

[JOINT COMMITTEE PRINT]

**IMPACT ON MANUFACTURING,
ENERGY, AND NATURAL RESOURCES
OF REPLACING
THE FEDERAL INCOME TAX**

SCHEDULED FOR A HEARING
BEFORE THE
HOUSE COMMITTEE ON WAYS AND MEANS
ON JULY 31, 1996

PREPARED BY THE STAFF
OF THE
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INTRODUCTION

The House Committee on Ways and Means has scheduled a public hearing on July 31, 1996, on issues relating to the impact on manufacturing, energy, and natural resources of replacing the Federal income tax. The hearing will focus on the effects of the following possible proposed replacement tax systems: (1) a national retail sales tax, (2) a value-added tax, (3) a consumption-based flat tax, (4) a cash flow tax, and (5) a "pure" income tax. Some of these proposals have been the subject of introduced legislation. On March 6, 1996, Messrs. Schaefer, Tauzin, Chrysler, Bono, Hefley, Linder, and Stump introduced H.R. 3039, the "National Retail Sales Tax Act of 1996." On May 26, 1994, Senators Boren and Danforth introduced S. 2160, the "Business Transfer Tax," which is a subtraction-method, value-added tax. On July 19, 1995, Mr. Armev and Senator Shelby introduced H.R. 2060 and S. 1050, respectively. These bills provide consumption-based flat taxes. On April 25, 1995, Senators Nunn and Domenici introduced S. 722, the "USA Tax Act of 1995", which contains two consumption-based taxes—a cash flow tax on individuals and a subtraction-method, value-added tax on businesses. This pamphlet,¹ prepared by the staff of the Joint Committee on Taxation, describes several aspects of present law and the various tax restructuring proposals with respect to firms engaged in the production of manufactured goods, energy, and natural resources.

Part I of this pamphlet is an overview of the discussions contained in the remainder of the pamphlet. Part II provides a description of certain present-law income tax provisions that apply to firms engaged in the production of manufactured goods, energy, and natural resources. Part III of the pamphlet provides background and data with respect to such firms. Part IV provides a description of some of the proposed alternatives to replace the present Federal income tax. Part V is a discussion of particular issues related to the proposed replacement tax systems and the treatment of firms engaged in the production of manufactured goods, energy, and natural resources. The Appendix presents the present-law recovery periods of depreciable property and background economic data.

¹ This document may be cited as follows: Joint Committee on Taxation, *Impact on Manufacturing, Energy, and Natural Resources of Replacing the Federal Income Tax* (JCS-7-96), July 31, 1996.

I. OVERVIEW

In the first decade following World War II, manufacturing accounted for as much as 30 percent of gross domestic product ("GDP"). Since that time manufacturing's share of GDP has gradually, but steadily, declined, having been less than 20 percent since 1985. While manufacturing's share has declined, real output of manufacturing has grown nearly six-fold over the period. Mining output (a proxy for the natural resources industry) has fallen as a share of GDP over the past 45 years while output of the utility sector (a proxy for retail energy provision) has increased as a share of GDP over the same period. As with manufacturing output, the real value of output in these sectors has grown substantially.

The manufacturing, energy, and natural resources industries are more capital intensive than the average of all United States industries. While manufacturing's share of total output has declined over the years, manufacturing continues to account for a large share of U.S. investment. The Department of Commerce estimates that the manufacturing sector accounted for 26.9 percent of total nonresidential fixed private net investment made in the United States in 1994. Net investment in equipment and structures in the mining industry generally and in the oil and gas extraction industry has been negative since 1986, as estimated depreciation of existing invested capital has exceeded gross new investment.

Most manufacturing, energy, and natural resource production is undertaken by firms that are organized as "C corporations." This form of business entity affects the Federal income tax treatment of the firm as well as of its investors and influences the firm's capital structure. In addition, the manufacturing, energy, and natural resource industries may be characterized as businesses that make significant investments in capital goods. The present-law Federal income tax generally requires the amount of such expenditures to be capitalized and recovered over time. This treatment is required in order to meet the objective of more closely measuring income by matching the deduction for the expenditures with the recognition of the income from the revenue stream that the expenditures generate, or are expected to generate. However, present law allows more rapid cost recovery or other tax benefits for certain expenditures related to manufacturing, energy, and natural resource production that otherwise would be provided under the general theory of income measurement. These provisions take many forms, including expensing, accelerated tax depreciation, percentage depletion, capital gains preferences, and tax credits. However, the alternative minimum tax may act to reduce some of the benefits provided by some of these provisions.

Various Federal excise taxes are imposed on the manufacturing sector and on manufactured goods and natural resource products. Revenues from these taxes are, in many cases, dedicated to trust

funds to finance programs related to the industries whose products are subject to tax.

This pamphlet describes five alternatives to replace the current income tax system. These are (1) a national retail sales tax, (2) a value-added tax, (3) a consumption-based flat tax, (4) a cash flow tax, and (5) a "pure" income tax. Other than the "pure" income tax, these alternative tax systems generally are consumption-based, rather than income-based, taxes. The major difference between a consumption-based tax and an income-based tax relates to the treatment of savings. Under an income-based tax, returns to savings (e.g., dividends, interest, and capital gains) generally are subject to tax; under a consumption-based tax, these returns generally are excluded from the tax base. This exclusion may be provided by taxing consumption directly, excluding investment income from the base, or providing a deduction for increased savings. The current Federal "income" tax contains some features that are consumption-based (e.g., the expensing of certain capital costs).

The primary issues that tax restructuring creates for manufacturing, energy, and natural resource industries involve the taxation of returns to new investment and the taxation of returns generated by the existing capital stock invested in the sectors. Analysts generally believe that investment responds to the cost of capital. Taxation affects the cost of capital because it creates a wedge between the returns investors receive and the actual returns on investments.

If tax restructuring alters the after-tax returns to new investment, it could alter the magnitude and type of future economic growth. Under a consumption tax, returns to saving are not taxed. Investment by a business in income-producing property, such as machinery and equipment, is a form of saving. Thus, the consumption-based taxes remove the tax wedge between the returns investors receive and the actual returns on investments, thereby lowering the cost of capital. A lower cost of capital may lead to increased investment in the United States. Unlike under the consumption-based taxes, the tax wedge would remain in a "pure" income tax. However, in broadening the base of the tax, a "pure" income tax may enable marginal tax rates to be lowered. Declines in the marginal tax rate applicable to investment income generally reduce the tax wedge and, hence, reduce the cost of capital. In addition, tax policy can distort the allocation of private investment funds among competing uses and thereby make less efficient the current level of private investment. The various tax reform proposals generally would eliminate such distortions.

The introduction of a consumption tax may affect the prices of existing assets, the overall level of prices, and the level of interest rates. Those changes could lead to windfall losses and benefits for certain taxpayers. In light of these windfalls, a shift to a consumption-tax base may necessitate the design of specific transition rules to reduce the windfall effects. However, because the burden of taxes is ultimately borne by individuals and not by business entities, equitable transition relief across individuals may be difficult to achieve by granting transition relief to certain business entities or classes of assets.

The present-law income tax rules that require capitalization of expenditures often involve complexity and increased recordkeeping burdens as taxpayers are required to distinguish between deductible and capitalizable costs, determine the proper period over which capitalized costs should be recovered, and maintain records to determine the unamortized amount of the capital assets. Fewer tax accounting rules are needed under a consumption tax. Moreover, rules regarding capitalization, inventory flows, depreciation, and other cost recovery would no longer be required. The elimination of these rules would simplify the tax accounting for capital-intensive businesses. As under present law, some rules would be needed under a consumption-based tax in order to determine the proper period for taking items of gross income and expense into account. The substitution of new, potentially complex tax accounting rules in a consumption tax for old, potentially complex tax accounting rules under the income tax may not ease the compliance burden of some taxpayers. In any event, the enactment of any new tax system, no matter how simple, brings with it a degree of complexity for those accustomed to the old system.

One of the goals of a "pure" income tax is to properly measure economic income so as not to distort investment decisions. Present law provides various tax accounting rules that attempt to reach this income measurement. Many of these provisions were enacted as part of the Tax Reform Act of 1986, which broadened the income tax base and lowered income tax rates. Some of these provisions, including the corporate AMT and the uniform capitalization rules, have been criticized as being complex. Because it generally is conceded that income is difficult to measure, expanding the income tax base under a "pure" income tax likely will introduce additional complexity to the income tax system.

II. PRESENT LAW AND BACKGROUND

A. Manufacturing

1. In general

Choice of entity and capital structure

As described in Part III, most manufacturing, energy, and natural resource production is undertaken by firms that are organized as "C corporations."² The form of entity affects the tax treatment of the entity as well as of its investors. A C corporation's income generally is taxed when earned at the corporate level, and is taxed again at the individual level when distributed as dividends to individual shareholders. Corporate deductions and credits reduce only corporate income and are not passed through to individual shareholders.

Corporations are taxed at rates ranging from 15 percent (for taxable income up to \$50,000) to 35 percent (for taxable income over \$10,000,000). The intermediate rates are 25 percent and 34 percent. The benefit of graduated rates below 34 percent is phased out for corporations with taxable income between \$100,000 and \$335,000. Thus, a corporation with taxable income between \$335,000 and \$10,000,000 is effectively subject to a flat rate of 34 percent. A similar phaseout applies to corporate income between \$15,000,000 and \$18,333,333, so that a corporation with income above that amount is effectively subject to a flat rate of 35 percent. In addition, an alternative minimum tax (described below) may apply to a corporation.

The tax treatment of the entity and its investors can affect the choice of the capital structure of a corporation (e.g., whether to raise funds as debt or as equity), because debt and equity investments are treated differently at both the corporate and shareholder levels. In general, in determining taxable income, interest expense is deductible by a C corporation but amounts distributed as dividends are not. Subject to business considerations, this creates a tax incentive favoring debt over equity in the capital structure. Both interest and dividends are taxed as ordinary income to individual investors and are tax exempt to tax-exempt investors, such as pension plans. However, certain investors may prefer interest to dividends. For example, foreign investors may be exempt on certain interest received from U.S. corporations, but are subject to withholding tax on dividends. Other investors may prefer dividends to interest. For example, a corporate investor generally must include all interest received as ordinary income, but may exclude at least 70 percent of dividends received from another corporation (80 percent if the shareholder owns at least 20 percent of the corporate stock, and 100 percent if the shareholder owns at least 80 percent of the corporate stock). The differing treatment of debt and equity for tax purposes has led to numerous disputes regarding the proper classification of a particular investment as debt or equity. The form of the instrument is not necessarily controlling. However, taxpayers

² The term "C corporation" refers to subchapter C of the Code, which contains rules governing the tax treatment of certain transactions of such corporations and their shareholders.

have considerable latitude in structuring the terms of an instrument so that it will be treated as debt or equity, as desired.³

Because of the tax treatment of capital gains,⁴ certain equity investors may prefer not to receive dividends from a C corporation, but instead may prefer retention of earnings at the corporate level so that the value attributable to those earnings may be realized as capital gains on the sale or disposition of stock. Tax-exempt investors, such as pension plans, would be indifferent to this consideration, since neither dividends nor capital gains are taxed to them. However, an individual investor in a marginal tax rate bracket higher than the 28 percent maximum rate on capital gains generally would prefer capital gains. Foreign investors may be exempt from tax on certain capital gains, but subject to withholding tax on dividends.

Treatment of expenditures

Under the present-law income tax, the expenditures of a taxpayer engaged in a trade or business may either be (1) expensed and deducted in the period in which the expenditures are incurred or (2) capitalized and recovered in a future accounting period. In general, expensing is allowed or capitalization is required in order to meet the objective of more closely measure income by matching the deduction for the expenditures with the recognition of the income from the revenue stream that the expenditures generate, or are expected to generate. Thus, for example, selling expenses are considered to be expenses that are deductible in the period in which the related sales are solicited or made. Matching is a generally accepted accounting principle. However, present law allows expensing for certain expenditures that otherwise would be required to be capitalized under the general theory of matching. These provisions generally are designed to provide a tax benefit for certain types of taxpayers and activities or to simplify tax accounting.⁵

Expenditures to create or acquire property that will be resold to customers in the ordinary course of the taxpayer's trade or business are taken into account under an inventory method of accounting that capitalizes such costs and recovers them when the goods are sold. As described below, present law provides conventions for determining the flow of the costs of goods sold for purposes of taking capitalized inventory costs into account. Expenditures to acquire tangible property to be used in a taxpayer's business also are capitalized and are recovered through depreciation or amortization deductions over the life of the property. As described in detail below, present law also provides specific rules for allocating depreciation and amortization deductions over time. Present-law depreciation rules generally are considered to allow cost recovery more

³ For further discussion, see, e.g., Joint Committee on Taxation, *Federal Income Tax Aspects of Corporate Financial Structures*, (JCS-1-89), January 18, 1989, pp. 35-37.

⁴ The top marginal income tax rate applicable to the ordinary income of individuals is 39.6 percent. Net long-term capital gains of individuals are subject to a maximum tax rate of 28 percent. If an individual shareholder retains stock until death, the appreciation can pass to the heirs free of income tax (sec. 1014).

⁵ As described in Part V, taxpayers prefer expensing to capitalization because the present value of the tax deduction of expensed costs is greater than the present value of deductions that are deferred or are taken over time. Some of the exceptions to the matching concept are described in Part II.B below, with respect to cost recovery for natural resources.

rapidly than if such allowances had been calculated using economic depreciation. However, the alternative minimum tax, also described below, may act to reduce some of the benefits provided by accelerated tax depreciation and other tax preferences.

As demonstrated in Part III, firms engaged in manufacturing generally make significant investments in inventory, machinery, equipment and other capital goods. Thus, the various present-law income tax provisions that prescribe which costs must be capitalized (rather than expensed) and how such capitalized costs may be recovered are of particular importance to manufacturers and other capital-intensive firms. Following is a description of some of these provisions.

2. Capitalization requirements

Section 263

In general, a taxpayer is allowed to deduct ordinary and necessary expenses paid or incurred in carrying on a trade or business during the taxable year (sec. 162). However, amounts that give rise to a permanent improvement or betterment must be capitalized rather than deducted currently (sec. 263). Whether an expenditure is deductible under section 162 or must be capitalized under section 263 is often a matter of dispute between the IRS and taxpayers, and has been the subject of significant litigation. Most recently, in *INDOPCO v. Commissioner*, 503 U.S. 79 (1992), the U.S. Supreme Court noted that the capitalization of expenditures is the norm and that a current "income tax deduction is a matter of legislative grace and that the burden of clearly showing the right to the claimed deduction is on the taxpayer."⁶ In *INDOPCO*, the Court distinguished its prior decision in *Lincoln Savings v. Commissioner*, 403 U.S. 345 (1971), (relating to additional premiums paid by a thrift institution to the Federal Savings and Loan Insurance Corporation) to hold that it is not necessary for an expenditure to give rise to the creation of a separate and distinct asset before such expenditure is capitalized. Rather, the Court held that "although the presence of an incidental future benefit may not warrant capitalization, a taxpayer's realization of benefits beyond the year in which the expenditure is incurred is important in determining whether the appropriate tax treatment is immediate deduction or capitalization." In *INDOPCO*, the Supreme Court found that the record supported the lower courts' findings that investment banking fees incurred in a takeover defense produced significant benefits extending beyond the tax year in which they were incurred so as to warrant capitalization. The scope of the *INDOPCO* decision and its application to various other expenditures is unclear.

The determination of whether an expense is deductible or must be capitalized is based on the facts and circumstances of each case. The difficulty in making such distinctions can be demonstrated by the issues confronting taxpayers that incur environmental remediation expenditures. Environmental remediation expenditures generally are costs incurred by taxpayers with respect to business

⁶ *INDOPCO*, citing *Interstate Transit Lines v. Comm.*, 319 U.S. 590, 593 (1943); *Deputy v. DuPont*, 308 U.S. 488, 493 (1940); and *New Colonial Ice Co. v. Helvering*, 292 U.S. 435, 440 (1934).

property in order to allow the property to meet certain environmental or health standards with respect to its use. The income tax issue with respect to environmental remediation costs is whether the expenditures are in the nature of deductible repairs, or capitalizable improvements, to the remediated property.⁷

Treasury regulations under section 162 provide that the cost of incidental repairs which neither materially add to the value of property nor appreciably prolong its life, but keep it in an ordinarily efficient operating condition, may be deducted currently as a business expense. As described above, section 263(a)(1) limits the scope of section 162 by prohibiting a current deduction for certain capital expenditures. Treasury regulations define "capital expenditures" as amounts paid or incurred to materially add to the value, or substantially prolong the useful life, of property owned by the taxpayer, or to adapt property to a new or different use. Amounts paid for repairs and maintenance do not constitute capital expenditures. Although Treasury regulations provide that expenditures that materially increase the value of property must be capitalized, they do not set forth a method of determining how and when value has been increased. In *Plainfield-Union Water Co. v. Commissioner*, 39 T.C. 333 (1962), nonacq., 1964-2 C.B. 8, the U.S. Tax Court held that increased value was determined by comparing the value of an asset after the expenditure with its value before the condition necessitating the expenditure. The Tax Court stated that "an expenditure which returns property to the state it was in before the situation prompting the expenditure arose, and which does not make the relevant property more valuable, more useful, or longer-lived, is usually deemed a deductible repair."

In several Technical Advice Memoranda ("TAM"), the Internal Revenue Service ("IRS") declined to apply the *Plainfield Union* valuation analysis, indicating that the analysis represents just one of several alternative methods of determining increases in the value of an asset. In TAM 9240004 (June 29, 1992), the IRS required certain asbestos removal costs to be capitalized rather than expensed. In that instance, the taxpayer owned equipment that was manufactured with insulation containing asbestos; the taxpayer replaced the asbestos insulation with less thermally efficient, non-asbestos insulation. The IRS concluded that the expenditures resulted in a material increase in the value of the equipment because the asbestos removal eliminated human health risks, reduced the risk of liability to employees resulting from the contamination, and made the property more marketable. Similarly, in TAM 9411002 (November 19, 1993), the IRS required the capitalization of expenditures to remove and replace asbestos in connection with the conversion of a boiler room to garage and office space. However, the IRS permitted deduction of costs of encapsulating exposed asbestos in an adjacent warehouse.

In 1994, the IRS issued Rev. Rul. 94-38, 1994-1 C.B. 35, holding that soil remediation expenditures and ongoing water treatment expenditures incurred to clean up land and water that a taxpayer

⁷ For example, in *Woolrich Woolen Mills v. United States*, 289 F.2d 444 (3d Cir. 1961), the amount paid for the construction of a filtration plant, with a life extending beyond the year of completion, and as a permanent addition to the taxpayer's mill property, was a capital expenditure rather than an ordinary and necessary current business expense.

contaminated with hazardous waste are deductible. In this ruling, the IRS explicitly accepted the *Plainfield Union* valuation analysis.⁸ However, the IRS also held that costs allocable to constructing a groundwater treatment facility are capital expenditures.

More recently, the IRS issued TAM 9541005 (October 13, 1995) requiring a taxpayer to capitalize certain environmental study costs, as well as associated consulting and legal fees. The taxpayer acquired the land and conducted activities causing hazardous waste contamination of the land. After the contamination, but before it was discovered, the company donated the land to the county to be developed into a recreational park. After the county discovered the contamination, it reconveyed the land to the company for \$1. The company incurred the costs in developing a remediation strategy. The IRS held that the costs were not deductible under section 162 because the company acquired the land in a contaminated state when it purchased the land from the county. In TAM 9627002 (January 17, 1996), the IRS revoked and superseded TAM 9541005. Noting that the company's contamination of the land and liability for remediation were unchanged during the break in ownership by the county, the IRS concluded that the break in ownership should not, in and of itself, operate to disallow a deduction under section 162.

Section 263A

In general, the uniform cost capitalization rules of section 263A require taxpayers that are engaged in the production of real or tangible personal property or in the purchase and holding of property for resale to capitalize or include in inventory the direct costs of the property and the indirect costs that are allocable to the property. Direct costs generally are costs directly associated with the production of property (i.e., the materials and labor applied in the production of the item). Indirect costs are costs associated with functions removed from the direct production of the good (e.g., overhead and administrative costs). In determining whether indirect costs are allocable to production activities, taxpayers are allowed to use various methods so long as the method employed reasonably allocates indirect costs to the production activities.

The uniform capitalization rules also require the capitalization of interest expense allocable to property produced by the taxpayer that has (1) a long useful life (i.e., real property or property with a class life of 20 years or more); (2) an estimated production period exceeding two years; or (3) an estimated production period exceeding one year and a cost exceeding \$1 million.

Exceptions to the uniform capitalization rules are provided for small retailers, research and development expenditures, development and other costs of oil and gas wells and mines (discussed in detail in Part II.B), timber production (also discussed in detail in Part II.B), farmers and ranchers, and free-lance authors, photographers, and artists.

The uniform capitalization rules were added by the Tax Reform Act of 1986 ("1986 Act"). Prior to the 1986 Act, taxpayers generally

⁸ Rev. Rul. 94-38 generally rendered moot the holding in TAM 9315004 (December 17, 1992) requiring a taxpayer to capitalize certain costs associated with the remediation of soil contaminated with polychlorinated biphenyls ("PCBs").

were required to capitalize direct production costs, but were allowed flexibility in determining the amount or type of indirect costs to be capitalized. In addition, different capitalization rules applied to retailers and to producers under long-term contracts. The 1986 Act attempted to apply a single ("uniform") set of capitalization rules to all taxpayers.

3. Inventory accounting

A taxpayer that sells goods in the active conduct of its trade or business generally must maintain inventory records in order to determine the cost of the goods it sold during the taxable period. Cost of goods sold generally is determined by adding the taxpayer's inventory at the beginning of the period to purchases made during the period and subtracting from that sum the taxpayer's inventory at the end of the period.

Because of the difficulty of accounting for inventory on an item-by-item basis, taxpayers often use conventions that assume certain item or cost flows. Among these conventions are the "first-in-first-out" ("FIFO") method which assumes that the items in ending inventory are those most recently acquired by the taxpayer, and the "last-in-first-out" ("LIFO") method which assumes that the items in ending inventory are those earliest acquired by the taxpayer. The LIFO method results in a lower amount of taxable income during periods of rising prices than does the FIFO method because the LIFO method assumes goods sold during the year are the more recently purchased, higher-cost items. In order to use the LIFO method for income tax purposes, the taxpayer also must use the method for financial accounting purposes.

Treasury regulations provide that taxpayers that maintain inventories under the FIFO method may determine the value of ending inventory under a (1) cost method or (2) "lower of cost or market" ("LCM") method (Treas. reg. sec. 1.471-2(c)). Under the LCM method, the value of ending inventory is written down if its market value is less than its cost. Similarly, any goods that are unsalable at normal prices or unusable in the normal way because of damage, imperfections, shop wear, changes of style, odd or broken lots, or other similar causes, may be written down to net selling price.

Taxpayers using the LIFO method to account for inventories may use the "specific goods" method. Under the specific goods method, items are grouped in pools based on similarity and the size of the pool (expressed in terms of number of items, weight, volume, or other physical measurement) is monitored and valued using the LIFO assumption. More commonly, LIFO taxpayers use "dollar-value" LIFO method. Under the dollar-value LIFO method, items are grouped in pools and expressed in terms of "base-year" costs (i.e., expressed in terms of "dollars" rather than in terms of a physical measurement). Total base-year costs by pool, rather than the quantity of specific goods, are used to measure inventory increases and decreases. If ending inventory at base-year costs is greater than beginning inventory at base-year costs (i.e., there has been an increase in inventory), such increase is valued at current-year costs.

4. Depreciation and amortization

A taxpayer generally must capitalize the cost of property used in a trade or business. The capitalized cost of property that is used in a trade or business and is subject to exhaustion, wear, tear, or obsolescence may be recovered over time through allowances for depreciation (sec. 167). Property that is not subject to exhaustion, wear, tear, or obsolescence, such as land, may not be depreciated. Controversies occasionally arise as to whether certain property, such as artwork or collectibles, are depreciable property.⁹

MACRS

Depreciation allowances for tangible property placed in service after 1986 generally are determined under the modified Accelerated Cost Recovery System ("MACRS") of section 168, which provides that depreciation is computed by applying specific recovery periods, placed-in-service conventions, and depreciation methods to the cost of various types of depreciable property.¹⁰

Under MACRS, depreciable property is divided into nine classes and assigned recovery periods as follows: 3-year property, 5-year property, 7-year property, 10-year property, 15-year property, 20-year property, 27.5-year residential rental property, 39-year non-residential real property, and 50-year railroad grading or tunnel bores. An asset generally is sorted into a property class and assigned a recovery period based upon its class life. Certain types of property (e.g., certain horses, automobiles and light general purpose trucks, semi-conductor manufacturing equipment, and personal property used in connection with research and experimentation) have prescribed recovery periods, by statute, regardless of their class lives.

The 200-percent declining balance method of depreciation is used for 3-year, 5-year, 7-year, and 10-year property; the 150-percent declining balance method is used for 15-year and 20-year property and any property used in a farming business; and the straight-line method is used for other property, including most depreciable real property.

Tangible personal property generally is assumed to be placed in service (or disposed of) at the mid-point of the taxable year in which the property is placed in service (or disposed of). A mid-quarter placed-in-service convention is used in lieu of the half-year con-

⁹ See, e.g., *Liddle v. Comm.*, No. 94-773 (3rd Cir, Sept. 8, 1995) (antique instruments used by professional musician were depreciable).

¹⁰ The Tax Reform Act of 1986 modified the Accelerated Cost Recovery System ("ACRS") to create MACRS. The Economic Recovery Tax Act of 1981 created ACRS to provide liberal statutory recovery allowances for most depreciable property. In general, the 1981 Act divided property into the following classes: 3-year property, 5-year property, 10-year property, and 15-year property. Under ACRS, automobiles, light trucks, certain horses, and research equipment generally had a 3-year recovery period; most other tangible personal property had a 5-year recovery period; and public utility property had a 10-year recovery period. Most depreciable real property initially had a 15-year recovery period. The 15-year period was extended to 18, and then 19, years by subsequent legislation. The cost of ACRS property was recovered pursuant to prescribed allowances that were roughly based on the 150-percent declining balance method.

Prior to 1981, depreciation was determined using the Class Life Asset Depreciation Range system ("ADR"). Under ADR, the Treasury Department prescribed class lives for groups of assets. Taxpayers were allowed to compute depreciation by using lives within a 20-percent range of these lives and applying whatever method elected by the taxpayer. As described in the text above, the ADR class lives currently are used to sort property into MACRS classes and for the alternative depreciation system. Appendix A provides the class lives (and MACRS lives) for various types of property under present law.

vention if more than 40 percent of the property to which the convention applies is placed in service by the taxpayer in the fourth quarter of the taxpayer's taxable year. A mid-month convention applies to residential rental property, nonresidential real property, and railroad grading or tunnel bores.

In general, the present value of MACRS allowances are reduced for property under the alternative depreciation system ("ADS") of section 168(g) by calculating depreciation using the straight-line method over the property's class life. A property's class life generally corresponds to its Asset Depreciation Range ("ADR") mid-point life and often is longer than the recovery period applicable to the general MACRS rules. The class lives and recovery periods of some assets are set by statute, regardless of the asset's ADR mid-point life. ADS applies to foreign use property, tax-exempt use property, tax-exempt bond financed property, certain imported property, and property elected by the taxpayer which is used to compute corporate earnings and profits. The class lives of the alternative depreciation system are used for purposes of the corporate and individual alternative minimum tax (discussed below).

MACRS does not apply to: (1) property placed in service before 1986, subject to an election for the early adoption of MACRS; (2) property for which the taxpayer properly elects to use the unit-of-production method or any other method not expressed in terms of year; (3) motion picture films, video tapes, or sound recordings;¹¹ (4) pre-MACRS property placed in service under certain "churning" transactions; and (5) public utility property if the taxpayer does not use a normalization method of accounting.

Normalization method of accounting for public utility property

A public utility commission generally sets the rates a utilities may charge its customers in order to allow the utility to recover both operating and financing costs. Operating costs are recovered through "cost of service" and include such items as labor, depreciation expense, and income tax expense. Depreciation expense generally is determined by spreading the cost of utility property (less salvage value) on a straight-line basis over lives that are generally longer than the MACRS recovery periods. Financing costs generally are recovered by multiplying a rate of return (the utility's imbedded cost of funds) by a rate base. The rate base generally is the original cost of utility plant less accumulated book depreciation less deferred taxes plus working capital. Deferred taxes are the cumulative amount of income taxes the utility has yet to pay the government because of the use of certain timing benefits (such as accelerated depreciation) allowed by the Internal Revenue Code and are a subtraction in determining rate base because they represent an interest-free loan from the government.

A utility may use the accelerated depreciation methods allowed under MACRS for public utility property only if it uses a normalization method of accounting. Under normalization, in computing

¹¹ Such property generally is depreciated under the income forecast method which computes the depreciation allowance for the year by multiplying the cost of the property (less salvage value) by a fraction, the numerator of which is the income from the property for the year and the denominator of which is the total estimated income from the property.

cost of service, Federal income tax expense is determined as if the utility had used the slower ratemaking depreciation lives and methods, rather than the actual accelerated depreciation claimed on the tax return. The cumulative difference between the amount of taxes actually paid and the amount of taxes that would have been paid using ratemaking depreciation is accounted for in a deferred tax reserve. As mentioned above, such reserve may be used to reduce the rate base without violating the normalization requirement.

Thus, normalization is designed to insure that the benefits of MACRS accelerated depreciation are not reflected in rates (i.e., flowed-through to customers) in the year the accelerated tax deductions are claimed, but rather are spread over the ratemaking life of the property. Normalization was enacted to preserve the tax incentive for utilities to make new investments in depreciable property. In addition, normalization follows generally accepted accounting principles in that it operates to match the tax benefits of accelerated depreciation with depreciation expense element of rate-making cost of service.

Section 179 expensing

In lieu of depreciation, a taxpayer with a sufficiently small amount of annual investment may elect to deduct up to \$17,500 of the cost of qualifying property placed in service for the taxable year (sec. 179).¹² In general, qualifying property is defined as depreciable tangible personal property that is purchased for use in the active conduct of a trade or business. The \$17,500 amount is reduced (but not below zero) by the amount by which the cost of qualifying property placed in service during the taxable year exceeds \$200,000. In addition, the amount eligible to be expensed for a taxable year may not exceed the taxable income of the taxpayer for the year that is derived from the active conduct of a trade or business (determined without regard to this provision). Any amount that is not allowed as a deduction because of the taxable income limitation may be carried forward to succeeding taxable years (subject to similar limitations).

Intangible property

Intangible property acquired after July 25, 1991, generally is amortized under section 197, which provides a 15-year recovery period and applies the straight-line method to the cost of qualified property. Section 197 applies to goodwill; going concern value; workforce in place; business books and records, operating systems, or other information base including customer lists; patents, copyrights, formulae, processes, designs, patterns, formats, or similar items; customer-based intangibles; supplier-based intangibles; licenses, permits, or other rights granted by governments or agencies thereof; covenants not to compete; and franchises, trademarks, and trade names. Section 197 does not apply to interests in an entity or financial instruments; leases of tangible property or debt instruments; interests in land; "off-the-shelf" computer software; sports

¹² The amount permitted to be expensed under Code section 179 is increased by up to an additional \$20,000 for certain property placed in service by a business located in an empowerment zone (sec. 1397A).

franchises; or certain property acquired on a stand-alone basis (including films, sound recordings, video tapes, books, computer software, patents, copyrights, government-granted rights; and mortgage servicing rights). In addition, section 197 does not apply to intangible assets created by the taxpayer.

Section 197 was added by the Omnibus Budget Reconciliation Act of 1993 ("1993 Act"). Prior to the 1993 Act, certain intangible property such as goodwill, going concern value, and workforce-in-place was not amortizable. Other intangible property was amortizable if the taxpayer could establish that the property had a limited useful life that could be ascertained with reasonable accuracy. The distinct income tax treatment of different types of intangible property led to numerous disputes between the IRS and taxpayers as to (1) the existence and value of intangible assets; (2) in the case of an acquisition of trade or business, the portion of the purchase price that was allocable to intangible assets; and (3) the proper method and period for recovering the cost of an amortizable intangible asset. The 1993 Act sought to end these controversies by providing uniform treatment of most acquired intangible property.

