# DESCRIPTION AND ANALYSIS OF S. 612 (SAVINGS AND INVESTMENT INCENTIVE ACT OF 1991)

SCHEDULED FOR A HEARING

BEFORE THE

## SENATE COMMITTEE ON FINANCE

ON MAY 16, 1991

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PREPARED BY THE STAFF

OF THE

## JOINT COMMITTEE ON TAXATION

MAY 14, 1991

## JOINT COMMITTEE ON TAXATION

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## ERRATA FOR JCS-5-91

o   On page 18, in the first line of the second paragraph
    under the heading **Special IRAs**, replace the word
    "nonductible" with "nondeductible".

o   On page 23, in Table 2, for the income category "Less
    than $10,000", the percent in the phaseout range should
    be 0.1 instead of 0.5.  Also, for the income category
    "$30,000 to $40,000", the percent in the phaseout range
    should be 38.8 instead of 22.5.

o   On page 23, in the last line of Table 2, insert footnote
    2/ before "$2,096", and insert footnote 3/ before
    "$1,428".

o   On page 33, the first sentence of the last paragraph
    should read as follows: "Funds in a special IRA that are
    withdrawn within 5 years are subject to additional tax."

o   On page 40, in the first line of the second paragraph
    after Table 4, delete the word "savings".

# CONTENTS

# INTRODUCTION

This pamphlet,[1] prepared by the staff of the Joint Committee on Taxation, provides a description and analysis of S. 612 (Savings and Investment Incentive Act of 1991). S. 612 was introduced by Senators Bentsen, Roth, and others on March 12, 1991. The Senate Committee on Finance has scheduled a public hearing on the bill on May 16, 1991.

Part I of the pamphlet is an overview. Part II provides information on present law and the legislative background of individual retirement arrangements (IRAs) and certain other special tax provisions relating to saving. Part III is an analysis of the provisions of S. 612. Part IV contains economic analysis of IRAs generally and the provisions of S. 612 specifically. Part V is a discussion of general issues relating to tax incentives for saving.

Appendix I contains a brief comparison of S. 612 with other tax incentives for saving. Appendix II presents selected economic data tables.

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[1] This pamphlet may be cited as follows: Joint Committee on Taxation, *Description and Analysis of S. 612 (Savings and Investment Incentive Act of 1991)* (JCS-5-91), May 14, 1991.

# I. OVERVIEW

## Present law and legislative background of IRAs

Under present law, under certain circumstances, an individual is allowed to deduct contributions (up to the lesser of $2,000 or 100 percent of the individual's compensation or earned income) to an individual retirement arrangement (IRA). The amounts held in an IRA, including earnings on contributions, generally are not included in taxable income until withdrawn.

The $2,000 deduction limit is phased out over certain adjusted gross income (AGI) levels if the individual or the individual's spouse is an active participant in an employer-sponsored retirement plan. An individual may make nondeductible IRA contributions (up to the $2,000 or 100 percent of compensation limit) to the extent the individual is not permitted to make deductible IRA contributions.

The IRA provisions were originally enacted in the Employee Retirement Income Security Act of 1974 (ERISA). Under ERISA, an individual was permitted to make deductible IRA contributions only if the individual was not an active participant in an employer-sponsored retirement plan. The limit on IRA deductions was the lesser of $1,500 or 15 percent of compensation (or earned income, in the case of a self-employed individual).

The Economic Recovery Tax Act of 1981 increased the IRA deduction limit to its current level and removed the restriction on IRA contributions by individuals who were active participants in employer-sponsored plans. The IRA rules in their current form were enacted as part of the Tax Reform Act of 1986.

## The Savings and Investment Incentive Act of 1991

The Savings and Investment Incentive Act of 1991 (S. 612) [2] would restore the deductibility of IRA contributions for all taxpayers under the rules in effect prior to the Tax Reform Act of 1986 and would provide for the indexing of the limits on contributions to IRAs. In addition, the bill would permit nondeductible contributions to special IRAs. Withdrawals from a special IRA would not be includible in income if attributable to contributions that had been held by the special IRA for at least 5 years. The limits on contributions to deductible IRAs and special IRAs would be coordinated.

The bill would allow withdrawals from an IRA and from elective deferrals under (1) a qualified cash or deferred arrangement (sec. 401(k) plan), (2) a tax-sheltered annuity (sec. 403(b)), or (3) a section 501(c)(18) plan without imposition of the 10-percent additional income tax on early withdrawals to the extent the amount withdrawn is used for the purchase of a first home, for certain educa-

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[2] S. 612 was introduced by Senators Bentsen, Roth, and others on March 12, 1991.

tion expenses, or for catastrophic medical expenses (i.e., medical expenses in excess of 7.5 percent of AGI).

Under present law and under S. 612, 21 percent of all taxpayers cannot make IRA contributions because they do not have compensation or earned income. Under present law, 18 percent of taxpayers with compensation or earned income are not permitted to deduct any IRA contributions because they are active participants in an employer-sponsored retirement plan and are above the income thresholds, and an additional 9 percent are subject to the income phaseout and, thus, are not eligible to make the maximum deductible IRA contribution. S. 612 would restore full eligibility for deductible IRA contributions to the 27 percent of taxpayers with compensation or earned income who are not eligible under present law because of the present-law restrictions, and would provide all such taxpayers with an option to contribute to a special IRA.

### *Economic analysis of IRAs generally and under S. 612*

Deductible IRAs allow taxpayers to deduct IRA contributions from income in the year contributed and pay income tax on the contributions plus earnings when withdrawn. This treatment creates two potential tax benefits: (1) taxpayers effectively earn a tax-free rate of return on IRA investments and (2) the contributions may be taxed at a lower marginal tax rate than the taxpayer's marginal tax rate when the contributions were made because IRA contributions are not taxed until withdrawn, at which time the taxpayer may be retired.

From an economic perspective, special IRAs receive tax treatment generally equivalent to deductible IRAs. Because the taxpayer does not deduct special IRA contributions from income and pays no tax when amounts are withdrawn, the taxpayer is never taxed on the income earned on the investment. Whether the deductible IRA and special IRA are in fact economically equivalent depends on the difference between the taxpayer's marginal tax rate in the year contributions are made and the marginal tax rate in the year IRA funds are withdrawn. When marginal tax rates decrease over time (because tax rates change generally or taxpayers fall into lower tax brackets), the deductible IRA is more advantageous than the special IRA because it permits taxpayers to defer payment of tax until tax rates are lower. When marginal tax rates increase over time, a special IRA is more advantageous.

Additional differences exist between the deductible and special IRAs in S. 612. First, because the dollar limit on contributions to both the deductible IRA and special IRA under S. 612 is $2,000, the $2,000 special IRA contribution limit effectively increases the amount of tax-free saving that can be invested relative to the deductible IRA. The $2,000 limit on pre-tax income is equivalent to a limit of $1,440 on after-tax income for a taxpayer subject to a 28-percent marginal tax rate.

Second, because the 10-percent additional income tax on early withdrawals applies to the special IRA only during the first 5 years after a contribution has been made to the IRA, in general, the benefits of the special IRA are greater than those of the deductible IRA for taxpayers who desire to obtain the flexibility to invest funds in an IRA for a relatively short period of time. However, be-

cause of the 5-year holding period for the special IRA, this advantage of the special IRA exists only until a taxpayer attains age 54½, after which time the deductible IRA becomes more beneficial to the short-term investor.

### Present value of revenue cost of IRAs to the Federal Government

Assessing the cost (in the form of foregone tax receipts) to the Federal Government of IRAs may be more difficult than assessing the costs of other tax provisions because IRAs change not only the amount of tax collected, but also the timing of tax collections. Traditional budget scorekeeping accounts for the revenue effects of proposed legislation on a cash-flow basis; in other words, the effect of a provision on budget receipts for a fiscal period is estimated without regard to whether the provision will also affect budget receipts in a subsequent period. This method scores deductible IRAs as generating a larger revenue loss than special IRAs. However, a present-value calculation demonstrates that the long-term cost to the Federal Government of deductible IRAs and special IRAs will be approximately equal, except for the effects of changes in tax rates generally or for specific taxpayers, and the difference in the effective contribution limits.

Providing a choice between the deductible IRA and the special IRA in S. 612 is likely to increase the overall cost of IRAs to the Federal Government as compared to the cost of either option alone if taxpayers make accurate judgments about their future tax rates. Taxpayers who have reason to believe that their tax rates will decline over time will be more likely to invest in the deductible IRA, and taxpayers who believe their tax rate will increase over time or who intend to invest for a relatively short period of time will generally choose the special IRA.

### Effectiveness of IRAs at increasing saving

IRAs have a number of attributes that may affect a taxpayer's saving decision. First, investments in IRAs earn a higher after-tax rate of return than investments in other assets. Second, IRAs may provide an incentive for retirement saving, as opposed to other forms of saving. Third, deductible IRAs may provide a psychological incentive to save in the case of taxpayers who owe the Federal Government income tax in excess of the amounts withheld and estimated tax payments made during a year. Fourth, advertising of IRAs by banks and other financial institutions may influence decisions to save.

Deductible IRAs have been very popular with taxpayers. Contributions to IRAs increased significantly when eligibility restrictions were eliminated in 1982. At the peak in 1985, over $38 billion was contributed to IRAs; this represented almost 33 percent of personal saving for that year. However, there is no consensus within the economics profession as to the effect of the pre-1986 IRA rules on personal saving. Some economists believe that IRAs had no effect on overall personal saving; some believe that IRAs increased personal saving; and some believe that IRAs would have eventually increased saving if the universally available deductible IRA had not been significantly restricted by the Tax Reform Act of 1986.

In 1985, 17.8 percent of all eligible returns reported contributions to an IRA. Of the returns reporting contributions, most (71 percent) reported AGI below $50,000. However, high-income taxpayers contributed at a much higher rate than lower-income taxpayers—61.8 percent of eligible returns with AGI of $50,000 or above reported contributions to an IRA, while only 13.8 percent of eligible returns with AGI below $50,000 reported contributions.

Although research on the effectiveness of the pre-1986 IRA provisions may shed light on the potential of S. 612 to increase saving, several differences should be noted. First, marginal tax rates for most taxpayers are lower than they were before 1987. Thus, the tax advantages of IRAs are less valuable now than they were before 1987. Second, the proposed IRAs permit penalty-free withdrawals under different circumstances than the pre-1986 IRAs. Third, special IRAs permit penalty-free withdrawals after only 5 years. These differences may increase or decrease the effect of IRAs on saving.

### Issues relating to tax incentives for saving

#### Goals of tax incentives for saving

Some argue that tax incentives for saving are appropriate because the income tax system penalizes saving by taxing the return to income that is saved. This can affect both the national saving rate, as well as the assets taxpayers accumulate for particular purposes. Tax incentives for saving could be designed to encourage saving for particular purposes or to increase national saving.

IRAs have historically been viewed as vehicles for retirement saving. However, IRAs can provide substantial benefits to taxpayers who are saving for nonretirement purposes. For example, if funds are held in an IRA long enough, the taxpayer will benefit from the IRA even after payment of the income tax and the 10-percent early withdrawal tax.

#### Role of saving in the national economy

National saving is important to the economy because of its relationship to investment. The sources for investment are national saving and foreign investment. Increased investment increases the capital stock, which leads to greater productivity, higher wages and salaries, and increases in a nation's standard of living. Because of the possibility of foreign investment in the United States, a low saving rate does not necessarily mean a low investment rate. However, when foreign saving finances domestic investment, the profits from such investment are transferred abroad.

Net national savings declined through most of the 1980's, and is lower than that of other countries. Investment has declined as well over this period; however, foreign investment has compensated for some of the decline in domestic saving.

#### Adequacy of retirement savings

Social security is the largest source of retirement income (38 percent in 1986), followed by income from assets (26 percent in 1986), earnings (17 percent in 1986), and private and government employee pensions (14 percent in 1986). The adequacy of retirement

income is commonly measured by the replacement rate, that is, the ratio of retirement income to income during working years.

Available data indicate that social security and pension benefits replace roughly 33 percent of career high earnings and 50 percent of earnings over the last 5 years. When spousal benefits are taken into account, replacement rates are slightly higher as a percentage of final earnings, averaging 30 to 33 percent of highest earnings and 60 to 70 percent of earnings over the last 5 years. These replacement rates are higher for individuals who had low earnings.

It is not clear what an appropriate replacement rate is. A rate lower than 100 percent may be adequate. For example, people may desire to have more income during working years because some of that income is saved for retirement. People may also have lower expenses in retirement; for example, they may no longer be making payments on a home. On the other hand, a replacement rate of 100 may be too low. For example, a retiree may face much higher medical expenses than a younger person.

Although coverage by employer pension plans and social security is expected to be higher for current workers than for current retirees, the saving rate of current workers is lower than the rate at which current retirees saved during their working lives. Also, it is possible that the need for retirement income is increasing over time because of increases in life expectancies, trends toward early retirement, and rapid rises in medical costs.

## II. PRESENT LAW AND LEGISLATIVE BACKGROUND RELATING TO TAX INCENTIVES FOR SAVINGS

### A. Individual Retirement Arrangements (IRAs)

### 1. Present-law rules for IRAs

#### *In general*

Under certain circumstances, an individual is allowed a deduction for contributions (within limits) to an individual retirement account or an individual retirement annuity (an IRA) (Code sec. 219). An individual generally is not subject to income tax on amounts held in an IRA, including earnings on contributions, until the amounts are withdrawn from the IRA. No deduction is permitted with respect to contributions made to an IRA for a taxable year after the IRA owner attains age 70½.

