73	1.53	1.38	1.28	1.14	1.05	0.97	0.91	0.87	0.86
100	8.96	4.78	3.39	2.71	2.30	2.03	1.85	1.71	1.52	1.41	1.30	1.21	1.17	1.15
200	17.91	9.56	6.79	5.42	4.60	4.07	3.69	3.42	3.05	2.81	2.60	2.41	2.33	2.29
300	26.87	14.33	10.18	8.12	6.90	6.10	5.54	5.13	4.57	4.22	3.89	3.62	3.50	3.44
400	35.82	19.11	13.57	10.83	9.20	8.14	7.39	6.84	6.09	5.62	5.19	4.83	4.66	4.58
500	44.78	23.89	16.97	13.54	11.50	10.17	9.23	8.54	7.61	7.03	6.49	6.04	5.83	5.73
600	53.73	28.67	20.36	16.25	13.81	12.20	11.08	10.25	9.14	8.43	7.79	7.24	6.99	6.87
700	62.69	33.44	23.75	18.95	16.11	14.24	12.93	11.96	10.66	9.84	9.09	8.45	8.16	8.02
800	71.64	38.22	27.15	21.66	18.41	16.27	14.77	13.67	12.18	11.25	10.39	9.66	9.33	9.16
900	80.60	43.00	30.54	24.37	20.71	18.31	16.62	15.38	13.70	12.65	11.68	10.87	10.49	10.31
1000	89.55	47.78	33.94	27.08	23.01	20.34	18.46	17.09	15.23	14.06	12.98	12.07	11.66	11.45
2000	179.10	95.55	67.87	54.15	46.02	40.68	36.93	34.18	30.45	28.11	25.97	24.15	23.31	22.91
3000	268.66	143.33	101.81	81.23	69.03	61.02	55.39	51.26	45.68	42.17	38.95	36.22	34.97	34.36
4000	358.21	191.11	135.74	108.31	92.04	81.36	73.86	68.35	60.91	56.23	51.93	48.29	46.63	45.82
5000	447.76	238.89	169.68	135.38	115.05	101.69	92.32	85.44	76.14	70.29	64.92	60.37	58.28	57.27
6000	537.31	286.66	203.61	162.46	138.06	122.03	110.79	102.53	91.36	84.34	77.90	72.44	69.94	68.72
7000	626.86	334.44	237.55	189.53	161.07	142.37	129.25	119.62	106.59	98.40	90.88	84.52	81.60	80.18
8000	716.42	382.22	271.48	216.61	184.08	162.71	147.72	136.71	121.82	112.46	103.87	96.59	93.25	91.63
9000	805.97	429.99	305.42	243.69	207.09	183.05	166.18	153.79	137.05	126.51	116.85	108.66	104.91	103.09
10000	895.52	477.77	339.35	270.76	230.10	203.39	184.65	170.88	152.27	140.57	129.83	120.74	116.56	114.54
15000	1343.28	716.66	509.03	406.14	345.15	305.08	276.97	256.32	228.41	210.86	194.75	181.11	174.85	171.81
20000	1791.04	955.54	678.71	541.53	460.20	406.78	369.30	341.76	304.55	281.14	259.66	241.47	233.13	229.08
25000	2238.80	1194.43	848.38	676.91	575.25	508.47	461.62	427.20	380.69	351.43	324.58	301.84	291.41	286.35
30000	2686.56	1433.31	1018.06	812.29	690.30	610.17	553.95	512.64	456.82	421.72	389.50	362.21	349.69	343.62
35000	3134.32	1672.20	1187.74	947.67	805.34	711.86	646.27	598.09	532.96	492.00	454.41	422.58	407.98	400.89
40000	3582.08	1911.08	1357.41	1083.05	920.39	813.56	738.60	683.53	609.10	562.29	519.33	482.95	466.26	458.16
50000	4477.60	2388.85	1696.76	1353.82	1150.49	1016.95	923.24	854.41	761.37	702.86	649.16	603.69	582.82	572.71
60000	5373.12	2866.62	2036.12	1624.58	1380.59	1220.34	1107.89	1025.29	913.65	843.43	778.99	724.42	699.39	687.25
70000	6268.64	3344.39	2375.47	1895.34	1610.69	1423.73	1292.54	1196.17	1065.92	984.00	908.82	845.16	815.95	801.79
80000	7164.16	3822.16	2714.82	2166.11	1840.79	1627.12	1477.19	1367.05	1218.19	1124.57	1038.65	965.90	932.52	916.33
90000	8059.68	4299.93	3054.18	2436.87	2070.89	1830.51	1661.84	1537.93	1370.47	1265.15	1168.49	1086.64	1049.08	1030.87
100000	8955.20	4777.70	3393.53	2707.63	2300.98	2033.90	1846.49	1708.82	1522.74	1405.72	1298.32	1207.37	1165.64	1145.41