5. Alternative minimum tax

Present law imposes a minimum tax (known as the alternative minimum tax ("AMT")) on an individual or a corporation to the extent the taxpayer's minimum tax liability exceeds its regular tax liability. The individual minimum tax is imposed at rates of 26 and 28 percent on alternative minimum taxable income ("AMTI") in excess of a phased-out exemption amount. The corporate minimum tax is imposed at a rate of 20 percent on AMTI in excess of a \$40,000 exemption amount.¹³ The corporate exemption amount is not indexed for inflation and is phased-out by an amount equal to 25 percent of the amount by which the corporation's AMTI exceeds \$150,000.

Alternative minimum taxable income is the taxpayer's taxable income increased by certain preference items and adjusted by determining the tax treatment of certain items in a manner that negates the deferral of income resulting from the regular tax treatment of those items. In the case of a corporation, in addition to the regular set of adjustments and preferences, there is a second set of adjustments known as the "adjusted current earnings" adjustment.

The minimum tax preference items are:

(1) The excess of the deduction for percentage depletion over the adjusted basis of the property at the end of the taxable year. For taxable years beginning after 1992, this preference does not apply to percentage depletion allowed with respect to oil and gas properties.

(2) The amount by which excess intangible drilling costs arising in the taxable year exceed 65 percent of the net income from oil, gas, and geothermal properties. For taxable years beginning after 1992, this preference does not apply to independent producers to

¹³ In addition, in the case of a corporation, section 59A imposes an environmental tax at a rate of 0.12 percent on modified AMTI in excess of a \$2,000,000 exemption amount. Environmental tax collections are dedicated to the Hazardous Substance Superfund. This tax is expired for taxable years beginning after December 31, 1995.

the extent the producer's AMTI is reduced by 30 percent or less by ignoring the preference.

(3) The amount that a financial institution's bad debt deduction determined under section 593 exceeds the amount that would have determined based on the institution's actual experience.

(4) Tax-exempt interest income on private activity bonds (other than qualified 501(c)(3) bonds) issued after August 7, 1986.

(5) Accelerated depreciation or amortization on certain property placed in service before January 1, 1987.

(6) One-half of the amount excluded from income under section 1202 (relating to gains on the sale of certain small business stock).

The adjustments that all taxpayers must make are:

(1) Depreciation on property placed in service after 1986 must be computed by using the generally longer class lives prescribed by the alternative depreciation system of section 168(g) and either (a) the straight-line method in the case of property subject to the straight-line method under the regular tax or (b) the 150-percent declining balance method in the case of other property.

(2) Mining exploration and development costs must be capitalized and amortized over a 10-year period.

(3) Taxable income from a long-term contract (other than a home construction contract) must be computed using the percentage of completion method of accounting.

(4) The amortization deduction allowed for pollution control facilities (generally determined using 60-month amortization for a portion of the cost of the facility under the regular tax) must be calculated under the alternative depreciation system.

(5) Dealers in property (other than certain dealers of timeshares and residential lots) may not use the installment method of accounting.

The adjustments applicable only to corporations are:¹⁴

(1) The special rules applicable to Merchant Marine capital construction funds;

(2) The special deduction allowable under section 833(b) (relating to Blue Cross and Blue Shield organizations); and

(3) The adjusted current earnings adjustment, described below.

The adjusted current earnings adjustment is the amount equal to 75 percent of the amount by which the adjusted current earnings ("ACE") of a corporation exceeds its AMTI (determined without the ACE adjustment and the alternative tax net operating loss deduction).¹⁵ In determining ACE, the following rules apply:

(1) For property placed in service before 1994, depreciation generally is determined using the straight-line method and the class life determined under the alternative depreciation system.¹⁶

¹⁴ A description of the adjustments that only apply to individuals is beyond the scope of this pamphlet. For a more complete description and discussion of the individual and corporate AMT, see Joint Committee on Taxation, *Present Law and Issues Relating to the Corporate and Individual Alternative Minimum Tax (AMT)* (JCX-22-95), May 2, 1995.

¹⁵ If ACE is less than AMTI, the ACE adjustment may reduce AMTI to the extent of prior-year ACE inclusions.

¹⁶ Pursuant to a provision in the 1993 Act, ACE depreciation adjustments are not required for property placed in service after 1993.

(2) Any amount that is excluded from gross income under the regular tax but is included for purposes of determining earnings and profits is included in determining ACE.¹⁷

(3) The inside build-up of a life insurance contract is includible in ACE (and the related premiums are deductible).

(4) Intangible drilling costs (other than those incurred by an independent producer after 1992) must be capitalized and amortized over a 60-month period.

(5) The regular tax rules of sections 173 (allowing circulation expenditures to be expensed) and 248 (allowing organizational expenditures to be amortized) do not apply.

(6) Inventory must be calculated using the FIFO, rather than LIFO, method.

(7) The installment sales method generally may not be used.

(8) No loss may be recognized on the exchange of any pool of debt obligations for another pool of debt obligations having substantially the same effective interest rates and maturities.

(9) Depletion (other than depletion claimed by an oil and gas independent producer or royalty owner after 1992) must be calculated using the cost, rather than the percentage, method; and

(10) In certain cases, the assets of a corporation that has undergone an ownership change must be stepped-down to their fair market values.

The combination of the taxpayer's net operating loss carryover and foreign tax credits cannot reduce the taxpayer's AMT by more than 90 percent of the amount determined without these items.

The various credits allowed under the regular tax generally are not allowed against the AMT.

If a taxpayer is subject to AMT in any year, such amount of tax is allowed as a credit in any subsequent taxable year to the extent the taxpayer's regular tax liability exceeds its tentative minimum tax in such subsequent year. If the taxpayer is an individual, this credit is allowed to the extent the taxpayer's AMT liability is a result of adjustments that are timing in nature.

B. Energy and Natural Resources

1. In general

Like manufacturing, the exploration, development, and production of natural resources requires significant investment in machinery, equipment and other capital goods. These capital costs generally are recovered in accordance with the rules set forth in Part II.A., above; that is, expenditures that benefit future accounting periods are capitalized and recovered over time. However, certain special rules apply with respect to costs incurred for the extraction of natural resources. These natural resources generally fall into one of the following three categories: (1) oil- and gas-producing properties; (2) hard minerals; and (3) timber. Other special rules provide tax credits for the investment in, or production of electricity from, certain types of energy-producing property.

¹⁷ Exceptions and special rules are provided for related expenses that are not deductible for regular tax purposes but reduce earnings and profits, the dividends received deduction relating to certain dividends, taxes on dividends from 936 companies, and certain dividends received by certain cooperatives.

2. Domestic oil and gas operations

a. Depletion for oil and gas

General rules

Depletion, like depreciation, is a cost of doing business. In both cases, the taxpayer is allowed a deduction in recognition of the fact that an asset—in the case of depletion for oil or gas interests, the mineral reserve itself—is being expended in order to produce income. Certain costs incurred prior to drilling an oil- or gas-producing property are capitalized and recovered through the depletion deduction. These include costs of acquiring the lease or other interest in the property, and geological and geophysical costs (in advance of actual drilling).

Depletion is available to any person having an economic interest in a producing property. Treasury Department regulations state that an economic interest is possessed in every case in which the taxpayer has acquired by investment any interest in minerals in place, and secures, by any form of legal relationship, income derived from the extraction of the mineral, to which it must look for a return of its capital.¹⁸ Thus, for example, both working interests and royalty interests in an oil- or gas-producing property constitute economic interests, thereby qualifying the interest holders for depletion deductions with respect to the property. A taxpayer who has no capital investment in the mineral deposit does not possess an economic interest merely because it has a contractual relationship through which it possesses a mere economic or pecuniary advantage derived from production.

Two methods of depletion are currently allowable under the Internal Revenue Code (the "Code"): (1) the cost depletion method, and (2) the percentage depletion method (secs. 611-613). Under the cost depletion method, the taxpayer deducts a portion of the adjusted basis of the depletable property each year, based on the ratio of units sold from that property during the taxable year to the total anticipated unit sales of products from that property (in general, the number of units remaining to be recovered in the property at the end of the taxable year, plus the number of units sold during the taxable year). The amount recovered under cost depletion, thus, may never exceed the taxpayer's basis in the property.

Certain taxpayers are also permitted to use the percentage depletion method. Under the percentage depletion method, generally 15 percent of the taxpayer's gross income from an oil- or gas-producing property is allowed as a deduction in each taxable year (sec. 613A(c)). The amount deducted may not exceed 100 percent of the net income from that property in any year (the "net-income limitation") (sec. 613(a)).¹⁹ Additionally, the percentage depletion deduction for all oil and gas properties may not exceed 65 percent of the taxpayer's overall taxable income (determined before such deduc-

¹⁸ Treas. Reg. sec. 1.611-1(b)(1).

¹⁹ By contrast, for any other mineral qualifying for the percentage depletion deduction, such deduction may not exceed 50 percent of the taxpayer's taxable income from the depletable property. A similar 50-percent net-income limitation applied to oil and gas properties for taxable years beginning before 1991. Section 11522(a) of the Omnibus Budget Reconciliation Act of 1990 (P.L. 101-508) prospectively changed the net-income limitation threshold to 100 percent only for oil and gas properties, for taxable years beginning after 1990.

tion and adjusted for certain loss carrybacks and trust distributions) (sec. 613A(d)(1)).²⁰ Because percentage depletion, unlike cost depletion, is computed without regard to the taxpayer's basis in the depletable property, cumulative depletion deductions may be greater than the amount expended by the taxpayer to acquire or develop the property.

Taxpayers who are permitted to use the percentage depletion method must determine the depletion deduction for each oil or gas property under both the percentage depletion method and the cost depletion method. If the cost depletion deduction is larger, the taxpayer must utilize that method for the taxable year in question (sec. 613(a)).

Limitation of oil and gas percentage depletion to independent producers and royalty owners

The Tax Reduction Act of 1975 (the "1975 Act") repealed the deduction for percentage depletion with respect to much oil and gas production. Following the 1975 Act, only independent producers and royalty owners (as contrasted to integrated oil companies) are allowed to claim percentage depletion with respect to up to 1,000 barrels of average daily production of domestic crude oil or an equivalent amount of domestic natural gas (sec. 613A(c)).²¹ For producers of both oil and natural gas, this limitation applies on a combined basis. All production owned by businesses under common control and members of the same family must be aggregated (sec. 613A(c)(8)); each group is then treated as one producer for application of the 1,000-barrel limitation.

For purposes of the percentage depletion allowance, an independent producer is any producer who is not a "retailer" or "refiner." A retailer is any person who directly, or through a related person, sells oil or natural gas or any product derived therefrom (1) through any retail outlet operated by the taxpayer or related person, or (2) to any person that is obligated to market or distribute such oil or natural gas (or product derived therefrom) under the name of the taxpayer or the related person, or that has the authority to occupy any retail outlet owned by the taxpayer or a related person (sec. 613A(d)(2)). Bulk sales of crude oil and natural gas to commercial or industrial users, and bulk sales of aviation fuel to the Department of Defense, are not treated as retail sales for this purpose. Further, a person is not a retailer within the meaning of this provision if the combined gross receipts of that person and all related persons from the retail sale of oil, natural gas, or any product derived therefrom do not exceed \$5 million for the taxable year.

A refiner is any person who directly or through a related person engages in the refining of crude oil, but only if such person or related person has a refinery run in excess of 50,000 barrels per day on any day during the taxable year (sec. 613A(d)(4)).

In addition to the independent producer and royalty owner exception, certain sales of natural gas under a fixed contract in effect on

²⁰ Amounts disallowed as a result of this rule may be carried forward and deducted in subsequent taxable years, subject to the 65-percent taxable income limitation for those years.

²¹ As originally enacted, the depletable oil quantity was 2,000 barrels of average daily production. This was gradually phased down to 1,000 barrels of average daily production for 1980 and thereafter. The 1975 Act also phased down the percentage depletion rate from 22 percent in 1975 to 15 percent in 1984 and thereafter.

February 1, 1975, and certain natural gas from geopressurized brine,²² are eligible for percentage depletion, at rates of 22 percent and 10 percent, respectively. These exceptions apply without regard to the 1,000-barrel-per-day limitation and regardless of whether the producer is an independent producer or an integrated oil company.

Prior to enactment of the Omnibus Budget Reconciliation Act of 1990 (the "1990 Act"), if an interest in a proven oil or gas property was transferred (subject to certain exceptions), the production from such interest did not qualify for percentage depletion.²³ The 1990 Act repealed the limitation on claiming percentage depletion on transferred properties effective for property transfers occurring after October 11, 1990.

Percentage depletion on marginal production

The 1990 Act created special percentage depletion provisions for oil and gas production from so-called "marginal properties" held by independent producers or royalty owners (sec. 613A(c)(6)). Under this provision, the statutory percentage depletion rate is increased (from the general rate of 15 percent) by one percentage point for each whole dollar that the average price of crude oil (as determined under the provisions of the nonconventional fuels production credit of section 29) for the immediately preceding calendar year is less than \$20 per barrel. In no event may the rate of percentage depletion under this provision exceed 25 percent for any taxable year. To illustrate the application of this provision, the average price of a barrel of crude oil for calendar year 1995 was \$14.62;²⁴ thus, the percentage depletion rate for production from marginal wells is increased by five percentage points (to 20 percent) for taxable years beginning in 1996.

The Code defines the term "marginal production" for this purpose as domestic crude oil or domestic natural gas which is produced during any taxable year from a property which (1) is a stripper well property for the calendar year in which the taxable year begins, or (2) is a property substantially all of the production from which during such calendar year is heavy oil (i.e., oil that has a weighted average gravity of 20 degrees API or less corrected to 60 degrees Fahrenheit) (sec. 613A(c)(6)(D)). A stripper well property is any oil or gas property which produces a daily average of 15 or less equivalent barrels of oil and gas per producing oil or gas well on such property in the calendar year during which the taxpayer's taxable year begins (sec. 613A(c)(6)(E)).²⁵

The determination of whether a property qualifies as a stripper well property is made separately for each calendar year. The fact that a property is or is not a stripper well property for one year does not affect the determination of its status for a subsequent year. Further, the stripper well property determination is made by

²² This exception is limited to wells the drilling of which began between September 30, 1978, and January 1, 1984.

²³ The exceptions to this rule included transfers at death, certain transfers to controlled corporations, and transfers between controlled corporations or other business entities.

²⁴ IRS Notice 96-29, 1996-19 I.R.B. 7.

²⁵ Equivalent barrels are computed as the sum of (1) the number of barrels of crude oil produced, and (2) the number of cubic feet of natural gas produced divided by 6,000. For example, if a well produced 10 barrels of crude oil and 12,000 cubic feet of natural gas, the number of equivalent barrels produced would equal 12 (i.e., $10 + (12,000 / 6,000)$).

a taxpayer for each separate property interest (as defined under section 614) held by the taxpayer during a calendar year. The determination is based on the total amount of production from all producing wells that are treated as part of the same property interest of the taxpayer. A property qualifies as a stripper well property for a calendar year only if the wells on such property were producing during that period at their maximum efficient rate of flow.

If a taxpayer's property consists of a partial interest in one or more oil- or gas-producing wells, the determination of whether the property is a stripper well property or a heavy oil property is made with respect to total production from such wells, including the portion of total production attributable to ownership interests other than those of the taxpayer. If a property qualifies as stripper well property for the calendar year, the taxpayer receives the benefits of this provision with respect to its allocable share of the production from the property for the taxpayer's taxable year that begins during the calendar year in which the property so qualifies.

The allowance for percentage depletion on production from marginal oil and gas properties is subject to the 1,000-barrel-per-day limitation on percentage depletion generally, as discussed above. Unless a taxpayer elects otherwise, marginal production is given priority over other production for purposes of utilizing that limitation.

b. Intangible drilling and development costs

In general

As discussed in Part II.A.1., costs that benefit future periods must be capitalized and recovered over such periods for income tax purposes, rather than being expensed in the period the costs are incurred. Special rules are provided, however, for the treatment of intangible drilling and development costs ("IDCs"). Under these special rules, a property operator who pays or incurs IDCs in the development of an oil or gas property located in the United States may elect either to expense or capitalize those costs (sec. 263(c)). Only persons holding an operating interest in a property are entitled to deduct IDCs. This includes a working or operating interest in any tract or parcel of land either as a fee owner or under a lease or any other form of contract granting working or operating rights.

IDCs include all expenditures made by an operator for wages, fuel, repairs, hauling, supplies, etc., incident to and necessary for the drilling of wells and the preparation of wells for the production of oil and gas. In addition, IDCs include the cost to operators of any drilling or development work (excluding amounts payable only out of production or gross or net proceeds from production, if the amounts are depletable income to the recipient, and amounts properly allocable to the cost of depreciable property) done by contractors under any form of contract (including a turnkey contract). Such work includes labor, fuel, repairs, hauling, and supplies which are used: in the drilling, shooting, and cleaning of wells; in such clearing of ground, draining, road making, surveying, and geological work as is necessary in preparation for the drilling of wells; and in the construction of such derricks, tanks, pipelines, and other physical structures as are necessary for the drilling of wells and

the preparation of wells for the production of oil and gas. Generally, IDCs do not include expenses for items which have a salvage value (such as pipes and casings), or items which are part of the acquisition price of an interest in the property.²⁶

If an election to expense IDCs is made, the taxpayer deducts the amount of the IDCs as an expense in the taxable year the cost is paid or incurred. Generally, if IDCs are not expensed, but are capitalized, they may be recovered through depletion or depreciation, as appropriate; or in the case of a nonproductive well ("dry hole"), they may be deducted, at the election of the operator.²⁷ In the case of an integrated oil company (i.e., a company that engages, either directly or through a related enterprise, in substantial retailing or refining activities) that has elected to expense IDCs, 30 percent of the IDCs on productive wells must be capitalized and amortized over a 60-month period (sec. 291(b)(1)(A)).²⁸

Notwithstanding the fact that a taxpayer has made the election to deduct IDCs, the Code provides an additional election under which the taxpayer is allowed to capitalize and amortize certain IDCs over a 60-month period beginning with the month the expenditure was paid or incurred (sec. 59(e)(1)). This rule applies on an expenditure-by-expenditure basis; that is, for any particular taxable year, a taxpayer may deduct some portion of its IDCs and capitalize the rest under this provision.

The election to deduct IDCs applies only to those IDCs associated with domestic properties.²⁹ For this purpose, the United States includes certain wells drilled offshore.³⁰

Exemption from uniform capitalization rules

The uniform capitalization rules, described in Part II.A.2., above, require certain direct and indirect costs allocable to property to be included in inventory or capitalized as part of the basis of such property (sec. 263A). In general, the uniform capitalization rules apply to real and tangible personal property produced by the taxpayer or acquired for resale. Pursuant to a special exception, these rules do not apply to IDCs incurred with respect to oil or gas wells which are otherwise deductible under the Code (sec. 263A(c)(3)).

c. Geological and geophysical costs

In general

Under the Code, no current deduction is allowed for any amount paid for new buildings or for permanent improvements or better-

²⁶ Treas. Reg. sec. 1.612-4(a).

²⁷ Treas. Reg. sec. 1.612-4(b)(4).

²⁸ The IRS has ruled that if a company that has capitalized and begun to amortize IDCs over a 60-month period pursuant to section 291 ceases to be an integrated oil company, it may not immediately write off the unamortized portion of the capitalized IDCs, but instead must continue to amortize the IDCs so capitalized over the 60-month amortization period. (Rev. Rul. 93-26, 1993-15 I.R.B. 5.)

²⁹ In the case of IDCs paid or incurred with respect to an oil or gas well located outside of the United States, the costs, at the election of the taxpayer, are either (1) included in adjusted basis for purposes of computing the amount of any deduction allowable for cost depletion or (2) capitalized and amortized ratably over a 10-year period beginning with the taxable year such costs were paid or incurred (sec. 263(i)).

³⁰ The term "United States" for this purpose includes the seabed and subsoil of those submarine areas that are adjacent to the territorial waters of the United States and over which the United States has exclusive rights, in accordance with international law, with respect to the exploration and exploitation of natural resources (i.e., the Continental Shelf area) (sec. 638).

ments made to increase the value of any property or estate (sec. 263(a)). The regulations define capital amounts to include amounts paid or incurred (1) to add to the value, or substantially prolong the useful life, of property owned by the taxpayer or (2) to adapt property to a new or different use.³¹

The proper income tax treatment of geological and geophysical expenditures ("G&G costs") has been the subject of a number of court decisions and administrative rulings. G&G costs are incurred by the taxpayer for the purpose of obtaining and accumulating data that will serve as a basis for the acquisition and retention of mineral properties by taxpayers exploring for minerals. Courts have ruled that such costs are capital in nature and are not deductible as ordinary and necessary business expenses.³² Accordingly, the costs attributable to such exploration are allocable to the cost of the property acquired or retained.³³ The term "property" is used in this case in the sense of an interest in a property as defined in the Code (sec. 614) and related regulations, and includes an economic interest in a tract or parcel of land notwithstanding that a mineral deposit has not been established or proven at the time the costs are incurred.

Revenue Ruling 77-188

In Revenue Ruling 77-188³⁴ (hereinafter referred to as the "1977 ruling"), the IRS provided guidance regarding the proper tax treatment of G&G costs. The ruling describes a typical geological and geophysical exploration program as containing the following elements:

It is customary in the search for mineral producing properties for a taxpayer to conduct an exploration program in one or more identifiable project areas. Each project area encompasses a territory that the taxpayer determines can be explored advantageously in a single integrated operation. This determination is made after analyzing certain variables such as the size and topography of the project area to be explored, the existing information available with respect to the project area and nearby areas, and the quantity of equipment, the number of personnel, and the amount of money available to conduct a reasonable exploration program over the project area.

The taxpayer selects a specific project area from which geological and geophysical data are desired and conducts a reconnaissance-type survey utilizing various geological and geophysical exploration techniques that are designed to yield data that will afford a basis for identifying specific geological features with sufficient mineral potential to merit further exploration.

Each separable, noncontiguous portion of the original project area in which such a specific geological feature is identified is a separate "area of interest." The original project area is subdivided into as many small projects as there are areas of interest located

³¹ Treas. Reg. sec. 1.263(a)-(1)(b).

³² See, e.g., *Schermerhorn Oil Corporation*, 46 B.T.A. 151 (1942).

³³ By contrast, section 617 of the Code permits a taxpayer to elect to deduct certain expenditures incurred for the purpose of ascertaining the existence, location, extent, or quality of any deposit of ore or other mineral (but not oil and gas). These deductions are subject to recapture if the mine with respect to which the expenditures were incurred reaches the producing stage.

³⁴ 1977-1 C.B. 76.

and identified within the original project area. If the circumstances permit a detailed exploratory survey to be conducted without an initial reconnaissance-type survey, the project area and the area of interest will be coextensive.

The taxpayer seeks to further define the geological features identified by the prior reconnaissance-type surveys by additional, more detailed, exploratory surveys conducted with respect to each area of interest. For this purpose, the taxpayer engages in more intensive geological and geophysical exploration employing methods that are designed to yield sufficiently accurate sub-surface data to afford a basis for a decision to acquire or retain properties within or adjacent to a particular area of interest or to abandon the entire area of interest as unworthy of development by mine or well.

The 1977 ruling provides that if, on the basis of data obtained from the preliminary geological and geophysical exploration operations, only one area of interest is located and identified within the original project area, then the entire expenditure for those exploratory operations is to be allocated to that one area of interest and thus capitalized into the depletable basis of that area of interest. On the other hand, if two or more areas of interest are located and identified within the original project area, the entire expenditure for the exploratory operations is to be allocated equally among the various areas of interest.

If, however, from the data obtained by the exploratory operations no areas of interest are located and identified by the taxpayer within the original project area, then the 1977 ruling states that the entire amount of the G&G costs related to the exploration is deductible as a loss under section 165 for the taxable year in which that particular project area is abandoned as a potential source of mineral production.

The 1977 ruling further provides that if, on the basis of data obtained from a detailed survey that does not relate exclusively to any particular property within a particular area of interest, an oil or gas property is acquired or retained within or adjacent to that area of interest, the entire G&G exploration expenditures, including those incurred prior to the identification of the particular area of interest but allocated thereto, are to be allocated to the property as a capital cost under section 263(a). If more than one property is acquired or retained within or adjacent to an area of interest, it is proper to determine the amount of the G&G costs allocable to each such property by allocating the entire amount of the costs among the properties so acquired or retained on the basis of the comparative acreage of the properties.

If, however, no property is acquired or retained within or adjacent to that area of interest, the entire amount of the G&G costs allocable to the area of interest is deductible as a loss under section 165 for the taxable year in which such area of interest is abandoned as a potential source of mineral production.

In 1983, the IRS issued Revenue Ruling 83-105,³⁵ which elaborates on the positions set forth in the 1977 ruling by setting forth seven factual situations and applying the principles of the 1977 ruling to those situations. In addition, Revenue Ruling 83-105 ex-

³⁵ 1983-2 C.B. 51.

plains what constitutes an "abandonment as a potential source of mineral production."

d. Tax credits

Nonconventional fuels production credit

Taxpayers that produce certain qualifying fuels from nonconventional sources are eligible for a tax credit ("the section 29 credit") equal to \$3 per barrel or barrel-of-oil equivalent.³⁶ Fuels qualifying for the credit must be produced domestically from a well drilled, or a facility treated as placed in service, before January 1, 1993.³⁷ The section 29 credit generally is available for qualified fuels sold to unrelated persons before January 1, 2003.³⁸

For purposes of the credit, qualified fuels include: (1) oil produced from shale and tar sands; (2) gas produced from geopressured brine, Devonian shale, coal seams, a tight formation, or biomass (i.e., any organic material other than oil, natural gas, or coal (or any product thereof)); and (3) liquid, gaseous, or solid synthetic fuels produced from coal (including lignite), including such fuels when used as feedstocks. The amount of the credit is determined without regard to any production attributable to a property from which gas from Devonian shale, coal seams, geopressured brine, or a tight formation was produced in marketable quantities before 1980.

The amount of the section 29 credit generally is adjusted by an inflation adjustment factor for the calendar year in which the sale occurs.³⁹ There is no adjustment for inflation in the case of the credit for sales of natural gas produced from a tight formation. The credit begins to phase out if the annual average unregulated wellhead price per barrel of domestic crude oil exceeds \$23.50 multiplied by the inflation adjustment factor.⁴⁰

The amount of the section 29 credit allowable with respect to a project is reduced by any unrecaptured business energy tax credit (sec. 48) or enhanced oil recovery credit (sec. 43) claimed with respect to such project.

As with most other credits, the section 29 credit may not be used to offset alternative minimum tax liability. Any unused section 29 credit generally may not be carried back or forward to another taxable year; however, a taxpayer receives a credit for prior year mini-

³⁶ A barrel-of-oil equivalent generally means that amount of the qualifying fuel which has a Btu (British thermal unit) content of 5.8 million.

³⁷ Pursuant to section 1918 of the Energy Policy Act of 1992, a facility that produces gas from biomass or produces liquid, gaseous, or solid synthetic fuels from coal (including lignite) generally will be treated as being placed in service before January 1, 1993, if it is placed in service by the taxpayer before January 1, 1997, pursuant to a written binding contract in effect before January 1, 1996. In the case of a facility that produces coke or coke gas, however, this provision applies only if the original use of the facility commences with the taxpayer.

Also, the IRS has ruled that production from certain post-1992 "recompletions" of wells that were originally drilled prior to the expiration date of the credit would qualify for the section 29 credit. (Rev. Rul. 93-54, 1993-27 I.R.B. 5.)

³⁸ If a facility that qualifies for the 1992 Energy Policy Act's binding contract rule is originally placed in service after December 31, 1992, production from the facility may qualify for the credit if sold to an unrelated person before January 1, 2008.

³⁹ The inflation adjustment factor for the 1995 calendar year was 1.9439. Therefore, the inflation-adjusted amount of the credit for that year was \$5.83 per barrel or barrel equivalent. (IRS Notice 96-29, 1996-19 I.R.B. 7.)

⁴⁰ For 1995, the phaseout of the credit did not occur. The inflation adjusted threshold for onset of the phaseout was \$45.68 (\$23.50 x 1.9439) and the average wellhead price for that year was \$14.62. (IRS Notice 96-29, 1996-19 I.R.B. 7.)

imum tax liability to the extent that a section 29 credit is disallowed as a result of the operation of the alternative minimum tax (sec. 53).

Enhanced oil recovery credit

Taxpayers are permitted to claim a general business credit for a taxable year, which consists of several different components (sec. 38(a)). One component of the general business credit is the enhanced oil recovery credit (sec. 43). The general business credit for a taxable year may not exceed the excess (if any) of the taxpayer's net income over the greater of (1) the tentative minimum tax, or (2) 25 percent of so much of the taxpayer's net regular tax liability as exceeds \$25,000. Any unused general business credit generally may be carried back three taxable years and carried forward 15 taxable years.

The enhanced oil recovery credit for a taxable year is equal to 15 percent of certain costs attributable to qualified enhanced oil recovery ("EOR") projects undertaken by the taxpayer in the United States during the taxable year. To the extent that a credit is allowed for such costs, the taxpayer must reduce the amount otherwise deductible or required to be capitalized and recovered through depreciation, depletion, or amortization, as appropriate, with respect to these costs. A taxpayer may elect not to have the enhanced oil recovery credit apply for a taxable year.

The amount of the enhanced oil recovery credit is reduced if the annual average unregulated wellhead price per barrel of domestic crude oil in the preceding calendar year exceeded \$28 (adjusted for inflation since 1990).⁴¹ In such a case, the credit would be reduced ratably over a \$6 phaseout range.

For purposes of the credit, qualified enhanced oil recovery costs include the following costs which are paid or incurred with respect to a qualified EOR project: (1) the cost of tangible property which is an integral part of the project and with respect to which depreciation or amortization is allowable; (2) IDCs with respect to which a taxpayer may make an election to deduct under section 263(c);⁴² and (3) the cost of tertiary injectants with respect to which a deduction is allowable under section 193.

A qualified EOR project means any project that is located within the United States and involves the application (in accordance with sound engineering principles) of one or more tertiary recovery methods as defined under section 193(b)(3) which can reasonably be expected to result in more than an insignificant increase in the amount of crude oil which ultimately will be recovered. The tertiary recovery methods referred to in section 193(b)(3) generally include the following nine methods which were listed in section 212.78(c) of the June 1979 Department of Energy regulations: miscible fluid displacement, steam-drive injection, microemulsion flooding, in situ combustion, polymer-augmented water flooding, cyclic-steam injection, alkaline flooding, carbonated water flooding, and immiscible non-hydrocarbon gas displacement, or any other method

⁴¹ The average per-barrel price of crude oil for this purpose is determined under the same manner as it is for purposes of the section 29 credit.

⁴² In the case of an integrated oil company, the credit base includes those IDCs which the taxpayer is required to capitalize under section 291(b)(1).

approved by the IRS. In addition, for purposes of the enhanced oil recovery credit, immiscible non-hydrocarbon gas displacement generally is considered a qualifying tertiary recovery method, even if the gas injected is not carbon dioxide.

A project is not considered a qualified EOR project unless the project's operator submits to the IRS a certification from a petroleum engineer that the project meets the requirements set forth in the preceding paragraph.

The enhanced oil recovery credit is effective for taxable years beginning after December 31, 1990, with respect to costs paid or incurred in EOR projects begun or significantly expanded after that date.

e. Alternative minimum tax

AMT treatment of depletion

As stated above, for purposes of computing regular taxable income, taxpayers involved in the production of natural resources (including oil and gas) generally are permitted to claim a deduction for depletion under either of two methods—the cost depletion method or the percentage depletion method. The percentage depletion deduction is not limited to the taxpayer's adjusted basis in the depletable property. Thus, a taxpayer is permitted to claim such deductions that are in excess of the amount the taxpayer invested in the depletable property.

As a general rule, percentage depletion deductions claimed in excess of the basis of the depletable property constitute an item of tax preference in determining the AMT (sec. 57(a)(1)). For taxable years beginning after 1992, however, the Energy Policy Act of 1992 provides that excess percentage depletion deductions related to crude oil and natural gas production are not items of tax preference for AMT purposes.

Corporations generally must use the cost depletion method in computing ACE adjustments as well (sec. 56(g)(4)(F)). Thus, the difference between a corporation's percentage depletion deduction (if any) claimed for regular tax purposes and its allowable deduction determined under the cost depletion method is factored into its overall ACE adjustment. The Energy Policy Act of 1992 provided an exception to this general rule in the case of corporations which are independent oil and gas producers and royalty owners. Under this exception, for taxable years beginning after 1992, these corporations are permitted to determine depletion deductions using the percentage depletion method in computing their ACE adjustments.