Under present law, the maximum deductible contribution that can be made to an IRA generally is the lesser of $2,000 or 100 percent of an individual's compensation (earned income in the case of self-employed individuals). In addition, a married taxpayer who files a joint return with his or her spouse can make an additional contribution of up to $250 to an IRA established for the benefit of the spouse, if the spouse has no compensation or elects to be treated as having no compensation. A single taxpayer is permitted to make the maximum deductible IRA contribution for a year if the individual is not an active participant in an employer-sponsored retirement plan for the year or the individual has adjusted gross income (AGI) of less than $25,000. A married taxpayer filing a joint return is permitted to make the maximum deductible IRA contribution for a year if neither spouse is an active participant in an employer-sponsored plan or the couple has combined AGI of less than $40,000.

If a single taxpayer or either spouse (in the case of a married couple) is an active participant in an employer-sponsored retirement plan, the maximum IRA deduction is phased out over certain AGI levels. For single taxpayers, the maximum IRA deduction is phased out between $25,000 and $35,000 of AGI. For married taxpayers, the maximum deduction is phased out between $40,000 and $50,000 of AGI. In the case of a married taxpayer filing a separate return, the deduction is phased out between $0 and $10,000 of AGI.[3]

An individual is an active participant in an employer-sponsored retirement plan for the taxable year if the individual is an active participant for the plan year ending with or within the individual's

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[3] A couple is not considered married for purposes of the IRA deduction rules if the individuals file separate returns and live apart from one another at all times during the taxable year; each spouse is treated as a single individual in such a case.

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taxable year. An employer-sponsored retirement plan means (1) a qualified pension, profit-sharing, or stock bonus plan (sec. 401(a)); (2) a qualified annuity plan (sec. 403(a)); (3) a simplified employee pension plan (sec. 408(k)); (4) a plan established for its employees by the U.S., by a State or political subdivision, or by any agency or instrumentality of the U.S. or a State or political subdivision (other than an unfunded deferred compensation plan of a State or local government (sec. 457)); (5) a plan described in section 501(c)(18); and (6) a tax-sheltered annuity (sec. 403(b)).

The determination of whether an individual is an active participant depends on the type of plan involved. In general, in the case of a defined benefit pension plan, an individual is treated as an active participant if the individual is eligible to participate in the plan. An individual is an active participant in a defined contribution plan only if any amounts are allocated to the account of the participant for the year.[4] The extent to which a person is vested in his or her benefits under an employer-sponsored plan is not taken into account under the active participant rules.

### Nondeductible IRA contributions

Individuals may make nondeductible IRA contributions to the extent deductible contributions are not allowed because of the AGI phaseout and active participant rules. A taxpayer may also elect to make nondeductible contributions in lieu of deductible contributions. Thus, any individual may make nondeductible contributions up to the excess of (1) the lesser of $2,000 or 100 percent of compensation over (2) the IRA deduction claimed by the individual. An individual making nondeductible contributions is required to report the amount of such contributions on his or her tax return. As is the case with earnings on deductible IRA contributions, earnings on nondeductible contributions are not subject to income tax until withdrawn.

### Taxation of withdrawals

Amounts withdrawn from IRAs (other than amounts that represent a return of nondeductible contributions) are includible in income when withdrawn. If an individual withdraws an amount from an IRA during a taxable year and the individual has previously made both deductible and nondeductible IRA contributions, then the amount includible in income for the taxable year is the excess of the amount withdrawn over the portion of the amount withdrawn attributable to investment in the contract (i.e., nondeductible contributions). The amount attributable to nondeductible contributions is the portion of the amount withdrawn that bears the same ratio to the amount withdrawn as the total amount of nondeductible contributions bears to the total current value of all IRAs of the individual.

To discourage the use of amounts contributed to an IRA for nonretirement purposes, withdrawals from an IRA prior to age 59½, death, or disability are generally subject to an additional 10-per-

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[4] The definition of active participant under present law is generally the same as the definition of active participant that applied for purposes of determining eligibility to make IRA contributions prior to the IRA amendment adopted in the Economic Recovery Tax Act of 1981.

cent income tax (sec. 72(t)). The 10-percent additional income tax is intended to recapture at least a portion of the tax benefit of the IRA. The 10-percent additional income tax does not apply to withdrawals that are part of a series of substantially equal periodic payments made for the life (or life expectancy) of the taxpayer or the joint lives (or joint life expectancies) of the taxpayer and the taxpayer's designated beneficiary. A similar early withdrawal tax applies to withdrawals from qualified retirement plans and deferred annuities.

Present law imposes a 15-percent excise tax on excess distributions with respect to an individual during any calendar year from qualified retirement plans, tax-sheltered annuities, and IRAs. The purpose of the tax is to limit the total amount that can be accumulated on behalf of a particular individual on a tax-favored basis. In enacting the excise tax, Congress believed that an individual should not be permitted to accumulate excessive retirement savings, regardless of whether such excess was attributable to the receipt of multiple maximum benefits from several employers, very large appreciation in defined contribution plans, or the use of IRAs by individuals receiving significant employer-provided benefits.

In general, excess distributions are defined as the aggregate amount of retirement distributions (i.e., payments from applicable retirement plans) made with respect to an individual during any calendar year to the extent such amounts exceed the greater of (1) $150,000, or (2) $136,204 (for 1991). The dollar amount in (2) is indexed annually for inflation. Special rules apply in the case of lump-sum distributions and post-death distributions.

## 2. Legislative background of IRAs

### *Employee Retirement Income Security Act of 1974*

The individual retirement savings provisions of the Internal Revenue Code were originally enacted in the Employee Retirement Income Security Act of 1974 (ERISA) to provide a tax-favored retirement savings arrangement to individuals who were not covered under a tax-qualified retirement plan maintained by an employer. Individuals who were active participants in employer-sponsored retirement plans were not permitted to make contributions to an IRA. As enacted in ERISA, the limit on the deduction for IRA contributions was generally the lesser of (1) 15 percent of the individual's compensation (earned income in the case of a self-employed individual) for the year, or (2) $1,500.

### *Economic Recovery Tax Act of 1981*

The Economic Recovery Tax Act of 1981 (ERTA) increased the deduction limit for contributions to IRAs and removed the restrictions on IRA contributions by active participants in employer-sponsored retirement plans. After ERTA, the deduction limit for IRAs was generally the lesser of (1) 100 percent of the individual's compensation (earned income in the case of a self-employed individual), or (2) $2,000. Any individual was entitled to make a deductible contribution to an IRA even if the individual was an active participant in an employer-sponsored retirement plan.

The ERTA changes were motivated by Congressional concern that a large number of workers, including many who were covered by employer-sponsored retirement plans, faced the prospect of retirement without the resources needed to provide adequate retirement income levels. The Congress concluded that retirement savings by individuals during their working years can make an important contribution towards providing retirement income security.

### Tax Reform Act of 1986

The Tax Reform Act of 1986 (1986 Act) added the present-law restrictions on deductible IRA contributions by active participants in employer-sponsored retirement plans. These restrictions are similar to those originally included in ERISA. In addition, the 1986 Act added the present-law rules permitting individuals to make nondeductible contributions to an IRA.

## B. Other Tax Incentives for Saving

### Qualified retirement plans

#### In general

A plan of deferred compensation that meets the qualification standards of the Internal Revenue Code (a qualified plan) is accorded special tax treatment under present law. Employees do not include qualified plan benefits in gross income until the benefits are distributed, even though the plan is funded and the benefits are nonforfeitable. The employer is entitled to a current deduction (within limits) for contributions to a qualified plan even though the contributions are not currently included in an employee's income. Contributions to a qualified plan are held in a tax-exempt trust.

Employees, as well as employers, may make contributions to a qualified plan. Employees may, subject to certain restrictions, make both pre-tax and after-tax contributions to a qualified plan. Pre-tax employee contributions (e.g., contributions to a qualified cash or deferred arrangement (sec. 401(k) plan)) are treated the same as employer contributions for tax purposes.

The tax treatment of contributions under qualified plans is essentially the same as that of present law IRAs. However, the limits on contributions to qualified plans are much higher than the IRA contribution limits, so that qualified plans provide for a greater accumulation of funds on a tax-favored basis. The policy rationale for permitting greater accumulation under qualified plans than IRAs is that the tax benefits for qualified plans encourage employers to provide benefits for a broad group of their employees. This reduces the need for public assistance and reduces pressure on the social security system.

The qualification standards and related rules governing qualified plans are designed to ensure that qualified plans benefit an employer's rank-and-file employees as well as highly compensated employees. They also define the rights of plan participants and beneficiaries and provide some limits on the tax benefits for qualified

plans.[5] Certain of the rules relating to qualified plans are designed to ensure that the amounts contributed to qualified plans are used for retirement purposes. Thus, for example, an early withdrawal tax applies to premature distributions from such plans, and the ability to obtain distributions prior to termination of employment from certain types of qualified plans is restricted.

### Types of qualified plans

Qualified plans are broadly classified into two categories, defined benefit pension plans and defined contribution plans, based on the nature of the benefits provided.

Under a defined benefit pension plan, benefit levels are specified under a plan formula. For example, a defined benefit pension plan might provide an annual retirement benefit of 2 percent of final average compensation multiplied by total years of service completed by an employee. Benefits under a defined benefit pension plan are funded by the general assets of the trust established under the plan; individual accounts are not maintained for employees participating in the plan. Benefits under a defined benefit pension plan are guaranteed (within limits) by the Pension Benefit Guaranty Corporation (PBGC), a federal corporation within the Department of Labor.

Benefits under defined contribution plans are based solely on the contributions (and earnings thereon) allocated to separate accounts maintained for each plan participant. Profit-sharing plans and qualified cash or deferred arrangements (called 401(k) plans after the section of the Code regulating such plans) are examples of defined contribution plans.

### Limits on contributions and benefits

Under present law, overall limits are provided on contributions and benefits under qualified plans. In the case of a defined benefit pension plan, present law limits the annual benefits payable under the plan to the lesser of (1) 100 percent of the participant's average compensation for his or her high 3 years, or (2) $108,963 (for 1991).[6]

Under a defined contribution plan, the qualification rules limit the annual additions to the plan with respect to each plan participant to the lesser of (1) 25 percent of compensation or (2) $30,000. Annual additions are the sum of employer contributions, employee contributions, and forfeitures with respect to an individual under all defined contribution plans of the same employer. Elective deferrals under a qualified cash or deferred arrangement are limited to $8,475 (for 1991).

The dollar limits are increased annually for cost-of-living adjustments.

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[5] Qualified plans are subject to regulation under Federal labor laws (Title I of Employee Retirement Income Security Act of 1974 (ERISA)) as well as under the Internal Revenue Code. The ERISA rules generally relate to rights of plan participants and the obligations of plan fiduciaries.

[6] Annual benefits may in some cases exceed this dollar limitation under grandfather and transition rules contained in the Tax Equity and Fiscal Responsibility Act of 1982 and other legislation.

### *Taxation of distributions*

Under present law, a distribution of benefits from a qualified plan generally is includible in gross income in the year it is paid or distributed, except to the extent the amount distributed represents the employee's investment in the contract (i.e., basis). Special rules apply to lump-sum distributions, distributions rolled over to an IRA, and distributions of employer securities.

Early distributions from qualified plans generally are subject to the same additional 10-percent early withdrawal tax that applies to early distributions from IRAs. However, certain additional exceptions to the tax apply. For example, the penalty does not apply to distributions used to pay medical expenses that exceed 7.5 percent of adjusted gross income. Qualified plan distributions are also subject to the excess distribution tax applicable to IRA distributions.

### *Tax-sheltered annuities*

Tax-sheltered annuities are another form of employer-based retirement plan that provide the same tax benefits as qualified plans and IRAs. Employers may contribute to such annuities on behalf of their employees, and employees may contribute on a pre-tax basis through salary reduction. Tax-sheltered annuities are subject to rules similar to some of the rules applicable to qualified plans. Tax-sheltered annuity plans may be maintained only by certain types of organizations, in particular, tax-exempt charitable organizations and educational institutions.

### *Annuity contracts*

Present law provides that income credited to a deferred annuity contract is not currently includible in the gross income of the owner of the contract nor is the income taxed to the insurance company issuing the contract. No deduction is provided for, and no dollar limits are imposed on, amounts used to purchase annuity contracts. In general, amounts received by the owner of an annuity contract before the annuity starting date (including loans under or secured by the contract) are includible in gross income as ordinary income to the extent that the cash value of the contract exceeds the owner's investment in the contract. In addition, a portion of each distribution received after the annuity starting date is treated as ordinary income based on the ratio of the investment in the contract to the total distributions expected to be received.

A 10-percent additional income tax is imposed on certain early withdrawals under an annuity contract. This additional tax does not apply to any distribution made after the owner of the contract attains age 59½, receives annuity payments under the contract, or satisfies certain other requirements.

### *Life insurance*

Under present law, the investment income ("inside buildup") earned on premiums credited under a life insurance policy generally is not subject to current taxation to the owner of the policy or to the insurance company issuing the contract. This favorable tax treatment is available only if a life insurance contract meets certain requirements designed to limit the investment character of the

contract. The contract must satisfy the statutory definition of life insurance by meeting either of two statutory tests: the "cash value accumulation" test, or the "guideline premium/cash value corridor" test.

No deduction is provided for, and no dollar limits are imposed on, amounts used by an individual to purchase life insurance contracts.

Death benefits paid under a life insurance contract are excluded from income, so that neither the policyholder nor the policyholder's beneficiary is ever taxed on the inside buildup if the proceeds of the policy are paid to the policyholder's beneficiary by reason of the death of the insured.

Distributions from a life insurance contract (other than a modified endowment contract) that are made prior to the death of the insured generally are includible in income only to the extent that the amounts distributed exceed the taxpayer's basis in the contract; such distributions generally are treated first as a tax-free recovery of basis, and then as income. In the case of a modified endowment contract, however, distributions are treated as income first, loans are treated as distributions (i.e., income rather than basis recovery first), and an additional 10-percent tax is imposed on the income portion of distributions made before age 59½ and in certain other circumstances.

## C. Comparison of Present-Law Rules for Selected Tax-Favored Savings Arrangements

Table 1 presents a comparison of certain of the limitations applicable to selected tax-favored savings arrangements under present law.