TABLE VIII (continued)

Monthly Payment Schedule
Rate: 14.00%

Loan Amount	Term: 1	2	3	4	5	6	7	8	10	12	15	20	25	30
25	2.24	1.20	0.85	0.68	0.58	0.52	0.47	0.43	0.39	0.36	0.33	0.31	0.30	0.30
50	4.49	2.40	1.71	1.37	1.16	1.03	0.94	0.87	0.78	0.72	0.67	0.62	0.60	0.59
75	6.73	3.60	2.56	2.05	1.75	1.55	1.41	1.30	1.16	1.08	1.00	0.93	0.90	0.89
100	8.98	4.80	3.42	2.73	2.33	2.06	1.87	1.74	1.55	1.44	1.33	1.24	1.20	1.18
200	17.96	9.60	6.84	5.47	4.65	4.12	3.75	3.47	3.11	2.87	2.66	2.49	2.41	2.37
300	26.94	14.40	10.25	8.20	6.98	6.18	5.62	5.21	4.66	4.31	4.00	3.73	3.61	3.55
400	35.91	19.21	13.67	10.93	9.31	8.24	7.50	6.95	6.21	5.75	5.33	4.97	4.82	4.74
500	44.89	24.01	17.09	13.66	11.63	10.30	9.37	8.69	7.76	7.19	6.66	6.22	6.02	5.92
600	53.87	28.81	20.51	16.40	13.96	12.36	11.24	10.42	9.32	8.62	7.99	7.46	7.22	7.11
700	62.85	33.61	23.92	19.13	16.29	14.42	13.12	12.16	10.87	10.06	9.32	8.70	8.43	8.29
800	71.83	38.41	27.34	21.86	18.61	16.48	14.99	13.90	12.42	11.50	10.65	9.95	9.63	9.48
900	80.81	43.21	30.76	24.59	20.94	18.55	16.87	15.63	13.97	12.93	11.99	11.19	10.83	10.66
1000	89.79	48.01	34.18	27.33	23.27	20.61	18.74	17.37	15.53	14.37	13.32	12.44	12.04	11.85
2000	179.57	96.03	68.36	54.65	46.54	41.21	37.48	34.74	31.05	28.74	26.63	24.87	24.08	23.70
3000	269.36	144.04	102.53	81.98	69.80	61.82	56.22	52.11	46.58	43.11	39.95	37.31	36.11	35.55
4000	359.15	192.05	136.71	109.31	93.07	82.42	74.96	69.49	62.11	57.49	53.27	49.74	48.15	47.39
5000	448.94	240.06	170.89	136.63	116.34	103.03	93.70	86.86	77.63	71.86	66.59	62.18	60.19	59.24
6000	538.72	288.08	205.07	163.96	139.61	123.63	112.44	104.23	93.16	86.23	79.90	74.61	72.23	71.09
7000	628.51	336.09	239.24	191.29	162.88	144.24	131.18	121.60	108.69	100.60	93.22	87.05	84.26	82.94
8000	718.30	384.10	273.42	218.61	186.15	164.85	149.92	138.97	124.21	114.97	106.54	99.48	96.30	94.79
9000	808.08	432.12	307.60	245.94	209.41	185.45	168.66	156.34	139.74	129.34	119.86	111.92	108.34	106.64
10000	897.87	480.13	341.78	273.26	232.68	206.06	187.40	173.72	155.27	143.71	133.17	124.35	120.38	118.49
15000	1346.81	720.19	512.66	409.90	349.02	309.09	281.10	260.57	232.90	215.57	199.76	186.53	180.56	177.73
20000	1795.74	960.26	683.55	546.53	465.37	412.11	374.80	347.43	310.53	287.43	266.35	248.70	240.75	236.97
25000	2244.68	1200.32	854.44	683.16	581.71	515.14	468.50	434.29	388.17	359.28	332.94	310.88	300.94	296.22
30000	2693.61	1440.39	1025.33	819.79	698.05	618.17	562.20	521.15	465.80	431.14	399.52	373.06	361.13	355.46
35000	3142.55	1680.45	1196.22	956.43	814.39	721.20	655.90	608.00	543.43	502.99	466.11	435.23	421.32	414.71
40000	3591.48	1920.52	1367.11	1093.06	930.73	824.23	749.60	694.86	621.07	574.85	532.70	497.41	481.50	473.95
50000	4489.36	2400.64	1708.88	1366.32	1163.41	1030.29	937.00	868.58	776.33	718.56	665.87	621.76	601.88	592.44
60000	5387.23	2880.77	2050.66	1639.59	1396.10	1236.34	1124.40	1042.29	931.60	862.28	799.04	746.11	722.26	710.92
70000	6285.10	3360.90	2392.43	1912.85	1628.78	1442.40	1311.80	1216.01	1086.87	1005.99	932.22	870.46	842.63	829.41
80000	7182.97	3841.03	2734.21	2186.12	1861.46	1648.46	1499.20	1389.72	1242.13	1149.70	1065.39	994.82	963.01	947.90
90000	8080.84	4321.16	3075.99	2459.38	2094.14	1854.52	1686.60	1563.44	1397.40	1293.41	1198.57	1119.17	1083.38	1066.38
100000	8978.71	4801.29	3417.76	2732.65	2326.83	2060.57	1874.00	1737.15	1552.66	1437.13	1331.74	1243.52	1203.76	1184.87