AMT treatment of IDCs

Also as discussed above, in computing its regular tax, a taxpayer who pays or incurs IDCs in the development of domestic oil or gas properties may elect to either expense or capitalize these amounts. The difference between the amount of a taxpayer's IDC deductions and the amount which would have been currently deductible had IDCs been capitalized and recovered over a 10-year period may constitute an item of tax preference for the AMT to the extent that this amount exceeds 65 percent of the taxpayer's net income from

oil and gas properties for the taxable year (the "excess IDC preference") (sec. 57(a)(2)). In addition, for purposes of computing the a corporation's ACE adjustment to the AMT, IDCs are capitalized and amortized over the 60-month period beginning with the month in which they are paid or incurred (sec. 56(g)(4)(D)(i)). The preference does not apply if the taxpayer elects to capitalize and amortize IDCs over a 60-month period for regular tax purposes (sec. 59(e)).

For taxpayers other than integrated oil companies, the Energy Policy Act of 1992 repealed the excess IDC preference for IDCs related to oil and gas wells for taxable years beginning after 1992 (sec. 57(a)(2)(E)). The repeal of the excess IDC preference, however, may not result in the reduction of the amount of the taxpayer's AMTI by more than 40 percent (30 percent for taxable years beginning in 1993) of the amount that the taxpayer's AMTI would have been had the excess IDC preference not been repealed.

In addition, for corporations other than integrated oil companies, the 1992 Energy Policy Act repealed the ACE adjustment for IDCs paid or incurred in taxable years beginning after December 31, 1992, with respect to oil and gas wells. That is, such taxpayers are permitted to utilize their regular tax method of writing off IDCs for purposes of computing their adjusted current earnings.

f. Passive activity loss and credit rules

A taxpayer's deductions from passive trade or business activities, to the extent they exceed income from all such passive activities of the taxpayer (exclusive of portfolio income), generally may not be deducted against other income (sec. 469).⁴³ Thus, for example, an individual taxpayer may not deduct losses from a passive activity against income from wages. Losses suspended under this "passive activity loss" limitation are carried forward and treated as deductions from passive activities in the following year, and thus may offset any income from passive activities generated in that later year. Undeducted losses from a passive activity may be deducted in full when the taxpayer disposes of its entire interest in that activity to an unrelated party in a transaction in which all realized gain or loss is recognized.

An activity generally is treated as passive if the taxpayer does not materially participate in it. A taxpayer is treated as materially participating in an activity only if the taxpayer is involved in the operations of the activity on a basis which is regular, continuous, and substantial.

A working interest in an oil or gas property generally is not treated as a passive activity, whether or not the taxpayer materially participates in the activities related to that property (sec. 469(c)(3) and (4)). This exception from the passive activity rules does not apply if the taxpayer holds the working interest through an entity which limits the liability of the taxpayer with respect to the interest. In addition, if a taxpayer has any loss for any taxable year from a working interest in an oil or gas property which is treated pursuant to this working interest exception as a loss which is not from a passive activity, then any net income from such prop-

⁴³ This provision applies to individuals, estates, trusts, and personal service corporations.

erty (or any property the basis of which is determined in whole or in part by reference to the basis of such property) for any succeeding taxable year is treated as income of the taxpayer which is not from a passive activity.

Similar limitations apply to the utilization of tax credits attributable to passive activities (sec. 469(a)(1)(B)). Thus, for example, the passive activity rules (and, consequently, the oil and gas working interest exception to those rules) apply to the nonconventional fuels production credit and the enhanced oil recovery credit.⁴⁴

g. Tertiary injectants

Taxpayers are allowed to deduct the cost of qualified tertiary injectant expenses for the taxable year. "Qualified tertiary injectant expenses" are costs paid or incurred for any tertiary injectant (other than recoverable hydrocarbon injectants) which is used as a part of a tertiary recovery method (sec. 193). Section 193 was enacted as part of the Crude Oil Windfall Profit Tax Act of 1980 to clarify the treatment of tertiary injectants. Prior to enactment, there was disagreement between taxpayers (who considered such costs to be IDCs or operating expenses) and the IRS (who considered such costs to be subject to capitalization).⁴⁵

3. Hard minerals

a. Depletion for minerals

Taxpayers who own economic interests in certain mines and mineral deposits are permitted to claim depletion deductions with respect to the production from such interests. As is the case with oil and gas-producing properties, taxpayers are permitted to recover the acquisition and certain related costs of mines and mineral deposits under one of two methods: (1) cost depletion or (2) percentage depletion. Percentage depletion must be used in any taxable year unless cost depletion would result in a larger deduction.

Under the cost depletion method, the taxpayer deducts a portion of the adjusted basis of the depletable property each year, based on the ratio of units sold from that property during the taxable year to the total anticipated unit sales of products from that property (in general, the number of units remaining to be recovered in the property at the end of the taxable year, plus the number of units sold during the taxable year). The cumulative amount recovered under cost depletion, thus, may never exceed the taxpayer's basis in the property.

Under the percentage depletion method, a deduction is allowed in each taxable year for a statutory percentage of the taxpayer's gross income from the property, ranging from 5 to 22 percent. Generally, percentage depletion is allowed for all minerals except soil, sod, dirt, turf, water, mosses, or minerals from sea water, the air,

⁴⁴ A proposed technical correction to section 469 would provide that if a taxpayer has net income from a working interest in an oil and gas property which is treated as not arising from a passive activity, then any tax credits attributable to the interest in that property would be treated as credits not from a passive activity (and, thus, not subject to the passive activity credit limitation) to the extent that the amount of such credits does not exceed the regular tax liability of the taxpayer for the taxable year which is allocable to such net income. (H.R. 3448, 104th Cong., 2nd Sess., sec. 1704(d), as reported by the House Committee on Ways and Means, H. Rept. 104-586.)

⁴⁵ See, Rev. Rul. 73-469, 1973-2 C.B. 85.

or similar inexhaustible sources. The specified percentages applicable for mineral properties other than oil or gas properties are as follows:⁴⁶

22 percent.—sulphur, uranium, and, if from domestic deposits, anorthosite, clay, laterite, and nephelite syenite (to the extent that alumina and aluminum compounds are extracted therefrom), asbestos, bauxite, celestite, chromite, corundum, fluorspar, graphite, ilmenite, kyanite, mica, olivine, quartz crystals (radio grade), rutile, block steatite talc, and zircon, and ores of antimony, beryllium, bismuth, cadmium, cobalt, columbium, lead, lithium, manganese, mercury, molybdenum, nickel, platinum and platinum group metals, tantalum, thorium, tin, titanium, tungsten, vanadium, and zinc.

15 percent.—if from domestic deposits, gold, silver, copper, iron ore, and certain oil shale.

14 percent.—metal mines not specifically covered by either the 22- or 15-percent rates, rock asphalt, vermiculite, and, to the extent not covered by the 22- or 15-percent rates, ball clay, bentonite, china clay, sagger clay, and clay used or sold for use for purposes dependent on its refractory purposes. In addition, this rate applies to all minerals not otherwise mentioned in this list other than soil, sod, dirt, turf, water, mosses, minerals from sea water, the air, or similar inexhaustible sources, or oil and gas wells.

10 percent.—asbestos (if not covered by the 22-percent rate), brucite, coal, lignite, perlite, sodium chloride, and wollastonite.

7.5 percent.—clay and shale used or sold for use in the manufacture of sewer pipe or brick, and clay, shale, and slate used or sold for use as sintered or burned lightweight aggregates.

5 percent.— gravel, peat, pumice, sand, scoria, shale (except shale that qualifies for either the 15-percent or 7.5-percent rates), and stone other than stone used or sold for use by the mine owner or operator as dimension stone or ornamental stone, clay used or sold for use in the manufacture of drainage and roofing tile, flower pots, and kindred products, and, if from brine wells, bromine, calcium chloride, and magnesium chloride.

The amount deducted for any mineral may not exceed 50 percent of the net income from the property in any taxable year (the "net income limitation").

Unlike the deduction for cost depletion, which is computed with respect to the taxpayer's adjusted basis in the depletable property, the deduction for percentage depletion is based solely on gross income from the property and is not dependent on, or limited to, the property's adjusted basis. Thus, the deduction for percentage depletion often allows an aggregate amount of deductions in excess of the total amount of depletable costs that the taxpayer incurred with respect to a particular property. Such a deduction is generally referred to as "excess depletion" and it constitutes an item of tax preference for purposes of computing the individual or corporate alternative minimum tax (sec. 57(a)(1)).

In the case of a corporation, the amount of percentage depletion for coal (including lignite) and iron ore is reduced by 20 percent of the amount (if any) by which the otherwise allowable depletion de-

⁴⁶ Code section 613(b).

duction for the taxable year exceeds the adjusted basis of the property (sec. 291(a)(2)).

b. Treatment of mining exploration and development costs

Under present law, taxpayers may elect to expense exploration costs associated with hard mineral deposits (sec. 617). Taxpayers also may expense development costs associated with the preparation of a mine for production (sec. 616).

Mining exploration costs are expenditures for the purpose of ascertaining the existence, location, extent or quality of any deposit of ore or other depletable mineral, which are paid or incurred by the taxpayer prior to the development of the mine or deposit. When the mine reaches the producing stage, adjusted exploration expenditures (but not development costs) either: (1) are included in income (i.e., recaptured) and recovered through cost depletion; or (2) at the election of the taxpayer, reduce depletion deductions with respect to the property. Adjusted exploration expenditures with respect to a property are expensed exploration costs attributable to the property, reduced by the excess of percentage over cost depletion. Exploration costs also are subject to recapture if the property is disposed of by a taxpayer after expensing these amounts (secs. 1245 and 1250).⁴⁷ Foreign exploration and development costs may not be expensed, but must be capitalized and (1) taken into account under the taxpayer's depletion deduction, or (2) amortized over a 10-year period.

Development costs include expenses incurred for the development of a property after the existence of ores in commercially marketable quantities has been determined. These costs generally include costs for construction of shafts and tunnels and, in some cases, costs for drilling and testing to obtain additional information for mining operations.

In the case of a corporation, the allowable deduction with respect to mining exploration and development costs that the taxpayer would otherwise be able to expense is reduced by 30 percent (sec. 291(b)). The disallowed amount is required to be amortized over a 60-month period beginning with the month in which the costs are paid or incurred.

Deductible mining exploration and development costs are excepted from the rules that require capitalization and inclusion in inventory costs of certain expenses ("the uniform capitalization rules") (sec. 263A(c)(3)).

For purposes of the individual and corporate alternative minimum tax, the computation of alternative minimum taxable income requires mining exploration and development expenditures to be capitalized and amortized ratably over a 10-year period beginning with the taxable year in which the expenditures are incurred (sec. 56(a)(2)).

⁴⁷ See, also, the discussion of section 1254, below.

c. Capital gain treatment of mining and mineral property

In general

Gain recognized from the disposition of an interest in a mineral property generally is characterized as capital gain. The Code contains a special recapture provision, however, which mandates that in certain cases a portion of any gain is to be treated as ordinary income and not as capital gain (sec. 1254). Specifically, the Code provides that if a taxpayer disposes of "section 1254 property" that was placed in service after 1986, then the lesser of (1) the gain recognized on the disposition or (2) the aggregate amount of (a) depletion deductions which resulted in a reduction in the basis of the property disposed of, and (b) mining exploration and development expenditures deducted pursuant to sections 616 and 617 and which, but for the deduction, would have been included in the adjusted basis of the property, is characterized as ordinary income. For this purpose, the term "section 1254 property" means any property (within the meaning of section 614) if any mining exploration and development expenditures are properly chargeable to such property or the adjusted basis of such property includes adjustments for depletion deductions.

Special rules for coal and iron ore

Subject to certain special limits, royalties received on the disposition of coal and domestic iron ore qualify for capital gains treatment (sec. 631). For capital gain treatment to apply, the coal or iron ore must have been held for at least one year prior to mining. Capital gain treatment does not apply to income realized by an owner as a co-adventurer, partner, or principal in the mining of the coal or iron ore, or to certain related party transactions. The deemed date of disposal is the date the coal or iron ore is mined.

If capital gain treatment applies under these rules, the royalty owner is not entitled to percentage depletion with respect to the coal or iron ore disposed of.

In addition, coal and iron ore to which section 631 applies is considered to be section 1231 property. Net gains from sales of section 1231 property are treated as capital gain while net losses generally are treated as ordinary losses.

4. Timber

a. Capital gains rules

A taxpayer who owns timber or who possesses the right to cut timber may elect to treat the cutting of the timber as a sale or exchange of the timber for Federal income tax purposes if the timber or the right to cut the timber has been held for more than one year before the cutting and the timber is cut for sale or for use in the taxpayer's trade or business (sec. 631(a)). In addition, the gain or loss from the disposition of timber by a taxpayer under a contract pursuant to which an economic interest is retained by the taxpayer is treated as if the gain or loss were from the sale or exchange of the timber for Federal income tax purposes if the timber has been held for more than one year before the disposition. For this pur-

pose, "timber" includes evergreen trees that are more than six years old at the time severed from the roots and are sold for ornamental purposes.

The gain or loss from any such sale or exchange is treated as a gain or loss from the sale or exchange of trade or business property for purposes of section 1231. Under section 1231, any gain from the sale or exchange of trade or business property that is held for more than one year is treated as long-term capital gain if the total gain from the sale or exchange of such property for any year exceeds the total loss from the sale or exchange of such property for such year.

Finally, royalty income received by the holder of a timber royalty interest qualifies for long-term capital gain treatment, if the timber has been held for more than one year before disposition (sec. 631(b)).

b. Exemption from the uniform capitalization and accrual method rules

The uniform capitalization rules that were enacted as part of the Tax Reform Act of 1986 require certain direct and indirect costs allocable to property to be included in inventory or capitalized as part of the basis of such property (sec. 263A). The uniform capitalization rules generally apply to real and tangible personal property produced by the taxpayer or acquired for resale. Pursuant to a special exception, these rules do not apply to timber and any real property underlying the trees. For this purpose, "timber" includes evergreen trees that are more than six years old at the time severed from the roots and are sold for ornamental purposes, but does not include trees bearing fruit, nut, or other crops or other ornamental trees.

Subject to certain exceptions, the taxable income from farming of a corporation engaged in farming or a partnership with a corporate partner engaged in farming must be computed using an accrual method of accounting. This rule does not apply to the raising of harvesting of trees (sec. 447). In addition, the use of the cash receipts and disbursements method of accounting generally is denied in the case of any corporation, any partnership with a corporate partner, or any tax shelter. However, the denial of the cash method does not apply to any farming business, including the raising, harvesting, or growing of trees to which the uniform capitalization rules do not apply. Thus, corporations engaged in the timber industry are not precluded from using the cash receipts and disbursements method of accounting.

c. Amortization of reforestation expenditures and investment tax credit

Taxpayers may elect to amortize over an 84-month period up to \$10,000 for reforestation expenditures incurred in any taxable year with respect to qualified timber property (sec. 194). In addition, a 10-percent investment tax credit is allowed for up to \$10,000 of reforestation expenditures incurred during any taxable year in connection with qualified timber property (sec. 48(b)).

For purposes of the 84-month amortization election and the 10-percent investment tax credit, qualified timber property is any woodlot or other site located in the United States that will contain

trees in significant commercial quantities and that is held by the taxpayer for the planting, cultivating, caring for, and cutting of trees, for sale or for use in the commercial production of timber products. Reforestation expenditures are defined as the direct costs incurred to plant or seed for forestation or reforestation purposes. The term includes the costs incurred for site preparation, seeds or seedlings, and labor and tools used in planting or seeding.

5. Other energy tax credits

a. Renewable electricity production credit

An income tax credit is allowed for the production of electricity from either qualified wind energy or qualified "closed-loop" biomass facilities (sec. 45). The credit is equal to 1.5 cents (adjusted for inflation since 1992) per kilowatt hour of electricity produced from these qualified sources during the 10-year period after the facility is placed in service.

The credit applies to electricity produced by a qualified wind energy facility placed in service after December 31, 1993, and before July 1, 1999, and to electricity produced by a qualified closed-loop biomass facility placed in service after December 31, 1992, and before July 1, 1999. Closed-loop biomass is the use of plant matter, where the plants are grown for the sole purpose of being used to generate electricity. It does not apply to the use of waste materials (including, but not limited to, scrap wood, manure, and municipal or agricultural waste). It also does not apply to taxpayers who use standing timber to produce electricity. In order to claim the credit, a taxpayer must own the facility and sell the electricity produced by the facility to an unrelated party.

b. Business energy tax credit for solar and geothermal property

Nonrefundable business energy tax credits are allowed for 10 percent of the cost of qualified solar and geothermal energy property (Code sec. 48(a)). Solar energy property that qualifies for the credit includes any equipment that uses solar energy to generate electricity, to heat or cool (or provide hot water for use in) a structure, or to provide solar process heat. Qualifying geothermal property includes equipment that produces, distributes, or uses energy derived from a geothermal deposit, but, in the case of electricity generated by geothermal power, only up to (but not including) the electrical transmission stage.⁴⁸

c. Limitations on the use of energy tax credits

The renewable electricity production credit and the business energy tax credit for solar and geothermal property are components of the general business credit (sec. 38(b)(1)). These credits, when combined with all other components of the general business credit, generally may not exceed for any taxable year the excess of the taxpayer's net income tax over the greater of (1) 25 percent of net regular tax liability above \$25,000 or (2) the tentative minimum tax.

⁴⁸ For purposes of the credit, a geothermal deposit is defined as a domestic geothermal reservoir consisting of natural heat which is stored in rocks or in an aqueous liquid or vapor, whether or not under pressure (sec. 613(e)(2)).

An unused general business credit generally may be carried back 3 taxable years and carried forward 15 taxable years.

C. Federal Excise Taxes on the Manufacturing, Energy, and Natural Resource Industries

Various Federal excise taxes are imposed on the manufacturing sector and on manufactured goods and natural resource products. With the exception of alcohol, tobacco, and firearms producers and others involved in the distribution of taxable alcoholic beverages, the preponderance of these taxes is imposed on the sale, entry into, or removal from a specified premise, or the importation of intermediate or finished products, rather than on manufacturers as a condition of doing business. Excise taxes similar to those imposed on manufactured goods also are imposed on various segments of the service industry sector (e.g., certain telephone service). Revenues from these taxes are in many cases dedicated to trust funds to finance programs that relate to the industries whose products are subject to tax.

Table 2, at the end of this section, shows projected revenues for some of these taxes.

Annual occupational and use excise taxes

Excise taxes are imposed on producers of alcoholic beverages, tobacco, and firearms in the form of annual occupational, or "doing business" taxes. Revenues from these taxes are retained in the General Fund of the Treasury. Table 1, below, describes these taxes.

Table 1.—Alcohol, Tobacco, and Firearms Occupational Excise Taxes

Alcohol:

Producers:

Distilled spirits and wines.	\$1,000 per year premise. ¹
Beer	\$1,000 per year per premise. ¹
Wholesale dealers of alcoholic beverages.	\$500 per year.
Retail dealers of alcoholic beverages.	\$250 per year.
Persons using distilled spirits for nonbeverage uses.	\$500 per year.
Persons using distilled spirits for industrial uses.	\$250 per year.

Tobacco:

Manufacturers and importers. \$1,000 per year per premise.¹

"Nonregular" firearms:²

Manufacturers and importers.	\$1,000 per year per premise. ¹
Dealers	\$500 per year per premise.

¹ Tax is \$500 per year per premise for businesses with gross receipts of less than \$500,000 in the preceding taxable year.

² Nonregular firearms include such devices as machine guns, bombs, grenades, sawed-off shotguns or rifles, silencers, and certain concealable weapons.

A similar annual "use" tax is imposed on operators of highway trucks having a gross vehicular weight ("GVW") (loaded weight capacity) of 55,000 pounds or more. The tax rate is \$100 plus \$22 for each 1,000 pounds over 55,000 pounds GVW, up to a maximum annual amount of \$550 for trucks having a GVW in excess of 75,000 pounds. Revenues from this tax are dedicated to the Highway Trust Fund.

Excise taxes on manufactured goods and natural resource products

As noted above, most Federal excise taxes are imposed with respect to goods or products rather than on manufacturers or producers as a condition of doing business, and revenues from many of these taxes are dedicated to the financing of trust fund programs that relate to the economic sector subject to tax. The following description provides an overview of selected excise taxes, including several such taxes that recently have expired, by trust fund and general fund category.

Excise taxes dedicated to trust funds

Highway Trust Fund taxes.—The Federal Highway Trust Fund is financed in part with revenues from excise taxes imposed on gasoline, diesel fuel, and special motor fuels used on highway vehicles and by taxes on the imposed sale of heavy trucks and trailers and tires for those vehicles. The taxes on gasoline and diesel fuel are collected upon removal of those fuels from pipeline storage terminals; the tire tax is imposed on sale by a tire manufacturer (or importer), and the special motor fuels and truck taxes are imposed on retail sale.

Airport and Airway Trust Fund taxes.—The Airport and Airway Trust Fund is financed in part by revenues from taxes on gasoline and jet fuel used in noncommercial aviation. All but 14 cents per gallon of the tax on aviation gasoline expired (along with ticket taxes on commercial aviation) after December 31, 1995.⁴⁹ The 14-cents-per-gallon remaining aviation gasoline tax is collected upon removal of the product from pipeline storage terminals.

Aquatic Resources Trust Fund taxes.—The Aquatic Resources Trust Fund finances Federal boat safety, wetlands preservation, and fish restoration programs. These activities are financed with revenues from excise taxes on motorboat and off-highway small engine gasoline and on specified items of fishing-related equipment such as rods and reels and sonar fish finders. The gasoline tax is imposed upon removal of the fuel from pipeline storage terminals. The tax on fishing-related equipment is imposed on sale of the equipment by manufacturers or importers.

Inland Waterways Trust Fund tax.—The Inland Waterways Trust Fund finances maintenance of 27 specified inland waterway systems. These activities are financed by a 20-cents-per-gallon ex-

⁴⁹ During the period when the aviation excise taxes generally are expired, revenues from aviation gasoline tax revenues are retained in the Highway Trust Fund, where all trust fund fuels tax revenues are initially deposited before being allocated to other uses.

cise tax on fuel used in commercial vessels operating on the specified waterways.

Black Lung Trust Fund tax.—The Black Lung Trust Fund finances benefit payments to coal miners who have contracted so-called “black lung” disease. The tax is \$1.10 per ton on coal from underground mines and 55 cents per ton on coal from surface mines (but no more than 4.4 percent of the coal’s selling price). The tax is imposed on the sale of coal by the producer.

Vaccine Injury Compensation Trust Fund taxes.—Individuals injured by the administration of four vaccines (DPT, DT, MMR, and polio) are eligible for compensation payments from the Vaccine Injury Compensation Trust Fund. The Trust Fund is financed with revenues from an excise tax imposed on the sale of the four vaccines by the manufacturer or importer thereof.

Federal Aid to Wildlife Program taxes.—Financing is provided for the Federal Aid to Wildlife program by excise taxes imposed on the sale by a manufacturer or importer of bows and arrows and certain types of firearms and ammunition.

Hazardous Substance Superfund taxes.—Before their expiration after December 31, 1995, three excise taxes were imposed to fund the cleanup of sites polluted with certain hazardous wastes where there was no identifiable private party that could be held liable for the cleanup costs. These taxes were a 9.7-cents-per-barrel tax on crude oil received at a U.S. refinery,⁵⁰ a tax ranging from \$0.22 to \$4.87 per ton on sale by the manufacturer or importer of certain listed hazardous chemicals, and a tax imported products produced with chemicals subject to the domestic tax.⁵¹

Leaking Underground Storage Tank Trust Fund tax.—Before January 1, 1996, a 0.1-cent-per-gallon excise tax was imposed on gasoline, diesel fuel, and special motor fuels used in all transportation modes. Revenues from this tax were used to finance cleanup activities related to leaking underground fuel storage tanks.

Oil Spill Liability Trust Fund tax.—Before January 1, 1995, a 5-cents-per-barrel excise tax was imposed on crude oil received at U.S. refineries (and on imported refined products) to finance cleanup activities related to waterborne oil spills.

General Fund excise taxes

Transportation motor fuels.—Gasoline, diesel fuel, and special motor fuels used in most transportation modes (highway, rail, inland waterway, motorboat,⁵² and aviation) are subject to a 4.3-cents-per-gallon excise tax. Rail diesel fuel is subject to an additional 1.25-cents-per-gallon rate, revenues from which also are retained in the General Fund. This tax is collected along with the relevant trust fund taxes (described above) that are imposed on the fuels. The tax on rail transportation generally is imposed at the retail level.

Alcoholic beverages.—Distilled spirits, wine, and beer are subject to taxes imposed upon removal of the beverages from the produc-

⁵⁰ The tax also was imposed on imported refined products at the point of importation into the United States.

⁵¹ A corporate environmental income tax also was imposed to finance the Superfund program.

⁵² Diesel fuel used in motorboats is subject to a 24.4-cents-per-gallon General Fund tax, but is not subject to any Trust Fund tax.

tion premises. The distilled spirits tax rate is \$13.50 per proof gallon,⁵³ wine is taxed at effective rates ranging from \$0.17 per gallon to \$3.40 per gallon depending on alcohol content and type of wine (e.g., sparkling or table), and beer is taxed at \$18 per barrel (\$7 per barrel for beer produced by "small" breweries).⁵⁴

Tobacco products.—Most tobacco tax revenues are derived from a 24-cents-per-pack tax on cigarettes. Taxes also are imposed on cigars, cigarette papers, snuff, chewing tobacco, and pipe tobacco. These taxes are collected on removal of the product from the premises where manufactured.

Luxury tax on passenger vehicles.—A 10-percent retail excise tax is imposed on passenger vehicles having a price in excess of \$32,000 (indexed for inflation). This tax is scheduled to expire after December 31, 1999.

Gas guzzler excise tax.—A tax ranging from \$1,000 to \$7,700 per vehicle is imposed on the sale by a manufacturer of automobiles that fail to meet specified fuel economy ratings. Automobiles having a fuel economy rating of 22.5 miles per gallon or more are exempt from the tax.

Tax on ozone-depleting chemicals.—Chemicals subject to regulation under the Montreal Protocol because they deplete the ozone layer are taxed generally at a rate determined by multiplying their "ozone-depleting factor" by an annually increasing dollar amount (\$5.80 in 1996).

⁵³ A proof gallon is a U.S. gallon consisting of 50 percent alcohol.

⁵⁴ A barrel contains 31 gallons, producing a maximum beer tax rate of \$0.58 per gallon (\$0.226 per gallon for "small" breweries). The small brewery rate applies to the first 60,000 gallons removed each year by domestic breweries producing fewer than two million barrels of beer during the calendar year.

Table 2.—Estimated Revenues From Selected Excise Taxes

[By fiscal years, in millions of dollars]

	1996	1997	1998	1999	2000	1996- 2000
Trust Fund Taxes:						
Highway Trust Fund Taxes	23,663	24,007	24,628	25,253	25,881	123,432
Inland Waterways Trust Fund Tax	116	117	119	120	123	595
Black Lung Trust Fund Tax	632	645	652	644	653	3,226
Vaccine Injury Compensation Trust Fund Tax	199	201	207	212	214	1,033
General Fund Taxes:						
Transportation Fuels Taxes	7,130	7,295	7,473	7,647	7,730	37,275
Alcohol Taxes (Distilled spirits, wines and beer beverage and occupational taxes)	7,319	7,235	7,153	7,076	7,002	35,785
Tobacco Taxes	5,729	5,615	5,502	5,392	5,283	27,521
Luxury Automobile Tax	462	473	517	515	127	2,094

Source: Joint Committee on Taxation compilation of Congressional Budget Office data.

III. BACKGROUND DATA RELATING TO THE MANUFACTURING, ENERGY, AND NATURAL RESOURCES INDUSTRIES

A. The Changing Scope of Manufacturing, Energy, and Natural Resources Industries in the U.S. Economy

Figure 1 plots the changing share of U.S. manufacturing output as a share of gross domestic product ("GDP") for the period 1947 through 1993.⁵⁵ In the first decade following World War II, manufacturing accounted for as much as 30 percent of GDP. Since that time manufacturing's share of GDP has gradually, but steadily, declined, having been less than 20 percent since 1985. While manufacturing's share has declined, real output of manufacturing has grown nearly six-fold over the period. The real value of manufacturing production in 1993 was \$970.7 billion (measured in constant 1987 dollars), more than 30 percent greater than the real value of manufacturing production 16 years earlier.⁵⁶ Figure 2 plots the Federal Reserve Board of Governors' index of industrial production.⁵⁷ With the exception of periods of recession, manufacturing output has shown steady growth.

National income and product account data are not readily available that correspond with the natural resources and energy industries. The Department of Commerce routinely reports data on the mining industry which includes oil and gas extraction and coal and ore mining, but does not include timber. The Department of Commerce also routinely reports data on the public utility industry which includes electricity, gas, and water and sewer provision. Recognizing the limitation of these data for describing the natural resources and energy industries, mining output as a share of GDP has declined from 2.9 percent of GDP in 1947 to 1.4 percent of GDP in 1993. The output of utilities has increased from 1.6 percent of GDP in 1947 to 2.9 percent of GDP in 1993.⁵⁸ As with manufacturing output, the real value of output in these sectors has grown substantially, with growth of utility output outstripping the growth of manufacturing output since the early postwar years, while the growth of mining output has been more modest. (See Figure 2).

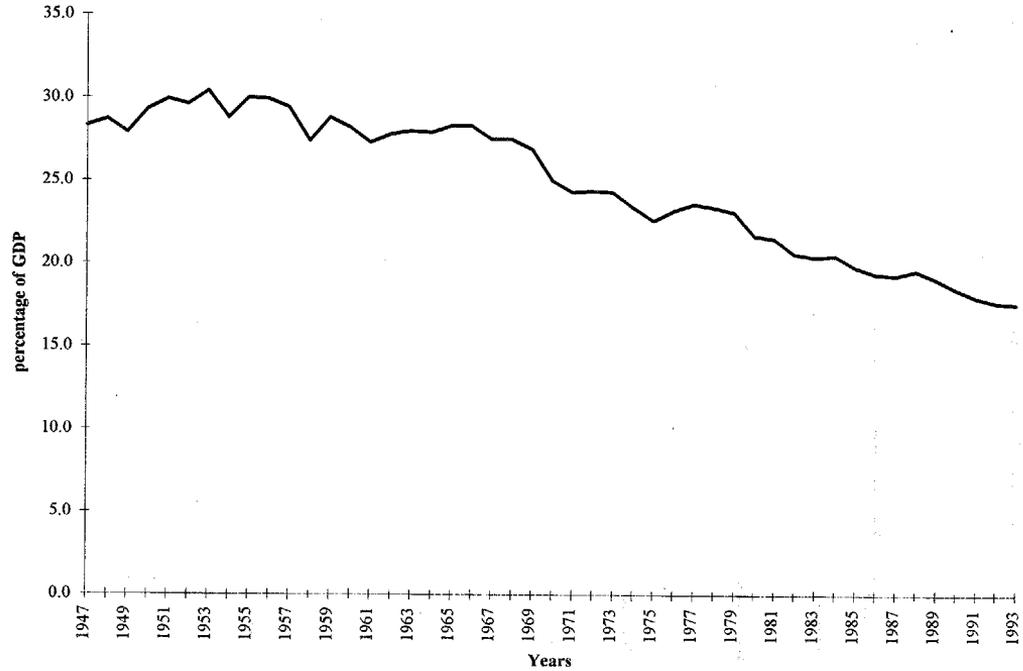
⁵⁵ Data underlying Figure 1 are in Appendix Table B.1.

⁵⁶ U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business*, November 1993 and April 1995.

⁵⁷ Data underlying Figure 2 are in Appendix Table B.2. The Federal Reserve Board indexes are scaled such that in 1987 production in every industry is 100. For that reason, the lines plotting manufacturing, mining, and utilities all cross in 1987.