# Table 1.—Comparison of Present Law for Various Tax-Favored Savings Arrangements

| Provision | IRAs | 401(k) Plans | Qualified Pension Plans (including Keogh Plans) | Deferred Annuities | Life Insurance |
|---|---|---|---|---|---|
| Limits on contributions ..... | The maximum contribution for a year is $2,000 (including both deductible and nondeductible amounts). | The maximum elective contribution for a year is $8,475 for 1991 (indexed). | The maximum annual contribution on behalf of an individual to a defined contribution plan cannot exceed the lesser of (1) $30,000 or (2) 25 percent of the individual's compensation. | None, but corporate holders of deferred annuities are taxed currently on the inside buildup on the contract. | None. |
| Early withdrawal tax......... | A 10-percent additional income tax applies to distributions from an IRA other than distributions— (1) after the IRA owner attains 59½, (2) after the death of the IRA owner, (3) due to the disability of the IRA owner, or (4) which are part of a series of substantially equal payments for the life (or life expectancy) of the IRA owner or joint lives (or joint life expectancies) of the IRA owner and his beneficiary. | Same as IRAs, except that (in addition to the exceptions from the tax for IRAs), the tax also does not apply to distributions— (1) made after separation from service after age 55, (2) which are dividends on ESOP stock, (3) to the extent the distribution does not exceed the amount allowable as a deduction for medical expenses, or (4) made to an alternate payee pursuant to a qualified domestic relations order. | Same as 401(k) plans. | Same as IRAs, except that (in addition to the exceptions from the tax for IRAs), the tax also does not apply to distributions— (1) from qualified plans, IRAs, and certain contracts purchased by qualified plans or certain other types of plans, (2) allocable to investment in the contract before August 14, 1982, (3) under a qualified funding asset that is part of a structured settlement agreement, (4) under an immediate annuity contract, or. (5) which is purchased by an employer upon termination of a qualified pension plan. | None. |

| Provision | IRAs | 401(k) Plans | Qualified Pension Plans (including Keogh Plans) | Deferred Annuities | Life Insurance |
|---|---|---|---|---|---|
| Treatment of loans............ | Not permitted....................... | Loans treated as distributions to the extent they exceed the lesser of— (1) $50,000 or (2) ½ of the participant's account balance. | Same as 401(k) plans.......... | Loans treated as distributions. | Loans permitted and not treated as distributions. |
| Basis recovery...................... | With respect to amounts received prior to the annuity starting date and annuity distributions, a portion of each distribution is nontaxable in the same proportion as the taxpayer's basis is to the total account balance. | Same as the IRA rules....... | Same as the IRA rules....... | Distributions prior to the annuity starting date are treated as income first. | Distributions prior to the death of the insured are treated as a return of the investment in the contract (i.e., basis first). |
| Benefits restricted to individual (e.g., noncorporate) owners. | Yes.......................................... | Yes.......................................... | Yes........................................ | Yes.......................................... | No. |

# III. S. 612—THE SAVINGS AND INVESTMENT INCENTIVE ACT OF 1991

## A. Description of S. 612

### In general

The Savings and Investment Incentive Act of 1991 (S. 612) [7] would restore the deductibility of traditional IRA contributions to the levels in effect prior to the Tax Reform Act of 1986 and provide for the indexing of the limits on IRA contributions. In addition, the bill would permit nondeductible contributions to new "special IRAs." Withdrawals from a special IRA would not be includible in income if attributable to contributions that had been held in the special IRA for at least 5 years. The limits on contributions to traditional IRAs and special IRAs would be coordinated.

The bill would allow withdrawals from an IRA, a qualified cash or deferred arrangement (sec. 401(k) plan), a tax-sheltered annuity (sec. 403(b)), and a section 501(c)(18) plan without imposition of the 10-percent early withdrawal tax to the extent the amount withdrawn is used for the purchase of a first home, for certain education expenses, or for catastrophic medical expenses.

### Expansion of present-law deduction rules

The bill would repeal the present law restrictions on the deductibility of IRA contributions by individuals who are active participants in an employer-sponsored retirement plan. Thus, under the bill, an individual would be permitted to deduct IRA contributions up to the lesser of $2,000 or 100 percent of compensation (earned income in the case of a self-employed individual.) In addition, the bill would repeal the present-law rules permitting nondeductible contributions to an IRA under certain circumstances.

### Indexing of IRA contribution limits

Under the bill, the limit on contributions that could be made to an IRA and the limit on contributions that could be made on behalf of a taxpayer's spouse would be indexed for inflation. The inflation adjustment would equal the applicable dollar limit for the preceding calendar year plus $500; thus, the dollar limits would be indexed only in $500 increments. The inflation adjustment would be made for any calendar year if, in the previous calendar year, the excess of (1) $2,000, increased by the cost-of-living adjustment for the year, over (2) the applicable dollar limit on IRA contributions for the year, was equal to or greater than $500. The cost-of-living adjustment for any calendar year is the percentage by which the consumer price index (CPI) for such year exceeds the CPI for

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[7] S. 612 was introduced by Senators Bentsen, Roth, and others on March 12, 1991.

calendar year 1991. Thus, the inflation adjustment would be made for taxable years beginning in calendar years following the calendar year for which the cost-of-living adjustment would be calculated.

### Special IRAs

The bill would permit taxpayers to make contributions to new special individual retirement arrangements (special IRAs). Generally, special IRAs would be treated in the same manner and be subject to the same rules applicable to deductible IRAs. However, a number of special rules would apply.

Contributions to a special IRA would be nonductible. The amount of nondeductible contributions to a special IRA that could be made for any taxable year would be tied to the limits for deductible IRAs, so that the aggregate amount of contributions to a special IRA could not exceed the excess of (1) the IRA deduction limit for the year over (2) the amount of IRA contributions actually deducted for the year.

Any amount paid or distributed from a special IRA generally would not be included in the gross income of the individual to whom the distribution is made if the contributions to which the distribution relates have been held in the special IRA for at least 5 years. However, earnings on distributions attributable to contributions made during the 5-year period ending on the day before the distribution would be included in gross income and, unless an exception applied, would be subject to the 10-percent additional tax on early withdrawals from IRAs (sec. 72(t)).

In determining whether amounts are includible in income under the 5-year rule, distributions would be treated as having been made first from the earliest contributions (and earnings attributable to such contributions) remaining in the account at the time of distribution and then from other contributions (and earnings) in the order made. Thus, distributions would be deemed to occur under a first-in, first-out (FIFO) method. Any portion of a distribution allocated to a contribution and earnings would be allocated first to the earnings on the contribution and then to the contribution. Earnings are to be allocated to contributions in the manner prescribed by the Secretary of the Treasury. All contributions made during a taxable year would be treated as one contribution for purposes of the rules relating to withdrawals.

As an example of the operation of the 5-year rule, assume that an individual makes a $2,000 contribution to a special IRA on January 1, 1992 and a $2,000 contribution on January 1, 1993. Assume that earnings on the contributions are 10 percent per year. On July 1, 1997, the special IRA balance is $6,456, with $3,382 of the balance attributable to the contribution made on January 1, 1992, and $3,074 attributable to the contribution made on January 1, 1993. If the individual withdraws $3,000 on July 1, 1997, the entire amount is attributable to the contribution and earnings made on January 1, 1992. Because the $2,000 contribution made on January 1, 1992 satisfies the 5-year requirement, the entire $3,000 withdrawn is not included in the taxpayer's income. After the withdrawal, the account balance is $3,456, $382 ($3,382−$3,000) of which is attributable to the January 1, 1992 contribution.

Assume that the taxpayer withdraws an additional $3,000 on August 1, 1996 and that no additional earnings have been credited to the account at that time. $382 is attributable to the January 1, 1992 contribution and, therefore, is not includible in gross income. The remaining $2,618 is attributable to the $2,000 contribution made January 1, 1993, which does not satisfy the 5-year requirement. The taxpayer is deemed to withdraw earnings on the January 1, 1993 contribution first; thus, $1,074 is attributed to earnings on the January 1, 1993 contribution and that amount is includible in the taxpayer's income and subject to the 10-percent additional tax on early withdrawals. $1,544 is a return of the January 1, 1993 contribution that is not includible in gross income. The remaining $456 in the special IRA is attributable to the January 1, 1993 contribution (but not to earnings, which have all been withdrawn).

Rollover contributions would be permitted to a special IRA only to the extent such contributions consist of a payment or distribution from another special IRA. Such rollover contributions would not be taken into account in determining the contribution limit for a taxable year. The normal IRA rollover rules would otherwise govern the eligibility of withdrawals from special IRAs to be rolled over. For purposes of the 5-year rule, the special IRA to which amounts are rolled over would be treated as having held the amounts during any period during which such contributions were held in the special IRA to which the contributions were first made.

### Exceptions to early withdrawal tax

*In general.*—The bill would provide exceptions to the 10-percent additional income tax on early withdrawals in the case of distributions that are (1) qualified first-time homebuyer distributions or (2) qualified higher education distributions. The exceptions are available with respect to withdrawals from an IRA, from a special IRA, or from amounts attributable to (1) elective deferrals to a qualified cash or deferred arrangement (sec. 401(k) plan), (2) salary reduction contributions to a tax-sheltered annuity (sec. 403(b)), or (3) contributions made to a plan described in section 501(c)(18). In addition, the bill would extend to IRAs the availability of the qualified plan exception to the early withdrawal tax in the case of extraordinary medical expenses.

*Withdrawals by first-time homebuyers.*—Under the bill, the 10-percent additional income tax on early withdrawals would be waived for withdrawals by first-time homebuyers that are used within 60 days to acquire, construct, or reconstruct the taxpayer's principal residence or the principal residence of the taxpayer's child or grandchild. A first-time homebuyer would be an individual who has not had an ownership interest in a principal residence during the 2-year period ending on the date of acquisition of the principal residence to which the withdrawal relates. The bill would require that the spouse of the taxpayer also meet this requirement as of the date the contract is entered into or construction commences. The date of acquisition would be the date the individual enters into a binding contract to purchase a principal residence or begins construction or reconstruction of such a residence. Principal residence would be defined as under the provisions relating to the rollover of gain on the sale of a principal residence (sec. 1034).

Under the bill, any amount withdrawn for the purchase of a principal residence would be required to be used within 60 days of the date of withdrawal. The 10-percent additional income tax on early withdrawals would be imposed with respect to any amount not so used. However, in the case of withdrawals from an IRA, if the 60-day rule could not be satisfied due to a delay in the acquisition of the residence, the taxpayer would be able to recontribute all or part of the amount withdrawn to the IRA prior to the end of the 60-day period without adverse tax consequences. Any amount recontributed would be treated as a rollover contribution (sec. 408(d)) without regard to the limitations on the frequency of IRA-to-IRA rollovers.

*Withdrawals for education expenses.*—Under the bill, withdrawals used by a taxpayer during the year for qualified higher education expenses would not be subject to the 10-percent additional income tax on early withdrawals. Qualified higher education expenses would be defined as tuition, fees, books, supplies, and equipment required for courses at an eligible educational institution, as defined under the provisions relating to education savings bonds (sec. 135). Amounts withdrawn would be available for use for the education of the taxpayer, or the taxpayer's spouse, children, or grandchildren.

The amount that could be withdrawn for education expenses for a taxable year without imposition of the 10-percent additional tax would be reduced by any amount that is excludable from the taxable income of the taxpayer under the provisions relating to education savings bonds (sec. 135).

*Financially devastating medical expenses.*—The bill provides that the present-law exception to the early withdrawal tax for medical expenses in excess of 7.5 percent of adjusted gross income would be available in the case of withdrawals from IRAs as well as qualified pension plans.

### Effective dates

Under the bill, the expansion of the present-law IRA deduction provisions and the creation of special IRAs would be effective for taxable years beginning after December 31, 1990. The provision relating to inflation adjustments of the IRA limits would be effective on the date of enactment. The provisions relating to the exceptions to the 10-percent additional income tax would apply to distributions on or after the date of enactment.

## B. Comparison of Eligibility for Deductible IRAs Under Present Law and S. 612

Both present law and S. 612 limit IRAs to taxpayers with earned income. Thus, the 21 percent of tax returns that report no earned income cannot contribute to an IRA, and will not be affected by S. 612.

Table 2 focuses on taxpayers with earned income, because S. 612 can affect their eligibility to contribute to IRAs. Under present law, taxpayers who are covered by employer-sponsored pension plans and whose income exceeds certain thresholds are not eligible to make deductible IRA contributions. These restrictions prohibit 18 percent of all tax returns with earned income from claiming deductible IRA contributions, and limit eligibility for an additional 9 percent.

The percentage of taxpayers eligible to make deductible IRA contributions differs significantly by filing status and by number of earners. For instance, 45 percent of joint returns with two earners, 18 percent of joint returns with one earner, and 8 percent of all returns of taxpayers who are single, head of household, or married filing separately cannot claim any deductible IRA contributions. Taxpayers in the phaseout range can claim some deductible IRA contributions, but less than the maximum; 15 percent of joint returns with two earners, 9 percent of joint returns with one earner, and 7 percent of the single, head of household, and married filing separately returns fall in this category. On average, these taxpayers can contribute roughly half the maximum contribution amount.