TABLE VIII (continued)

Monthly Payment Schedule
Rate: 15.00%

Loan Amount	Term: 1	2	3	4	5	6	7	8	10	12	15	20	25	30
25	2.26	1.21	0.87	0.70	0.59	0.53	0.48	0.45	0.40	0.38	0.35	0.33	0.32	0.32
50	4.51	2.42	1.73	1.39	1.19	1.06	0.96	0.90	0.81	0.75	0.70	0.66	0.64	0.63
75	6.77	3.64	2.60	2.09	1.78	1.59	1.45	1.35	1.21	1.13	1.05	0.99	0.96	0.95
100	9.03	4.85	3.47	2.78	2.38	2.11	1.93	1.79	1.61	1.50	1.40	1.32	1.28	1.26
200	18.05	9.70	6.93	5.57	4.76	4.23	3.86	3.59	3.23	3.00	2.80	2.63	2.56	2.53
300	27.08	14.55	10.40	8.35	7.14	6.34	5.79	5.38	4.84	4.50	4.20	3.95	3.84	3.79
400	36.10	19.39	13.87	11.13	9.52	8.46	7.72	7.18	6.45	6.00	5.60	5.27	5.12	5.06
500	45.13	24.24	17.33	13.92	11.89	10.57	9.65	8.97	8.07	7.50	7.00	6.58	6.40	6.32
600	54.15	29.09	20.80	16.70	14.27	12.69	11.58	10.77	9.68	9.01	8.40	7.90	7.68	7.59
700	63.18	33.94	24.27	19.48	16.65	14.80	13.51	12.56	11.29	10.51	9.80	9.22	8.97	8.85
800	72.21	38.79	27.73	22.26	19.03	16.92	15.44	14.36	12.91	12.01	11.20	10.53	10.25	10.12
900	81.23	43.64	31.20	25.05	21.41	19.03	17.37	16.15	14.52	13.51	12.60	11.85	11.53	11.38
1000	90.26	48.49	34.67	27.83	23.79	21.15	19.30	17.95	16.13	15.01	14.00	13.17	12.81	12.64
2000	180.52	96.97	69.33	55.66	47.58	42.29	38.59	35.89	32.27	30.02	27.99	26.34	25.62	25.29
3000	270.77	145.46	104.00	83.49	71.37	63.44	57.89	53.84	48.40	45.03	41.99	39.50	38.42	37.93
4000	361.03	193.95	138.66	111.32	95.16	84.58	77.19	71.78	64.53	60.04	55.98	52.67	51.23	50.58
5000	451.29	242.43	173.33	139.15	118.95	105.73	96.48	89.73	80.67	75.04	69.98	65.84	64.04	63.22
6000	541.55	290.92	207.99	166.98	142.74	126.87	115.78	107.67	96.80	90.05	83.98	79.01	76.85	75.87
7000	631.81	339.41	242.66	194.82	166.53	148.02	135.08	125.62	112.93	105.06	97.97	92.18	89.66	88.51
8000	722.07	387.89	277.32	222.65	190.32	169.16	154.37	143.56	129.07	120.07	111.97	105.34	102.47	101.16