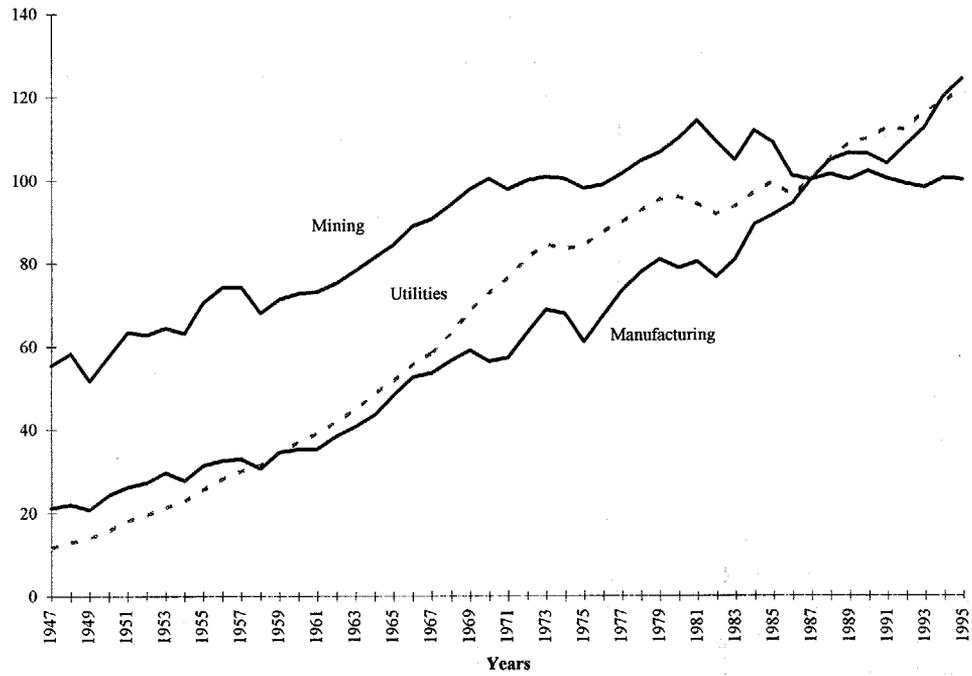
⁵⁸ U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business*, November 1993 and April 1995.

Figure 1.--U.S. Manufacturing Sector as a Percentage of U.S. Gross Domestic Product



Source: U.S. Department of Commerce, Bureau of Economic Analysis, Survey of Current Business, November 1993 and April 1995.

Figure 2.-- Indexes of Industrial Production



Source: Board of Governors of the Federal Reserve System.

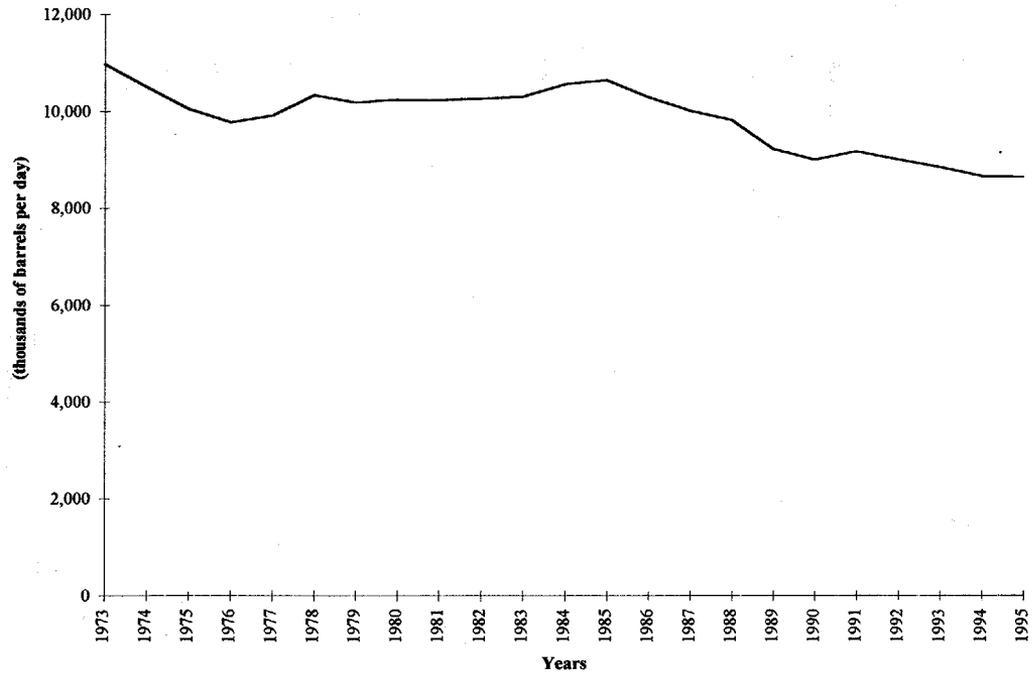
An alternative way to examine trends in extractive industries is to examine the volume or weight of oil, gas, coal, or ore extracted. Figures 3, 4, and 5 plot domestic production of crude oil (and natural gas liquids), dry natural gas, and coal for the period 1973 through 1995.⁵⁹ While coal production has grown steadily over this period, the production of both oil and natural gas has declined. The demand for oil and natural gas has not declined, however. Imported crude oil (and petroleum products) averaged 8.8 million barrels per day, up from as little as 5.1 million barrels per day in 1985 and 6.3 million barrels per day in 1973. Domestic crude oil production averaged 8.6 million barrels per day in 1995 and exceeded 10 million barrels per day in both 1985 and 1973.⁶⁰ Similarly, net imports of natural gas have increased from 1 trillion cubic feet or less annually between 1973 and 1987 to 2.7 trillion cubic feet in 1995. Annual domestic natural gas production fell by approximately 3 trillion cubic feet between 1973 and 1995.⁶¹

⁵⁹ Data for Figures 3, 4, and 5 are in Appendix Table B.3.

⁶⁰ U.S. Department of Energy, Energy Information Administration, *Monthly Energy Review*, June 1996, pp. 42-43.

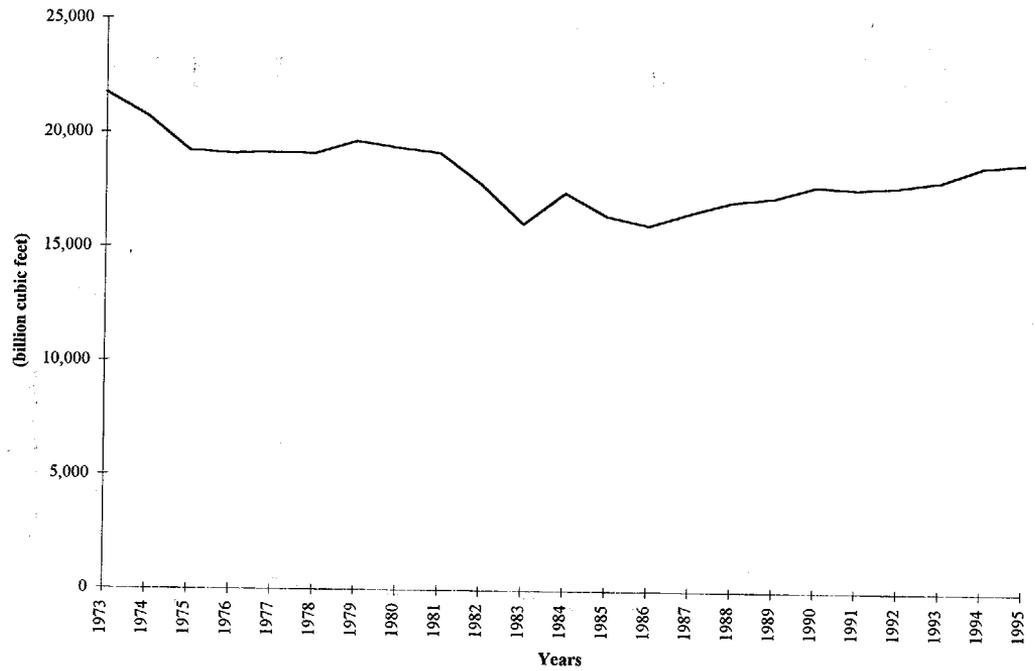
⁶¹ *Ibid.*, pp. 74-75.

Figure 3.--Domestic Oil Production



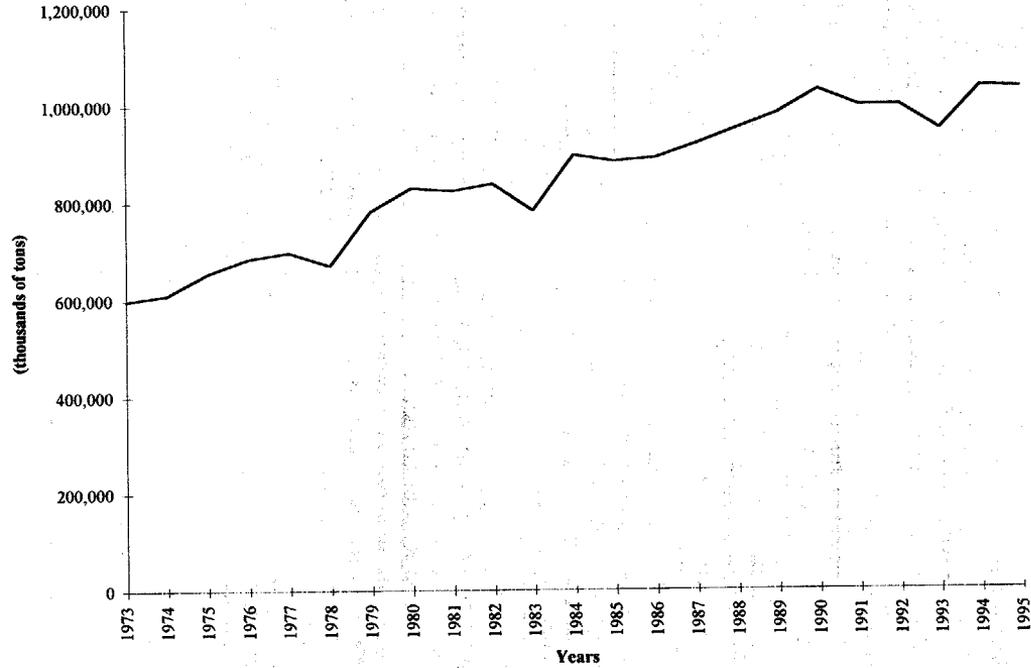
Source: U.S. Department of Energy, Energy Information Agency, Monthly Energy Review, June 1996.

Figure 4.—Domestic Natural Gas Production



Source: U.S. Department of Energy, Energy Information Agency, Monthly Energy Review, June 1996.

Figure 5.--Domestic Coal Production



Source: U.S. Department of Energy, Energy Information Agency, Monthly Energy Review, June 1996.

B. Investment in the Manufacturing, Energy, and Natural Resources Industries

The data presented in Figure 1 document the decline of manufacturing output as a share of U.S. GDP, falling over the past 45 years from approximately 30 percent of GDP to less than 20 percent of GDP. Over the same period, however, the manufacturing sector's share of the private fixed nonresidential net capital stock has barely declined. The manufacturing sector used 22.5 percent of the U.S. private fixed nonresidential net capital stock in 1947 and 22.0 percent in 1993.⁶² Similarly, the Department of Commerce estimates that the manufacturing sector accounted for 26.9 percent of total nonresidential fixed private net investment made in the United States in 1994.⁶³ One implication of the manufacturing sector's share of the nation's capital stock and share of net investment exceeding its share of output is that the manufacturing sector has become more capital intensive over time. Figure 6 plots, in constant 1987 dollars, the net investment in equipment and structures made in the manufacturing industry between 1947 and 1994.⁶⁴

Although mining is generally considered a capital intensive industry, the picture of investment picture for the mining industry is distinctly different over the past decade from that of the manufacturing sector. Figure 7 plots, in constant 1987 dollars, the net investment in equipment and structures made in the oil and gas extraction industry and in the rest of the mining industry.⁶⁵ The negative values for net investment since 1986 reflect estimates that depreciation on previously invested capital exceeded the value of new gross investment. The negative net investment is consistent with the declining production of the U.S. oil and gas industry over the past several years.

Figure 8 plots, in constant 1987 dollars, the net investment in equipment and structures made in the electricity, gas, and sanitary services industry between 1947 and 1994.^{65a}

⁶² The U.S. Department of Commerce, Bureau of Economic Analysis reports that the nation's net private stock of nonresidential capital was \$172,458 million in 1947 of which \$38,790 million was in the manufacturing sector. The comparable figures for 1993 were \$5,769,625 million in total and \$1,270,210 in the manufacturing sector.

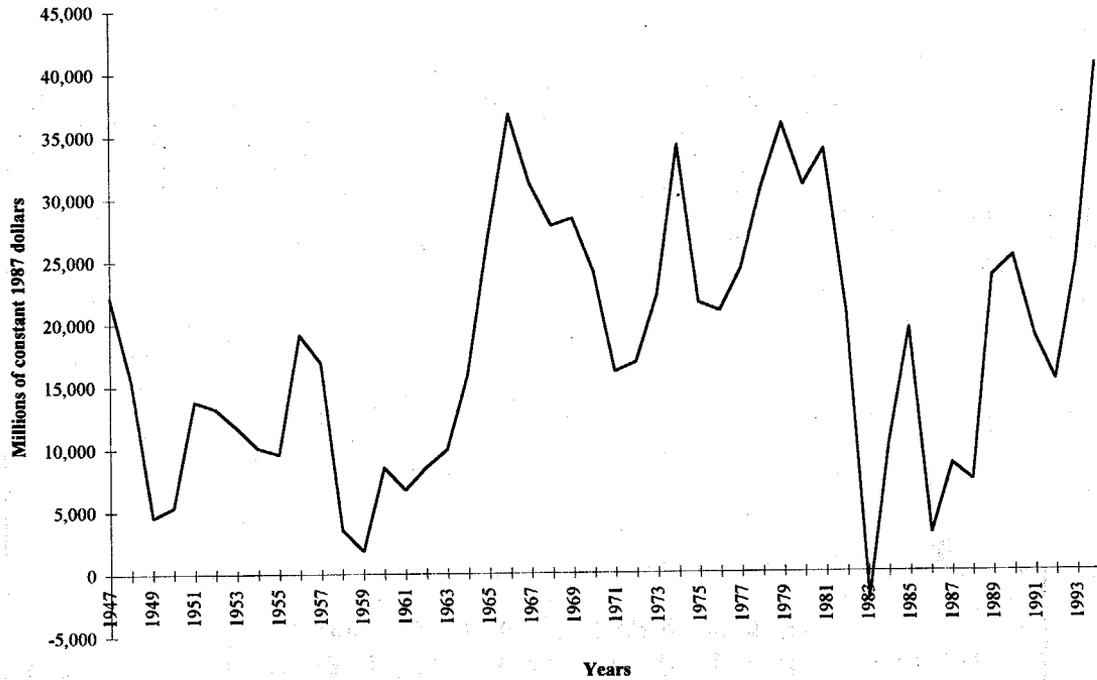
⁶³ The U.S. Department of Commerce, Bureau of Economic Analysis reports that total net private fixed nonresidential investment equaled \$150,198 million in real (constant) 1987 dollars of which \$19,262 million was accounted for by manufacturers of durable goods and \$21,078 million was accounted for by manufacturers of nondurable goods.

⁶⁴ Data underlying Figure 6 are in Appendix Table B.4.

⁶⁵ Data underlying Figure 7 are in Appendix Table B.4. The oil and gas extraction industry is one subsector of the mining industry. Investment in mining other than oil and gas extraction is calculated as the difference between investment in mining (total) and investment in oil and gas extraction.

^{65a} Data underlying Figure 8 are in Appendix Table B.4.

Figure 6.--Net Investment in Equipment and Structures in the Manufacturing Industry, 1947-1994



**Figure 7.--Net Investment in Equipment and Structures in the Oil and Gas
Extraction and Other Mining Industries, 1947-1994**

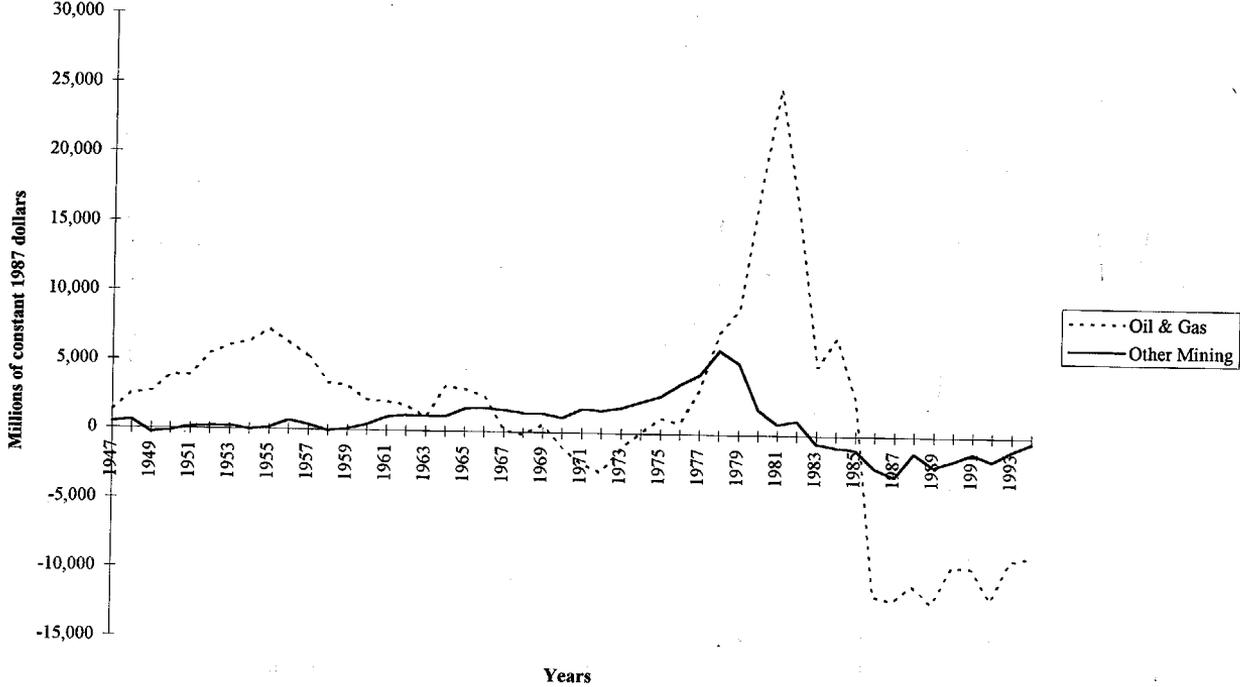
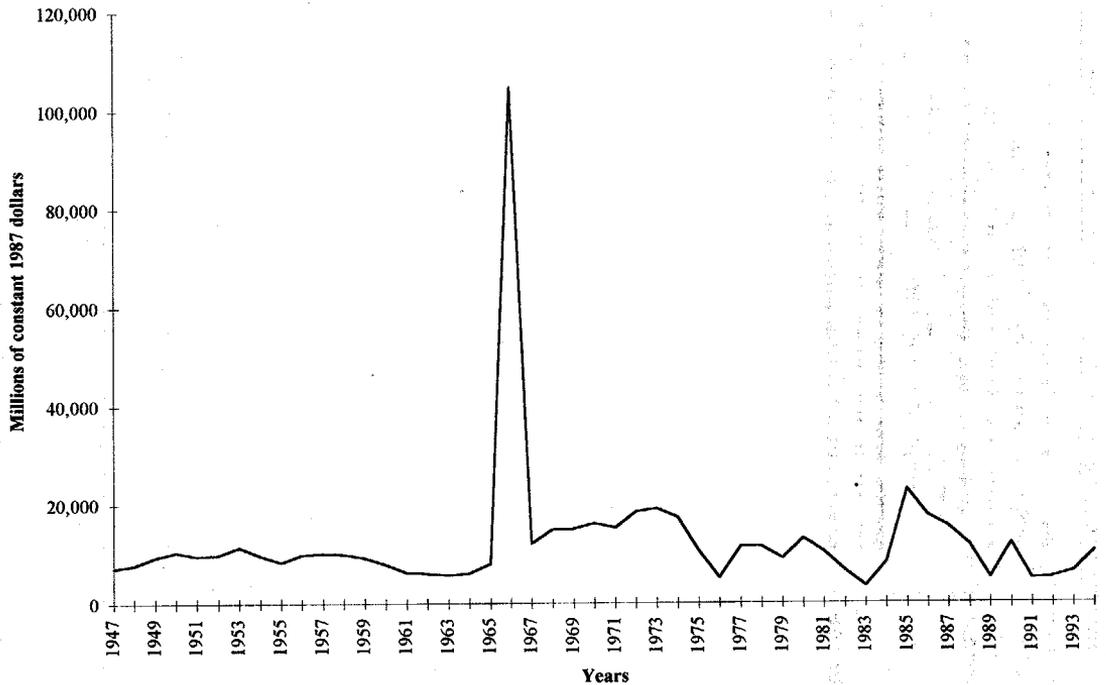


Figure 8.--Net Investment in Equipment and Structures in the Electricity, Gas and Sanitation Utility Industries, 1947-1994



C. Data Relating to the Present-Law Taxation of the Manufacturing, Energy, and Natural Resources Industries

Tables 3a-c display 1993 data from the Internal Revenue Service's Statistics of Income ("SOI") on C corporations, S corporations, partnerships, and nonfarm sole proprietorships. For the first three forms of organization, the tables classify all taxpayers using that form of organization both by the size of assets and gross receipts. Sole proprietorships do not report asset data on tax returns, so these tables use only gross receipts as a classifier for sole proprietorships. The data are presented for all firms and for firms those in the manufacturing, mining and utilities industries.⁶⁶

⁶⁶ The industrial classifications are based on the standard industrial classification ("SIC") code reported by the taxpayer for the taxpayer's primary business. If the taxpayer is involved in a number of different activities (or files a consolidated return for a number of disparate businesses) the SOI data will reflect business activity that may not arise from the SIC code reported on the return. As an example, a manufacturing firm that has a subsidiary that provides financing to its customers could show the activity from financing under a particular manufacturing code.

The mining SIC code includes metal mining; coal mining; oil and gas extraction; and non-metallic, non-fuel minerals. The utility SIC code includes electric services, gas production and distribution, combination utility services, and water supply and other sanitary services.

**Table 3a.--SOI Data on Distribution of Firms Across
Organization Types, Selected Industries, 1993**

All Firms			
	<i>Number of firms</i>	<i>Assets (millions)</i>	<i>Gross receipts (millions)</i>
C corporations	2,063,124	\$20,945,570	\$8,897,606
S corporations	1,901,505	870,299	1,967,936
Partnerships	1,467,567	2,155,112	567,790
Sole proprietorships	15,848,883		752,751
Totals	21,281,079	\$23,970,981	\$12,186,083

Manufacturing			
	<i>Number of firms</i>	<i>Assets (millions)</i>	<i>Gross receipts (millions)</i>
C corporations	180,373	\$4,064,674	\$3,302,275
S corporations	127,046	160,460	349,743
Partnerships	25,065	89,551	92,169
Sole proprietorships	474,439		26,948
Totals	806,923	\$4,314,685	\$3,771,135

Mining			
	<i>Number of firms</i>	<i>Assets (millions)</i>	<i>Gross receipts (millions)</i>
C corporations	18,700	\$210,142	\$90,341
S corporations	16,645	13,876	11,724
Partnerships	31,892	55,973	17,421
Sole proprietorships	124,231		5,987
Totals	191,468	\$279,991	\$125,473

Utilities			
	<i>Number of firms</i>	<i>Assets (millions)</i>	<i>Gross receipts (millions)</i>
C corporations	8,869	\$826,919	\$334,119
S corporations	6,021	5,391	9,485
Partnerships	2,487	39,258	15,173
Sole proprietorships	19,751		335
Totals	37,128	\$871,568	\$359,112

**Table 3b.--Shares of Number of Firms, Assets,
and Gross Receipts Across Organizational
Forms, by Selected Industries, 1993**

All Industries			
	<i>Percent of firms</i>	<i>Percent of assets</i>	<i>Percent of gross receipts</i>
C corporations	9.69	87.38	73.01
S corporations	8.94	3.63	16.15
Partnerships	6.90	8.99	4.66
Sole proprietorships	74.47		6.18

Manufacturing			
	<i>Percent of firms</i>	<i>Percent of assets</i>	<i>Percent of gross receipts</i>
C corporations	22.35	94.21	87.57
S corporations	15.74	3.72	9.27
Partnerships	3.11	2.08	2.44
Sole proprietorships	58.80		0.71

Mining			
	<i>Percent of firms</i>	<i>Percent of assets</i>	<i>Percent of gross receipts</i>
C corporations	9.77	75.05	72.00
S corporations	8.69	4.96	9.34
Partnerships	16.66	19.99	13.88
Sole proprietorships	64.88		4.77

Utilities			
	<i>Percent of firms</i>	<i>Percent of assets</i>	<i>Percent of gross receipts</i>
C corporations	23.89	94.88	93.04
S corporations	16.22	0.62	2.64
Partnerships	6.70	4.50	4.23
Sole proprietorships	53.20		0.09

**Table 3c.--Shares of Number of Firms, Assets,
and Gross Receipts Across Selected
Industries by Form of Organization, 1993**

All Firms			
	<i>Percent of firms</i>	<i>Percent of assets*</i>	<i>Percent of gross receipts</i>
Manufacturing	3.79	18.00	30.95
Mining	0.90	1.17	1.03
Utilities	0.17	3.64	2.95

C corporations			
	<i>Percent of firms</i>	<i>Percent of assets*</i>	<i>Percent of gross receipts</i>
Manufacturing	8.74	19.41	37.11
Mining	0.91	1.00	1.02
Utilities	0.43	3.95	3.76

S Corporations			
	<i>Percent of firms</i>	<i>Percent of assets*</i>	<i>Percent of gross receipts</i>
Manufacturing	6.68	18.44	17.77
Mining	0.88	1.59	0.60
Utilities	0.32	0.62	0.48

Partnerships			
	<i>Percent of firms</i>	<i>Percent of assets*</i>	<i>Percent of gross receipts</i>
Manufacturing	1.71	4.16	16.23
Mining	2.17	2.60	3.07
Utilities	0.17	1.82	2.67

Sole Proprietorships			
	<i>Percent of firms</i>	<i>Percent of gross receipts</i>	
Manufacturing	2.99	3.58	
Mining	0.78	0.80	
Utilities	0.12	0.04	

* Percent of assets are calculated with respect to the total assets in only
C corporations, S corporations, and partnerships.

For all business activity and the three specific industries, most firms are sole proprietorships. In the manufacturing and utilities industries, however, there are relatively more C corporations and S corporations than in the general population. As Table 3b shows, C corporations and S corporations account respectively for 9.69 percent and 8.94 percent of all firms. In manufacturing, C corporations and S corporations account respectively for 22.35 percent and 15.74 percent of the firms in the industry. In utilities, the respective shares are 23.89 percent and 16.22 percent. In mining, while the number of C corporations and S corporations are close to their shares in the general population, there are relatively more partnerships: 16.66 percent of mining firms versus only 6.90 percent of all firms.

For all three specific industries, the largest firms are generally C corporations. Whether measured by assets or gross receipts, most of the activities in manufacturing, mining, and utilities (as well as in other industries) take place in C corporations. This tendency for C corporations to account for most of the business activity is even more pronounced than usual in the utilities industry. From Table 3b one can see that the 16.22 percent of utilities firms organized as S corporations account for only 2.64 percent of gross receipts and the 53.20 percent of utilities firms organized as sole proprietorships account for less than one-tenth of one percent of gross receipts.

Table 3c shows the fraction of firms in a particular organizational form that are in the manufacturing, mining, or utilities industries. For C corporations, S corporations, and partnerships, the manufacturing firms are larger than average, when measured by either assets or gross receipts. For example, the 8.74 percent of C corporations that are in manufacturing account for 19.41 percent of the assets of all C corporations and 37.11 percent of the gross receipts of all C corporations. The C corporations and partnerships in the utilities industry are larger than the average, but the S corporations in utilities are not and the sole proprietorships are rather small (0.12 percent of all sole proprietorships but just 0.04 percent of gross receipts). For all four organizational types in the mining industry, the assets and gross receipts of the firms are commensurate with their number of firms.

The corporate AMT and the manufacturing, energy, and natural resources, industries

As large users of physical capital, businesses in the manufacturing, natural resources, and energy industries are more likely to be subject to the corporate AMT. The AMT includes as an adjustment the difference between accelerated depreciation claimed under the regular tax system and depreciation calculated under the AMT's less generous allowance schedules. Other AMT preferences and adjustments defer the recovery of other capital costs that are deductible under the regular tax. Thus, the greater a corporation's capital assets, the greater its total value of accelerated depreciation and other capital-related preferences and adjustments, and the greater

the likelihood the corporation will be an AMT taxpayer.⁶⁷ For the same reason, a capital-intensive business is more likely to be subject to the AMT than would a less capital-intensive business with equal gross revenues. The General Accounting Office ("GAO") estimated that 25 percent of all corporate assets were owned by corporations subject to the AMT between 1987 and 1992.⁶⁸ Table 4 below documents that in 1993 and 1994, approximately three to four percent of all corporate income tax liabilities were derived from payments of the corporate AMT and a comparable percentage of manufacturing corporate income tax liabilities were derived from payments of the corporate AMT. However, the manufacturing sector accounted for more than 25 percent of corporate AMT payments in both years. This is consistent with the view that large, capital-intensive manufacturing enterprises are frequently subject to the AMT. Table 4 also shows that corporate AMT payments comprise more than 20 percent of mining corporate income tax liabilities. Similarly, utility industry corporate AMT payments as a percentage of income tax liabilities exceeded the average of all industries.

⁶⁷ In simple terms, a taxpayer pays the AMT if its AMT tax liability exceeds its regular tax liability. Let Y represent a corporation's regular taxable income. Let P represent AMT preferences. Then alternative minimum taxable income is (Y+P), and ignoring graduated marginal tax rates under the regular tax and the AMT exemption, a taxpayer is subject to the AMT when: $(.20)(Y+P) > (.35)Y$.

Simplifying, this is equivalent to: $(.20)P > (.15)Y$ which reduces to $P/Y > .75$.

As preferences become large relative to income, the taxpayer is more likely to be subject to the AMT.

⁶⁸ U.S. General Accounting Office, *Experience With the Corporate Alternative Minimum Tax*, (GAO/GGD-95-88), April 1995, p. 36.

Table 4.—Corporate Alternative Minimum Tax Liabilities and Total Corporate Income Tax Liabilities by Industry, 1993 and 1994

	1993			1994		
	AMT (millions of \$)	Income tax after credits (millions of \$)	Industry AMT liability as a percentage of industry total income tax li- ability (per- cent)	AMT (millions of \$)	Income tax after credits (millions of \$)	Industry AMT liability as a percentage of industry total income tax li- ability (per- cent)
Agriculture, forestry, and fish- ing	21	569	3.69	25	603	4.15
Mining	167	738	22.63	213	843	25.27
Construction	67	1,492	4.49	78	1,938	4.02
Manufacturing	1,399	38,071	3.67	1,495	47,698	3.13
Transportation	271	2,675	10.13	371	3,255	11.40
Communication	137	8,274	1.66	82	9,694	0.85
Electric, gas, and sanitary services	541	7,952	6.80	684	9,696	7.05
Wholesale and retail trade	624	15,153	4.12	572	17,662	3.24
Finance, insurance, and real estate	1,472	38,723	3.80	758	34,233	2.21
Services	166	6,284	2.64	228	6,831	3.34
Nature of business not alloca- ble	0.1	4	2.85	0	0.01	0.00
All industries	4,863	119,937	4.05	4,505	132,463	3.40

Notes.—Detail may not add to total due to rounding. 1994 data from SOI advance data sample.

Source: JCT staff calculations from Internal Revenue Service, Statistics of Income (SOI) data.

Table 4 may understate the importance of the AMT for the manufacturing sector. The percentage of corporate AMT taxpayers increases as when the economy experiences a recession and declines with recovery.⁶⁹ The years 1993 and 1994 were years of recovery.

The extent to which the manufacturing, energy, and natural resource industries are subject to the AMT is important for three reasons.⁷⁰ First, survey evidence suggests that the compliance cost to taxpayers required by the AMT may be large. One recent analysis of tax compliance costs of large businesses finds that being subject to the AMT adds 16.9 percent to the personnel and nonpersonnel compliance costs of complying with Federal income taxes.⁷¹ Second, the effect of the AMT on effective tax rates, and thereby on the cost of capital, may change the incentive to undertake marginal investments projects in affected industries and thereby affect the level of aggregate investment.⁷² Lastly, the AMT is viewed by some as an important tool in maintaining fairness in taxation.

Tax provisions under present law relating to the manufacturing, energy, and natural resources industries

As described in Part II above, present law deviates in several ways from theoretical income tax principles in taxing the income of the manufacturing, energy, and natural resources industries. These provisions generally are designed to encourage certain activities and ease the compliance burdens of taxpayers.⁷³ Table 5 below provides data from the staff of the Joint Committee on Taxation with respect to provisions that relate to the manufacturing, energy, and natural resources industries.