Table 2.—Eligibility of Taxpayers With Earned Income To Make Deductible IRA Contributions Under Present Law, Projected 1991 Returns [1]

| Adjusted gross income | Returns with earned income | | | |
| --- | --- | --- | --- | --- |
| | Returns (thousands) • | Percent eligible for maximum deductible IRA contribution | Percent in phaseout range | Percent not eligible for any IRA deduction |
| *Joint Returns With One Earner* | | | | |
| Less than $10,000 | 3,263 | 100.0 | 0.0 | 0.0 |
| $10,000 to $20,000 | 4,422 | 100.0 | 0.0 | 0.0 |
| $20,000 to $30,000 | 3,477 | 100.0 | 0.0 | 0.0 |
| $30,000 to $40,000 | 2,736 | 97.7 | 2.3 | 0.0 |
| $40,000 to $50,000 | 2,320 | 24.7 | 75.3 | 0.0 |
| $50,000 to $75,000 | 2,622 | 24.4 | 0.0 | 75.6 |
| $75,000 to $100,000 | 982 | 22.1 | 0.0 | 77.9 |
| $100,000 to $200,000 | 968 | 25.9 | 0.0 | 74.1 |
| $200,000 and over | 521 | 13.4 | 0.0 | 86.6 |
| All income classes | 21,311 | 73.1 | 8.5 | 18.4 |
| Average dollars eligible per return | | [2] $2,139 | [3] $1,066 | 0 |
| *Joint Returns With Two Earners* | | | | |
| Less than $10,000 | 313 | 100.0 | 0.0 | 0.0 |
| $10,000 to $20,000 | 1,359 | 100.0 | 0.0 | 0.0 |
| $20,000 to $30,000 | 2,893 | 100.0 | 0.0 | 0.0 |
| $30,000 to $40,000 | 3,607 | 95.9 | 4.2 | 0.0 |
| $40,000 to $50,000 | 3,908 | 13.0 | 87.0 | 0.0 |
| $50,000 to $75,000 | 7,258 | 8.4 | 0.0 | 91.6 |
| $75,000 to $100,000 | 2,484 | 4.2 | 0.0 | 95.8 |
| $100,000 to $200,000 | 1,310 | 6.0 | 0.0 | 94.0 |
| $200,000 and over | 399 | 3.5 | 0.0 | 96.5 |
| All income classes | 23,531 | 39.7 | 15.1 | 45.2 |
| Average dollars eligible per return | | [2] $3,827 | [3] $2,041 | 0 |

**Table 2.—Eligibility of Taxpayers With Earned Income To Make Deductible IRA Contributions Under Present Law, Projected 1991 Returns [1]—Continued**

| Adjusted gross income | Returns with earned income | | | |
| --- | --- | --- | --- | --- |
| | Returns (thousands) | Percent eligible for maximum deductible IRA contribution | Percent in phaseout range | Percent not eligible for any IRA deduction |
| *Head of Households, Single Returns, and Married Filing Separately* [4] | | | | |
| Less than $10,000 ..................... | 27,718 | 100.0 | 0.5 | 0.0 |
| $10,000 to $20,000 .................... | 14,286 | 100.0 | 0.0 | 0.0 |
| $20,000 to $30,000 .................... | 8,103 | 73.7 | 26.3 | 0.0 |
| $30,000 to $40,000 .................... | 4,578 | 28.7 | 22.5 | 32.5 |
| $40,000 to $50,000 .................... | 2,111 | 22.5 | 0.0 | 77.5 |
| $50,000 to $75,000 .................... | 1,123 | 20.3 | 0.0 | 79.7 |
| $75,000 to $100,000 ................. | 248 | 23.0 | 0.0 | 77.0 |
| $100,000 to $200,000 ............... | 184 | 22.8 | 0.0 | 77.2 |
| $200,000 and over ..................... | 94 | 19.2 | 0.0 | 80.9 |
| All income classes........ | 58,447 | 85.7 | 6.7 | 7.6 |
| Average dollars eligible per return ...................................... | | [2] $1,760 | [3] $1,041 | 0 |
| Total, all returns.......... | 103,289 | 72.6 | 9.0 | 18.4 |
| Average dollars eligible per return ...................................... | | $2,096 | $1,428 | 0 |

[1] Note that the table includes imputed returns of taxpayers who do not file income tax returns, and is thus intended to be representative of the population, rather than of taxable returns. The table also includes returns filed by dependents, and may include some returns of taxpayers over age 70½ who have earned income but who are not eligible to make deductible IRA contributions.

[2] Average eligible contribution amount for taxpayers eligible to make maximum contribution.

[3] Average eligible contribution amount for taxpayers in phaseout range.

[4] Some returns with income below $40,000 are phased out because they are returns of married individuals filing separately. IRA eligibility is phased out between $0 and $10,000 of AGI for such married individuals who live together and between $25,000 and $35,000 of AGI for such married individuals who live apart.

Source: Joint Committee on Taxation estimates for 1991.

These eligibility percentages and the real value of the IRA contribution limits will decrease over time, because present law does not index the contribution limits or the income eligibility limits for inflation. For example, the real value of a $2,000 contribution has declined 16 percent since 1986 because of inflation.

Taxpayers whose eligibility is limited by the present-law rules may be likely to contribute to IRAs if eligibility were restored. As Table 5, below, demonstrates, in 1985, taxpayer returns reporting income of $50,000 or more were more than four times as likely to claim deductible contributions to an IRA as were lower-income taxpayers. After eligibility was limited in 1986, IRA contributions fell substantially. Total IRA contributions fell from a high of $38.2 billion in 1985 to $11.9 billion in 1988 (see Table 4, below). In 1990 dollars (i.e., adjusting for inflation), total IRA contributions were $46.5 billion in 1985 and $13.1 billion in 1988, representing a real decrease of 72 percent.

Under present law, for joint returns with AGI between $50,000 and $75,000, 24 percent of returns with one earner and only 8 percent of returns with two earners can claim the maximum deductible IRA contribution because neither spouse is an active participant in an employer-sponsored retirement plan. In the case of a joint return with two earners, it is possible that only one spouse is an active participant in an employer-sponsored plan. Thus, the spouse who is not an active participant is not eligible to make deductible IRA contributions because of the income reflected on the joint return. If the income phaseouts and active participant rules were applied separately to spouses filing joint returns (i.e., if all taxpayers were treated as single individuals for purposes of determining eligibility for deductible IRA contributions), then more taxpayers would be eligible to make deductible IRA contributions.

Another reason that the IRA eligibility of married couples with two earners is so low is that the income of these couples is higher generally than the income of married couples with one earner. Almost 50 percent of married couples with two earners have AGI greater than $50,000, whereas only 24 percent of couples with one earner do.

## C. Technical Issues Relating to S. 612

### *Recordkeeping and administrability*

S. 612 raises a number of issues regarding recordkeeping and administrability. First, adequate records would have to be kept to distinguish amounts held in deductible IRAs from amounts held in special IRAs because the taxation of withdrawals would differ. The bill addresses this issue by providing that special IRAs must be held in separate accounts specifically designated as special IRAs, and by prohibiting rollovers from other vehicles into special IRAs.

It is unclear, however, whether such rules will be effective in assuring that taxpayers and the IRS are aware of which type of IRA particular funds are invested in or withdrawn from, and whether, if IRA funds are mixed, the taxpayer or the IRS will be able to identify taxable amounts accurately.

Similar recordkeeping issues arise under present law because of the availability of nondeductible IRAs. Present law requires that an individual report nondeductible contributions on his or her tax return for the year of contribution and subsequent years. The IRS has not had sufficient experience to know whether these rules have been effective in properly identifying taxable and nontaxable

amounts because of the limited period during which nondeductible IRAs have been available.

A second issue arises because the tax treatment of earnings on contributions to special IRAs would depend on how long the contributions to which the earnings relate had been in the IRA. A special IRA would be likely to hold contributions made in more than one year, so that it would be necessary to allocate earnings to particular contributions. S. 612 does not contain a specific rule, but provides that earnings are to be allocated in accordance with rules prescribed by the Secretary. These allocation rules could impose a significant administrative burden on financial institutions holding special IRA contributions.

There are a number of different ways that earnings can be allocated to contributions. Thus, it will be important for the Secretary to issue prompt guidance as to which method or methods are acceptable. Even when guidance is issued, errors may occur depending on how complicated the rules are and whether individual taxpayers or the IRA trustee will be required to make the calculations.

### Complexity

Because it would broaden eligibility for deductible IRA contributions and permit nondeductible tax-free (special) IRA contributions, S. 612 would provide taxpayers with additional investment and savings decisions. Some taxpayers might have difficulty (1) understanding the different requirements (such as holding periods) applicable to each vehicle and (2) obtaining sufficient information to determine the most appropriate vehicle to use when the taxpayer's individual circumstances are taken into account. Financial institutions, which would have an incentive to market and explain the availability of deductible IRAs and special IRAs, would be likely to provide some assistance to taxpayers. However, such institutions might not necessarily give advice as to whether a deductible or special IRA is best for a particular taxpayer; the institution would benefit no matter which vehicle were chosen. The taxpayer also would benefit under either option, though, so choosing the less appropriate IRA would have a minimal effect on the taxpayer.

Under present law, some taxpayers may have difficulty determining whether or not they are eligible for an IRA deduction and, if so, the size of the deduction, because of the active participant rules and income phaseouts. S. 612 would eliminate this source of complexity because it would make deductible IRAs available to all taxpayers with compensation or earned income.

### Effect of S. 612 on qualified retirement plans

S. 612 is not exclusively an IRA proposal, but would also affect certain qualified retirement plans. The bill would increase the number of situations in which penalty-free withdrawals could be made from a qualified cash or deferred arrangement (sec. 401(k) plan) or tax-sheltered annuity (sec. 403(b)), making it more likely that participants would withdraw assets from such plans for purposes other than retirement. In addition, because S. 612 would permit participants to withdraw amounts from these plans not only for themselves, but also for certain family members, the amounts

withdrawn might not benefit the participants directly. The bill would not limit the amount of penalty-free withdrawals that could be made in this manner. Some would argue that the increased ability to withdraw funds penalty-free from retirement plans runs counter to sound retirement policy. On the other hand, some would argue that the increased access to plan funds in emergencies might make individuals more likely to save the funds in the first place and, in fact, the funds may be left in the plan until retirement.

Under the bill, penalty-free withdrawals from retirement plans could be made only from amounts attributable to elective deferrals. This limitation might create administrative problems because some plans do not separately account for these amounts now.

# IV. ECONOMIC ANALYSIS OF IRAS GENERALLY AND S. 612

## A. Comparison of Deductible IRAs, Special IRAs, and Nondeductible IRAs

### 1. General comparison of IRAs

Present law and S. 612 present the taxpayer with three different tax-preferred saving vehicles, each of which is called an Individual Retirement Arrangement: deductible IRAs, special IRAs, and nondeductible IRAs. In general, the deductible IRA and special IRA both offer the taxpayer a greater after-tax return than does the nondeductible IRA. The difference in return arises because the deductible and special IRAs effectively exempt earnings on invested funds from tax, while the nondeductible IRA taxes the earnings, but on a deferred basis.

### *Deductible IRAs*

Deductible IRAs allow taxpayers to deduct IRA contributions from income in the year contributed, but include the entire amount in income when withdrawn. There are two potential advantages of deductible IRAs over fully taxable savings vehicles. First, taxpayers earn a tax-free rate of return on IRA investments. Second, taxpayers postpone taxation of the contribution until the contributions are withdrawn, at which time they may be taxed at a lower rate than when the contribution is made.

The following example illustrates why a deductible IRA investment receives a tax-free rate of return. Assume a taxpayer with a marginal tax rate of 28 percent contributes $1,000 to an IRA. The initial savings from the IRA is $280, the tax that would have been paid on the $1,000. For the purpose of this example, assume that the taxpayer withdraws the funds after 1 year without penalty. If the annual rate of return on the IRA assets is 10 percent, the value of the IRA is $1,100, total tax due is $308, and the taxpayer is left with $792. Notice that if the taxpayer had paid the initial tax of $280 and invested the remaining $720 at 10 percent, then the taxpayer would have had $792 after one year. If the income had not been invested in an IRA, the taxpayer would have to pay tax on $72 dollars of earnings, and would be left with $771.84 after payment of taxes. The value of the IRA is that the taxpayer does not have to pay additional tax. Thus, the deductible IRA allows the taxpayer to get a tax-free rate of return on an investment of $720.

This analysis is independent of the number of years the IRA investment is held. The value of the tax exemption, however, increases with the number of years the IRA is held. For instance, if in the above example, the taxpayer holds the IRA for 10 years, the IRA would be worth $1,867, whereas a fully taxed investment would be worth $1,443 after 10 years.

The deductible IRA investment can be viewed as an investment that is jointly owned by the government and the taxpayer. The government's ownership share is equal to the tax rate (28 percent in the above example). When the IRA funds are withdrawn, the government receives its share of the funds. In the above example, when the funds are withdrawn after one year, the government receives 28 percent of $1,100 ($308), and the taxpayer receives 72 percent of $1,100 ($792). The taxpayer pays no tax on the earnings attributable to the taxpayer's share of the investment, and thus receives a tax-free rate of return on the investment. This is one advantage of investing through an IRA.

A second advantage of a deductible IRA arises if the taxpayer's marginal tax rate in the year the funds are withdrawn is lower than the marginal tax rate in the year of the contribution. Because the government's share of the investment is equal to the taxpayer's tax rate in the year the funds are withdrawn, the lower the tax rate prevailing at that time, the smaller the government's share. In the example above, for instance, if the tax rate when the funds are withdrawn is 15 percent, then the tax paid after 1 year would be $165. Not only does the taxpayer receive a tax-free rate of return on the taxpayer's share of the investment, but the taxpayer share of the investment is 85 percent rather than 72 percent.

Tax rates might be lower at the time the funds are withdrawn because the beneficiaries may be receiving untaxed social security benefits and reduced taxable income from other sources. However, the marginal tax rate could be lower or higher because tax rate schedules may change over time.

### Special IRAs

From an economic perspective, special IRAs are similar to deductible IRAs. With a special IRA, the taxpayer does not deduct the IRA contribution from income, but pays no tax when the funds are withdrawn. In other words, the government takes its share before the funds are invested. The taxpayer is never taxed on the interest earned on the investment, and thus earns a tax-free rate of return on the IRA investment. This is the same tax benefit provided to deductible IRAs.