9000	812.32	436.38	311.99	250.48	214.11	190.31	173.67	161.51	145.20	135.08	125.96	118.51	115.27	113.80
10000	902.58	484.87	346.65	278.31	237.90	211.45	192.97	179.45	161.33	150.09	139.96	131.68	128.08	126.44
15000	1353.87	727.30	519.98	417.46	356.85	317.18	289.45	269.18	242.00	225.13	209.94	197.52	192.12	189.67
20000	1805.17	969.73	693.31	556.61	475.80	422.90	385.94	358.91	322.67	300.18	279.92	263.36	256.17	252.89
25000	2256.46	1212.17	866.63	695.77	594.75	528.63	482.42	448.64	403.34	375.22	349.90	329.20	320.21	316.11
30000	2707.75	1454.60	1039.96	834.92	713.70	634.35	578.90	538.36	484.00	450.26	419.88	395.04	384.25	379.33
35000	3159.04	1697.03	1213.29	974.08	832.65	740.08	675.39	628.09	564.67	525.31	489.86	460.88	448.29	442.56
40000	3610.33	1939.47	1386.61	1113.23	951.60	845.80	771.87	717.82	645.34	600.35	559.83	526.72	512.33	505.78
50000	4512.92	2424.33	1733.27	1391.54	1189.50	1057.25	964.84	897.27	806.67	750.44	699.79	658.39	640.42	632.22
60000	5415.50	2909.20	2079.92	1669.84	1427.40	1268.70	1157.81	1076.72	968.01	900.53	839.75	790.07	768.50	758.67
70000	6318.08	3394.07	2426.57	1948.15	1665.30	1480.15	1350.77	1256.18	1129.34	1050.61	979.71	921.75	896.58	885.11
80000	7220.66	3878.93	2773.23	2226.46	1903.19	1691.60	1543.74	1435.63	1290.68	1200.70	1119.67	1053.43	1024.66	1011.56
90000	8123.25	4363.80	3119.88	2504.77	2141.09	1903.05	1736.71	1615.09	1452.01	1350.79	1259.63	1185.11	1152.75	1138.00
100000	9025.83	4848.66	3466.53	2783.07	2378.99	2114.50	1929.68	1794.54	1613.35	1500.88	1399.59	1316.79	1280.83	1264.44

4. FINANCIAL RATIOS

The financial ratios presented in this section may be useful in many different types of client engagements. The intent is to provide practitioners with a ready source they may draw on in diverse engagement situations.