⁶⁹ Fixed capital assets produce a schedule of depreciation deductions that is invariant to economic conditions. As the economy enters a recession, business receipts fall. Consequently, corporate income as measured under the regular tax declines, but depreciation deductions generally remain the same. Because, in simple terms, a taxpayer becomes subject to the AMT when its AMT tax preferences and adjustments become large relative to its regular taxable income, a recession increases the likelihood that a business will become an AMT taxpayer. The counter-cyclical nature of the corporate AMT is increased by the rules relating to the AMT credit. Under present law, a corporation that pays AMT in one year may carry forward such amount of AMT as a credit to reduce the corporation's regular, but not AMT, tax liability in a subsequent year. A corporation is more likely to be subject to the regular tax when its gross income rises.

⁷⁰ For a more detailed discussion of issues relating to the corporate and individual alternative minimum taxes see, Joint Committee on Taxation, *Present Law and Issues Relating to the Corporate and Individual Alternative Minimum Tax (AMT)* (JCX-22-95), May 2, 1995.

⁷¹ Joel Slemrod and Marsha Blumenthal, "The Income Tax Compliance Cost of Big Business," Working Paper No. 93-11, The Office of Tax Policy Research, The School of Business Administration, The University of Michigan, July 1993, p. 11.

⁷² One cannot generalize about the effects of the AMT on the cost of capital because the effect varies with the type of investment, the means of finance, and the extent to which the investor is subject to the AMT both currently and in the future. The cost of capital may increase or decrease. See, Andrew B. Lyon, "The Alternative Minimum Tax: Equity, Efficiency, and Incentive Effects," in *Economic Effects of the Corporate Alternative Minimum Tax*, (Washington, D.C.: American Council for Capital Formation Center for Policy Research), 1991, pp. 451-465. The AMT also may affect investment by increasing average tax rates (the total tax paid by the taxpayer) and thereby reducing the potential investor's current cash flow.

⁷³ For more details, see, Joint Committee on Taxation, *Estimates of Federal Tax Expenditures for Fiscal Years 1996-2000* (JCS-21-95), September 1, 1995.

Table 5.—Tax Provisions Relating to the Manufacturing, Energy, and Natural Resources, Fiscal Years 1996–2000

[In billions of Dollars]

Tax Provision	Corporations					Individuals					Total 1996– 2000
	1996	1997	1998	1999	2000	1996	1997	1998	1999	2000	
Manufacturing and general business:											
Depreciation of buildings other than rental housing in excess of alternative depreciation system	3.7	3.2	2.6	1.9	1.5	1.5	1.4	1.1	0.9	0.7	18.5
Depreciation of equipment in excess of alternative depreciation system	22.5	22.2	21.6	21.4	21.1	5.6	5.8	5.8	5.8	5.8	137.6
Energy:											
Expensing of exploration and development costs:											
Oil and gas	0.1	0.2	0.2	0.2	0.2	(1)	(1)	(1)	(1)	(1)	1.0
Other fuels	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	0.1
Excess of percentage over cost depletion:											
Oil and gas	0.3	0.4	0.4	0.4	0.4	0.1	0.1	0.1	0.1	0.1	2.4
Other fuels	(1)	0.1	0.1	0.1	0.1	(1)	(1)	(1)	(1)	(1)	0.5
Credit for enhanced oil recovery costs	(1)	0.1	0.1	0.1	0.1	(1)	(1)	(1)	(1)	(1)	0.3
Credit for non-conventional fuels production	0.9	0.8	0.8	0.8	0.7	0.1	0.1	0.1	0.1	0.1	4.5
Credits for alcohol fuels	(1)	(1)	(1)	(1)	(1)						0.1
Expensing of tertiary injectants	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	0.1
Credit for investments in solar and geothermal energy facilities	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	0.2
Credits for electricity production from wind and biomass	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	0.4
Natural resources:											
Expensing of exploration and development costs, nonfuel minerals	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	0.2
Excess of percentage over cost depletion, nonfuel minerals	0.2	0.2	0.2	0.2	0.2	(1)	(1)	(1)	(1)	(1)	1.0
Investment credit and 7-year amortization for reforestation expenditures	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	0.1
Expensing of multiperiod timber-growing costs	0.4	0.5	0.5	0.5	0.5	(1)	(1)	0.1	0.1	0.1	2.8

Source: Staff of Joint Committee on Taxation estimates.

IV. DESCRIPTIONS OF TAX RESTRUCTURING ALTERNATIVES

The press release by the House Committee on Ways and Means announcing this set of tax restructuring hearings asked all witnesses to comment on the impact of certain basic tax reform proposals. These basic alternatives to replace the current tax system are: (1) a national retail sales tax; (2) a value-added tax; (3) a flat consumption-based tax; (4) a cash flow tax; and (5) a "pure" income tax.

This part of the pamphlet provides brief descriptions of these alternative tax systems. In some cases, the descriptions include summaries of introduced legislation; in other cases, the descriptions are based upon theoretical models of the tax systems. These descriptions provide a summary of the alternative systems and are not intended to provide detailed analyses of specific aspects of the proposed systems. Such analyses will be provided in pamphlets to be prepared for separate hearings.⁷⁴

Other than the "pure" income tax, the alternative tax systems discussed in this section are consumption-based, rather than income-based, taxes. The major difference between a consumption-based tax and an income-based tax generally involves the treatment of savings. Under an income-based tax, returns to savings (e.g., dividends, interest, and capital gains) generally are subject to tax. Under a consumption-based tax, returns to savings generally are excluded from the tax base. Such exclusion may be achieved by taxing consumption directly, excluding investment income from the tax base, or providing a deduction for increased savings.⁷⁵

A. National Retail Sales Tax

1. In general

As the name implies, a retail sales tax is a tax imposed on the retail sales price (i.e., sales to consumers, but not sales of inputs to businesses) of taxable goods or services.

The Federal government currently imposes excise taxes on various products and services.⁷⁶ However, these taxes generally apply to a narrowly defined class of goods and services, and generally are not imposed at the retail level. Rather, as described in Part II, the present-law Federal excise taxes generally are imposed upon manufacturers (as in the case of the alcohol and tobacco excise taxes) or some other intermediate (pre-retail) stage of the distribution of a product (as in the case of the highway motor fuels tax), or are im-

⁷⁴ See Joint Committee on Taxation, *Impact on Small Business of Replacing the Federal Income Tax* (JCS-3-96), April 23, 1996; Joint Committee on Taxation, *Impact on State and Local Governments and Tax-Exempt Organizations of Replacing the Federal Income Tax* (JCS-4-96), April 30, 1996; and Joint Committee on Taxation, *Impact on International Competitiveness of Replacing the Federal Income Tax* (JCS-5-96), July 17, 1996. Additional analysis can be found in Joint Committee on Taxation, *Description and Analysis of Proposals to Replace the Federal Income Tax* (JCS-18-95), June 5, 1995, and Martin A. Sullivan, *Flat Taxes and Consumption Taxes: A Guide to the Debate*, American Institute of Certified Public Accountants, December 1995.

⁷⁵ For a further discussion of the distinctions between consumption-based taxes and income-based taxes and the equivalence among different types of consumption taxes, see Joint Committee on Taxation, *Description and Analysis of Proposals to Replace the Federal Income Tax*, and the citations contained therein.

⁷⁶ See Joint Committee on Taxation, *Schedule of Present Federal Excise Taxes (As of January 1, 1994)* (JCS-5-94), June 28, 1994, for a description of the various Federal excise taxes.

posed upon both the consumers and business users of a good or service (as in the case of the communications services tax ("telephone tax") or the currently-expired air passenger ticket tax).

Most States and many local governments impose general sales taxes within their jurisdictions,⁷⁷ and all States impose some form of excise-type tax on specified goods or services. Although the typical State sales tax is familiar to most consumers and appears simple on its face, several issues may arise in the application of such a tax. State sales taxes generally are designed to apply to most tangible personal property and selected services purchased by consumers.⁷⁸ Certain sales to persons other than consumers (i.e., businesses) may be exempted from the tax in a variety of ways. Exemptions may be provided for goods acquired as "sales for resale," or for articles for use in manufacture, fabrication, or the processing of personal property for resale, if the articles become incorporated in such property. Thus, persons who are not consumers may be subject to the sales tax in certain instances. For example, a furniture maker may be exempt from tax on lumber acquired to manufacture chairs, but would not be exempt from tax on a truck purchased to deliver the chairs to customers. Controversies often arise as to whether articles or services (such as packaging or utility services) are incorporated into goods.⁷⁹ Most States also provide exemptions for acquisitions by the State and its political subdivisions, and charitable, religious, and educational organizations.⁸⁰ In order to address the regressivity of sales taxes, most States exempt food, but impose a tax on candy, soda and prepared meals, thus requiring subtle distinctions between taxable and tax-exempt items. Similarly, most States do not tax sales of intangible property, raising issues as to whether a particular item represents taxable tangible or tax-exempt intangible property.⁸¹ Moreover, most States provide broad taxation of personal property, but only limited taxation of services, raising issues whenever a business provides both taxable goods and tax-exempt services to a customer. For example, an automotive repair shop typically provides both goods (replacement parts) and services (labor on installation of the parts) when it repairs an automobile. Further, a State's sales tax generally does not apply to goods shipped to out-of-State customers.⁸² In such cases, the customer likely is subject to a complementary "use" tax in his or her State of residence. However, there are significant compliance problems with State use taxes.⁸³ Several States mail use

⁷⁷ It has been reported that there are approximately 50,000 separate sales tax jurisdictions in the United States. *Wall Street Journal*, April 18, 1990, p. A1. Alaska, Delaware, Montana, New Hampshire, and Oregon currently do not have broad-based sales taxes. The District of Columbia has a sales tax.

⁷⁸ For a detailed discussion of State and local sales taxes, see Jerome R. Hellerstein and Walter Hellerstein, *State Taxation (Vol. II: Sales and Use, Personal Income, and Death and Gift Taxes)* (Warren, Gorham, Lamont: Boston, MA) 1992.

⁷⁹ See, for example, *Sta-Ru v. Mahin*, 64 Ill. 2d 330 (1976), and *Burger King v. State Tax Commission*, 51 N.Y. 614 (1980) (whether paper and plastic cups and similar items purchased by a fast-food restaurant were subject to State sales taxes.)

⁸⁰ See John Due and J. Mikesell, *Sales Taxation: State and Local Structure and Administration* (1983), pp. 78-80.

⁸¹ See, for example, Robert W. McGee, *Software Taxation*, National Association of Accountants, 1984, chapters 1 and 3, for a discussion of the issues involved in the application of State sales taxes to transfers of computer software.

⁸² Thus, most State sales and use taxes are based on a "destination principle." The destination principle is discussed in detail in the following part of this pamphlet.

⁸³ The ability of one State to require an out-of-State retailer to collect that State's sales or use tax on sales into the State (generally through mail-order catalog sales) is restricted by the

tax forms to all State income taxpayers and rely upon voluntary reporting of taxable out-of-State purchases.

2. Description of the "National Retail Sales Tax Act of 1996" (H.R. 3039)

Recently, there has been interest in replacing the U.S. income tax system with a Federal retail sales tax.⁸⁴ On March 6, 1996, Messrs. Schaefer, Tauzin, Chrysler, Bono, Hefley, Linder, and Stump, introduced H.R. 3039, the "National Retail Sales Tax Act of 1996". Following is a discussion of the bill.

In general

The bill would impose a tax at a rate of 15 percent on gross payments for the use, consumption, or enjoyment in the United States of any taxable property or service, whether produced or rendered within or without the United States. In general, the tax would be imposed and remitted by the seller of the taxable item. "Taxable property or service" would mean (1) any property (including leaseholds of any term or rents with respect to such property other than intangible property), and (2) any service (including any financial intermediation services). The tax would be due when payment for the taxable item is received, even if received pursuant to an installment method. Alternatively, the seller may elect to adopt an accrual method of accounting.

Tax would not be imposed upon any property or service: (1) purchased for resale; (2) purchased to produce taxable property or services; (3) exported from the United States for use, consumption, or enjoyment outside the United States; or (4) with respect certain de minimis amounts. Tuition for general primary, secondary, or university level education and job-related training courses would be treated as purchased to produce taxable property or services. Special rules would apply to property or services purchased for a dual use (i.e., both a taxable and tax-exempt purpose).

Specific rules for certain transactions

Specific rules would be provided for transactions involving governmental units and not-for-profit organizations, purchasers of principal residences, and financial intermediation services.⁸⁵

Governmental units.—Any Federal, State, or local governmental unit or political subdivision would not be exempt from the tax on any sale, purchase, use, consumption, or enjoyment of a taxable good or service by the unit. In addition, an excise tax of 15 percent would be imposed on the wages of Federal, State, and local govern-

Commerce Clause of the U.S. Constitution where the retailer has no physical presence in the State. See *National Bellas Hess, Inc. v. Department of Revenue*, 386 U.S. 753 (1976), and *Quill Corp. v. North Dakota*, 504 U.S. 298 (1992).

⁸⁴ Senator Richard Lugar had proposed that the current Federal taxes be repealed and replaced with a retail sales tax that would be collected by the States on behalf of the Federal Government. *Washington Post*, April 20, 1995. For a discussion of similar proposals, see Laurence J. Kotlikoff, "Economic Impact of Replacing Federal Income Taxes with a Sales Tax," published by the Cato Institute in December 1992, and Stephen Moore, "The Economic and Civil Liberties Case for a National Sales Tax," published for a Hoover Institution conference on May 11, 1995.

⁸⁵ Principal residences and other durable goods and financial intermediation services present special issues under most consumption taxes. These issues will be examined in future pamphlets devoted to these topics.

ment employees; the tax would be collected from the governmental employers.

Not-for-profit organizations.—Dues, contributions, and payments to a qualified not-for-profit organization generally would not be subject to tax. However, payments to a not-for-profit organization would be subject to the tax if the property or service provided in exchange for the payment is not substantially related to the exempt purpose of the organization or is commercially available. The provision of property or personal services by a not-for-profit organization in connection with contributions or dues to the organization would be treated as a taxable transaction in an amount equal to the fair market value of the property or service. Property or personal services acquired by a not-for-profit organization for resale or use in the production of taxable property or services would not be subject to tax. For this purpose, a “qualified not-for-profit organization” generally would be an organization organized and operated exclusively as an organization generally described in present-law sections 501(c)(3), (4), (5), (6), (8) and (10) of the Code, provided that no part of the net earnings of the organization inures to the benefit of any private shareholder or individual. In general, qualified not-for-profit organizations would apply for a qualification certificate from the appropriate State tax administrator.

Principal residences.—A purchaser may elect to pay the tax (plus simple interest computed at the rate imposed by present-law section 6621 of the Code) in equal installments over a 30-year period with respect to property purchased and used as a principal residence. If the property is sold or ceases to be used as a principal residence by the purchaser before the close of the 30-year period, the unpaid balance of the tax would become payable within two years of such sale or cessation.

Financial intermediation.—The tax would be imposed upon explicitly and implicitly charged financial intermediation services. Explicitly charged financial intermediation services would include brokerage fees; explicitly stated banking, loan origination processing, documentation, credit check and other similar fees; safe-deposit fees; insurance fees (to the extent not allocable to the investment account of the underlying insurance policy); trustee’s fees; and other financial service fees, including mutual fund management, sales, and exit fees. Providers of these services would be subject to tax on the amount charged for the services. Implicitly charged financial intermediation services generally would be determined based upon the difference between the rate of interest earned on any underlying interest-bearing investment and the interest paid on any underlying interest-bearing debt.

International aspects of the tax.—The tax would be imposed on payments for the use, consumption, or enjoyment in the United States of any taxable property or service, whether produced or rendered within or without the United States. The tax normally would be collected from the seller of a taxable good or service; however, in the case of a taxable good or service purchased outside the United States for use, consumption or enjoyment in the United States, the tax would be collected from the purchaser. The tax would be imposed in addition to any import duties imposed by law and the Secretary of the Treasury would be instructed to issue regulations

to coordinate the collection and administration of the tax and import duties.

A financial intermediation service would be deemed to be used, consumed, or enjoyed in the United States if the service provider or any related party has a permanent establishment in the United States and the person purchasing the service is a U.S. resident. In the case of transportation services where either the origin or the final destination of the trip is outside the United States, the service amount would be deemed to be 50 percent attributable to the United States origin or destination.

Credits and rebates

The bill would provide credits with respect to sales of used property, property converted to business use, taxes collected on exempt purchases, administrative costs, compliance equipment costs, and over-collected taxes. These credits may result in a tax refund if the taxpayer files two consecutive tax reports with a credit balance. The used property tax credit is designed to alleviate the cascading of tax when taxable goods are acquired by a consumer, sold to a used goods dealer, and then resold by the dealer to another consumer. The business use conversion credit would allow a credit when a consumer devotes a previously-taxed item to exclusive use in the consumer's business. The administrative costs credit would be an amount equal to the greater of \$100 or one-half of one percent of the tax remitted by the taxpayer. The administrative costs credit could not exceed 20 percent of the tax remitted, determined before the application of the credit. The compliance equipment costs credit would be an amount equal to 50 percent of the cost of equipment that a vendor must purchase to comply with the requirement (described below) that the amount of tax be stated and separately charged.

The bill would provide a family consumption rebate for each qualified family unit. The amount of the rebate would be 15 percent of the lesser of: (1) the poverty level of the family, or (2) the wage income of the family unit. The qualified family unit would be determined with respect to family members sharing a common residence. The poverty level of the family would be the quotient of (1) the level determined by the Department of Health and Human Services poverty guidelines for family units of a particular size, divided by (2) 85 percent. The size of the family unit would be determined by including each spouse or head of household, child, grandchild, parent and grandparent. Family members would include certain students living away from home and exclude persons over the age of two without a bona fide Social Security number and unlawful residents of the United States. The rebate would be provided by adjusting the Social Security taxes to be withheld from the wages of employees.

Administration of the tax

The sales tax would be charged separate from the purchase price of each taxable sale. Vendors would be required to provide purchasers with a receipt that sets forth the tax-exclusive price of the taxable item, the amount of tax paid, the tax-inclusive price of the

taxable item, the tax rate, the date the item was sold, and the vendor's name and registration number.

Any person liable to collect and remit the tax who is engaged in an active trade or business would register with the appropriate taxing authority. Taxpayers would be required to pay the tax on or before the 25th day following the month in which the tax was collected, and to file a report that sets forth the gross receipts on taxable items for the month, the tax collected in connection with these payments, and the amount and types of credits claimed. Interest would apply to late receipts. Civil or criminal penalties would apply to late filings; failures to register; and failures to collect, remit, or pay the tax.

The tax would be administered, collected, and remitted to the Federal government by an administering State within which taxable items are used, consumed, or enjoyed. A State would be an administering State if it maintains a sales tax that significantly conforms to the Federal tax and enters into a cooperative agreement with the Secretary of the Treasury regarding the State's administration of the tax. Administering States would be allowed to retain one percent of the Federal tax as an administration fee. A conforming State may contract with another conforming State to administer its sales tax. The Secretary of the Treasury would administer the tax in jurisdictions that are not administering States, where the administering State has failed on a regular and sustained basis timely to remit the tax to the United States, where the administering State has been adjudicated to have breached the cooperative agreement, and with respect to certain multistate vendors. Special rules would determine the situs of the use, consumption or enjoyment of a taxable item based on a destination principle. The Secretary of the Treasury would be required to issue guidance with respect to the tax and to establish an Office of Revenue Allocation to arbitrate claims and disputes among administering States.

Appropriations to the Internal Revenue Service ("IRS") would not be authorized after fiscal year 2000. An Excise Tax Bureau would be established to administer and collect excise tax formerly collected by the IRS, and the Social Security Administration would administer and collect payroll taxes.

B. Value-Added Tax

1. In general

A value-added tax ("VAT") generally is a tax imposed and collected on the "value added" at every stage in the production and distribution process of a good or service. Although there are several ways to compute the taxable base for a VAT, the amount of value added generally can be thought of as the difference between the value of sales (outputs) and purchases (inputs) of an enterprise.⁸⁶

⁸⁶ Previous publications by the staff of the Joint Committee on Taxation have discussed some of the broad tax policy and economic issues to be considered in deciding whether a VAT should be enacted and have described the mechanics of various VAT systems. Numerous other publications also address these issues. See, e.g., Joint Committee on Taxation, *Description and Analysis of Proposals to Replace the Federal Income Tax*; Joint Committee on Taxation, *Factors Affecting the International Competitiveness of the United States* (JCS-6-91), May 30, 1991 (Part Three: "Discussion of Value-Added Taxes"), pp. 269-341; Joint Committee on Taxation, *Description of Tax Bills ... S. 442 (Value Added Tax) ...* (JCS-11-89), May 11, 1989 (Part III.C., "Analysis of Specific Issues"), pp. 9-31; Department of the Treasury, *Tax Reform for Fairness, Simplicity, and*

The amount of value added may be determined under a VAT in a number of ways. The two most common methods are the credit-invoice method and the subtraction method.⁸⁷ The credit-invoice method is the system of choice in nearly all countries that have adopted a VAT,⁸⁸ while the subtraction method has been used in the States of Michigan and New Hampshire.⁸⁹ A subtraction-method VAT is also sometimes referred to as a business transfer tax.

2. Credit-invoice method VAT

Under the credit-invoice method, a tax is imposed on the seller for all of its sales. The tax is calculated by applying the tax rate to the sales price of the good or service, and the amount of tax generally is disclosed on the sales invoice. A business credit is provided for all VAT paid on all purchases of taxable goods and services (i.e., "inputs") used in the seller's business. The ultimate consumer (i.e., a non-business purchaser), however, does not receive a credit with respect to his or her purchases. The VAT credit for inputs prevents the imposition of multiple layers of tax with respect to the total final purchase price (i.e., "cascading" of the VAT). As a result, the net tax paid at a particular stage of production or distribution is based on the value added by that taxpayer at that stage of production or distribution. In theory, the total amount of tax paid with respect to a good or service from all levels of production and distribution should equal the sales price of the good or service to the ultimate consumer multiplied by the VAT rate.

In order to receive an input credit with respect to any purchase, a business purchaser generally is required to possess an invoice from a seller that contains the name of the purchaser and indicates the amount of tax collected by the seller on the sale of the input to the purchaser. At the end of a reporting period, a taxpayer may calculate its tax liability by subtracting the cumulative amount of

Economic Growth, Vol. 3, "Value-Added Tax" (1984); Congressional Budget Office, *Effects of Adopting A Value-Added Tax*, February 1992; Government Accounting Office, *Value Added Tax: Administrative Costs Vary with Complexity and Number of Businesses*, GAO/GGD-93-78, May 1993; Alan Schenk, *Value Added Tax: A Model Statute and Commentary*, American Bar Association Section on Taxation, (1989); Martin A. Sullivan, *Flat Taxes and Consumption Taxes*, American Institute of Certified Public Accountants, December 1995; Lorence L. Bravenec, *Design Issues in a Credit Invoice Method Value-Added Tax for the United States*, American Institute of Certified Public Accountants, (1990); Tax Executives Institute, *Value-Added Taxes: A Comparative Analysis*, (1992); Congressional Research Service, *Value-Added Tax: Tax Bases and Revenue Yields* (CRS Report 92-176E), November 23, 1992 (and publications cited therein); Charles E. McClure, Jr., *The Value-Added Tax: Key to Deficit Reduction?*, American Enterprise Institute for Public Policy Research, Washington, D.C. (1987); and Alan A. Tait, *Value Added Tax, International Practice and Problems*, International Monetary Fund, Washington, D.C. (1988).

⁸⁷ An addition method may also be used to compute value added. An addition method measures value added as the sum of wages, interest expense, and cash-flow profits of an entity (i.e., the returns to labor and financial capital of a business). The addition method is disfavored by some VAT commentators generally because of the difficulty in measuring cash-flow profits, but may have utility in certain instances (e.g., for measuring the value added of a not-for-profit organization).

⁸⁸ It is reported that Japan imposes a version of an "accounts-based" subtraction method VAT. The Japanese VAT also has elements of the credit-invoice method. See Tax Executives Institute, *Value-Added Taxes: A Comparative Analysis* (1992), p. 80.

⁸⁹ The subtraction method also has been proposed in several recent U.S. legislative proposals. See, e.g., the business tax components of the flat taxes proposed in H.R. 2060 and S. 1050 as introduced by Mr. Arney and Senator Specter on July 19, 1995 (described below); the "Business Transfer Tax" of S. 2160 (103rd Cong.) proposed by Senators Boren and Danforth on May 26, 1994; and the business tax component of the "USA Tax" proposed in S. 722 as introduced by Senators Domenici and Nunn on April 25, 1995 (described below). In addition, Mr. Gibbons, although he has not introduced legislation to date, has supported the adoption of a VAT in his testimony before the Bipartisan Commission on Entitlements and Tax Reform on October 6, 1994, the Committee on Ways and Means in 1995, and in various writings.

tax stated on its purchase invoices from the cumulative amount of tax stated on its sales invoices.

Example 1. Simple credit-invoice method VAT.—Assume a landowner sells felled trees to a paper mill for \$1,000. The landowner had not been subject to tax with respect to anything used in the production of the trees. The paper mill processes the trees into rolls of paper and sells the rolls to a distributor for \$1,300. The distributor cuts the rolls into sheets, packages the sheets, and sells the packages to a retail stationery store for \$1,500. The retail stationery store sells the entire lot of packages to nonbusiness consumers for \$2,000. The jurisdiction in question levies a broad-based VAT at a rate of 10 percent. The tax would be determined as follows:

Production stage	Sales	VAT on sales	VAT on purchases	Net VAT
Landowner	$\$1,000 \times .1$	= \$100	— (0)	= \$100
Paper mill	$1,300 \times .1$	= 130	— (100)	= 30
Distributor	$1,500 \times .1$	= 150	— (130)	= 20
Retail store	$2,000 \times .1$	= 200	— (150)	= 50
Total	580	— (380)	= 200

Thus, a total of \$200 of VAT is assessed and collected in various amounts from the four stages of production. If, instead of a VAT, the jurisdiction in question levied a retail sales tax at a rate of 10 percent, the total amount of tax also would be \$200 (\$2,000 sales price times 10 percent), all collected by the stationery store at the retail level.

3. Subtraction-method VAT

Under the subtraction method, value added is measured as the difference between an enterprise's taxable sales and its purchases of taxable goods and services from other enterprises. At the end of the reporting period, a rate of tax is applied to this difference in order to determine the tax liability. The subtraction method is similar to the credit-invoice method in that both methods measure value added by comparing outputs (sales) to inputs (purchases) that have borne the tax. The subtraction method differs from the credit-invoice method principally in that the tax rate is applied to a net amount of value added (sales less purchases) rather than to gross sales with credits for tax on gross purchases (as under the credit-invoice method). The determination of the tax liability of an enterprise under the credit-invoice method relies upon the enterprise's sales records and purchase invoices, while the subtraction method may rely upon records that the taxpayer maintains for income tax or financial accounting purposes.

Example 2. Simple subtraction method VAT.—Assume the same facts as in Example 1 above. The subtraction method VAT would operate as follows:

Production stage	Sales	-	Purchases	=	Value added	× rate	=	VAT
Land-owner	\$1,000	-	(0)	=	\$1,000	× .1	=	\$100
Paper mill ...	1,300	-	(1,000)	=	300	× .1	=	30
Distributor	1,500	-	(1,300)	=	200	× .1	=	20
Retail store	2,000	-	(1,500)	=	500	× .1	=	50
Totals ...					2,000	× .1	=	200

Comparing Examples 1 and 2, the credit-invoice and subtraction methods yield the same amounts of tax at the same levels of production.

4. Exclusions under a VAT

Most VATs provide exclusions for various goods and services, or classes of taxpayers, for economic, social, or political reasons. Certain goods and services are excluded from the VAT due to difficulties in measuring either the amount of the value added or the element of consumption (as opposed to the investment element) with respect to the good or service. In addition, as described in detail below, most VATs adopted to date provide special treatment for imported and exported goods and services.⁹⁰

Goods, services, or classes of taxpayers may be excluded from a VAT either by providing a "zero rating" or through an exemption. There may be significant differences between these two alternatives, particularly under the credit-invoice method. If a sale is zero-rated, the sale is considered a taxable transaction, but the rate of tax is zero percent. Sellers of zero-rated goods or services do not collect or remit any VAT on their sales of those items, but are required to register as taxpayers. Sellers of zero-rated items are allowed to claim credits (and perhaps a refund to the extent the taxpayer does not have taxable sales) for the VAT they paid with respect to purchased goods and services.

Similarly, a seller of goods or services that is exempt is not required to collect any VAT on its sales. However, because such sellers are not considered taxpayers under the VAT system, they may not claim any refunds of the VAT that they may have paid on their purchases. In addition, under the credit-invoice method, purchasers of exempt goods or services generally are not allowed a credit for any VAT borne with respect to such goods or services prior to the exempt sale. Consequently, a VAT exemption, as opposed to a zero rating, in a credit-invoice system breaks the chain between inputs and outputs along the various stages of production and distribution and may result in a cascading of the tax (i.e., total tax collected from all stages of production would be greater than the retail sales price of the good times the VAT rate). For this reason, most VAT

⁹⁰ See the following discussion for the general treatment of imported and exported goods and services under consumption-based taxes.

commentators, while recognizing that exemptions may be useful in easing the administrative and recordkeeping burdens of certain targeted taxpayers or transactions (such as small businesses or casual sales), prefer zero rating as the means of providing VAT relief under the credit-invoice method.

There is little practical experience available to assess how exclusions would operate under a subtraction-method VAT. It is, however, theoretically possible to design exclusions under a subtraction method that replicate the effects of either zero rating or exemptions under a credit-invoice VAT. Moreover, exemptions under the subtraction method may relieve the tax on the value added by the exempted activity, but do not result in the cascading that occurs with exemptions under the credit-invoice method.

5. Border adjustments

VATs generally are imposed based upon either an "origin principle" or a "destination principle." A VAT based on the origin principle imposes tax on goods or services produced in the jurisdiction that imposes the tax. Under the origin principle, exports are subject to tax while imports are not. Conversely, a VAT based on the destination principle imposes tax on goods or services consumed in the jurisdiction that imposes the tax. Under the destination principle, imports are subject to tax and the tax on exports is rebated. These import charges and export rebates are commonly referred to as "border adjustments" and are a part of nearly all VAT systems currently in place.⁹¹

Under the border adjustments, exported goods would not be subject to the credit-invoice VAT through zero-rating the sale of exported goods (i.e., by applying a VAT rate of zero to exports, thus allowing the exporter to claim refundable credits for VAT paid with respect to the purchased inputs). On the other hand, importers would be subject to tax on the full value of imported goods (because inputs with respect to such products previously had not been subject to the U.S. VAT). Similar treatment would be provided for imported and exported services. Under a subtraction-method VAT, border adjustments could be provided by not including export sales as taxable transactions and by treating the value of imported items as a taxable sale.

Border adjustments are fully consistent with the General Agreement on Tariffs and Trade (GATT), as long as they do not discriminate against imports or provide over-rebates on exports. Relief from "indirect" taxes on exports does not constitute an illegal export subsidy, while relief from "direct" taxes (such as income taxes) is illegal. "Indirect" taxes are defined to include value-added taxes, and credit-invoice VATs have been accepted as border-adjustable under GATT. Although a subtraction-method VAT has the same base as a credit-invoice VAT, it is not clear whether a subtraction-method VAT is an indirect tax and whether border adjustments under the subtraction-method are GATT-legal.⁹² Further, because there are

⁹¹ A more complete discussion of border adjustments under a VAT can be found in Joint Committee on Taxation, *Impact on International Competitiveness of Replacing the Federal Income Tax* (JCS-5-96), July 17, 1996.

⁹² See George N. Carlson and Richard A. Gordon, "VAT or Business Transfer Tax: A Tax on Consumers or on Business?" *Tax Notes*, October 17, 1988, p. 329.

no pure subtraction-method VATs currently in existence, there have been no GATT challenges or test cases with respect to the legality of subtraction-method border adjustments.

C. Consumption-Based "Flat" Tax

1. In general

A "flat tax" generally is any tax system with only one marginal tax rate.⁹³ For example, one could construct a flat tax out of the current individual income tax by eliminating all but one marginal rate bracket and repealing provisions that impose higher marginal rates by reducing deductions or exclusions (e.g., the personal exemption phaseout and the limitation on itemized deductions). While such a tax would be a flat tax on the basis of its single rate bracket, it would still contain dozens of tax expenditure provisions, including the home mortgage interest deduction, the charitable contribution deduction, the deduction for State and local income taxes, the earned income tax credit, and the dependent care credit.