However, in the case of the special IRA, the tax is paid on the initial contribution at the time of contribution, and in the case of the deductible IRA, the tax is paid on the initial contribution at the time of withdrawal. In effect, the government's share of the special IRA is equal to the taxpayer's marginal tax rate at the time the funds are contributed, whereas the government's share of the deductible IRA is equal to the taxpayer's marginal tax rate at the time the funds are withdrawn. Whether the deductible IRA and special IRA are economically equivalent depends on the difference between the taxpayer's marginal tax rate in the year the contribution is made and the taxpayer's marginal tax rate in the year the IRA funds are withdrawn.

If these two marginal tax rates are equal, then the special IRA provides the same overall benefits as the deductible IRA. For example, if a taxpayer earns $1,000 and chooses to use it for a special IRA, the taxpayer first pays tax on it. If the taxpayer's marginal tax rate is 28 percent, the taxpayer will have $720 to invest. After

1 year earning interest at 10 percent per year, the taxpayer has $792, the same amount that the taxpayer has in the deductible IRA example above.

If the tax rate in the year the contribution is made is different from the tax rate in the year the funds are withdrawn, then the deductible IRA and the special IRA are no longer equivalent. When tax rates decrease over time (either because tax rates change or taxpayers fall into lower tax brackets), the deductible IRA is more advantageous, because it permits taxpayers to defer payment of tax until tax rates are lower. When tax rates increase over time, a special IRA is more tax-favored.

### Nondeductible IRAs

Present law permits taxpayers who cannot make the maximum amount of deductible IRA contributions (because they are covered under an employer-provided pension plan and their income exceeds the dollar limits) to make nondeductible contributions to IRAs. Unlike special IRAs, earnings on present-law nondeductible IRA contributions are includible in income when withdrawn. The tax advantage of these IRAs is that taxes on earnings are deferred, rather than assessed annually. This permits the earnings to compound faster than with annual taxation of earnings. This advantage is the same advantage implicit in the tax treatment of the earnings on deferred annuities, which are taxed when the annuities are paid rather than when the earnings accrue.

For example, compare the accumulation of income for an investor with a 28-percent marginal tax rate on $720 which is invested for a period of 10 years at an 10 percent annual rate of return. If the earnings are taxed annually, the total available funds at the end of 10 years would be $1,443.05. The investor's annual after-tax return is 7.2 percent. If the tax is deferred for 10 years and assessed on the accumulated interest at the end of the 10-year period at a 28-percent marginal tax rate, the value of the taxpayer's investment would be $1,344.60, which represents an annual return of 7.9 percent. Unlike the deductible and special IRAs discussed above, the after-tax rate of return of investment in a nondeductible IRA increases as the holding period increases; as the holding period increases, accumulated earnings increase, and thus the value of deferring tax on the accumulated earnings increases.

### Summary

Table 3 compares the funds available after 10 years to a taxpayer who saves $1,000 of pre-tax income in a deductible IRA, a special IRA, and a nondeductible IRA, assuming that no penalty tax applies and that the rate of return on the IRA assets is 10 percent per year. The tax rate in the year contributed is labeled $t_0$, and the tax rate in the year the funds are withdrawn is labeled $t_{10}$. Table 3 also summarizes the timing of the Federal Government's tax receipts.

As was noted above, the difference in the funds available to the taxpayer investing $1,000 of pre-tax income in the deductible IRA compared to the special IRA depends only on the difference between the marginal tax rate the taxpayer faces in the year the funds are contributed, $t_0$, and the marginal tax rate in the year the

funds are withdrawn, $t_{10}$. The funds available in the nondeductible IRA are always smaller than those in the special IRA. Both of these IRAs tax the contribution at a tax rate $t_0$, but the special IRA effectively exempts earnings from additional tax, whereas the nondeductible IRA only defers earnings from tax.

## Table 3.—Funds Available to Taxpayer and Pattern of Tax Receipts Under Deductible IRA, Special IRA, and Nondeductible IRA

Taxpayer has $1,000 of pre-tax income to invest in IRA, and the annual rate of return on IRA assets is 10 percent.
$t_0$ = tax rate in year of IRA contribution.
$t_0$ = tax rate in year of IRA withdrawal.

### Funds Available to Taxpayer After 10 Years

|  | Funds contributed to IRA | Funds available after 10 years | Taxes due in year 10 | Funds available after tax in year 10 |
|---|---|---|---|---|
| Deductible IRA | $1,000 | $2,594 | $2,594 ($t_{10}$) | $2,594 (1-$t_{10}$) |
| Special IRA | $1,000 (1-$t_0$) | $2,594 (1-$t_0$) | 0 | $2,594 (1-$t_0$) |
| Nondeductible IRA | $1,000 (1-$t_0$) | $2,594 (1-$t_0$) | $(2,594-1,000) (1-$t_0$) $t_{10}$ | $2,594 (1-$t_0$) -$1,594 (1-$t_0$) $t_{10}$ |

### Pattern of Income Tax Payments Under Three IRAs

|  | Tax payments in | | |
|---|---|---|---|
|  | Current year | Year 1–9 | Year 10 |
| Deductible IRA | 0 | 0 | $2,594 ($t_{10}$) |
| Special IRA | $1,000 ($t_0$) | 0 | 0 |
| Nondeductible IRA | $1,000 ($t_0$) | 0 | $1,594 (1-$t_0$) ($t_{10}$) |

*Example:* $t_0=.28$, $t_{10}=.28$

| | Funds contributed to IRA | Funds available after 10 years | Taxes due in year 10 | Funds available after tax in year 10 |
|---|---|---|---|---|
| Deductible IRA | $1,000 | $2,594 | $726 | $1,868 |
| Special IRA | $720 | $1,868 | 0 | $1,868 |
| Nondeductible IRA | $720 | $1,868 | $321 | $1,547 |

| | Tax payments in | | |
|---|---|---|---|
| | Current year | Year 1–9 | Year 10 |
| Deductible IRA | 0 | 0 | $726 |
| Special IRA | $280 | 0 | 0 |
| Nondeductible IRA | $280 | • 0 | $321 |

## 2. Specific differences between deductible IRAs and special IRAs under S. 612

The deductible and special IRAs introduced in S. 612 have a number of differences in addition to those due to differences in marginal tax rates. These differences involve the contribution limit, the holding period requirement, the penalty for early withdrawals, and the interaction with social security benefits.

### Contribution limit

S. 612 would limit the total annual amount of IRA contributions to $2,000, regardless of whether contributions are made to a deductible IRA or to a special IRA. However, contributions to a deductible IRA are limited to $2,000 of pre-tax income, whereas contributions to a special IRA are limited to $2,000 of after-tax income. The $2,000 special IRA contribution limit effectively increases the amount of tax-free saving that can be invested in the special IRA relative to the deductible IRA. The following example illustrates this difference. In the case of a taxpayer with a marginal tax rate of 28 percent who contributes $2,000 to a deductible IRA earning 10 percent per year, the IRA balance will be $2,200 after 1 year. The taxpayer will owe $616 in tax, leaving $1,584. This is equivalent to the taxpayer having paid an initial tax of $560, or 28 percent of $2,000, and investing the remaining $1,440 at an after-tax return of 10 percent. Thus the $2,000-limit on pre-tax income is like a limit of $1,440 on after-tax income for a taxpayer with a 28-percent marginal tax rate. If instead the investor had contributed $2,000 to a special IRA, the funds available to the taxpayer after 1 year would be the full $2,200, since no additional tax would be due.[8] The difference in the limits is only valuable to taxpayers who want to invest more than $2,000 of pre-tax income in an IRA. However, according to the Taxpayer Usage Survey, in 1984, approximately 75 percent of all IRA contributors contributed the maximum permissible amount, indicating that this difference between the deductible IRA and the special IRA may be significant for a large number of taxpayers.

### Holding period and penalties for early withdrawal

Funds in a deductible IRA that are withdrawn within 5 years are withdrawn before age 59½ are subject to a 10-percent additional tax, unless certain exceptions apply. In contrast, funds invested in a special IRA may be withdrawn after only 5 years without additional tax. Thus, the special IRA provides benefits for taxpayers who plan to keep funds invested for a relatively short period of time, as well as for taxpayers who have longer investment horizons.[9]

Funds in a special IRA that are subject to additional tax. The earnings on the special IRA contributions are included in taxable

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[8] More generally, for a taxpayer facing a marginal tax rate of t, the equivalent contribution limit for a deductible IRA is $C/(1-t)$ where C is the contribution limit for the special IRA.

[9] Note that for taxpayers older than age 54½, the required holding period for new contributions will actually be shorter for deductible IRAs than for special IRAs (because of the age 59½ rule for deductible IRAs). Thus, older taxpayers may prefer to contribute to deductible IRAs.

income (so they are no longer tax-exempt) and the additional 10-percent tax is applied to those earnings.

### *Treatment of IRA withdrawals for purposes of taxing social security benefits*

Another potential difference between the deductible and the special IRAs in S. 612 is the effect of withdrawals on the taxation of social security benefits. Under present law, social security benefits are exempt from tax except for taxpayers whose income exceeds certain income thresholds. The income thresholds are defined by reference to modified adjusted gross income (AGI). Modified AGI is the taxpayer's AGI increased by the amount of interest received or accrued by the taxpayer during the taxable year that is otherwise exempt from tax. The IRS has stated that tax-exempt interest required to be included in modified AGI is the amount of interest on tax-exempt obligations received or accrued by the taxpayer during the taxable year.[10] Interest earnings that accrue on contributions to a deductible IRA are arguably not included in modified AGI because tax on such earnings is deferred, rather than exempt. However, taxable distributions from the taxpayer's IRA are part of AGI and consequently are part of modified AGI. Since distributions from a deductible IRA are taxable, but those from a special IRA are not, distributions from a deductible IRA are included in the taxpayer's modified AGI, but distributions from a special IRA are not, except perhaps to the extent that the amounts attributable to the earnings on special IRA contributions are deemed to be exempt interest required to be included in modified AGI.[11]

This may be an additional advantage of the special IRA for taxpayers who are making withdrawals from IRAs when they are also receiving social security benefits. However, it is an advantage only for taxpayers who expect their incomes to be close enough to the threshold income level that distributions from IRAs make them exceed that level.

## B. Present Value of Revenue Cost of IRAs to Federal Government

Assessing the cost (in the form of foregone tax receipts) to the Federal Government of IRAs may be more difficult than assessing the costs of other tax provisions, because IRAs not only change the amount of tax collected, but also change the timing of tax collections. For instance, the traditional deductible IRA can be viewed as a provision which both delays payment of tax on the contribution until withdrawal, and effectively exempts from tax any earnings on capital accumulation beyond the amount that represents interest on the delayed tax. Thus, the timing of tax payments results in a revenue loss to the government in the first years, but a revenue gain in the later years when the funds are withdrawn (see Table 3). The special IRA, on the other hand, loses little revenue in the beginning years, but gains no revenue in the later years because withdrawals are not taxed.

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[10] Rev. Rul. 84-173, 1984-2 C.B. 16.
[11] Present law is unclear on this point. See Code section 86 and its legislative history.

Traditional budget scorekeeping accounts for the revenue effects of proposed legislation on a cash-flow basis; in other words, the effect of a provision on budget receipts in the 5-year budget period is estimated without regard to whether the provision will also affect budget receipts in any year beyond the 5-year period. This method scores deductible IRAs as bigger revenue losers than special IRAs. However, a present-value calculation demonstrates that the long-term cost to the Federal Government of deductible IRAs and special IRAs will be approximately equal. This is because a present-value approach recognizes that tax will eventually be collected on funds in IRAs, although possibly at a lower tax rate when withdrawn.

In order to evaluate the present value of the program's cost,[12] it is also necessary to know how taxpayers would have behaved in the absence of the IRA provision. Consider first the case of a taxpayer whose tax rate in the contribution year is the same as in the year the funds are withdrawn. Then, the tax advantage of the IRA is the ability to earn a tax-free rate of return on savings. However, the cost to the government depends on what the taxpayer would have done in the absence of the program. If, in the absence of the tax benefits accorded to IRAs, the taxpayer would not have saved the money invested in the IRA, then the IRA program does not lose any government revenue in the long run. For instance, consider the example of a taxpayer who decides to invest $1,000 in an IRA. If, in the absence of the IRA, the taxpayer would have paid the $280 tax on the earnings, and spent the remaining $720, the total amount of tax collected from that $1,000 over the taxpayer's lifetime by the government would have been $280. If instead of spending the income, the taxpayer invests it in a special IRA, the government collects $280 from the earnings, and then never taxes the income again. Once again, the total amount collected over the taxpayer's lifetime is $280. Further, assume that the taxpayer invests in a deductible IRA for 10 years in a fund that earns 8 percent per year. In the first year, the government loses $280 in revenue, since the taxpayer deducts the $1,000 from income. In year 10, the $1,000 has grown to $2,158.93, and the taxpayer owes $604.50. Since $604.50 is exactly equal to $280 plus 10 years of interest at 8 percent per year, the government receives the $280 with interest, and collects the same amount of revenue that it would have had there been no IRA program. In present value terms, the taxpayer pays $280 over his or her lifetime. To the extent that deductible IRAs permit taxpayers to pay tax on their funds at a lower marginal rate than when the contribution was made, the government does lose revenue even if the funds invested in the IRA represent funds which would otherwise have been consumed (i.e., new saving.)

On the other hand, if the contribution to the IRA represents income that would have been invested for the same 10 years in an interest-bearing account (i.e., old saving), the IRA reduces revenues to the government. If the earnings in the above example would have instead been invested in a fully taxable asset earning 8 per-

[12] To calculate the present value of the cost to the government of IRAs, it is necessary to use the government's discount rate. If repayment of taxes is uncertain, then the discount rate used should be higher than the government's borrowing rate.

cent per year, the government would have collected the $280 tax on the initial earnings, plus an additional $136 in present value (using a discount rate of 8 percent) of taxes on the annual interest earnings. Thus, the cost of the IRA program in this case for this particular taxpayer would be $136.