Ratio analysis, in particular, may be undertaken to help a client evaluate past, current, and future performance. The ratios selected for presentation in this section represent only those commonly used in credit or comparative analysis. The term *comparative(s)* is used to refer to the financial data of similar entities or to industry data. Such data may be obtained from a variety of sources, including those presented in this section.

A ratio is by itself meaningless until it is compared to prior years, projections, and industry averages, as well as to other ratios.* The benefit of ratio analysis is that it provides a benchmark for measuring performance, targeting future goals, and helping identify potential problem areas. The interpretation of financial ratios given in these tables is provided only as an example of how these ratios may be used in an engagement. There are other possible interpretations of these ratios.

*See MAS Technical Consulting Practice Aid No. 3, *Financial Ratio Analysis* (New York: AICPA, 1983).

TABLE 4.1 LIQUIDITY RATIOS

Ratio		*Formula*	*Interpretation*
Current Ratio	=	$\frac{\text{Current Assets}}{\text{Current Liabilities}}$	Indicates the extent to which current assets cover current liabilities. Attention should be paid to trends.
Quick Ratio	=	$\frac{\text{Cash + Cash Equivalents + Net Receivables}}{\text{Current Liabilities}}$	A conservative view of creditors' protection, since inventory and prepaid items may not always be liquid. A company is usually in good liquid position when quick assets exceed current liabilities.
Working Capital	=	Current Assets − Current Liabilities	Working capital is a direct indicator of the company's ability to grow.
Inventory to Working Capital	=	$\frac{\text{Inventory}}{\text{Working Capital}}$	Indicates the percentage of working capital supporting inventory. A high percentage indicates operating problems.
Current Assets Turnover	=	$\frac{\text{Cost of Goods Sold + Operating Expenses + Tax − Noncash Expenses}}{\text{Current Assets}}$	Indicates the number of times current assets must turn over to cover expenditures. Measures control of current assets.
Inventory to Current Liabilities	=	$\frac{\text{Inventory}}{\text{Current Liabilities}}$	Shows the degree to which the company relies on inventory to meet its current obligations.

TABLE 4.2 PROFITABILITY RATIOS

Ratio		*Formula*	*Interpretation*
Gross Profit Percentage	=	$\dfrac{\text{Gross Profit}}{\text{Net Revenues}}$	Reflects control over cost of sales and pricing policies. The ratio must be viewed in relation to the client's past performance and the industry average.
Operating Profit Percentages	=	$\dfrac{\text{Operating Profit}}{\text{Net Revenues}}$	Indicates the company's ability to control operating expenses. The ratio should be viewed in relation to increased sales and changes in gross profit.
Net Income Before Taxes Percentage (NIBT)	=	$\dfrac{\text{Income Before Taxes + Extraordinary Items}}{\text{Net Revenues}}$	Provides a more consistent basis for comparisons. It is also used in the calculation of other ratios.
Net Income After Taxes Percentage (NIAT)	=	$\dfrac{\text{Net Income After Taxes}}{\text{Net Revenues}}$	Reflects the tax effect on profitability and represents the profit per dollar of sales.
Return on Equity*	=	$\dfrac{\text{NIAT}}{\text{Stockholders' Equity**}}$	Measures the return to stockholders and represents their measure of profitability. When compared to the return on assets, this ratio indicates degree of financial leverage.
Return on Assets*	=	$\dfrac{\text{NIAT}}{\text{Total Assets** or NIAT Percentage} \times \text{Assets Turnover}}$	Reflects the earning power and effective use of all the resources of the company.

*Can be calculated by using operating income, NIBT, or earnings before interest and taxes (EBIT).
**When material transactions affecting the balance have occurred, an average balance should be used in the calculations.