Many of the flat tax proposals that have been developed do more than simply apply one rate to the current individual income tax base. In addition, they redefine the base of the tax. As discussed above, there are two main approaches: a consumption base and an income base. The gross income of a taxpayer in any year can be thought of as the sum of the taxpayer's consumption and gross saving. The difference between these two approaches is in the treatment of saving. An income-based tax includes the return to saving in the tax base; a consumption-based tax does not.

2. Description of H.R. 2060 and S. 1050

There have been several consumption-based flat taxes introduced in recent Congresses.⁹⁴ On March 2, 1995, Senator Specter introduced S. 488. On January 4, 1995, Mr. Crane introduced H.R. 214, "The Tithe Tax." In the 103rd Congress, on January 26, 1993, Senator Helms introduced S. 188, "The Tithe Tax," and on June 16, 1994, Mr. Arney introduced H.R. 4585, "The Freedom and Fairness Restoration Act of 1994." House Majority Leader Arney modified his flat tax proposal and introduced H.R. 2060 on July 19, 1995. Senator Shelby introduced a companion bill, S. 1050, in the Senate on the same date. The subsequent discussion provides a description of H.R. 2060 and S. 1050.

Overview

H.R. 2060 and S. 1050 are based on a flat tax developed by Professors Robert Hall and Alvin Rabushka of Stanford University.⁹⁵ In general, the tax described in the bills is a consumption-based flat tax that is imposed at single rate upon individuals and businesses. An individual is taxed on the amount by which the individ-

⁹³ A bracket with a marginal rate of zero also could be provided by allowing a standard deduction and personal exemptions. As long as only one bracket has a marginal tax rate greater than zero, the tax would commonly be referred to as a "flat tax."

⁹⁴ The bills describe flat taxes because the taxes would be imposed at a single rate on taxable income. These flat taxes generally may be described as consumption-based because in determining taxable income, returns on investment assets would be excluded and businesses would be allowed to expense the cost of capital assets.

⁹⁵ See Robert E. Hall and Alvin Rabushka, *Low Tax, Simple Tax, Flat Tax* (New York: McGraw-Hill), 1983.

ual's wages and distributions from qualified plans exceed the individual's standard deduction. The business activities tax is a subtraction-method VAT, with deductions for wages and contributions to retirement plans. The business activities tax proposed by the bills resembles a subtraction-method VAT, as described above. The difference between the bills' business activities tax and a subtraction-method VAT is that the bills would allow businesses to deduct compensation expenses, while VATs generally do not allow compensation deductions. However, under the bills, the receipt of such compensation is subject to tax at the individual level at the same flat rate applicable to businesses. Thus, the combination of the business activities tax and the individual tax is roughly equivalent to a VAT. The combination of the individual and business taxes under H.R. 2060 and S. 1050 is not exactly equivalent to a VAT because of the allowance for standard deductions under the individual-level tax. Alternatively, the bills could be viewed as a VAT that provides individuals with built-in exemptions for a minimum amount of consumption.⁹⁶ Following is a more detailed description of the bills.

Taxation of individuals

The bills would impose a tax equal to 20 percent (the tax rate is reduced to 17 percent for taxable years beginning after December 31, 1997) of the excess (if any) of: (1) certain earned income received during the taxable year over (2) the standard deduction for the year. For this purpose, earned income subject to tax would be wages paid in cash for services provided in the United States, distributions from retirement plans, and unemployment compensation.

Under the bills, the "standard deduction" would be the sum of a "basic standard deduction" plus the "additional standard deduction." As under present law, the amount of the basic standard deduction would be determined based on the individual's filing status as provided in Table 4 below. (For the sake of comparison, the amounts of standard deductions allowable under present law also are provided in the table.)

Table 6.—Comparisons of "Standard Deductions" Under H.R. 2060, S. 1050, and Present Law

Filing status ¹	H.R. 2060 and S. 1050 basic standard deduction	Present-law stand- ard deduction ²
Joint return	\$21,400	\$6,550
Surviving spouse	21,400	6,550
Head of household	14,000	5,750
Married filing separately ...	10,700	3,275

⁹⁶ As described by Robert E. Hall and Alvin Rabushka in "The Flat Tax: A Simple Progressive Consumption Tax," a paper prepared for a Hoover Institution conference of May 11, 1995, the exemption amounts of their proposed flat tax are intended to provide relief for lower income individuals under their consumption-based tax.

Table 6.—Comparisons of “Standard Deductions” Under H.R. 2060, S. 1050, and Present Law—Continued

Filing status ¹	H.R. 2060 and S. 1050 basic standard deduction	Present-law stand- ard deduction ²
Single	10,700	3,900

¹The determination of an individual's filing status under the bills is the same as under present law.

²The amounts shown for the standard deductions apply for calendar year 1995. These amounts are indexed annually for inflation.

In addition, individuals who are blind or age 65 or older may increase their standard deductions under present law. These additional deduction amounts are not provided under the bills.

Under the bills, the “additional standard deduction” would be an amount equal to \$5,000 multiplied by the number of dependents of the taxpayer. (Under present law, a \$2,500 exemption amount is allowed for calendar year 1995 for the taxpayer, his or her spouse, and each dependent of the taxpayer. The exemption amounts are indexed annually for inflation.) Similar to present law, the basic standard deduction and the additional standard deduction amounts under the bills would be indexed for inflation.

Taxable income of an individual would include the otherwise taxable income of his or her dependent children under the age of 14.

Taxation of business activities

In general.—The bills would impose a tax equal to 20 percent (the tax rate is reduced to 17 percent for taxable years beginning after December 31, 1997) of the business taxable income of a person engaged in a business activity. The tax would be imposed on the person engaged in a business activity, whether such person is an individual, partnership, corporation, or otherwise. For this purpose, “business taxable income” would mean gross active income reduced by specified deductions. “Gross active income” would mean gross receipts from (1) the sale or exchange of property or services in the United States by any person in connection with a business activity and (2) the export of property or services from the United States in connection with a business activity.

The bills would allow deductions for (1) the cost of business inputs for the business activity, (2) wages paid in cash to employees for the performance of services in the United States, and (3) contributions to qualified retirement plans or arrangements. For this purpose, “the cost of business inputs” would mean (1) the amount paid for property sold or used in connection with a business activity, (2) the amount paid for services (other than for services of employees, including fringe benefits), and (3) any excise tax, sales tax, customs duty or other separately stated levy imposed by a Federal, State, or local government on the purchase of property or services used in connection with a business activity (other than the flat tax).

If a taxpayer's aggregate deductions for any taxable year exceed its gross active income for the year, the amount of deductions allowed for the succeeding taxable year would be increased by the

sum of (1) the excess, plus (2) the product of the excess and the three-month Treasury rate for the last month of the taxable year.

International transactions.—The bills would impose the business tax based on the origin principle.⁹⁷ That is, proceeds from the sale or exchange of property or services produced in the United States would be subject to tax, even if such property or service are exported outside the United States. There would be no separate tax on imported goods or services. Deductions would be allowed with respect to inputs for business activity conducted within the United States, whether such inputs are acquired from U.S. or foreign sources.⁹⁸

Special rules.—The bills would provide special rules for financial intermediation service activities and noncash compensation provided by employers not engaged in a business activity. The taxable income from the business activity of providing financial intermediation services would be the value of such services.

Governmental entities and other tax-exempt organizations would not be subject to the business activities tax. However, these entities would be subject to a tax equal to 20 percent (the tax rate is reduced to 17 percent for taxable years beginning after December 31, 1997), on the amount of remuneration for services performed by an employee other than (1) wages, (2) remuneration for services performed outside the United States, or (3) retirement contributions to qualified plans or arrangements (i.e., fringe benefits would be subject to the tax).

Treatment of qualified retirement plans

The bills would make several changes to the present-law treatment of qualified retirement plans. Specifically, the bills would expand the availability of qualified retirement plans by repealing nondiscrimination rules, contribution limits, and excise taxes on premature distributions, and by removing restrictions relating to self-employed individuals and tax-exempt organizations and governments. The bills also would provide rules regarding the transfer of excess pension assets.

D. Cash Flow Tax

1. In general

A cash flow tax is a personal consumption tax imposed on the net cash flow of an individual taxpayer. The base of the tax is determined by subtracting a deduction for net increases in savings from the gross income of the taxpayer. Under a pure cash flow tax, withdrawals from savings and net borrowings would be treated as gross income. Thus, a cash flow tax differs from a consumption tax such as a retail sales tax in that the cash flow tax can be levied and collected from individual taxpayers rather than businesses. This per-

⁹⁷ Because the flat taxes of H.R. 2060 and S. 1050 allow businesses deductions for wages, some commentators have suggested that the taxes would be classified as a "direct" tax and thus could not be designed as a destination-principle tax that is in compliance with GATT rules. See, e.g., Reuven S. Avi-Yonah, "The International Implications of Tax Reform", *Tax Notes*, November, 13, 1995, p. 916.

⁹⁸ These rules are consistent with the flat tax as originally designed by Professors Hall and Rabushka. See Robert E. Hall and Alvin Rabushka, *Low Tax, Simple Tax, Flat Tax* (New York: McGraw-Hill), 1983, pp. 51-2.

sonalization of the tax can measure the consumption of an individual taxpayer and allows the application of a progressive rate structure.

2. Description of the "USA Tax Act of 1995" (S.722)

Overview

On April 25, 1995, Senators Sam Nunn and Pete Domenici introduced a form of a cash flow tax in S. 722, (the "USA Tax Act of 1995"). In general, S. 722 would replace the current individual income tax with a "savings-exempt income tax"—a broader-based individual income tax with an unlimited deduction for net new saving. The tax would be imposed using a three-tier graduated rate schedule. In addition, S. 722 would replace the current corporate income tax with a subtraction-method VAT imposed on all businesses at a rate of 11 percent. Thus, in general, the bill would apply two different consumption-based taxes—a cash flow tax on individuals and a VAT on businesses. The bill also would provide individuals with a refundable credit against the individual tax for employee payroll taxes paid by them, and businesses with a credit against the business tax for employer payroll taxes paid by them. Following is a more detailed description of the bill.

Treatment of individuals under the "savings exempt income tax"

The individual tax, or "savings exempt income tax," would be a broad-based income tax with an unlimited deduction for new savings. In other words, it is a modified version of a personal consumption tax with one principal distinction. As discussed in more detail below, borrowing would not be included in income, but rather would only reduce (but not below zero) the net saving deduction. Thus, unlike a personal consumption tax, a net borrower would not pay tax on an amount greater than his income in a given year, even though the net borrowing reflects additional consumption. This additional consumption generally would be taxed as the loan is repaid.

The individual tax would have a three-tier graduated tax rate structure. As under present law, separate rate schedules would apply based on an individual's filing status. The rate structure would be phased in from 1996 to 1999. After 1999, the individual income tax rate schedules would be as follows:

Table 7.—Individual Income Tax Rates Under S. 772¹

If taxable income is	Then income tax equals
<i>Single individuals</i>	
\$0–\$3,200	8 percent of taxable income.
\$3,200–\$14,400	\$320 plus 19% of the amount over \$3,200.
Over \$14,400	\$2,560 plus 40% of the amount over \$14,400.
<i>Heads of households</i>	
\$0–\$4,750	8 percent of taxable income.
\$4,750–\$21,100	\$380, plus 19% of the amount over \$4,750.

**Table 7.—Individual Income Tax Rates Under S. 772¹—
Continued**

If taxable income is	Then income tax equals
Over \$21,100	\$3,486.50, plus 40% of the amount over \$21,100.
<i>Married individuals filing joint returns</i>	
\$0—\$5,400	8 percent of taxable income.
\$5,400—\$24,000	\$432, plus 19% of the amount over \$5,400.
Over \$24,000	\$3,966, plus 40% of the amount over \$24,000.
<i>Married individuals filing separate returns</i>	
\$0—\$2,700	8 percent of taxable income.
\$2,700—\$12,000	\$216, plus 19% of the amount over \$2,700.
Over \$12,000	\$1,983, plus 40% of the amount over \$12,000.

¹The rate schedules are expressed in 1996 dollars and would be indexed for inflation beginning in 1997.

Gross income would be defined broadly to include salaries and wages, pensions, most fringe benefits, annuities, life insurance proceeds, alimony and child support payments, dividends, distributions from partnerships and proprietorships, rents, royalties, interest (other than tax-exempt interest), includible social security benefits, and proceeds from the sale of assets. Exclusions from gross income would be limited to tax-exempt bond interest,⁹⁹ gifts and bequests, certain government transfer and similar payments, certain health care payments and reimbursements, certain military pay and veteran's benefits, and a portion of social security payments (generally as under present law).

An individual would be allowed a deduction for any increase in his or her "net savings" during the year. "Net savings" would be the taxpayer's additions to qualified savings assets during the year over taxable withdrawals from qualified savings assets during the year. An annual decrease in net savings would constitute taxable income. Borrowing would not be treated as a withdrawal from saving, but generally would reduce (but not below zero) the amount of "net savings" that could be deducted in a taxable year.¹⁰⁰ In addition, "net savings" would be reduced by interest income on tax-exempt bonds.

Qualified savings assets would include stocks, bonds, securities, certificates of deposits, interests in proprietorships and partnerships, mutual fund shares, life insurance policies, annuities, retirement accounts, and bank, money market, brokerage and other similar money accounts. Qualified savings assets would not include investments in land, collectibles, or cash on hand.

Under the bill, in addition to certain itemized deductions (discussed below) each taxpayer would be entitled to two types of standard deductions: (1) a family living allowance, and (2) a per-

⁹⁹ This exemption may be worth less than under present law, because the "tax" on taxable interest may be deferred under the savings deduction.

¹⁰⁰ Certain types of debt would not reduce deductible "net savings" in a taxable year, including mortgage debt on a principal residence, debt (of \$25,000 or less) to purchase consumer durables, credit card and similar debts, and \$10,000 of other debts.

sonal and dependency deduction. The family living allowance and the personal and dependency deductions under the bill are comparable to the standard deductions and personal exemptions of present law, respectively.

The bill would continue to allow deductions for qualified home mortgage interest¹⁰¹ and charitable contributions. In contrast to current law, these itemized deductions would be allowed in addition to the standard deduction, rather than in lieu of the standard deduction. Other deductions allowable under present law generally would be eliminated, such as itemized deductions for state and local taxes and medical expenses. The bill would allow a new deduction for certain qualified educational expenses. This deduction generally would be limited to \$2,000 per eligible student per year, and to \$8,000 in total per year.

The bill would allow certain credits against the amount of tax due. First, a foreign tax credit would be allowed in a manner similar to present law. Second, a credit generally would be allowed for the employee share of payroll taxes paid by the taxpayer. Third, for low-income individuals, an earned income credit similar to present law would be allowed.

The bill would provide certain transition rules (e.g., recovery of pre-transition basis) for purposes of the individual tax. A discussion of these rules is beyond the scope of this pamphlet.

Business tax

In general.—The bill would impose a subtraction-method VAT on any business that sells or leases property or sells services in the United States. The tax would equal 11 percent of the “gross profits” of the business for the taxable year. “Gross profits” generally is the amount by which the taxpayer’s taxable receipts exceed the taxpayer’s business purchases for the taxable year. If the taxpayer’s business purchases exceed its taxable receipts for the taxable year, the taxpayer generally would be entitled to a loss carryover to future taxable years. Employer payroll taxes paid by the business may be credited against the business tax.

“Taxable receipts” generally would mean all receipts from the sale or lease of property and the performance of services in the United States. The amount treated as taxable receipts from the exchange of property or services is the fair market value of the property or services received, plus any cash received. Taxable receipts do not include: (1) any excise tax, sales tax, customs duty, or other separately stated levy imposed by the Federal, a State, or a local government on property or services, or (2) financial receipts, such as interest, dividends, or proceeds from the sale of stock or other ownership interests.

“Business purchases” generally would mean any amount paid or incurred to purchase property, the use of property, or services for use in a business activity in the United States other than: (1) compensation paid to employees; (2) payments for use of money or capital, such as dividends or interest, (3) life insurance premiums; (4) amounts paid for the acquisition of savings assets or financial in-

¹⁰¹ The home mortgage deduction generally would be the same as under present law, except that no deduction would be allowed for “home equity indebtedness.” See Code section 163(h)(3).

struments; and (5) amounts paid for property purchased or services performed outside the United States (unless treated as an import). The cost of a business purchase does not include any taxes other than any excise tax, sales tax, customs duty, or other separately stated levy imposed by the Federal, a State, or a local government with respect to the property or services purchased for use in a business activity. "Business activity" means the sale of property or services, the leasing of property, and the development of property or services for subsequent sale or use in producing property or services for subsequent sale. A business activity would not include casual or occasional sales of property.

International aspects.—The business tax generally is based on the destination principle. Goods and services sold in the United States are subject to tax; export sales are not subject to tax. Deductions are allowed only for expenditures relating to the conduct of a business activity in the United States. For purposes of the business tax, the term "United States" would not include the U.S. possessions. A separate tax, imposed at a rate of 11 percent, would apply to the customs value of any property entering the United States (other than property that may be entered duty free under Chapters I through VII of chapter 98 of the Tariff Schedules of the United States). Similarly, recipients of imported services would be subject to an 11-percent tax on the cost of such services. Deductions would be allowed for imported property or services used in a business activity in the United States. The amount of such deductions would be based on the amount upon which the separate import taxes are based; deductions would not be allowed for the amount of the import tax.

Services would be treated as imported or exported based upon where the benefit of the service is realized. If a business entity acquires services from a service provider that provides services both inside and outside the United States, the business entity and the service provider would treat the services as provided as indicated on the invoice provided by the service provider. In the absence of an invoice, the business entity would treat the services as provided in the location to which payment is sent and the service provider would treat any payments received as taxable receipts. Special rules and regulations would apply to international transportation services, international communication services, insurance services, and banking and other financial intermediation services.

Accounting methods.—In computing its gross profits, a taxpayer generally would be required to use an accrual method of accounting. For this purpose, an amount would not be treated as incurred earlier than when "economic performance" with respect to the item has occurred (Code sec. 461(h).) Businesses presently using the cash receipts and disbursements method, however, generally could continue to use that method. The Secretary of Treasury also could allow certain new businesses to use the cash method. The taxpayer's method of accounting could be changed only with the permission of the Secretary. Special accounting rules would apply with respect to property produced pursuant to long-term contracts.

Financial intermediation services.—The bill would impose the business tax on the provision of financial intermediation services. Special rules would apply to determine the taxable amount derived

from financial intermediation services. In addition, the bill would permit the business user of financial intermediation services to deduct as business purchases any stated fees for such services and any implicit fees allocated and reported to it by the financial intermediary. The bill would provide a method (and reporting mechanism) for allocating the value of financial intermediation services among users of the services.

Government and non-profit entities.— Government entities would not be subject to the business tax with respect to the following activities: (1) public utility services; (2) mass transit services; and (3) any other activity involving an “essential governmental function.” Any other government activity of a type “frequently provided by business entities” would be subject to tax. The governments of possessions of the United States would not be subject to the business tax.

The bill generally would exempt the following types of entities from the business tax: (1) instrumentalities of the United States, (2) organizations described in present-law Code section 501(c)(3),¹⁰² (3) certain qualified benefit plans and trusts, (4) religious and apostolic organizations, (5) cemetery companies, (6) certain title and real property holding companies, (7) cooperative hospital service organizations, and (8) cooperative educational service organizations. These entities would be subject to the business tax only with respect to their business activities that would be subject to the unrelated business income tax (“UBIT”) under present law. The taxable amount for a “UBIT activity” would be determined in the same manner as the taxable amount for any other business activity subject to the business tax.

Entities (other than those listed above) that are tax-exempt under present law would be fully subject to the business tax on transfers of property or furnishing of services, even if such activities are substantially related to what historically has been considered to be the exempt purposes of these organizations.

*Transition rules.*¹⁰³ —The bill would provide certain transition rules (e.g., recovery of pre-transition basis) for purposes of the business tax. Generally, these rules would sort property held by the taxpayer on January 1, 1996, (the effective date of the bill) into four categories and would allow amortization deductions for the remaining basis of such property under the business tax. Category I assets would be those assets with a remaining recovery period of less than 15 years, and the unrecovered bases of such property would be amortized over 10 years. Category II assets would be those assets with a remaining recovery period of 15 or more years, and the unrecovered bases of such property would be amortized over 30 years. Category III assets generally would be those assets which were not amortizable under the income tax, and the unrecovered bases of such property would be amortized over 30 years. The final category of assets would be unrecovered inventory costs, and the unrecovered bases of such property would be amortized

¹⁰² The bill, however, would not exempt organizations that test for public safety or foster amateur sports competition.

¹⁰³ A more detailed discussion of these rules is beyond the scope of this pamphlet and will be addressed in a future hearing pamphlet.

over 3 years. No carryovers would be allowed for pre-effective date net operating losses, net capital losses, or any other loss.

E. A "Pure" Income Tax

1. In general

Under a "pure" income tax, all income would be subject to tax and deductions would be allowed only for expenses that are incurred in the production of income. Income would be recognized when earned and deductions generally would be matched with the accounting period in which the related income is recognized.

A significant portion of the current U.S. tax system generally is considered to be an "income tax."¹⁰⁴ Code section 61 subjects to tax "income from whatever source derived," except for certain items explicitly exempted or excluded by statute. However, the current Federal "income" tax has features that are consumption-based. For example, present law excludes from income contributions to, and earnings of, qualified retirement plans. These exclusions are features of a consumption-based tax because of their treatment of savings.

The current Federal income tax allows certain deductions in a manner similar to the way such deductions are allowed under a consumption-based tax. For example, under a value-added tax or consumption-based flat tax, businesses are allowed to expense the cost of property used in the business (such as machinery, equipment, real property, and inventory) in the year such costs are paid or incurred. Expensing is equivalent to excluding from tax the expected return from the property because the cost of such property is equal to the present value of the expected stream of income from the property. Under a "pure" income tax, costs of property that benefit future accounting periods are capitalized and recovered over such periods. Under present law, certain costs are expensed in the period they are incurred even though such costs may benefit future periods and would be capitalized under a "pure" income tax. Examples of such expenditures include up to \$17,500 of the cost of tangible personal property of small business, the cost of clean-fuel vehicles and refueling property, intangible drilling costs, research and experimental expenditures, expenditures to increase the circulation of newspapers, magazines and periodicals, certain timber expenditures, certain expenditures of farmers, costs of removing architectural and transportation barriers to the handicapped and elderly, certain mining expenditures, and certain costs incurred by free lance authors, photographers, and artists. In addition, present law allows certain capitalized costs to be recovered more rapidly than would be allowed under a "pure" income tax. For example, present law allows the cost of tangible personal property to be depreciated using accelerated methods over periods that may be shorter than the useful lives of the property. Expensing or accelerated cost recovery is provided under present law for certain expenditures in order to simplify the tax accounting for such costs or

¹⁰⁴ In 1994, 54.34 percent of Federal receipts came from individual and corporate income taxes, 36.69 percent came from payroll taxes, 4.39 percent came from excise taxes, and 4.58 percent came from other sources. Joint Committee on Taxation, *Selected Materials Relating to the Federal Tax System Under Present Law and Various Alternative Tax Systems* (JCS-1-96), March 14, 1996, pp. 5-8.

to provide a tax benefit or incentive for particular activities or types of taxpayers.

Certain exemptions, exclusions, deductions, special rates, and credits are provided in the current Federal income tax largely to promote social, economic, or intragovernmental policies, rather than to contribute to a more accurate measure of economic income. Examples of such items include itemized deductions for medical expenses, home mortgage interest, charitable contributions,¹⁰⁵ State and local income taxes,¹⁰⁶ and property taxes; percentage depletion in excess of cost for natural resources; the exclusion from income for employer-provided health insurance; the exclusion of interest on State and local bonds; special rules applicable to military personnel; parsonage allowances for clergy; the special rate of tax on long-term capital gains; and most tax credits. Similarly, present law denies tax deductions for certain trade or business expenses for social policy reasons. Examples include the denial of deductions for penalties, fines, bribes, lobbying activities, and compensation in excess of \$1 million for certain executives.

Several adjustments could be made to the present-law tax system to arrive at a more "pure" income tax. The base of the income tax could be expanded to be more comprehensive. A comprehensive income base would include income from all sources, whether labor income or returns to saving. Sources of income currently excluded from tax (such as employer-provided health insurance, and interest from State and local bonds) would be included in the base. Items currently given consumption-base treatment in the individual income tax would be put on an income base. For example, contributions by an employer on behalf of an employee to a qualified retirement plan would be taxed to the employee when the amount of the contribution is earned. Long-term capital gains would be treated the same as ordinary income. Present-law conventions that result in the deferral of income could be repealed in order to result in a more accurate measure of economic income.

Under a more comprehensive income tax, deductions would be allowed only for expenditures that are incurred for the production of income. Thus, most present-law itemized deductions would be repealed. Deductions would be allowed to the extent necessary accurately to measure annual economic income. Thus, expenditures that benefit future accounting periods would be capitalized and recovered in the appropriate period. In general, the tax base for business income would more closely resemble the present-law corporate alternative minimum tax base.

The present-law "income" tax is known as a two-tier income tax in that the income of a "C corporation"¹⁰⁷ is subject to a separate corporate tax as the income is earned and the individual income tax when the income is distributed to the individual shareholders of the corporation (or when the shareholders sell their interests in the corporation). Unlike the two-tier tax treatment of investments in corporate equity, investments in certain "flow-through" entities

¹⁰⁵ Under one view, deductions for charitable contributions are allowable in order to measure more properly the disposable income of the donor.

¹⁰⁶ Deductions also may be allowed for State and local income tax for income measurement purposes.

¹⁰⁷ A "C corporation" is a corporation described in subchapter C of the Code. Subchapter C provides rules governing the treatment of taxable corporations and their shareholders.

(e.g., partnerships and S corporations¹⁰⁸) are subject to tax only at one level (generally, the investor level). Similarly, investment in a security that is issued by any type of entity that is treated as debt for Federal income tax purposes is subject to only one level of tax because interest on debt is deductible by the issuer and includible by the investor. Thus, present law contains certain discontinuities with respect to the tax treatment of different investments and influences the choice of entity through which to conduct business and how to capitalize the business. How these discontinuities would be addressed under a "pure" income tax is unclear.¹⁰⁹ On the one hand, the two-level taxation of business earnings could be preserved. Conversely, the corporate and individual income taxes could be "integrated" to provide one level of taxation.¹¹⁰

2. Description of the "Ten Percent Tax Plan"

The Treasury Department described a more comprehensive income tax base in its study of tax reform in 1984.¹¹¹ Portions of this were enacted as part of the Tax Reform Act of 1986, which broadened the tax base while lowering ordinary income tax rates. More recently, the House Minority Leader (Mr. Gephardt) has proposed an individual income tax (the "Ten Percent Tax Plan") with a more comprehensive base.¹¹² Under the proposal, interest income on State and local bonds, employer-provided fringe benefits (primarily health insurance), and employer pension contributions would be subject to tax. The foreign earned income exclusion (section 911 of the Code), deductions for IRA and Keogh contributions, and the deduction for self-employed health insurance would be eliminated. The only itemized deduction allowed under the plan would be the mortgage interest deduction. Deductions for investment interest and job-related expenses would be retained. The individual tax rates that would be applied to this expanded income base would be reduced from a range of 15 to 39.6 percent to a range of 10 to 34 percent. The special capital gains rate would be repealed. The proposal would repeal the child care and elderly credit, while retaining the earned income and foreign tax credits.

¹⁰⁸ An "S corporation" is a corporation described in subchapter S of the Code. Subchapter S provides an election for a small business corporation to be exempt from the corporate-level tax applicable to C corporations and provides rules governing the treatment of electing corporations and their shareholders. For a more detailed discussion of the treatment of S corporations, see Joint Committee on Taxation, *Present Law and Proposals Relating to Subchapter S Corporations and Home Office Deductions* (JCS-16-95) May 24, 1995.

¹⁰⁹ Charts 1 and 3 included at the end of this Part of the pamphlet assume that the two-tier taxation of corporate earnings would continue under the "pure" income tax depicted therein.

¹¹⁰ Several of the U.S. trading parties (e.g., Australia, Canada, France, Germany, New Zealand, and the United Kingdom) have integrated their corporate and individual income tax systems to some extent. In addition, the consumption-based taxes described above in this part of the pamphlet provide forms of tax integration by taxing business activity no more than once. For a further discussion of this issue, see Department of the Treasury, *Integration of the Individual and Corporate Tax Systems—Taxing Business Income Once*, January 1992, and American Law Institute, Federal Income Tax Project, *Integration of the Individual and Corporate Income Taxes, Reporter's Study of Corporate Tax Integration*, by Alvin C. Warren, March 31, 1993.

¹¹¹ Department of the Treasury, *Tax Reform for Fairness, Simplicity and Economic Growth*, Vol. 1, 1984.

¹¹² See press release dated January 17, 1996. The press release also provides that the "Ten Percent Tax cuts corporate welfare by more than \$50 billion and uses that money to cut taxes for small businesses." Specific details with respect to changes in business taxation are not provided. In addition, the "Ten Percent Tax Plan" has not been introduced as a bill, nor has statutory language for the plan been released.

F. Summary of Treatment of Various Items Under Alternative Tax Systems

The following charts generally describe the treatment of certain common items of income and expense under various alternative tax systems. The charts describe how taxpayers would treat these items on their own tax returns. The treatment of items under "national retail sales tax" is based upon H.R. 3039. The "value-added tax" is based upon the Business Activities Tax of S. 2160, as introduced. The "consumption-based flat tax" is based upon H.R. 2060 and S. 1050, as introduced. The "USA Tax" is based upon S. 722, as introduced. The description of the "pure" income tax is based upon a theoretical model for such a system.

Chart 1.--Treatment of Income of Individuals Under Various Tax Systems

	National Retail Sales Tax	Value-Added Tax (VAT)	Consumption-based Flat Tax (Army/Shelby)	USA Tax (Nunn-Domenici)	Present Law Inc. Tax	"Pure" Income Tax
INCOME:						
Wages/Salaries	N/A	N/A	Includible	Includible	Includible	Includible
Retirement Benefits (incl. inside build-up)	N/A	N/A	Includible when Received	Includible when Received	Includible when Received	Includible when Earned
Social Security Benefits	N/A	N/A	Not Includible	Partially Includible	Partially Includible	Includible
Unemployment Compensation	N/A	N/A	Includible	Includible	Includible	Includible
Employer-paid Health Care	N/A	N/A	Not Includible	Includible	Not Includible	Includible
Dividends	N/A	N/A	Not Includible	Includible	Includible	Includible
Interest	N/A	N/A	Not Includible	Includible	Includible	Includible
Municipal Interest	N/A	N/A	Not Includible	Not Includible	Not Includible	Includible
Capital Gains	N/A	N/A	Not Includible	Includible	Includible	Includible
Business, Farm, Partnership, & Sub S Income	N/A	N/A	Subject to Business Tax	Includible	Includible	Includible
Rental & Royalty Income	N/A	N/A	May be subject to Business Tax	Includible	Includible	Includible
Alimony	N/A	N/A	Not Includible	Includible	Includible	Includible
Child Support	N/A	N/A	Not Includible	Includible	Not Includible	Includible

Chart 2.--Treatment of Deductions of Individuals Under Various Tax Systems

	National Retail Sales Tax	Value-Added Tax (VAT)	Consumption-based Flat Tax	USA Tax (Nunn-Domenici)	Present Law Inc. Tax	"Pure" Income Tax
DEDUCTIONS:						
IRA & Savings Contributions	N/A	N/A	Not Deductible	Unlimited Ded. for Savings	Ded. within limits	Not Deductible
Alimony	N/A	N/A	Not Deductible	Deductible	Deductible	Deductible
Child Support	N/A	N/A	Not Deductible	Deductible	Not Ded.	Deductible
Moving Expense	N/A	N/A	Not Deductible	Not Deductible	Ded. within limits	Not Deductible
Medical	N/A	N/A	Not Deductible	Not Deductible	Ded. within limits	Not Deductible
State/Local Taxes	N/A	N/A	Not Deductible	Not Ded.	Deductible	Not Ded.
Real Estate Taxes	N/A	N/A	Not Deductible	Not Ded.	Deductible	Not Ded.
Mortgage Int.	N/A	N/A	Not Deductible	Deductible	Deductible	Not Ded.
Investment Int.	N/A	N/A	Not Deductible	Not Deductible	Ded. within limits	Not Deductible
Charitable Contributions	N/A	N/A	Not Deductible	Ded. within limits	Ded. within limits	Not Deductible
Casualty Losses	N/A	N/A	Not Deductible	Not Deductible	Ded. within limits	Not Deductible
Employee Business Exp.	N/A	N/A	Not Deductible	Not Deductible	Ded. within limits	Not Deductible
Investment Exp.	N/A	N/A	Not Deductible	Not Deductible	Ded. within limits	Not Deductible
Education Exp.	N/A	N/A	Not Deductible	Deductible w/in limits	Generally not ded.	Not Deductible

Chart 3.—Treatment of Businesses Under Various Tax Systems

	National Retail Sales Tax	Value-Added Tax (VAT)	Consumption-based Flat Tax	USA Tax (Nun-Domenici)	Present Law Inc. Tax	"Pure" Income Tax
INCOME:						
Gross Receipts from Sales of Goods/Services	Retail Sales Only	Includible	Includible	Includible	Includible	Includible
Interest	Not Incl.	Not Incl.	Not Incl.	Not Incl.	Includible	Includible
Dividends	Not Incl.	Not Incl.	Not Incl.	Not Incl.	Partially Includible	Includible
Capital Gains	Not Incl.	Not Incl.	Not Incl.	Not Incl.	Includible	Includible
Proceeds from Sales of Business Assets	Not Incl.	Includible	Includible	Includible	Includible	Includible
Rental & Royalty Income	Not Incl.	Incl. if trade or business	Incl. if trade or business	Incl. if trade or business	Includible	Includible

DEDUCTIONS:						
Inventory	Not Ded.	Ded. when acquired	Ded. when acquired	Ded. when acquired	Ded. when sold	Ded. when sold
Cost Recovery of Property	Not Ded.	Expensed when acquired	Expensed when acquired	Expensed when acquired	Deprec. over time	Depreciate over time
Payments to Indep. K'ors	Not Ded.	Deductible	Deductible	Deductible	Deductible	Deductible
Salaries/Wages	Not Ded.	Not Ded.	Deductible	Not Ded.	Deductible	Deductible
Retire. Benefits	Not Ded.	Not Ded.	Deductible	Not Ded.	Deductible	Deductible
Employee Health	Not Ded.	Not Ded.	Not Ded.	Not Ded.	Deductible	Deductible
Taxes	Not Ded.	Not Ded.	Not Ded.	Not Ded.	Deductible	Deductible
Interest	Not Ded.	Not Ded.	Not Ded.	Not Ded.	Deductible	Deductible
Charitable Contributions	Not Ded.	Not Ded.	Not Ded.	Not Ded.	Ded. with limits	Deductible
Advertising	Not Ded.	Deductible	Deductible	Deductible	Deductible	Deductible

V. ANALYSIS OF ISSUES RELATING TO TAX RESTRUCTURING AND THE MANUFACTURING, ENERGY, AND NATURAL RESOURCES INDUSTRIES

A. Introduction

The manufacturing, energy, and natural resources industries generally are characterized by substantial existing stocks of physical plant and equipment and substantial annual investment in new physical capital. The primary issues that tax restructuring creates for these industries involve the taxation of returns to new investment and the taxation of returns generated by the existing capital stock invested in the sectors. Tax restructuring that alters the taxation of physical investments also may change the compliance requirements of present law which are viewed by many as a source of substantial complexity and involve a costly compliance burden.