The above examples represent the polar cases of the present value of the revenue effect for IRA contributions—contributions that represent only new savings and contributions that represent savings that would otherwise have been invested in a fully taxable asset.[13] Other possibilities can also be considered. For instance, saving for an IRA may be diverted from other tax-favored assets, in which case the tax loss is not as great. For example, under the bill, if taxpayers who contribute to a deductible IRA would have invested in a nondeductible IRA under present law, then the tax loss consists of the difference between the tax advantage of the deductible IRAs and the tax advantage of the nondeductible IRAs. Similarly, investment in housing is currently tax favored. If taxpayers divert income that would have been invested in housing to IRAs, the present value of the revenue cost to the Federal Government may be relatively small.

Finally, the choice between the deductible and the special IRA offered in S. 612 is likely to increase the present value of the revenue cost of the IRA program relative to a program offering either IRA alone. Taxpayers who have reason to believe that their tax rates will decline over time should be more likely to choose the deductible IRA, and taxpayers who believe their tax rates will increase over time should choose the special IRA.

If IRAs do not generate new saving, then IRAs reduce the present value of revenues of the Federal Government. If the Federal Government responds to these reduced revenues by reducing expenditures or increasing other taxes, then IRAs that do not increase personal saving will have no effect on national saving. If, on the other hand, the Federal Government offsets the reduced revenues by borrowing, then IRAs will actually reduce the national saving rate.

## C. The Effectiveness of IRAs at Increasing Saving

### 1. Theoretical effects

#### *In general*

IRAs have a number of attributes that may affect a taxpayer's saving decision. First, investments in IRAs earn a higher after-tax rate of return than investments in other assets. Second, IRAs may provide an incentive for retirement saving, as opposed to other forms of saving. Third, deductible IRAs may provide a psychological incentive to save. Fourth, advertising by banks and other financial institutions of IRAs may influence people's saving decisions. The following discussion focuses on each of these attributes.

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[13] Actually, the revenue loss can be even greater than the case presented. If IRAs reduce saving, then not only does the government lose the tax revenue that would have been collected on the IRA investment, but it also loses the tax revenue on the saving that was not undertaken because of the IRA. The possibility that IRAs reduce private saving is discussed below.

## Rate of return

*In general.*—Both the deductible IRA and the special IRA effectively exempt the return on savings from tax, thereby increasing the rate of return to saving. When the return on saving increases, the price of future consumption decreases, because the taxpayer has to forego fewer dollars today to consume a dollar's worth of consumption in the future.

This price decrease can affect saving in two ways. Since future consumption is now cheaper, taxpayers may choose to substitute future consumption for current consumption. This effect increases saving. When the price of future consumption falls, though, the amount of investment necessary to achieve any particular level of income in the future decreases. For example, a taxpayer in the 28-percent marginal tax bracket may set aside $1,300 today to help defray tuition expenses of his child 15 years from now. If the taxpayer's investment earns 8 percent annually and those earnings are taxed annually at a 28-percent tax rate, in 15 years the investment will be worth $3,000. If the taxpayer instead invested in a special IRA, an investment of only $946 today would be worth $3,000 in 15 years (assuming the same 8-percent return). This effect decreases saving because the tax benefit permits the taxpayer to save less to accumulate the same amount of money in the future.

Substantial disagreement exists among economists as to the effect on saving of increases in the net return to saving. Some studies have argued that one should expect substantial increases in saving from increases in the net return.[14] Other studies have argued that large behavioral responses to changes in the after-tax rate of return need not occur.[15] Empirical investigation of the responsiveness of personal saving to after-tax returns provides no conclusive results. Some find personal saving responds strongly to increases in the net return,[16] while others find little or a negative response.[17]

Even if increasing the rate of return on all saving does increase saving generally, it is still possible that increasing the rate of return on IRAs would not affect saving. For increased rates of return to influence taxpayers to substitute future consumption for current consumption, the marginal rate of return on savings must increase so that if the taxpayer increases saving, that saving receives a higher rate of return. In order for IRAs to increase the marginal return to saving, taxpayers must not be able to finance the IRA profitably by borrowing, must not have other similar assets that can be easily shifted into an IRA, and must intend to save less than the maximum contribution allowed. The following discussion provides examples of how each of these situations may affect the impact of IRAs on saving.

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[14] See, Lawrence H. Summers, "Capital Taxation and Accumulation in a Life Cycle Growth Model," *American Economic Review*, 71, (September 1981).
[15] See, David A. Starrett, "Effects of Taxes on Saving," in Henry J. Aaron, Harvey Galper, and Joseph A. Pechman (eds.), *Uneasy Compromise: Problems of a Hybrid Income-Consumption Tax*, (Washington: Brookings Institution), 1988.
[16] See, M. Boskin, "Taxation, Saving, and the Rate of Interest," *Journal of Political Economy*, April 1978, 86.
[17] See, G. von Furstenberg, "Saving," in H. Aaron and J. Pechman (eds.), *How Taxes Affect Economic Behavior*, Brookings Institution, 1981.

*Borrowing.*—When interest on borrowed funds is deductible, it may be profitable for a taxpayer to borrow to contribute to an IRA. For example, consider a taxpayer with a 28-percent marginal tax rate without any assets. If the taxpayer can borrow at an interest rate equal to the rate of return on an IRA investment, then one would not expect the taxpayer to increase the amount of income saved. Instead, the borrower can borrow $2,000, invest in the IRA and deduct the interest cost. Since the IRA earnings are effectively exempt from tax, the taxpayer receives the full value of the IRA benefit, but does not increase saving.[18] Given that the taxpayer can receive the IRA benefit without increasing saving, the decision of whether to save an extra dollar is unaffected, because that extra dollar will not receive a higher after-tax return than it would have without the availability of tax benefits for IRAs.

If the taxpayer must pay a higher interest rate on the loan than can be received on the investment, the benefits to borrowing to finance an IRA are reduced, but not eliminated. For example, if investments in IRAs earn 10 percent per year and the taxpayer's marginal tax rate is 28 percent, the taxpayer could profitably borrow to fund the account even if the annual interest rate on the loan was as high as 13.8 percent. However, in this case, the taxpayer would gain little from borrowing, and might choose to finance the IRAs with increased savings instead.

Present law permits taxpayers to deduct investment interest but not most personal interest. It is unclear whether interest on a loan used to finance a deductible IRA would be considered investment interest or personal interest. It is likely, however, that interest on a loan used to finance a special IRA would not be deductible, whether or not secured by the taxpayer's home, because it would be viewed as interest on amounts used to finance tax-exempt interest and subject to section 265. Furthermore, present law does not allow IRA assets to be used as security for a loan. Because interest paid on home-equity loans generally is deductible, the easiest way to borrow to finance IRAs may be through home-equity loans. Borrowing against home equity to finance IRAs is similar to shifting existing assets into IRAs.

*Shifting of existing assets.*—Taxpayers who have existing assets that exceed the IRA contribution limits can also receive the benefit of IRAs without increasing saving. Consider a taxpayer who saves only $400 annually, but has been saving for years, and has $4,500 in financial assets. The first year the taxpayer has the opportunity to invest in an IRA, the taxpayer can shift $2,000 from the financial assets to the IRA. The second year, the taxpayer can once again shift $2,000 into the IRA. Only in the third year will the tax benefits accorded to IRAs increase the rate of return on new saving.

*Shifting of planned assets.*—Finally, taxpayers who would have saved without the IRA may not increase their saving due to the availability of IRAs. For example, consider a taxpayer who habitually saves $4,000 per year. If this taxpayer is provided the oppor-

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[18] However, if the taxpayer begins repaying the loan before the IRA funds are withdrawn, even this loan-financed IRA investment might be associated with increased saving. This possibility is discussed in greater detail below.

tunity to invest in an IRA, then $2,000 of these savings will be diverted to the IRA. However, the IRA does not provide a marginal incentive to save. If the taxpayer saves $4,001, the return on that extra dollar of saving will be no higher than it would have been without the IRA program. The taxpayer may even decrease the amount saved, since the first $2,000 of saving that is in the IRA will provide more income in the future, and hence the need for saving may decrease.

## *Type of saving*

The above discussion focused on saving in general. Many authors have noted that certain IRAs may provide incentives for retirement saving, as opposed to saving for other purposes. For instance, consider the effect of the deductible IRA, which is subject to additional tax unless held until retirement or used for other qualified purposes. An individual who is saving only for a "rainy day" may not have much saving that is expected to last until retirement. When offered a higher rate of return on retirement saving, that individual may choose to increase the total amount of saving by maintaining the rainy day saving and adding retirement saving.

Similarly, an individual who takes out a home equity loan to finance an IRA may not save any additional money in the year the IRA contribution is made. But if that individual slowly repays that loan, and this repayment represents saving the taxpayer would not otherwise have done, then the IRA increased that individual's saving.

To the extent the provisions for penalty-free early withdrawal of the IRA and the 5-year holding period of the special IRA increase the substitutability of IRA saving for other saving, this retirement saving attribute of IRAs is diminished, making substitution of current savings for IRA savings more likely.

## *Psychological impact of IRAs and effects of increased advertising*

Some observers have noted that IRAs may have a larger impact on saving than standard economic analyses would predict. These observers suggest that active marketing campaigns in the mid-1980s contributed to the high IRA participation rates observed; in fact, IRA participation was larger than was expected. The sharp decline in advertising after 1986 may explain the decline in IRA contributions among taxpayers who are still eligible.

Furthermore, there may also be a psychological factor that contributes to the impact of IRAs on saving. One study found that taxpayers who owed money to the IRS in excess of taxes withheld were significantly more likely to make IRA contributions than were other taxpayers.[19] One might expect this psychological factor only to induce deductible IRA contributions, which will have an immediate effect on taxes paid. However, another author [20] noted that taxpayers who owe the IRS money generally have higher in-

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[19] Feenberg, Daniel, and Jonathan Skinner, "Sources of IRA Saving," in Lawrence Summers (ed), *Tax Policy and the Economy*, vol. 3, (Cambridge: Massachusetts Institute of Technology Press), 1989.

[20] Gravelle, Jane, "Do Individual Retirement Accounts Increase Savings?", *Journal of Economic Perspectives*, forthcoming Spring 1991.

comes and this may be why they are more likely to contribute to IRAs, rather than any psychological factor.

## 2. Empirical research on the effect of IRAs on saving

Deductible IRAs have been very popular with taxpayers. As Table 4 reports, contributions to IRAs increased significantly when eligibility restrictions were eliminated in 1982. At the peak in 1985, over $38 billion was contributed to IRAs. This represented almost 33 percent of personal saving for that year.

### Table 4.—IRA Participation, 1979–1988

| Year | Returns claiming IRA deductions (millions) | Percentage of all returns (percent) | IRA deductions claimed (billions) |
|---|---|---|---|
| 1979 | 2.5 | 2.6 | $3.2 |
| 1980 | 2.6 | 2.7 | 3.4 |
| 1981 | 3.4 | 3.6 | 4.8 |
| 1982 | 12.0 | 12.6 | 28.3 |
| 1983 | 13.6 | 14.1 | 32.1 |
| 1984 | 15.2 | 15.3 | 35.4 |
| 1985 | 16.2 | 15.9 | 38.2 |
| 1986 | 15.5 | 15.1 | 37.8 |
| 1987 | 7.3 | 6.8 | 14.1 |
| 1988 | 6.4 | 5.8 | 11.9 |

Source: Internal Revenue Service, *Statistics of Income* (various years).

However, it is unclear whether IRAs actually increased total saving. There is no consensus within the economics profession on the effect of the pre-1986 IRAs on personal saving. Some economists believe that IRAs had no effect on overall personal saving; some believe that IRAs increased personal saving; and some economists believe that IRAs would have eventually increased saving if the universally available deductible IRA had been maintained.

A number of economists savings argue that most of the IRA contributions consisted of taxpayers shifting into IRAs from existing assets.[21] They point to the fact that IRA contributions were concentrated at the top of the income distribution, and that IRA contributors had large stocks of financial assets compared to noncontributors with the same income. Both of these facts suggest that IRA contributors had assets and desired saving above the contribution limit.

Economists who believe that IRAs did not increase saving point to the fact that personal savings in the United States was not higher during the years that deductible IRAs were available to all taxpayers.[22]

[21] See, for example, Galper, Harvey and Charles Byce, "Individual Retirement Accounts: Facts and Issue," *Tax Notes*, vol. 31, June 2, 1986, pp. 917–921.
[22] See Gravelle, Jane "Do Individual Retirement Accounts Increase Savings?", *Journal of Economic Perspectives*, forthcoming Spring 1991.

A number of economists argue that IRA contributions between 1982 and 1986 consisted largely of new saving.[23] Some of these economists have investigated whether IRA contributors shifted existing assets from taxable accounts into IRAs. If such shifting had occurred, they argue, one would expect to find a reduction in taxable asset earnings following the IRA contribution. However, one study found that taxpayers who contributed to IRAs generally were also increasing their investment in taxable assets.[24] Although this does not prove that the money invested in IRAs would not have been saved otherwise, it may provide evidence against the simple existing asset shifting view.

Further, proponents of IRAs note that to the extent that taxpayers do shift existing assets into IRAs, most taxpayers do not have enough financial assets to continue asset shifting indefinitely. Hence, they conclude, IRAs would eventually provide a marginal incentive to save.[25]

Some economists have noted that the introduction in Canada of savings incentives similar to the IRA was followed by large increases in Canadian saving. They argue that this can be taken as evidence that IRAs are effective in increasing national saving.[26] However, others note that since Canadians are not able to deduct home mortgage interest from taxable income, they should be less likely to finance tax-favored savings with home borrowing, and therefore savings incentives in Canada may be more likely to induce increased saving than in the United States.