TABLE 4.3 EFFICIENCY RATIOS

Ratio		*Formula*	*Interpretation*
Accounts Receivable Turnover	=	$\frac{\text{Credit Sales}}{\text{Average Accounts Receivable}}$	Indicates the number of times it takes receivables to turn into cash per year. Attention should be paid to credit terms, billing procedures, trends, and industry average.
Accounts Receivable Collection Period	=	$\frac{\text{360 or 365 Days}}{\text{Accounts Receivable Turnover}}$	Reflects average length of time from sale to cash collection.
Inventory Turnover	=	$\frac{\text{Cost of Goods Sold}}{\text{Average Inventory}}$	Indicates the number of times the business liquidates its inventory over a period and whether too little or too much inventory is carried.
Inventory—Days in Inventory	=	$\frac{\text{360 or 365 Days}}{\text{Inventory Turnover}}$	Reflects the number of days it takes to sell the inventory. Used in conjunction with accounts receivable collection period to determine operating cycle.
Operating Cycle	=	Accounts Receivable Collection Period + Days in Inventory	Indicates the length of time it takes to convert inventory to cash. If the cycle increases, more permanent working capital is needed.
Accounts Payable Turnover	=	$\frac{\text{(Cost of Goods Sold − Beginning Inventory) + Ending Inventory}}{\text{Average Accounts Payable}}$	Indicates the number of turns per period of time it takes for the company to pay its trade payable. Should be compared to credit terms.
Accounts Payable—Days Outstanding	=	$\frac{\text{360 or 365 Days}}{\text{Accounts Payable Turnover}}$	Same as above but expressed in number of days rather than number of turns.
Assets Turnover	=	$\frac{\text{Net Revenue}}{\text{Total Assets*}}$	Indicates the turnover rate of total assets to achieve net revenue. When viewed historically, ratio indicates the effectiveness of generating sales from assets expansion.
Net Revenue to Working Capital Turnover	=	$\frac{\text{Net Revenue}}{\text{Working Capital}}$	An indication of the amount of working capital required to support sales. An increasing ratio may, for example, indicate insufficient working capital to support sales growth.
Net Fixed Assets to Stockholders' Equity	=	$\frac{\text{Net Fixed Assets}}{\text{Stockholders' Equity*}}$	Indicates the proportion of stockholders' equity that is committed to fixed assets and is not available for operating funds. A low percentage would indicate a favorable liquid position.

Altman Z Score = The Altman Z Score, developed by Edward I. Altman, is a composite formula that is widely used to measure the financial "health" of a company. The formula takes financial ratios and multiplies each by a specific constant. The amounts so computed are added together to obtain an overall score. This score is then compared to scores from other companies to rate relative financial health. These scores could be helpful in evaluating a "going concern." The formulae are as follows:

For Corporations:
(five variables)

$$\frac{\text{Working Capital}}{\text{Total Assets}} \times .012$$

$$\frac{\text{Retained Earnings}}{\text{Total Assets}} \times .014$$

$$\frac{\text{Earnings Before Interest and Taxes}}{\text{Total Assets}} \times .033$$

$$\frac{\text{Market Value Equity}}{\text{Book Value of Total Liabilities}} \times .006$$

$$\frac{\text{Sales}}{\text{Total Assets}} \times .999$$

For Private Companies:
(five variables)

$$\frac{\text{Working Capital}}{\text{Total Assets}} \times .717$$

$$\frac{\text{Retained Earnings}}{\text{Total Assets}} \times .847$$

$$\frac{\text{Earnings Before Interest and Taxes}}{\text{Total Assets}} \times 3.107$$

(continued)

*When material transactions affecting the balance have occurred, an average balance should be used in the calculations.

TABLE 4.3 (continued) EFFICIENCY RATIOS

Ratio	*Formula*	*Interpretation*
	$\frac{\text{Net Worth (Book Value)}}{\text{Total Liabilities}} \times .420$	
	$\frac{\text{Sales}}{\text{Total Assets}} \times .998$	
For Private Companies: (four variables)	$\frac{\text{Working Capital}}{\text{Total Assets}} \times 6.56$	
	$\frac{\text{Retained Earnings}}{\text{Total Assets}} \times 3.26$	
	$\frac{\text{Income Before Interest and Taxes}}{\text{Total Assets}} \times 6.72$	
	$\frac{\text{Net Worth}}{\text{Total Liabilities}} \times 1.05$	