If tax restructuring alters the after-tax returns to new investment, it could alter the magnitude and type of future economic growth. In addition, by altering the taxation of returns to existing investments, tax restructuring may create unexpected capital gains or capital losses on existing investments. The extent of such gains or losses may be mitigated or magnified by whatever transition relief might be granted.

B. Tax Restructuring and Investment in the Manufacturing, Energy, and Natural Resources Industries

1. Tax restructuring, the cost of capital, and investment

Overview

In general, the level of investment, as a percentage of GDP, is lower in the United States than in many other western countries.¹¹³ Analysts have expressed concern that low investment may lead to lower future income growth for United States residents. While other analysts have suggested that lower rates of domestic investment may not be important because the United States invests its capital more efficiently than do other countries, low investment may be a particular concern of the manufacturing, energy, and natural resource industries, which are large users of capital. One common explanation for the higher level of investment in other countries relative to that in the United States is that the United States has a higher cost of capital. The cost of capital measures the opportunity cost of funds, and, therefore, it is the rate at which firms discount the future returns of an investment in order to determine whether the investment is profitable. When the cost of capital is low, more investments will be determined to be profitable. Thus, the lower the cost of capital, the higher the level of investment. Since, in theory, firms invest in all projects that yield a rate of return equal to or greater than the cost of capital, the cost of capital also measures the return on the marginal investment. Taxation affects the cost of capital because it creates a wedge be-

¹¹³ For example, in 1992 gross fixed investment in the United States comprised 15.9 percent of GDP. The comparable figures for other western countries in 1992 were: Japan, 30.4 percent; Germany, 23.1 percent; France, 20.1 percent; Australia, 20.1 percent; Italy, 19.1 percent; Canada, 18.7 percent; and the United Kingdom, 15.7 percent. Organisation for Economic Co-Operation and Development, *OECD Economic Outlook*, 59, June 1996.

tween the returns investors receive and the actual returns on investments. The larger is the tax wedge, the higher is the required return on investments.

Consumption-based taxation

Other than the "pure" income tax, the alternative tax systems discussed in this pamphlet are consumption-based, rather than income-based, taxes. The major difference between a consumption-based tax and an income-based tax generally involves the treatment of savings. Under an income-based tax, returns to savings (e.g., dividends, interest, and capital gains) generally are subject to tax. Under a consumption-based tax, returns to savings generally are excluded from the tax base.¹¹⁴

Those consumption taxes that provide a business-level tax on all businesses (i.e., VATs and those taxes such as the consumption-based flat tax and the USA Tax that have VATs as a component) allow expensing for the cost of all property and services acquired by the taxpayer. Expensing is provided in order to create a consumption base for the applicable tax. As discussed above, the difference between an income tax and a consumption tax is that under the former, returns to savings are subject to tax; under a consumption tax, returns to saving are not taxed. Investment by a business in income-producing property, such as machinery and equipment, is a form of saving. Consumption tax treatment could be provided to such investment by providing a tax exemption for the income generated by the investment. Providing such an exemption may be feasible with respect to investments that generate an identifiable stream of income, such as interest income with respect to a bond. However, it is administratively difficult to determine the stream of income allocable to a capital investment in machinery and equipment because income from a manufacturing or similar process is attributable to not only investment in capital, but the use of labor and entrepreneurial skills as well. Alternatively, one could exempt capital income by providing an expensing deduction for the cost of the property in the year the investment is made. In present value terms, expensing is equivalent to tax exemption because the cost of property is equal to the present value of the stream of income expected to be generated by the property. Thus, the expensing of capital goods under the consumption-based taxes removes the tax wedge between the returns investors receive and the actual returns on investments, thereby lowering the cost of capital.

A lower cost of capital may lead to increased investment in the United States. In particular, a lower cost of capital may lead to increased investment by relatively capital-intensive sectors such as manufacturing, mining, and utilities. Such a possibility presumes the existence of a tax wedge to investments in these sectors under present law. As discussed in Part III., above, and as estimated in Table 5, above, there are tax preferences under present law that could mean that there is little or no tax wedge to certain invest-

¹¹⁴ For a further discussion of the distinctions between consumption-based taxes and income-based taxes and the equivalence among different types of consumption taxes, see Joint Committee on Taxation, *Description and Analysis of Proposals to Replace the Federal Income Tax* (JCS-18-95), June 5, 1995, and the citations contained therein.

ments under present law. If this is the case, adoption of a consumption-based tax may have little or no effect on investments in certain sectors or activities.¹¹⁵ For example, in certain cases intangible drilling costs are expensed and, thereby, are tax-favored investments under present law compared to other capital expenditures. Adoption of a consumption-based tax would create no additional direct incentive to undertake such investments.¹¹⁶ An additional consideration in this regard is that tax reform might increase the demand for investment goods and thereby increase the demand for investment funds. Martin Feldstein recently suggested that the increase in demand for investment goods in response to the shift to a consumption tax could lead to short- and long-run increases in interest rates.¹¹⁷ Such an outcome would mitigate any general reduction in the cost of capital.

"Pure" income taxation

One of the goals of a "pure" income tax is to measure economic income properly so as not to distort investment decisions. In order to more properly measure economic income, the cost of property that has a useful life longer than one year should be recovered over such useful life. Unlike under the consumption-based taxes, the tax wedge would remain in a "pure" income tax. However, in broadening the base of the tax, a "pure" income tax may enable marginal tax rates to be lowered. Declines in the marginal tax rate applicable to investment income generally reduce the tax wedge and, hence, reduce the cost of capital. This could lead to increases in investment. Whether investment increases in the manufacturing, energy, and natural resources industries would depend upon more than reductions in the marginal tax rate. If, under present law, investment costs in these sectors are recovered faster than economic depreciation would dictate, the increased cost recovery period could more than offset the benefits of a reduction in marginal tax rates and lead to a net increase in the cost of capital to these sectors.

2. Tax restructuring and the efficient allocation of physical investment

Overview

Tax policy can distort the allocation of private investment funds and thereby make less efficient the current level of private investment. For example, tax policy may lead to an inefficiently high level of investment in owner-occupied housing. Owner-occupied housing is tax-advantaged because the implicit rental income (in the form of housing services) is untaxed to the owner while the owner may deduct the interest expenses incurred to purchase the

¹¹⁵ An additional possibility is that, under present law, the tax wedge for a particular sector or activity is negative. That is, the return to certain investments is subsidized beyond that which the private market would generate. In this case, removal of the tax wedge may lead to reduced investment in that sector or activity. Also, see the discussion below on tax restructuring and the efficient allocation of investment.

¹¹⁶ If the consumption-based tax led to increased oil and gas drilling activity because of improved net investment returns, IDCs would be expected to increase.

¹¹⁷ Martin Feldstein, "The Effects of a Consumption Tax on the Rate of Interest," National Bureau of Economic Research Working Paper #5397, December 1995.

home.¹¹⁸ This creates incentives for taxpayers to overinvest in housing, purchasing more housing than they would in the absence of these tax benefits. The purchase of housing comes at the expense of other private fixed investment, such as investment in manufacturing plant and equipment. Consequently, there will be more investment in housing and less in equipment, for example, than would be the case in the absence of these tax benefits. Tax policy may also inefficiently distort the mix of different equipment and structures if the depreciation deductions available for tax purposes are not equal to actual economic depreciation or if tax benefits are not provided to all potential investments equally.

Consumption-based taxation

As explained above, consumption-based taxes effectively eliminate the tax on the returns to new, incremental investments in physical capital. As such, consumption-based taxes eliminate the tax wedge and investment funds flow to their highest and best use. For example, unlike present law, neither a subtraction-method VAT, the consumption-based flat tax, nor a retail sales tax provide "special" benefits to investment in owner-occupied housing. Investment money that flows into owner-occupied housing under present law may flow to the manufacturing sector if a consumption-based tax were adopted. However, to the extent that certain investments in the manufacturing, energy, and natural resources industries receive preferential treatment under present law, adoption of a consumption-based tax would eliminate the relative preference such investments now receive. Investment funds might be redirected elsewhere.

"Pure" income taxation

One of the goals of a "pure" income tax is to properly measure economic income so as not to distort investment decisions. Thus, as with the adoption of a consumption-based tax, adoption of a "pure" income tax would increase the efficiency of the allocation of investment funds. As discussed above, whether this would lead to the benefit of investment in the manufacturing, mining, or utility sectors would depend, in part, on the extent to which these sectors receive relatively favorable treatment under present law.

3. Tax restructuring and investment in tangible versus intangible assets

Overview

There may also be another source of bias against investment in nonresidential equipment and structures. Businesses often use their intangible assets to produce earnings over a span of years. In this way, intangible assets are economically equivalent to tangible assets. However, present law provides disparate treatment between intangible and tangible assets. Moreover, present law provides disparate treatment among intangible assets depending upon whether

¹¹⁸ In addition, capital gains on owner-occupied housing receive more favorable tax treatment than capital gains on other assets. Because capital gains on owner-occupied housing are untaxed in many cases, current treatment of owner-occupied housing is the same as under a consumption-based tax.

they are self-created or purchased. While the costs of tangible assets such as equipment (whether purchased or self-created) generally must be capitalized and recovered through depreciation, the expenses incurred in creating self-created intangible assets generally may be deducted currently (expensed). Thus, for example, expenditures on advertising that promote a recognizable brand name and goodwill may be expensed, while expenditures on capital equipment that will produce the product that bears the brand name generally must be deducted over time. Because the economic value of a deduction is greater if it may be claimed earlier rather than later, creation of intangible assets is relatively cheaper than the creation of physical assets. By permitting the expensing of advertising expenditures, research and development expenditures, legal fees, and other expenditures that create intangible capital, present-law tax policy may create incentives for such expenditures as opposed to private fixed investment.¹¹⁹ Whether this bias is detrimental to the manufacturing, mining, or utility sectors would depend upon the extent to which they employ tax-preferred intangible assets in conjunction with their physical assets.

Similarly, some purchased intangible assets are relatively cheaper than other intangible assets and may, or may not, be relatively cheaper or more expensive than different tangible assets. This arises because, as explained in Part II.A.4., above, purchased intangibles, regardless of their economic lives, generally may be amortized over 15 years. Those purchased intangible assets for which 15 years overstates their economic lives are relatively more expensive than those purchased intangible assets for which 15 years understates their economic lives. Under the same argument, purchased intangible assets are relatively more expensive than self-created intangible assets.

Tax reform adopting either a "pure" income tax or a consumption-based tax like the flat tax, the subtraction-method VAT, the business tax component of the USA Tax, or a national sales tax or a pure income tax would eliminate both the disparate treatment between intangible and tangible assets and the disparate treatment among self-created and purchased intangible assets.

Consumption-based taxation

Adoption of a consumption-based tax would permit the purchase of all assets to be expensed. Expenditures for the creation of intangible assets would no longer be relatively cheaper than expenditures for equipment. Similarly, any relative differences between different purchased intangible assets would be eliminated. Lastly, purchased intangible assets would be treated identically to self-created intangible assets. Self-created intangible assets might appear to be disadvantaged relative to purchased intangibles or equipment under the flat tax, the subtraction-method VAT, or the business component of the USA Tax because wages of employees engaged in the creation of intangibles are part of the tax base, while purchased goods are not. However, if as generally believed, the consumption-based taxes are borne by consumers in the form of higher

¹¹⁹ Don Fullerton and Andrew B. Lyon, "Tax Neutrality and Intangible Capital," in Lawrence H. Summers, ed. *Tax Policy and the Economy*, vol. 2 (Cambridge: National Bureau of Economic Research), 1988.

prices or by laborers in the form of lower wages, the tax burden on a dollar of profit generated by creating intangible assets is the same as the tax burden on a dollar of profit generated by the purchase of intangible assets and is the same as the tax burden on a dollar of profit generated by the purchase of capital equipment.

To the extent that relative prices of different business inputs affect the choice of business investment, the tax reform proposals, by making tangible assets relatively cheaper, might cause businesses to substitute equipment purchases for expenditures on the creation of intangible assets where feasible. This could lead to a decline in aggregate expenditures on the creation of intangible assets. On the other hand, if replacement of the income tax spurs aggregate saving and investment, total expenditures on both tangible and intangible assets could rise, although the relative price change would suggest that equipment expenditures would rise more than expenditures on intangibles.

“Pure” income taxation

Adoption of a pure income tax also would eliminate the relative price differences that exist under present law between self-created and purchased intangible assets and between intangible assets and tangible assets. A pure income tax would accomplish this by requiring the capitalization of expenses related to the creation of intangible assets and by establishing different depreciable lives (corresponding to “true” economic lives) for different types of tangible and intangible assets, whether those assets are purchased or self-created. Reform in this direction would generally increase the price of intangible assets. To the extent that business planning responds to price changes, one would expect the expenditure on intangible assets to decline. If adoption of a pure income tax is accompanied by a reduction in income tax rates, the after-tax return to all investments would increase and investments of all types might increase. However, the benefits of lower income tax rates would be expected to favor expenditures such as equipment purchases relative to expenditures on intangible assets.

4. Tax restructuring and the financing of new investment

Overview

Because corporations can deduct their interest payments, the U.S. tax system provides a corporate tax advantage to debt financing over equity financing. This may lead firms in all sectors to choose a financial structure with an inefficiently high level of leverage. This may impose real costs on the economy by increasing the probability that firms will enter bankruptcy and incur the costs of reorganization or liquidation. Because leverage ratios vary substantially by industry, it is not possible to say whether the inefficiency created by the present-law bias in favor of debt financing is greater for the manufacturing, energy, and natural resources industries than for other sectors of the economy.

Consumption-based taxation

The subtraction-method VAT, the consumption-based flat tax, and the retail sales tax do not provide a tax deduction or other tax

preference for interest payments. These tax systems are neutral with respect to the firm's choice of financial structure. Thus, under the consumption-based taxes, firms in all sectors of the economy will have an incentive to have a less leveraged financial structure.

"Pure" income taxation

A "pure" income tax could retain a two-tier income tax similar to that of present law or corporate and individual income taxes could be "integrated" to provide one level of taxation. A two-tiered corporate income tax generally provides for a deduction for interest expense but does not provide a comparable deduction for payments of return on investment made to equity holders.¹²⁰ Such a two-tiered tax generally would retain the bias in favor of debt finance. Full integration of the corporate and individual taxes generally would eliminate the bias in favor of debt finance.

C. Transition Issues

The introduction of a consumption tax may affect the prices of existing assets, the overall level of prices, and the level of interest rates. Those changes could lead to windfall losses and benefits for certain taxpayers. In light of these windfalls, a shift to a consumption-tax base may necessitate the design of specific transition rules to reduce the windfall effects.

1. Economic issues

Changes in asset prices

To understand the possible effects of a transition from the current income tax to a consumption tax, it is instructive to consider separately the introduction of the consumption tax and the elimination of the current tax.

Analysis in an earlier pamphlet in this series¹²¹ demonstrated that a consumption tax is equivalent to a tax on wages plus a tax on capital existing at the time of the tax's introduction. This one-time capital tax may change the price of existing assets. In the absence of specific transition rules, the introduction of a consumption tax will result in increased tax liability on the returns to existing assets. Consider as an example a piece of machinery owned by a manufacturing business at the time a consumption tax is imposed. Once the consumption tax is in place, the proceeds of sales of the output of the machine will be included in the tax base. The business can deduct the cost of raw materials and labor purchased after the date the consumption tax is introduced, but it cannot take a deduction for the use of the machine, since the machine was purchased prior to the introduction of the consumption tax. The consumption tax causes the after-tax return of the machine, and hence the value of the machine, to fall. The business cannot avoid this loss in wealth by disposing of the machine. A prospective buyer of the machine would be willing to pay a price for the machine equal to its market value prior to the consumption tax (because the prospective buyer will be able to take a full deduction for the cost of

¹²⁰ Some foreign countries provide credits for dividends paid to investors.

¹²¹ Joint Committee on Taxation, *Description and Analysis of Proposals to Replace the Federal Income Tax*, (JCS-18-95), June 5, 1995, pp. 51-56.

the machine). But the sales price of the machine will be included in the tax base of the business that sells the machine, giving rise to a tax liability. The net proceeds the business can receive from selling the machine are no more than the present value of the after-tax return it would receive from keeping the machine and selling the output it produces. In either case, the business suffers a loss in value on the machine it owns at the time the consumption tax is introduced. The higher the rate of the consumption tax, the larger the decline in the value of existing capital.

If the consumption tax replaces the existing income tax, the decline in the value of existing capital may be tempered. The elimination of the income tax would have no effect on the value of existing capital if the basis of the existing assets were equal to their market value. Again, consider a machine in place at the time the income tax is eliminated. If the unamortized basis of the machine equals its market value, then the reduction in the tax liability on output produced by the machine just matches the loss in the value of depreciation deductions over the remaining life of the machine. If the business had been able to take advantage of accelerated depreciation (relative to economic depreciation) on the machine before the income tax was repealed, then the basis of the machine would have been less than its market value. In such a case, the elimination of the income tax would increase the value of the existing capital, since the reduction in the tax liability on output would exceed the loss in the value of depreciation deductions. The net effect of the replacement of the current income tax by a consumption tax is that the decline in the value of existing business assets will depend upon the basis of the assets. For businesses holding assets of equal market value at the time of the replacement of the current income tax by a consumption tax, the decline in value will be greater for those businesses holding assets with larger basis.¹²²

The substitution of a consumption tax for the present income tax may have effects on asset prices in addition to those caused by the treatment of unamortized basis of business assets. The income tax contains numerous provisions that provide preferential treatment to certain business assets. (See Part II and Table 5 above.) The result of these provisions is to cause the spread between before-tax and after-tax returns to vary across assets, with smaller spreads for assets with tax-preferred treatment. Since a consumption-tax regime will tend to equalize the tax treatment across different assets, the relative prices of these assets would change. Specialized or immobile assets in sectors losing their relatively favorable tax treatment would be expected to experience price declines.¹²³

Changes in price level

While the imposition of a consumption tax could lead to a fall in the value of existing assets, the distribution of that loss across equity and debt holders will depend upon what happens to the price level. The distribution of loss in the various subsectors of the man-

¹²² Laurence J. Kotlikoff, "The Economic Argument for a Flat Tax," mimeo, testimony to the Senate Finance Committee, May 18, 1995.

¹²³ Shounak Sarkar and George R. Zodrow, "Transitional Issues in Moving to a Direct Consumption Tax," *National Tax Journal*, 46(3), September 1993, pp. 359-76.

ufacturing, mining, and utility industries will depend on the current leverage ratios in those subsectors.

Because a broad-based VAT is commonly believed to increase prices by the amount of tax, it is generally expected that under certain conditions a VAT may increase the price level. The degree by which it would raise the price level depends on the rate of tax and the comprehensiveness of the base. In general, any increase will be less than the rate of tax. For example, if a 10-percent VAT is levied in an economy where consumption is 70 percent of output (because, typically, investment goods are excluded from a consumption-based VAT, and government as well as certain other consumption goods are zero-rated), the most the price level may be expected to increase would be seven percent. The increase will ultimately be determined by macroeconomic policy, especially monetary policy. If the Federal Reserve does not accommodate the upward pressure on prices from the tax by increasing the supply of money, the overall price level would not be expected to increase (although the price of taxed goods *relative* to zero-rated goods would still increase). Finally, it is also important to note that since the VAT only raises the price level when it is imposed, any increase in the price level would most likely be a one-time event.¹²⁴

Since nominal price levels are determined in part by the independent actions of the Federal Reserve, they cannot generally be predicted in advance.^{124a} For example, while it is usually assumed that a consumption tax increases the prices of taxed goods, it also is conventional to expect that a wage tax reduces nominal after-tax wages, and a tax on existing capital reduces its value. These assumptions are valid only if the Federal Reserve reacts differently to economically equivalent tax changes.

When prices rise, the value of all income falls, unless the income is specifically indexed to changes in the price level. For example, an individual living entirely on an indexed Social Security pension will not be affected by a uniform price increase.¹²⁵ If, on the other hand, nominal wages and the returns to old assets fall, only certain types of income are affected. Recipients of fixed nominal transfers are not hurt by the tax. Any private contracts with fixed nominal payments are unaffected by the tax. In particular, holders of existing bonds receive the same nominal interest payments as before, since the introduction of the tax does not change any contractual agreements between issuers and holders. If prices rise, the value of all capital income, both financial and physical, is reduced, but if factor returns (wages, rents, and returns to capital) fall, only income from existing physical assets is reduced in value.

¹²⁴ For a survey of the effects of introducing a VAT or increasing VAT rates on price levels and inflation, see Alan A. Tait, *Value Added Tax, International Practice and Problems*, (Washington, D.C.: International Monetary Fund), 1988.

^{124a} For a recent analysis of issues relating to the Federal Reserve's response to adoption of a consumption-based tax see, Nicholas Bull and Lawrence B. Lindsey, "Monetary Implications of Tax Reforms," presented at National Tax Association 26th Spring Symposium, May 20, 1996, forthcoming in *National Tax Journal*, September 1996. Bull and Lindsey observe, "A switch in tax regimes . . . potentially places the monetary authorities on the horns of a dilemma. A non-accommodative policy implies abrogations of workers' wage contracts, because wages must fall. But an accommodative policy implies abrogation of the retiree's nominal interest rate contract, because consumer prices are allowed to jump by the amount of the tax, effectively expropriating the retiree's wealth" (p. 21).

¹²⁵ This assumes that the fraction of the pension that is taxed, and the applicable tax rate, are fixed.

The reason bondholders are unaffected by the consumption tax while owners of physical assets are burdened is that the returns to bond investment can be consumed directly. That is, the output of a bond is cash, the consumption value of which does not change if prices do not increase. On the other hand, owners of physical capital are hurt by the tax when factor returns fall. The value of output from such capital is reduced, because the owners are liable for the consumption tax when the produced goods are sold.

If the price level does rise with the imposition of a consumption tax, and if the price increase is not anticipated (for example, through an increase in nominal interest rates so that the real value of the money repaid to the lender is unchanged), then borrowers will benefit at the expense of lenders because they will be able to repay their obligations with cheaper dollars. The losses imposed by the consumption tax's one-time levy on existing wealth will be shared by equity and debt holders. By contrast, if the price level does not increase, then equity holders suffer the entire decline in existing asset values and debt holders are held harmless.

Changes in interest rates

The replacement of the present income tax with a consumption tax could be expected to affect the level of interest rates. The ultimate effect would depend upon the nature of the demand for, and supply of, savings. At one extreme, suppose that the supply of capital is extremely responsive to the after-tax rate of return (e.g., if capital is mobile across international borders and the aggregate supply of foreign capital is large relative to the supply of capital in the United States). Then the elimination of the income tax would have no effect on the after-tax rate of return received by savers, since the world interest rate would continue to prevail. At the other extreme, suppose that businesses have an inexhaustible menu of investment opportunities available to them that can yield a given before-tax rate of return. In this case, the elimination of the income tax would lead to an increase in the after-tax rate of return by the amount of the tax. For intermediate cases, the interest rate will change in some measure between the extremes.

Any increase in interest rates will increase the return on existing assets and thus will help to offset the reduction in wealth caused by the imposition of the consumption tax. The extent of this offset in any individual's case is sensitive to the pattern of consumption. If the individual is elderly, for example, and expects to consume his existing assets shortly after the consumption tax is introduced, any increase in return on those assets will do little to offset the one-time decrease in the value of the assets. On the other hand, if the individual has a much longer consumption horizon, an increase in return on existing assets may go a long way toward offsetting the one-time decrease in value.¹²⁶

Desirability of transition relief

Transition relief, such as grandfather rules for assets acquired prior to the start of the consumption tax or special rules for the

¹²⁶ David F. Bradford, "Consumption Taxes: Some Fundamental Transition Issues," in Michael J. Boskin, ed., *Frontiers of Tax Reform*, (Stanford, CA: Hoover Institution Press), 1996, pp. 123-150.

amortization of remaining basis in assets, may appear desirable on equity grounds. However, because the burden of taxes is ultimately borne by individuals and not by business entities, equitable transition relief across individuals may be difficult to achieve by granting transition relief to certain business entities or classes of assets.¹²⁷ In addition, such relief may reduce the efficiency gains of switching to a consumption tax. In simulations of the effect of replacing an income tax with a consumption tax, much of the efficiency gains arise through the consumption tax's one-time levy on existing capital. If unanticipated, that tax on existing capital is a lump-sum tax, with no distortionary effect.¹²⁸ If transition rules reduce the effect of the tax on existing wealth, then the rate of the consumption tax must be increased to make up for the loss in revenue, and the base of the tax becomes more like a wage tax. Both of these factors will reduce the efficiency of the consumption tax: the former because the economic inefficiency of a tax is proportional to the square of the tax rate, and the latter because a wage tax is a narrower base than the existing income tax.

2. Implementation of transition rules

In general

Many commentators who have advocated consumption-based taxes have mentioned that transition from the current system to the proposed system may be an important consideration. However, whether by design or otherwise, most of the consumption taxes introduced to date do not provide transition rules.¹²⁹ One notable exception is the USA Tax (S. 722) introduced by Senators Domenici and Nunn, which does provide explicit transition rules.¹³⁰

The discussion in the preceding section provides conflicting views on the need for transition from the current income-based taxes to consumption-based taxes. Some commentators argue that transition may not be desirable or necessary for a variety of reasons. They reason that (1) all policy changes create "winners" and "losers" and transition generally has not been provided in such cases;¹³¹ (2) not providing transition rewards those persons who have diversified their investments as insurance against legislative change and such behavior should be rewarded or encouraged;¹³² (3) transition rules that benefit "old" wealth would negate efficiency

¹²⁷ The net effect of the transition to a consumption tax on any individual would be sensitive to the composition of assets and liabilities and the patterns of wage receipts and consumption. Depending upon the portfolio of assets a given individual holds, for example, the asset price changes described above may largely cancel out one another.

¹²⁸ If individuals anticipate the switch to consumption taxation, the lump-sum nature of the wealth tax is reduced. Individuals may take steps to avoid the tax by accelerating consumption. Businesses may reduce investment in order to wait until the purchase of capital goods may be expensed.

¹²⁹ See, e.g., "Technical Overview to the Comprehensive Tax Restructuring and Simplification Act of 1994 (S. 2160)", released by Senators Boren and Danforth, on May 26, 1994, which states: "Finally, it is important to note that the legislation assumes that the BAT [Business Activities Tax] is fully phased in. The drafters have not attempted to address the difficult transition questions that extensive reform necessarily entails. . . . [W]e have to know where we are going, before we know the best way to get there."

¹³⁰ See Part IV.D., above, for a discussion of the transition rules of S. 722.

¹³¹ Michael J. Graetz, "Implementing a Progressive Consumption Tax," *Harvard Law Review* 92, No. 8 (June, 1979) p. 1575 et seq.

¹³² Louis Kaplow, "Government Relief for Risk Associated with Government Action," *Scandinavian Journal of Economics* 94, No. 4, (1992).

gains brought about by the new consumption-based tax;¹³³ (4) the current tax system is a hybrid system containing elements of both consumption and income bases and, as such, transition is not paramount;¹³⁴ and (5) transition rules are likely to create complexity¹³⁵ as well as reduce revenue.¹³⁶ Despite arguments that transition from the current tax system to the new consumption tax is not necessary, many commentators realize that, as a practical matter, transition is likely.¹³⁷

Although the particulars of any transition rules depend upon the type of tax system that is being adopted, discussions of transition rules generally involve the treatment of savings and physical assets accumulated prior to the enactment of the new system. The income leading to such accumulations would have been taxed under the income tax system when it was earned. Consequently, some believe that it would be unfair to tax the spending or earnings from such wealth under the new consumption-based system. Some believe that the adjusted bases of capital assets held by a business on the date of enactment of a new system would require special treatment. Absent special transition rules, a new consumption-based system generally would not permit any deductions for the unrecovered basis of such assets. Following is a discussion of various forms of transition relief.

No transition

As described above, some commentators advocate no transition rules for the switch from the current tax system to a consumption tax. In addition, it is generally believed that a substantial amount of time from the date of enactment to the effective date of the consumption tax would be needed in order to properly implement the new system.¹³⁸ With a delayed effective date, transition rules become less of a concern as taxpayers would have opportunities to arrange their investments to correspond to the new tax system. Indeed, some suggest that financial markets already are beginning to make such adjustments.¹³⁹

In addition, reliance upon the current tax system for a period of time allows any transition relief to be provided within such system (e.g., depreciation for the adjusted income tax basis of property in existence upon the date of enactment could be accelerated to fit

¹³³ See, Alan J. Auerbach and Laurence J. Kotlikoff, *Dynamic Fiscal Policy* (Cambridge University Press: New York) 1987.

¹³⁴ Specifically, a great deal of "old" wealth has been tax-favored under the present-law rules relating to qualified retirement plans, accelerated depreciation on business property, and personal deductions relating to home ownership. See, e.g., Rudolph G. Penner, "Outline of Discussion of Individual SEIT," a paper prepared for a symposium on the Nunn/Domenici proposal, sponsored by the Columbia Institute on October 5, 1993, with respect to transition rules for individuals.

¹³⁵ Shounak Sarkar and George R. Zodrow, "Transitional Issues In Moving to a Direct Consumption Tax," p. 359.

¹³⁶ John F. Due, "Some Unresolved Issues in Design and Implementation of Value Added Taxes," *National Tax Journal*, Vol. 43, No. 4, p. 393.

¹³⁷ See, "The Flat Tax," *Fortune*, June 12, 1995, p. 44: "Perhaps the knottiest [problem] will be how to treat the substantial unused depreciation allowances businesses have on their books—allowances that the flat tax would not permit. The value of such unused depreciation claims today totals some \$520 billion. . . . What to do? Were Washington to disallow the deductions, every CEO-laden corporate jet in America would commence strafing Capitol Hill."