## 3. Distributional effects of IRAs under present and prior law

Tables 5 and 6 summarize information on IRA participation in 1985 and 1988. In 1985, 71 percent of all returns reporting IRA contributions had AGI below $50,000, and 29 percent had AGI of $50,000 or above. However, taxpayers with AGI of $50,000 or above represented only 8 percent of all returns eligible for IRAs. Thus, although many lower-income individuals contributed to IRAs, most did not, whereas most taxpayers with AGI of $50,000 or above did contribute when eligible. Taxpayers with AGI of $50,000 or above were more than four times as likely to contribute to an IRA than were taxpayers with AGI below $50,000—61.8 percent of eligible returns with AGI of $50,000 or above reported contributions to an IRA, while only 13.8 percent of eligible returns with AGI below $50,000 reported contributions.

Higher-income taxpayers made larger contributions as well. Taxpayers with adjusted gross incomes of $50,000 or more constituted approximately 29 percent of all IRA contributors in 1985, but accounted for more than 35 percent of IRA contributions. In 1988,

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[23] See, Venti, Steven F. and David A. Wise, "The Evidence on IRAs," *Tax Notes*, vol. 38, January 25, 1988, pp. 411–416. Some analysts have criticized the methodology of studies which claim IRAs create new saving and argue that the reported results of the effect of IRAs on saving are implausibly large. See Gravelle, Jane G., "Capital Gains Taxes, IRA's, and Savings," CRS Report for Congress 89–543, September 26, 1989.

[24] See, for example, Feenberg, Daniel, and Jonathan Skinner, "Sources of IRA Saving," in Lawrence Summers (ed), *Tax Policy and the Economy*, vol. 3, (Cambridge: Massachusetts Institute of Technology Press), 1989.

[25] See Skinner, Jonathan, "Do IRAs Promote Saving? A Review of the Evidence", March 1991.

[26] See, Carroll, Chris, and Lawrence H. Summers, "Why Have Private Saving Rates in the U.S and Canada Diverged?" *Journal of Monetary Economics*, 20, September 1987.

taxpayers with adjusted gross incomes of $50,000 or more constituted approximately 16 percent of all IRA contributors, but accounted for almost 23 percent of IRA contributions.

Because the value of the IRA is the effective exemption of the earnings from tax, the higher a taxpayer's marginal tax rate, the more valuable the ability to invest through an IRA. Because people in higher income classes generally have higher tax rates, the value of their IRA is larger than the value of IRAs for taxpayers in lower income classes. However, the value of the IRA depends on tax rates throughout the period the IRA is held, and not just the marginal tax rate in the year the contribution is made.

Table 5.—Deductible IRA Participation By Income Class, 1985 [1]

| Adjusted gross income class | Number of returns with earned income in millions | Returns reporting IRA contributions | | |
| --- | --- | --- | --- | --- |
| | | Number in millions | Percent of returns with earned income [2] | Contributions (billions) |
| All classes | 90.4 | 16.2 | 17.8 | $38.2 |
| Under $10,000 | 27.9 | .6 | 2.3 | 1.1 |
| $10,000 to $30,000 | 37.5 | 5.1 | 13.6 | 9.7 |
| $30,000 to $50,000 | 17.4 | 5.7 | 32.9 | 13.5 |
| $50,000 to $75,000 | 5.3 | 3.0 | 56.5 | 8.7 |
| $75,000 to $100,000 | 1.2 | .9 | 74.1 | 2.7 |
| Over $100,000 | 1.1 | .8 | 76.1 | 2.6 |

[1] Includes taxpayers who filed tax returns. Unlike Table 2, above, no returns are imputed for taxpayers who did not file.
[2] Eligible taxpayers include self-employed persons as well as wage and salary employees.

Source: Internal Revenue Service, *1985 Statistics of Income.*

## Table 6.—Deductible IRA Participation By Income Class, 1988 [1]

| Adjusted gross income class | Number of returns with earned income in millions | Returns reporting IRA contributions | | |
| --- | --- | --- | --- | --- |
| | | Number in millions | Percent of returns with earned income [2] | Contribu- tions (billions) |
| All classes .......................... | 93.3 | 6.4 | 6.9 | $11.8 |
| Under $10,000 .................. | 26.1 | 0.4 | 1.5 | 0.6 |
| $10,000 to $30,000 ........... | 36.0 | 2.7 | 7.5 | 4.6 |
| $30,000 to $50,000 ........... | 18.7 | 2.3 | 12.3 | 4.1 |
| $50,000 to $75,000 ........... | 8.2 | 0.5 | 6.1 | 1.3 |
| $75,000 to $100,000 .......... | 2.2 | 0.2 | 8.9 | 0.6 |
| Over $100,000 ................... | 2.1 | 0.3 | 14.2 | 0.8 |

[1] Includes taxpayers who filed tax returns. Unlike Table 2, above, no returns are imputed for taxpayers who did not file.
[2] Includes self-employed persons reporting wage income as well as wage and salary employees. Because of the limitations enacted by the Tax Reform Act of 1986, not all such taxpayers were eligible to make deductible contributions to IRAs.
Source: Internal Revenue Service, *1988 Statistics of Income.*

Other authors have noted that even the taxpayers with low income who did contribute to IRAs owned more financial assets than other low-income taxpayers and that, therefore, IRA contributors may not be representative of taxpayers in general. Table 7 presents information on the assets of households with IRAs compared to the assets of households without IRAs. Part of the reason that IRA contributors have larger holdings of assets than noncontributors is that contributors to IRAs tend to be older than noncontributors, and older taxpayers have been accumulating assets longer.

## Table 7.—Estimated Median Financial Assets of Households With IRAs and Households Without IRAs, 1985

| Income | Households with IRAs | Households without IRAs |
| --- | --- | --- |
| Less than $10,000 ................................... | $7,625 | $0 |
| $10,000 to $20,000 ................................. | 6,538 | 200 |
| $20,000 to $30,000 ................................. | 6,365 | 900 |
| $30,000 to $40,000 ................................. | 6,015 | 1,692 |
| $40,000 to $50,000 ................................. | 10,000 | 2,694 |
| $50,000 to $75,000 ................................. | 14,516 | 5,100 |
| $75,000 and over ..................................... | 36,085 | 9,735 |

Source: Steven Venti and David Wise, "Heterogeneity, Individual Effect, and IRA Saving: Further Evidence from SIPP", mimeo, May 1990.

## 4. Expected differences between effects of pre-1986 IRAs and S. 612

Although research on the effectiveness of the pre-1986 IRA provisions can shed light on the potential of the proposed IRAs in S. 612 to affect savings, several differences between the pre-1986 IRAs and the proposed IRAs should be noted. First, marginal tax rates for most taxpayers are lower now than they were before the passage of the Tax Reform Act of 1986. The tax advantage of IRAs is the exemption from tax of the investment's return and, for the deductible IRA, the possibility that the rate at which the contribution is taxed will be lower when the contribution is withdrawn. Both of these advantages may be less valuable now than they were before 1987, especially for higher income taxpayers because their marginal tax rates decreased the most. For example, if prior to 1987, a taxpayer in the 50-percent marginal tax bracket received a 10-percent return on his or her investment, excluding such income from tax would increase his or her net return to 10 percent from an after-tax return of 5 percent. After the 1986 Act, such a taxpayer would be in the 31-percent marginal tax bracket and the exemption would increase his or her net return to 10 percent from an after-tax return of 6.9 percent. Thus, the exemption provided a greater increase in net return prior to 1987. Similarly, if taxpayers believe that tax rates are likely to increase over time because of the Federal government's budget deficit, or because current tax rates are relatively low from a historical perspective, then the deductible IRA will look less attractive than it appeared in the past.

Second, the proposed IRAs are different from the pre-1986 IRAs, both because they provide additional exceptions to the early withdrawal penalty, and because the special IRA has a relatively short required holding period. These differences may alter the effectiveness of IRAs at increasing saving. To the extent that taxpayers already save for education, housing, and medical expenses, allowing IRAs to be used for these purposes increases the likelihood that existing assets or existing planned saving will be shifted into IRAs, reducing the effectiveness of IRAs at increasing savings. Similarly, to the extent that taxpayers already save for short-term goals and for rainy days, allowing taxpayers to withdraw funds from the special IRA in only 5 years may also encourage more asset shifting. Further, permitting short holding periods and penalty-free early withdrawal may cause taxpayers to keep their money in the IRAs a shorter period of time.[27] On the other hand, to the extent that taxpayers who would otherwise choose to save in the form of IRAs would not do so because they believe they might need the funds before retirement, this added flexibility may encourage more taxpayers to invest in IRAs and increase their saving rate. Finally, permitting penalty-free withdrawals before retirement age diminishes the effectiveness of IRAs as explicit retirement savings vehicles, but may not change the overall effectiveness of IRAs to increase saving.

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[27] Although once funds are withdrawn from an IRA, they can only be replaced at a rate no faster than $2,000 per individual per year.

The ability of individuals to save through employer-sponsored retirement plans, particularly qualified cash or deferred arrangements (sec. 401(k) plans) may affect the level of IRA contributions. While such plans existed prior to 1986, they have become more prevalent since then. Section 401(k) plans offer benefits similar to those of IRAs. However, individuals may contribute more to such plans on a pre-tax basis ($8,475 for 1991), and may obtain increased benefits if, as is often the case, the employer matches employee contributions. Despite these advantages, some may still view an IRA as attractive, for example, because IRA funds may be withdrawn at any time (subject to the early withdrawal tax), whereas the ability to obtain withdrawals from section 401(k) plans prior to termination of employment is more limited. On the other hand, many section 401(k) plans permit individuals to borrow from their account, making investments in such plans more liquid. (Appendix I contains a further discussion of the comparison of IRAs and employer-sponsored retirement plans.)

The ability to contribute both to a section 401(k) (or similar) plan and an IRA could affect IRA contributions in a number of ways. For example, some individuals would save only through a section 401(k) plan, others would chose the IRA, and still others would split savings between a section 401(k) plan and an IRA. A number of factors may affect such choices, including the amount the individual wishes to save, the period and purpose for which they wish to save, and the particular terms of the section 401(k) plan they are eligible to participate in.

# V. ISSUES RELATING TO TAX INCENTIVES FOR SAVING

## A. Comparison of IRAs With Other Tax-Favored Assets

Present law contains various tax incentives for savings. Tax incentives are provided to encourage taxpayers to save for certain purposes and to encourage taxpayers to save in certain forms. Saving for the purpose of education and retirement is subsidized through the tax treatment of certain Treasury bonds and of certain retirement plans. Incentives are also provided for people to save in the form of housing, life insurance, and municipal bonds. Appendix I discusses the benefits of each of these incentives in detail.

Tax-favored treatment of assets does not always increase the rate of return on saving. If the supply of a tax-favored asset is limited relative to the demand for that asset, much of the benefit of the tax treatment will be realized by the initial owners of the asset, rather than by the holders of the asset. For instance, holders of municipal bonds may not receive a higher after-tax rate of return than holders of taxable bonds because, even though the earnings are tax exempt, municipal bonds offer lower rates of return. The issuers of municipal bonds receive a tax benefit because they can pay lower interest rates than the rates paid on other securities.

The tax benefits of IRAs and pension funds, however, are not limited to particular assets. Because investors in IRAs and pension funds can invest in a wide range of assets, and because the amount of funds permitted to be invested through these tax-favored vehicles is limited (the demand is small relative to the supply of assets), investors in IRAs and pension funds do receive a higher rate of return than that available through other investments, and thus do benefit from the tax favored treatment.

Enactment of additional saving incentives would be expected to alter taxpayers' choices among various taxable and tax-preferred assets. Because the income earned on assets held in IRAs effectively is exempt from tax, the taxpayer maximizes the benefit of the tax preference by directing the investment of IRA contributions in assets which are not otherwise tax preferred. The benefits of tax preferences for assets that are tax preferred to one degree or another are maximized when such assets are held outside an IRA.

The expansion of IRAs could be expected to increase the demand for otherwise taxable instruments at the expense of instruments which are tax preferred under present law. On the other hand, the annual contribution limitation of the IRA would limit the effect on the demand for other tax-preferred instruments.[28] Moreover, to the

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[28] The Administration's Family Savings Account (FSA) proposal, which is essentially the same as a special IRA, also limits the tax benefits to taxpayers below a specified income level. To the extent that existing tax-preferred instruments are held only by taxpayers who would be ineligible for the FSA (e.g., taxpayers whose adjusted gross income exceeds $120,000), the demand for existing tax-favored instruments would be unaffected.

extent that savings incentives generate increases in saving, the demand for all instruments would increase. If this were to occur, the issuers of instruments which are tax-preferred under present law conceivably could benefit as the cost of capital declined.

## B. Goals of Tax Incentives for Saving

Some argue that tax incentives for saving are appropriate because the income tax system taxes the return to income that is saved, thereby lowering the return to saving. This lower return on saving affects both the national saving rate, as well as the assets that taxpayers accumulate for particular purposes. There is some disagreement about whether the goal of tax incentives for saving should be to encourage saving for particular purposes or to increase national saving.[29] These purposes are not mutually exclusive; if effective, incentives to save for particular purposes will increase national saving. However, general saving incentives will not necessarily fulfill more specific goals. Whether new tax incentives for saving should be aimed at increasing national saving in general, or increasing retirement saving, depends on the perceived adequacy of each type of saving.

In particular, IRAs have historically been viewed as vehicles for retirement savings. When IRAs were introduced in 1974, they were provided only to individuals without employer-provided pension plans. The original intention of the IRA was explicitly to encourage individuals not participating in an employer-sponsored plan to increase their retirement savings and to provide a higher return on such savings. Even with the liberalization of eligibility requirements for IRAs in the Economic Recovery Tax Act of 1981, IRAs still have been largely devoted to retirement saving. Withdrawals of IRA funds before age 59½ generally are still subject to an additional 10-percent tax.