Score	*Probability of Failure*
1.8 or less	Very high
1.81 to 2.7	High
2.8 to 2.9	Possible
3.0 or higher	Very low

TABLE 4.4 CAPITAL STRUCTURE RATIOS

Ratio		*Formula*	*Interpretation*
debt to equity	=	$\dfrac{\text{total debt}}{\text{stockholders' equity*}}$	Indicates the relation of the owners' and creditors' positions. This ratio should be viewed in the light of industry averages.
current debt to equity	=	$\dfrac{\text{current liabilities}}{\text{equity}}$	Indicates the proportion of debt to total equity that is current in maturity. A high ratio may indicate the need to restructure debt.
operating fund to current portion of long-term debt	=	$\dfrac{\text{NIAT + noncash expenses}}{\text{current portion of long-term debt}}$	Shows the ability of the company to meet its current payments.
times interest earned	=	$\dfrac{\text{NIBT + interest}}{\text{interest}}$	Shows how well the company is able to cover interest from earnings. Measures the level of earnings decline to meet interest payments.
long-term debt to equity	=	$\dfrac{\text{long-term debt}}{\text{stockholders' equity*}}$	Measures the relationship of long-term debt to equity.

*When material transactions affecting the balance have occurred, an average balance should be used in the calculations.

4.5 Suggested Sources for Comparatives

The following are suggested sources for comparatives:

- For publicly held companies:
  - Annual reports to shareholders
  - SEC periodic reports
- For trade associations:
  - American Meat Institute
  - American Paper Institute
  - American Retail Hardware Association
  - American Trucking Association, Inc.
  - National Electric Manufacturers
  - National Restaurant Association
  - National Retail Merchants Association
  - National Wholesaler Druggist Association
- Dun and Bradstreet, *Key Business Ratios: Statistics from 125 Lines of Retailing, Wholesaling, and Manufacturing and Construction*
- *Moody's Industrial Manual*
- Standard & Poor's stock reports
- Standard & Poor's industry surveys
- Robert Morris Associates annual statement studies
- *The Bank of New York Comparative Ratio Study*
- Value Line Investment Survey
- *Statistics of Income,* IRS
- *Almanac of Business and Financial Ratios,* Prentice-Hall
- *Financial Studies of Small Business,* Financial Research Associates

4.6 The Eight-Step Procedure for Financial Ratio Analysis

The eight-step procedure is as follows:

1. Select the specific ratios to be used.
2. Determine the data needed for calculating the ratios.
3. Determine the missing data in the comparatives and provide alternative means to develop the missing data.
4. Develop working papers to spread appropriate data so that it is easier to calculate and interpret the ratios.
5. Calculate the client's ratios.

6. Reconcile accounting differences between the client and comparative statements.
7. Compare the client's ratios to the comparative ratio and indicate the possible cause of the differences, if any.
8. Make recommendations, if appropriate, as to possible corrective actions the client may take to improve performance.

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Chapter	Index Abbreviation
Bankruptcy/Insolvency	BANK
Business Plans (Volume 2)	BP
Cash Management (Volume 2)	CM
Corporations	CORP
Federal Corporate Tax Notes (Volume 2)	CORPTAX
Employment Regulations	EMP
Estate Planning	EST
Obtaining Financing	FIN
Financial Mathematics (Volume 2)	FIN MAT
Hiring Foreign Nationals	HFN
Human Resources	HR
Federal Individual Tax Notes (Volume 2)	INDTAX
Insurance	INS
Investment Vehicles	INV
IRS Practice and Procedure (Volume 2)	IRS
Limited Liability Companies	LLC
Partnerships	PART
Sole Proprietorships	PROP
Employee Retirement & Deferred Compensation Plans	RET
S Corporations	S CORP
Securities Regulation	SEC
Social Security and Other Issues Facing Elderly or Disabled Clients	SS
Current-Year Tax Issues (Volume 2)	TI
Trusts	TRUSTS
Unemployment Insurance	UI
Business Valuation	VAL
Workers' Compensation	WORK

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