¹³⁸ See, General Accounting Office, *Value-Added Tax: Administrative Costs Vary with Complexity and Number of Businesses*, GAO/GGD-93-78 (May 1993), p. 85, estimating that 18 to 24 months would be needed to implement a VAT.

¹³⁹ See, "What the Flat Tax Means to Investors," *Fortune*, June 12, 1995, p. 51.

this window and investments with accrued but unrecognized capital gains could be marked-to-market and subject to tax in order to prevent any windfall gains from occurring.) However, providing a relatively long lead-in period may have adverse consequences as taxpayers may be reluctant to make current investments that may have significantly better tax treatment if made after the effective date.

It should be noted that transition relief probably would not be needed if a consumption tax is adopted in addition to, rather than in replacement of, the current tax system. For example, in Europe, VATs generally were adopted as a replacement for cascading turnover taxes. In some cases, the countries provided rebates for turnover taxes previously paid with respect to goods subject to the new VAT.¹⁴⁰ Such transition was relatively easy to administer, given the similarity of turnover taxes and VATs. Even if it is decided not to provide transition relief upon the implementation of a consumption-based tax, certain transition rules would be required for certain items such as the treatment of long-term contracts and other works-in-process that span the effective date and used goods in the hands of consumers on the effective date.¹⁴¹

Phased-in transition

Others have suggested that the current tax system could be phased-out as the new system is being phased-in.¹⁴² Such approaches could be structured in a number of ways. Taxpayers could be subject to both systems for a period of years, with the income tax rate declining as the consumption tax rate increases. At the end of a specified period, the income tax would no longer exist. Alternatively, taxpayers could be required to pay the higher of their liability as computed under the new or the old systems during the transition period (similar to the operation of the regular income tax and the AMT under present law).

Providing a phased-in transition lessens the impact from shifting between two different systems and provides the Government with a more stable revenue pattern during the transition period. On the other hand, phased-in transition creates complexity and uncertainty (i.e., taxpayers will wonder if future legislators will modify the transition); is a second-best solution in some respects because it retains vestiges of the income tax system and thus, may discourage certain investment; and does not adequately address the goals of those who want immediate, fundamental tax reform.¹⁴³

Use of income tax attributes under the consumption tax

Another form of transition would allow all or a portion of the income tax attributes in existence on the effective date of consumption tax (e.g., loss and credit carryovers and adjusted basis in assets) to be used under the new tax system. The attributes could be amortized over a specified period or taken into account with respect

¹⁴⁰ See, Tait, *Value-Added Tax: Practice and Problems*, pp. 178-186.

¹⁴¹ For a discussion of these issues, see Schenk, *Value Added Tax: A Model Statute and Commentary*, A Report of the Committee on Value Added Tax of the American Bar Association, ch. 9.

¹⁴² See, Department of the Treasury, *Blueprints for Basic Tax Reform*, 1977.

¹⁴³ Shounak Sarkar and George R. Zodrow, "Transitional Issues In Moving to a Direct Consumption Tax," p. 367 for a summary of these arguments.

to an identifiable event (e.g., the sale of a pre-effective date asset).¹⁴⁴ Professors Hall and Rabushka, in the revised version of their flat tax,¹⁴⁵ suggest allowing a business to continue to depreciate the adjusted basis of pre-effective date property for purposes of computing the business' flat tax liability and increasing the flat tax rate, on temporary basis, to accommodate these additional deductions on a revenue neutral basis. Providing transition would likely involve increased recordkeeping, may not be compatible with certain forms of consumption taxes (e.g., it is unclear how such relief could be structured under a retail sales tax), would result in revenue shortfalls, and would not address the windfall gains realized by the "winners" under tax restructuring.

D. Tax Restructuring and the Possibilities for Simplification for the Manufacturing, Energy, and Natural Resources Industries

Complexity under present law

As discussed in Part II.A, normative tax accounting rules that are based on the matching principle require expenditures that benefit future accounting periods to be capitalized and recovered in such periods. These rules often involve complexity and increased recordkeeping burdens as taxpayers are required to distinguish between deductible and capitalizable costs, determine the proper period over which capitalized costs should be recovered, and maintain records to determine the unamortized amount of the capital assets.

In 1992, Joel Slemrod and Marsha Blumenthal conducted a survey by mail of the 1672 firms in the Internal Revenue Services Coordinated Examination Program.¹⁴⁶ They received responses from 365 firms, which represented 27.5 percent of the firms on the mailing list that were still active businesses. The survey asked corporate tax officers about the costs their companies incurred in complying with corporate income taxes.

The survey included open-ended questions regarding the aspects of the current corporate income tax (Federal, State and local) that are most responsible for the cost of compliance. Of the 365 respondents overall, 315 answered the question about the Federal income tax. The most frequent responses were as follows:

Federal income tax	Number of responses
Depreciation	118
Alternative minimum tax (AMT)	115
Uniform capitalization	85
International	44

¹⁴⁴ The transition rules provided in S. 722, contain elements of both these approaches.

¹⁴⁵ See, Robert E. Hall and Alvin Rabushka, *The Flat Tax*, Second edition, (Stanford, CA: Hoover Institution Press), 1995, p. 116.

¹⁴⁶ See Slemrod, Joel and Marsha Blumenthal, "Measuring Taxpayer Burden and Attitudes for Large Corporations." Report to the Coordinated Examination Program of the Internal Revenue Service, August, 1993.

The first three items on the list (depreciation, AMT, and uniform capitalization) are of significance to capital-intensive firms. The primary complexities involved in depreciation would appear to be (1) characterizing the types of property by class in order to apply the depreciation rules applicable to such class; (2) making multiple depreciation calculations for regular tax, AMT, earnings and profits, and State tax purposes; and (3) maintaining the various depreciation records. The AMT increases complexity because it (1) is a parallel tax system within the regular tax system, thus requiring multiple calculations and records, and (2) involves detailed tax planning to minimize the effect of the AMT or to maximize the use of AMT credits. The uniform capitalization rules are complex because they involve gathering information from operations of the enterprise that may not be gathered for non-tax purposes.

Complexity under consumption taxes

Fewer tax accounting rules are needed under a consumption tax. Moreover, rules regarding capitalization, inventory flows, depreciation, and other cost recovery would no longer be required. The elimination of these rules would simplify the tax accounting for capital-intensive businesses. In addition, because consumption-based taxes are neutral with respect to a business' choice of financial structure, these tax systems generally would eliminate choice-of-entity concerns and the controversies that arise under present law relating to whether securities issued by the business are debt or equity for tax purposes.

As under present law, some rules would be needed under a consumption-based tax in order to determine the proper period for taking items gross income and expense into account. Essentially, these rules would require taxpayers to be placed on either an accrual or cash method. Indeed, some of the consumption taxes introduced to date provide for a choice of overall accounting methods.¹⁴⁷

In addition, because consumption taxes generally do not allow deductions for interest expense or subject interest income to tax, rules may be needed to distinguish disguised interest in the case of prepayments and deferred payments. As an example, assume that an individual consumer acquires a used automobile from a dealer who offers to finance the transaction. Under the financing arrangement, the consumer is to pay the dealer \$1,000 a year for five years. Further assume that a consumption tax applies to the transaction such that the dealer is subject to tax on the principal, but not the interest, portions of the installment payments. In this case, the dealer would have an incentive to characterize a significant portion of each \$1,000 payment as tax-exempt interest rather than taxable principal. The consumer would be indifferent to the characterization because he or she can deduct neither principal nor interest.¹⁴⁸ Rules designed to address disguised interest may entail complexity at least equal to that of the current income tax in this

¹⁴⁷ The USA Tax (S. 722) generally requires the use of an accrual method of accounting, but allows the use of the cash method: (1) where the taxpayer is currently using such method or (2) where allowed by the Secretary of the Treasury. The National Retail Sales Tax (H.R. 3039) allows taxpayers to choose between the cash method and an accrual method.

¹⁴⁸ The issues presented by prepayments and deferred payments are less significant if both parties to a transaction are subject to the same tax rate and use the same accounting methods. In such instances, the possibility of "tax arbitrage" is diminished or extinguished.

area. For example, under present law, Code sections 1271 through 1288 attempt to characterize, and provide proper treatment for, discount on debt obligations as interest. These rules have been criticized as among the most complex in the Code.

As another example, property can be transferred from one taxpayer to another in a transaction under which the user of the property pays for such use over time. These transactions can be characterized as leases or as installment sales, depending on the terms and substance of the underlying transactions. Under present law, characterization as a lease results in different tax treatment than does characterization as an installment sale. Specifically, if the transaction is treated as a sale, the provider of the property generally recognizes gain on the date of sale and includes interest income over the term of payments; a business user of the property depreciates the cost of the property over its recovery period and claims interest expense over the term of the payments. If the transaction is treated as a lease, the provider of the property generally includes the payments in income as received and claims depreciation deductions for the cost of the property; a business user of the property deducts its payments as rent over the lease term. As a result of these potentially different treatments, the proper characterization of these and similar transactions is often the subject of controversy between taxpayers and the IRS under current law. Similarly, under the proposed consumption taxes, leases and installment sales may provide different tax treatments to both users and providers of property. Specifically, if the transaction is treated as a sale, the provider of the property generally includes in income the principal, but not the interest, portion of the payments; a business user of the property expenses the cost of the property when acquired. If the transaction is treated as a lease, the provider of the property generally expenses the cost of the property and includes the payments in income as received; a business user of the property deducts its payments as rent over the lease term. Because of these potentially different tax treatments, unless the new tax system provides clear rules to characterize these transactions, disputes similar to those of present law may arise.

The substitution of new, potentially complex tax accounting rules in a consumption tax for old, potentially complex tax accounting rules under the income tax may not ease the compliance burden of some taxpayers. In any event, the enactment of any new tax system, no matter how simple, brings with it a degree of complexity for those accustomed to the old system.¹⁴⁹

Complexity under a "pure" income tax

One of the goals of a "pure" income tax is to measure economic income properly so as not to distort investment decisions. Present law provides various tax accounting rules that attempt to reach this income measurement. Many of these provisions were enacted as part of the Tax Reform Act of 1986, which broadened the income tax base and lowered income tax rates. Some of these provisions,

¹⁴⁹ The compliance aspects of taxpayers, including those under present law and alternative tax systems, are expected to be analyzed with respect to a planned future hearing on tax restructuring proposals.

including the corporate AMT and the uniform capitalization rules, have been criticized as being complex.

Present law provides some exceptions to normative income-measurement rules in order to alleviate the recordkeeping burdens or reduce the tax burden of the qualified business. For example, section 174 of present law allows research and experimental expenditures to be expensed and deducted as incurred. Under a "pure" income tax those research expenditures that result in successful projects would be capitalized into the cost of such projects, while expenditures that result in failures would be expensed. Such a requirement would involve the complexity of allocating costs between successful and failed projects. Indeed, the experiences gained from a failed project may be a benefit to a future successful project and theoretically should be capitalized as such. Present-law expensing avoids these complexities. Thus, the present-law deduction of research and experimental expenditures may be viewed not only as a stimulus for such activities, but as a provision to reduce record-keeping burdens.

Because it generally is conceded that income is difficult to measure, expanding the income tax base under a "pure" income tax likely will introduce additional complexity to the income tax system. To the extent a "pure" income tax further expands the tax base, consideration should be given as to whether the rules of administrative convenience could be adopted without compromising the goal of measuring economic income. Conversely, a "pure" income tax base may decrease some of the complexities of present law. For example, the corporate AMT is criticized as complex. Repealing present-law tax preferences in the regular tax would eliminate the need for an AMT, thus decreasing complexity.

E. Tax Restructuring and Excise Taxes on the Manufacturing, Energy, and Natural Resources Industries

As described in Part II.C., above, several excise taxes are imposed on certain manufactured goods and natural resource and energy products. An excise tax generally distorts consumer behavior by raising the price of taxed good relative to all other goods. Consumers generally respond by purchasing less of the taxed good, causing the industry to be smaller than it would be in the absence of the tax. Such distortions of consumer choice create inefficiencies in the economy.¹⁵⁰

There are two circumstances under which excise taxes may not create inefficiencies in the economy. While all taxes finance benefits (i.e., pay for government services), some specific excise taxes are designed to achieve socially beneficial behavioral outcomes and other excise taxes have their revenues dedicated to provide specific benefits. An example of the former is environmental taxes and an example of the latter is the tax on motor fuels dedicated to the Highway Trust Funds.¹⁵¹

¹⁵⁰ The text assumes the excise tax is borne by the consumer. If the burden of the excise tax were borne by the producer, the rate of return to investment in that industry would be reduced and investment in the economy would be distorted creating an economic inefficiency.

¹⁵¹ For a more detailed economic analysis of both cases see, Joint Committee on Taxation, *Methodology and Issues in Measuring Changes in the Distribution of Tax Burdens* (JCS-7-93), June 7, 1993, pp. 60-65.

When economic activities have adverse effects on the environment or health of the population at large, the true cost to society of such activities includes not only the producer's internal costs for labor, fuel, etc., but also the environmental cost. In such cases, a so-called "negative externality" exists, since some costs of the activity are borne by individuals external to the market. If a tax is levied equal to the external cost, then the price consumers pay for the good is equal to the full value of private costs and social costs, including the environmental cost. In this situation, economic efficiency is not distorted.

Some people view the motor fuels taxes as payments for the provision of highways, much as the fees collected at highway toll booths may pay for the construction and maintenance of a toll highway. As a benefit tax, it may not be appropriate to say that consumer choice is distorted by the tax when he or she receives a direct benefit in return.

If a goal of tax reform, by adoption of either a consumption-based tax or a "pure" income tax, is to reduce economic inefficiencies in the economy, consideration might be given to eliminating certain excise taxes. Under any tax reform approach, certain excise taxes could be retained without creating economic inefficiencies to the extent the taxes meet either the benefit principle or externality principle.

Appendix A.—MACRS Recovery Periods and Class Lives of Depreciable Property

Asset class	Description of assets included in asset class	Recovery period	Class life
Specific Depreciable Assets used in All Business Activities, Except as Noted:			
00.11	Office Furniture, Fixtures, and Equipment	7	10
00.12	Information Systems ¹	5	5
00.13	Data Handling Equipment, except Computers	5	6
00.21	Airplanes (airframes and engines), except those used in commercial or contract carrying of passengers or freight, and all helicopters, airframes and engines).	5	6
00.22	Automobiles, Taxis	5	5
00.23	Buses	5	9
00.241	Light General Purpose Trucks	5	5
00.242	Heavy General Purpose Trucks	5	6
00.25	Railroad Cars and Locomotives, except those owned by railroad transportation companies.	7	15
00.26	Tractor Units For Use Over-the-Road	3	4
00.27	Trailers and Trailer-Mounted Containers	5	6
00.28	Vessels, Barges, Tugs, and Similar Water Transportation Equipment, except those used in marine construction.	10	18
00.3	Land Improvements	15	20
00.4	Industrial Steam and Electric Generation and/or Distribution Systems	15	22
Depreciable Assets Used in the Following Activities:			
01.1	Agriculture	7	10
01.11	Cotton Ginning Assets	7	12
01.21	Cattle, Breeding or Dairy	5	7
01.22	Horses, Breeding or Work	7	10
01.221	Any horse that is not a race horse and that is more than 12 years old at the time it is placed in service.	3	10

Appendix A.—MACRS Recovery Periods and Class Lives of Depreciable Property—Continued

Asset class	Description of assets included in asset class	Recovery period	Class life
01.222	Any race horse that is more than 2 years old at the time it is placed in service.	3	12
01.23	Hogs, Breeding	3	3
01.24	Sheep and Goats, Breeding	5	5
01.3	Farm buildings except structures included in Class 01.4	20	25
01.4	Single purpose agricultural or horticultural structures (within the meaning of section 48(p) of the Code).	7	15
10.0	Mining	7	10
13.0	Offshore Drilling	5	7.5
13.1	Drilling of Oil and Gas Wells	5	6
13.2	Exploration for and Production of Petroleum and Natural Gas Deposits	7	14
13.3	Petroleum Refining	10	16
15.0	Construction	5	6
20.1	Manufacture of Grain and Grain Mill Products	10	17
20.2	Manufacture of Sugar and Sugar Products	10	18
20.3	Manufacture of Vegetable Oils and Vegetable Oil Products	10	18
20.4	Manufacture of Other Food and Kindred Products	7	12
20.5	Manufacture of Food and Beverages—Special Handling Devices	3	4
21.0	Manufacture of Tobacco and Tobacco Products	7	15
22.1	Manufacture of Knitted Goods	5	7.5
22.2	Manufacture of Yarn, Thread, and Woven Fabric	7	11
22.3	Manufacture of Carpets, and Dyeing, Finishing, and Packaging of Textile Products and Manufacture of Medical and Dental Supplies.	5	9
22.4	Manufacture of Textured Yarns	5	8
22.5	Manufacture of Nonwoven Fabrics	7	10
23.0	Manufacture of Apparel and Other Finished Products	5	9

24.1	Cutting of Timber	5	6
24.2	Sawing of Dimensional Stock from Logs (Permanent)	7	10
24.3	Sawing of Dimensional Stock from Logs (Temporary)	5	6
24.4	Manufacture of Wood Products, and Furniture	7	10
26.1	Manufacture of Pulp and Paper	7	13
26.2	Manufacture of Converted Paper, Paperboard, and Pulp Products	7	10
27.0	Printing, Publishing, and Allied Industries	7	11
28.0	Manufacture of Chemicals and Allied Products	5	9.5
30.1	Manufacture of Rubber Products	7	14
30.11	Manufacture of Rubber Products—Special Tools and Devices	3	4
30.2	Manufacture of Finished Plastic Products	7	11
30.21	Manufacture of Finished Plastic Products—Special Tools	3	3.5
31.0	Manufacture of Leather and Leather Products	7	11
32.1	Manufacture of Glass Products	7	14
32.11	Manufacture of Glass Products—Special Tools	3	2.5
32.2	Manufacture of Cement	15	20
32.3	Manufacture of Other Stone and Clay Products	7	15
33.2	Manufacture of Primary Nonferrous Metals	7	14
33.21	Manufacture of Primary Nonferrous Metals—Special Tools	5	6.5
33.3	Manufacture of Foundry Products	7	14
33.4	Manufacture of Primary Steel Mill Products	7	15
34.0	Manufacture of Fabricated Metal Products	7	12
34.01	Manufacture of Fabricated Metal Products—Special Tools	3	3
35.0	Manufacture of Electrical and Non-Electrical and Other Mechanical Products.	7	10
36.0	Manufacture of Electronic Components, Products, and Systems	5	6
36.1	Manufacture of Semiconductors	5	5
37.11	Manufacture of Motor Vehicles	7	12
37.12	Manufacture of Motor Vehicles—Special Tools	3	3
37.2	Manufacture of Aerospace Products	7	10
37.31	Ship and Boat Building Machinery and Equipment	7	12
37.32	Ship and Boat Building Dry Docks and Land Improvements	10	16

Appendix A.—MACRS Recovery Periods and Class Lives of Depreciable Property—Continued

Asset class	Description of assets included in asset class	Recovery period	Class life
37.33	Ship and Boat Building—Special Tools	5	6.5
37.41	Manufacture of Locomotives	7	11.5
37.42	Manufacture of Railroad Cars	7	12
39.0	Manufacture of Athletic, Jewelry and Other Goods	7	12
40.1	Railroad Machinery and Equipment	7	14
40.2	Railroad Structures and Similar Improvements	20	30
40.3	Railroad Wharves and Docks	15	20
40.4	Railroad Track	7	10
40.51	Railroad Hydraulic Electric Generating Equipment	20	50
40.52	Railroad Nuclear Electric Generating Equipment	15	20
40.53	Railroad Steam Electric Generating Equipment	20	28
40.54	Railroad Steam, Compressed Air, and Other Power Plant Equipment	20	28
41.0	Motor Transport-Passengers	5	8
42.0	Motor Transport-Freight	5	8
44.0	Water Transportation	15	20
45.0	Air Transport	7	12
45.1	Air Transport (restricted)	5	6
46.0	Pipeline Transportation	15	22
48.11	Telephone Central Office Buildings	20	45
48.12	Telephone Central Office Equipment	15	18
48.121	Computer-based Telephone Central Office Switching Equipment	5	9.5
48.13	Telephone Station Equipment ²	7	10
48.14	Telephone Distribution Plant	15	24
48.2	Radio and Television Broadcasting	5	6
48.31	TOCSC-Electric Power Generating Distribution Systems	10	19
48.32	TOCSC-High Frequency Radio and Microwave Systems	7	13

48.33	TOCSC-Cable and Long-Line Systems	20	26.5
48.34	TOCSC-Central Office Control Equipment	10	16.5
48.35	TOCSC-Computerized Switching, Channeling, and Associated Control Equipment	7	10.5
48.36	TOCSC-Satellite Ground Segment Property	7	10
48.37	TOCSC-Satellite Space Segment Property	5	8
48.38	TOCSC-Equipment Installed on Customer's Premises	7	10
48.39	TOCSC-Support and Service Equipment	7	13.5
48.41	CATV-Headend	7	11
48.42	CATV-Subscriber Connection and Distribution Systems	7	10
48.43	CATV-Program Origination	5	9
48.44	CATV-Service and Test	5	8.5
48.45	CATV-Microwave Systems	5	9.5
49.11	Electric Utility Hydraulic Production Plant	20	50
49.12	Electric Utility Nuclear Production Plant	15	20
49.121	Electric Utility Nuclear Fuel Assemblies	5	5
49.13	Electric Utility Steam Production Plant	20	28
49.14	Electric Utility Transmission and Distribution Plant	20	30
49.15	Electric Utility Combustion Turbine Production Plant	15	20
49.21	Gas Utility Distribution Facilities	20	35
49.221	Gas Utility Manufactured Gas Production Plants	20	30
49.222	Gas Utility Substitute Natural Gas (SNG) Production Plant (naphtha or lighter hydrocarbon feedstocks)	7	14
49.223	Substitute Natural Gas-Coal Gasification	10	18
49.23	Natural Gas Production Plant	7	14
49.24	Gas Utility Trunk Pipelines and Related Storage Facilities	15	22
49.25	Liquefied Natural Gas Plant	15	22
49.3	Water Utilities	20	50
49.4	Central Steam Utility Production and Distribution	20	20
49.5	Waste Reduction and Resource Recovery Plants	7	10
50.0	Municipal Wastewater Treatment Plant	15	24
51.0	Municipal Sewer	20	50

Appendix A.—MACRS Recovery Periods and Class Lives of Depreciable Property—Continued

Asset class	Description of assets included in asset class	Recovery period	Class life
57.0	Distributive Trades and Services ³	5	9
57.1	Distributive Trades and Services—Billboard, Service Station Buildings and Petroleum Marketing Land Improvements.	15	20
79.0	Recreation	7	10
80.0	Theme and Amusement Parks	7	12.5
	A. Personal Property With No Class Life Section 1245 Real Property With No Class Life.	7	12
	B. Qualified Technological Equipment, as defined in section 168(i)(2)	5	5
	C. Property Used in Connection with Research and Experimentation referred to in section 168(e)(e)(B).	5	(4)
	D. Alternative Energy Property described in sections 48(1)(3)(viii) or (iv), or section 48(1)(4) of the Code.	5	(4)
	E. Biomass property described in section 48(1)(15) and is a qualifying small production facility within the meaning of section 3(17)(c) of the Federal Power Act, (16 U.S.C. 796(17)(C)), as in effect on September 1, 1986.	5	(4)

¹Property described in asset class 00.12 which is qualified technological equipment as defined in section 168(i)(2) is assigned a recovery period of 5 years notwithstanding its class life. See section 3 of the revenue procedure.

²Property described in asset guideline class 48.13 which is qualified technological equipment as defined in section 168(i)(2) is assigned a 5-year recovery period for both the general and alternative depreciation systems.

³Any high technology medical equipment as defined in section 168(i)(2)(C) which is described in asset guideline class 57.0 is assigned to a 5-year recovery period for the alternative depreciation system.

⁴Class life; if no class life—12.

Source: Rev. Proc. 87-56, 1987-2 C.B. 674.

**Appendix Table B.1.--U.S. Manufacturing Sector
as a Percentage of U.S. Gross Domestic Product**

Years	GDP (billions current dollars)	manufacturing (billions current dollars)	manufacturing as percentage of GDP (percent)
1947	234.3	66.2	28.3
1948	260.3	74.7	28.7
1949	259.3	72.3	27.9
1950	287.0	84.1	29.3
1951	331.6	99.1	29.9
1952	349.7	103.4	29.6
1953	370.0	112.4	30.4
1954	370.9	106.8	28.8
1955	404.3	121.4	30.0
1956	426.2	127.4	29.9
1957	448.6	132.0	29.4
1958	454.7	124.6	27.4
1959	494.2	142.2	28.8
1960	513.3	144.8	28.2
1961	531.8	145.3	27.3
1962	571.6	159.1	27.8
1963	603.1	168.6	28.0
1964	648.0	180.5	27.9
1965	702.7	199.1	28.3
1966	769.8	218.2	28.3
1967	814.3	223.7	27.5
1968	889.3	244.3	27.5
1969	959.5	257.8	26.9
1970	1010.7	253.1	25.0
1971	1097.2	266.7	24.3
1972	1207.0	294.3	24.4
1973	1349.6	327.6	24.3
1974	1458.6	341.2	23.4
1975	1585.8	358.8	22.6
1976	1768.4	409.6	23.2
1977	1974.1	466.8	23.6
1978	2232.7	521.9	23.4
1979	2488.6	575.7	23.1
1980	2708.0	588.3	21.7
1981	3030.6	653.0	21.5
1982	3149.6	647.5	20.6
1983	3405.0	693.3	20.4
1984	3777.2	773.9	20.5
1985	4038.7	798.5	19.8
1986	4268.6	829.3	19.4
1987	4539.9	878.4	19.3
1988	4900.4	961.0	19.6
1989	5250.8	1004.6	19.1
1990	5546.1	1024.7	18.5
1991	5724.8	1032.5	18.0
1992	6020.2	1063.0	17.7
1993	6343.3	1118.3	17.6

Source: U.S. Department of Commerce, Bureau of Economic Analysis,
Survey of Current Business, November 1993 and April 1995.

Appendix Table B.2.—Indexes of Industrial Production by Sector

<u>Year</u>	<u>Manufacturing</u>	<u>Mining</u>	<u>Utilities</u>
1947	21.2	55.5	11.7
1948	22.0	58.3	13.0
1949	20.8	51.7	13.9
1950	24.2	57.7	15.8
1951	26.1	63.4	18.1
1952	27.2	62.8	19.6
1953	29.6	64.5	21.3
1954	27.7	63.2	22.9
1955	31.3	70.5	25.6
1956	32.5	74.2	28.1
1957	32.9	74.3	30.0
1958	30.6	68.1	31.4
1959	34.5	71.3	34.5
1960	35.2	72.7	36.9
1961	35.3	73.1	39.0
1962	38.4	75.2	41.9
1963	40.7	78.2	44.8
1964	43.5	81.4	48.7
1965	48.2	84.4	51.7
1966	52.6	88.9	55.6
1967	53.6	90.6	58.4
1968	56.6	94.1	63.1
1969	59.1	97.8	68.7
1970	56.4	100.4	72.9
1971	57.3	97.8	76.4
1972	63.3	99.9	81.3
1973	68.9	100.8	84.5
1974	67.9	100.3	83.5
1975	61.1	98.0	84.3
1976	67.4	98.9	87.6
1977	73.3	101.5	89.9
1978	77.8	104.6	92.7
1979	80.9	106.6	95.3
1980	78.8	110.0	95.9
1981	80.3	114.3	94.3
1982	76.6	109.3	91.8
1983	80.9	104.8	93.6
1984	89.3	111.9	97.0
1985	91.6	109.0	99.5
1986	94.3	101.0	96.3
1987	100.0	100.0	100.0
1988	104.7	101.3	105.0
1989	106.4	100.0	108.7
1990	106.1	102.0	109.9
1991	103.8	100.2	112.3
1992	108.2	98.9	111.9
1993	112.3	98.0	116.3
1994	119.7	100.3	117.9
1995	123.9	99.8	122.1

Source: Board of Governors of the Federal Reserve System.

Appendix Table B.3.--Domestic Production of Crude Oil and Natural Gas Liquids, Dry Natural Gas, and Coal, 1973-1995

<u>Years</u>	<u>Total Domestic Field Production of Crude Oil & Natural Gas Liquids (thousands of barrels per day)</u>	<u>Total Dry Natural Gas Production (billion cubic feet)</u>	<u>Coal Production (thousands of tons)</u>
1973	10,975	21,731	598,568
1974	10,498	20,713	610,023
1975	10,045	19,236	654,641
1976	9,774	19,098	684,913
1977	9,913	19,163	697,205
1978	10,328	19,122	670,164
1979	10,179	19,663	781,134
1980	10,241	19,403	829,700
1981	10,230	19,181	823,775
1982	10,252	17,820	838,112
1983	10,299	16,094	782,091
1984	10,554	17,466	895,921
1985	10,636	16,454	883,638
1986	10,289	16,059	890,315
1987	10,008	16,621	918,762
1988	9,818	17,103	950,265
1989	9,219	17,311	980,729
1990	8,994	17,810	1,029,076
1991	9,168	17,698	995,984
1992	8,996	17,840	997,545
1993	8,836	18,095	945,424
1994	8,645	18,747	1,033,504
1995	8,626	18,902	1,029,737

Source: U.S. Department of Energy, Energy Information Agency, Monthly Energy Review, June 1996.

**Appendix Table B.4.--Net Private Fixed Nonresidential Investment in Equipment and Structures
All and Selected Industries in Constant 1987 Dollars, 1947-1994**
[Millions of Dollars]

<u>Year</u>	<u>All industries</u>	<u>Manufacturing durable</u>	<u>Manufacturing nondurable</u>	<u>Mining</u>	<u>Oil & gas extraction</u>	<u>Electric, gas and sanitation utilities</u>
1947	50372	9800	12307	1789	1335	7185
1948	55261	6939	8470	3129	2554	7832
1949	37435	987	3535	2423	2693	9402
1950	45461	2737	2613	3729	3866	10443
1951	49227	9235	4533	4023	3876	9580
1952	43754	9990	3230	5659	5465	9857
1953	48433	8208	3498	6294	6057	11379
1954	41949	7018	3057	6373	6390	9729
1955	50476	7677	1882	7379	7254	8329
1956	59808	14094	5036	6956	6318	9918
1957	55428	11982	4912	5668	5301	10164
1958	30540	2710	830	3335	3404	9959
1959	41965	2005	-194	3325	3213	9206
1960	47214	5803	2688	2637	2217	7870
1961	43629	3379	3347	3082	2104	6293
1962	52737	4302	4206	3014	1874	6072
1963	56802	5544	4368	2124	1010	5704
1964	75588	9433	6460	4336	3261	6092
1965	105110	15448	11491	4720	3078	7977
1966	119049	21434	15293	4296	2582	104779
1967	104700	19024	12109	1717	138	12077
1968	107611	16353	11450	1242	-153	14932
1969	116327	16502	11859	1931	585	15010
1970	101632	12668	11404	-9	-1078	16115
1971	88826	7380	8681	-433	-2162	15245
1972	97567	8441	8398	-1196	-2804	18456
1973	135058	13501	8651	837	-1008	19165
1974	123676	19662	14521	2366	72	17326

1975	72122	9329	12227	3849	1134	10501
1976	69025	8824	12066	4423	829	5063
1977	94846	11911	12269	7582	3257	11425
1978	130778	17559	13177	13476	7379	11416
1979	149850	21178	14681	14271	9119	8953
1980	128269	19469	11454	19317	17474	13062
1981	126219	21148	12652	25840	25055	10312
1982	83048	9343	11442	17262	16226	6546
1983	62579	-2823	639	4387	4951	3372
1984	116324	7532	2693	6237	7073	8183
1985	141307	13594	5830	1579	2574	22955
1986	104922	4396	-1385	-13841	-11544	17663
1987	86177	5095	3461	-14775	-11862	15438
1988	94619	676	6581	-11891	-10715	11657
1989	101194	7543	16036	-14196	-12052	4971
1990	89111	9185	15964	-11100	-9362	12033
1991	43261	1233	17521	-10613	-9425	4825
1992	36924	1583	13638	-13464	-11738	5102
1993	90429	11128	13338	-9846	-8880	6269
1994	150198	19262	21078	-8991	-8625	10348

Source: U.S. Department of Commerce, Bureau of Economic Analysis.