However, IRAs can provide substantial benefits to taxpayers who are saving for nonretirement purposes. For example, consider a taxpayer with a 28-percent marginal tax rate who has $1,000 of earnings to devote to saving. Without an IRA, the taxpayer would pay a tax of $280, leaving $720 to be invested. If this amount earns 8 percent annually and the earnings are taxed annually at a 28-percent marginal tax rate, the taxpayer will have $1,261 at the end of 10 years. If, however, the taxpayer can deduct the $1,000 and accumulate 8-percent annual interest tax free, the investment will be worth $2,159 at the end of 10 years. After including the distribution in income, subject to the additional 10-percent tax on early withdrawals, the taxpayer will have $1,339, or $78 more than the taxpayer has if a taxable investment is made.

Similarly, the present-law exceptions to the early withdrawal tax may permit taxpayers to use deductible IRAs for nonretirement saving. Under present law, a taxpayer may make penalty-free withdrawals from an IRA prior to attaining the age of 59½ if the distributions are made over certain periods. For example, a taxpayer could purchase an annuity which promises level payments for the

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[29] Sections C and D below discuss the importance of national saving and the adequacy of retirement saving.

remainder of the taxpayer's life. This exception may offer many taxpayers a way to receive a substantial percentage of the tax-fa-vored funds prior to age 59½ and avoid the 10-percent penalty. At age 50, the average American male has a life expectancy of ap-proximately 26 years.[30] At a 10-percent discount rate, an annuity which pays $1,000 per year for 26 years has a present value of ap-proximately $9,160. The present value of the payments received during the first 10 years of such annuity is approximately $6,145, or 67 percent of the total value of the annuity. Consequently, if the taxpayer withdrew the $9,160 from his IRA to purchase the $1,000 annuity, he would receive 67 percent of the total value of the annu-ity prior to age 60.[31]

## C. Role of Saving in the National Economy

### Investment and economic growth

When an economy's rate of investment increases, the economy's stock of capital increases. A larger, capital stock permits greater production of goods and services. Because the larger a country's capital stock, the more productive its workers, investment also leads to higher wages and salaries. Thus, increases in investment lead to future increases in a nation's standard of living.

It is important to distinguish gross investment from net invest-ment. Gross investment includes investment in new capital as well as investment that is undertaken to replace depreciated or worn out capital. Net investment measures increases to the capital stock (Net investment is equal to gross investment less depreciation).

In the short run, increases in gross investment will increase the capital stock. As the capital stock increases, worker productivity in-creases and the economy will experience a higher rate of growth. In the long run, any given rate of investment will just be sufficient to replace the existing, though larger, capital stock as it depreci-ates. Thus, in the long run, an increase in the level of investment increases a nation's standard of living, but may not increase a country's long run rate of growth.

It is possible that a higher investment level can lead to a higher growth rate even in the long run. Even if there is no growth in net investment, investment to replace depreciated capital may still en-hance economic growth to the extent that the replacement capital embodies improved (and more efficient) equipment and technol-ogies. The higher the gross investment rate, the more new capital is purchased each year, and thus the rate at which new technol-ogies get adopted may be higher.

### Sources of investment funds

Investment involves a trade-off between consumption today and consumption tomorrow. Investment can either be financed by na-

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[30] Bureau of the Census, U.S. Department of Commerce, *Statistical Abstract of the United States, 1990*, p. 73.

[31] If an 8-percent discount rate were used, the percentage recovered in the first 10 years would be approximately 62 percent.

If such an annuity were purchased by a 40-year old male (life expectancy an additional 35 years), he would receive approximately 64 percent of the present value of the annuity (discount-ing at 10 percent) in the first 10 years and 88 percent by age 60.

tional saving, or by foreign borrowing (saving by foreigners). A basic accounting identity of the national income and product accounts states that [32]

Investment =

Private Saving + Government Saving

+ Net Foreign Borrowing.

Many analysts in the past ignored the foreign sector, primarily because at the time it was small relative to the U.S. economy. These analysts interpreted this basic relationship as saying that national investment must equal national saving, where national saving is the sum of private saving and public saving.

However, national investment need not equal national saving if foreigners can invest in the United States. The experience of the 1980s, when investment in the United States greatly exceeded national savings, demonstrates how important this source of funds has become (see Figure 1). When demand for investment funds in the United States outstrips the supply of national savings, interest rates rise in response. Increases in interest rates attract foreign capital to the United States, and the excess of investment over national saving is financed by foreigners' saving.

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[32] The national income and product accounts measure the flow of goods and services (product) and income in the economy. The gross national product (GNP) of the economy is the total annual value of goods and services produced by the economy and may be measured in several ways. One way is to measure GNP by expenditure on final product in the economy. By this measure,

(1) GNP = C + I + G + (X-M).

Equation (1) is an accounting identity which states that gross national product equals the sum of consumption expenditures (C), investment expenditures on plant, equipment, inventory, and residential construction (I), governmental purchases of goods and services (G), and net exports (exports less imports of goods and services or X-M).

An alternative is to measure GNP by the manner in which income created in the economy is disposed of. By this measure,

(2) GNP = C + S + T.

Equation (2) is another accounting identity which states that gross national product equals the sum of consumption expenditures, saving by consumers and businesses (S), and net tax payments to the government (T) (net tax payments are total tax receipts less domestic transfer, interest, and subsidy payments made by all levels of government).

Because both measures of GNP are simple accounting identities, the right hand side of equation (1) must equal the right hand side of equation (2). From this observation can be derived an additional national income accounting identity,

(3) I = S + (T-G) + (M-X).

This is the basis for the statement that national investment equals private saving (S), plus public saving (T-G), and net imports (M-X).

FIGURE 1

# Saving and Investment as a % of GNP
# 1970-1990
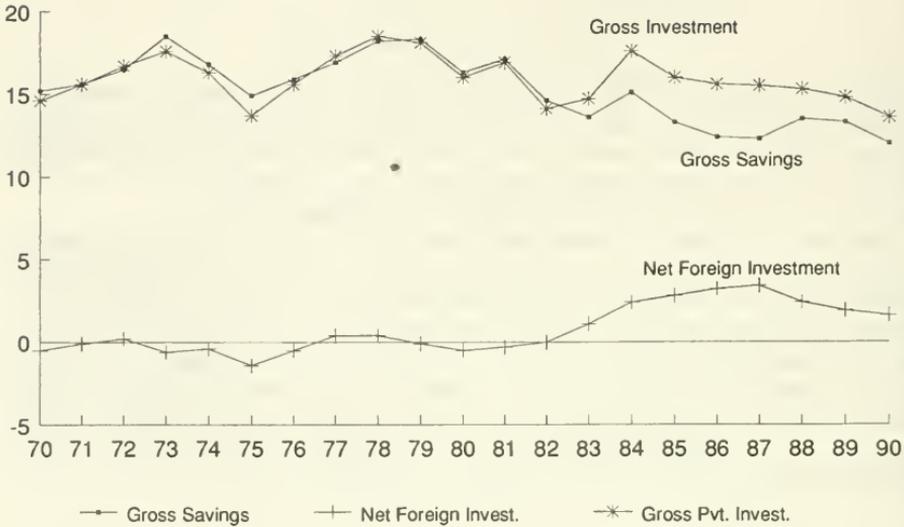


Foreign investment in the United States is also related to the value of the dollar and the trade deficit. To take advantage of high interest rates in the United States, foreign investors first must convert their currencies to dollars. This increases demand for the dollar, thereby increasing the dollar's exchange rate relative to the foreign currency. A stronger dollar makes imported goods relatively cheaper and our exports relatively more expensive. As a consequence, net exports fall and the trade deficit increases. A further accounting identity states that [33]

$$\text{Net Foreign Borrowing} = (\text{Imports} - \text{Exports})$$

When net foreign borrowing increases, the trade deficit (the difference between imports and exports of goods and services) also increases. Thus, many people have blamed the trade deficits of the 1980s on the low national savings rate during that period. [34]

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[33] This ignores the relatively small amount of unilateral transfers to foreigners. For a more detailed discussion of foreign trade and domestic saving and investment, see Joint Committee on Taxation, *Background and Issues Relating to the Taxation of Foreign Investment in the United States* (JCS–1–90), January 23, 1990.

[34] For instance, see Hatsopoulos, Krugman, and Summers, "U.S. Competitiveness: Beyond the Trade Deficit", *Science,* 15 July 1988, Volume 241, pp. 299–307.

*Is the U.S. saving rate too low?*

## Consequences of a low saving rate

The consequences of a low saving rate depend on the mobility of international capital. If capital is not mobile, then, as discussed above, investment is equal to national savings. When the saving rate is low, so is the investment rate. Historically, there has been a strong relationship between a country's rate of investment and its rate of saving.[35] This relationship is illustrated for a number of countries in Figure 2. Although this relationship has become weaker over time,[36] it is still true that countries with high saving rates also generally have high investment rates.

FIGURE 2

## Net Saving and Net Investment Rates
### Selected Countries, Averages 1960-89
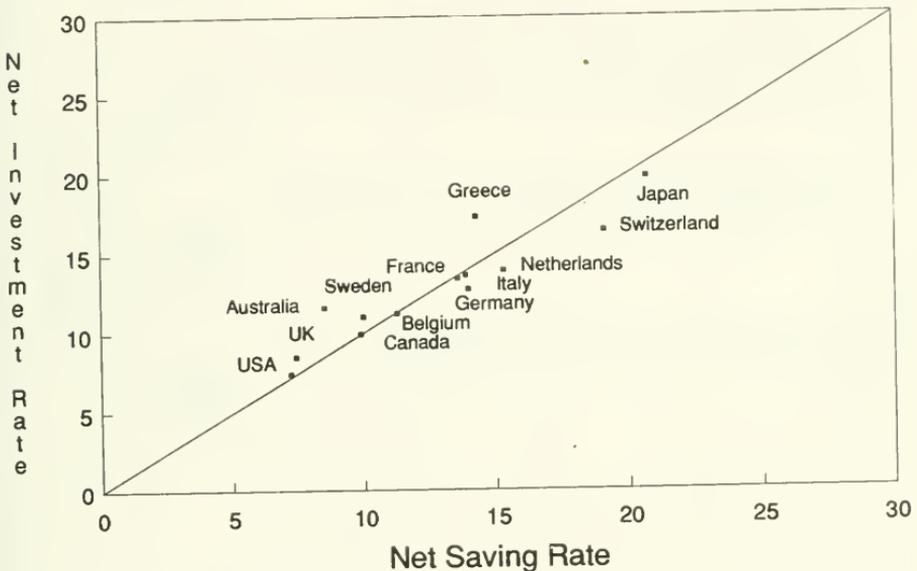


Source: OECD, data in Appendix II

If capital is mobile (that is, if foreigners can invest in the United States at low cost and without a lot of added risk), then investment will not decline as much when the saving rate falls. Instead, investment will be financed by foreigners, either by direct foreign investment in the United States or by foreign lending to American investors. When domestic saving rates are low, foreign financing of domestic investment results in a higher rate of investment than

[35] See, for instance, Martin Feldstein and Charles Horioka, "Domestic Saving and International Capital Flows," *Economic Journal*, vol. 90 (June 1980) pp. 314–29.
[36] See Phillippe Bacchetta and Martin Feldstein, "National Saving and International Investment", National Bureau of Economic Research Working Paper #3164, November 1989.

would be possible if investment were financed by domestic saving. Foreign investment in the United States does increase the productivity of American workers. However, the profits generated by foreign investment flow abroad, since the United States has to pay interest on the funds it borrows. Furthermore, eventually the debt will have to be repaid, so the net wealth that is left to future generations of Americans is smaller than it would be if the investment were financed by domestic saving.

### *Trends in national saving and investment*

National saving is generally divided into private saving and public saving. Private saving is comprised of household or personal saving and business saving. Households save by not spending all of their disposable income (i.e., after-tax income). Businesses save by retaining some of their earnings. Public saving reflects the extent to which the Federal, State, and local governments run budget surpluses or deficits. Table 8 presents data on the components of net national saving in the United States.

# Table 8.—Components of Net National Saving, Selected Years, 1929–1990

[In billions of dollars]

| Year | Private saving | | | Federal surplus or deficit (−) | Public saving | | | Total net national saving |
|---|---|---|---|---|---|---|---|---|
| | Net personal saving | Net business saving | Total net private saving | | State and local surplus or deficit (−) | Total public saving | | |
| 1929 | 2.6 | 2.4 | 5.0 | 1.2 | −0.2 | 1.0 | | 6.0 |
| 1939 | 1.8 | .3 | 2.1 | −2.2 | 0 | −2.2 | | −.1 |
| 1949 | 7.4 | 10.5 | 17.9 | −2.6 | −.7 | −3.4 | | 14.5 |
| 1954 | 16.4 | 9.8 | 26.2 | −6.0 | −1.1 | −7.1 | | 19.1 |
| 1959 | 21.8 | 15.7 | 37.5 | −1.1 | −.4 | −1.6 | | 35.9 |
| 1964 | 31.5 | 25.4 | 56.9 | −3.3 | 1.0 | −2.3 | | 54.6 |
| 1969 | 42.2 | 25.3 | 67.5 | 8.4 | 1.5 | 9.9 | | 77.4 |
| 1974 | 96.7 | 20.1 | 116.8 | −11.6 | 7.2 | −4.3 | | 112.5 |
| 1975 | 104.6 | 37.1 | 141.7 | −69.4 | 4.5 | −64.9 | | 76.8 |
| 1976 | 95.8 | 46.4 | 142.2 | −53.5 | 15.2 | −38.4 | | 103.8 |
| 1977 | 90.7 | 62.3 | 153.0 | −46.0 | 26.9 | −19.1 | | 133.9 |
| 1978 | 110.2 | 69.0 | 179.2 | −29.3 | 28.9 | −0.4 | | 178.8 |
| 1979 | 118.1 | 61.9 | 180.0 | −16.1 | 27.6 | 11.5 | | 191.5 |
| 1980 | 136.9 | 37.7 | 174.6 | −61.3 | 26.8 | −34.5 | | 140.1 |
| 1981 | 159.4 | 43.3 | 202.7 | −63.8 | 34.1 | −29.7 | | 173.0 |
| 1982 | 153.9 | 20.0 | 173.9 | −145.9 | 35.1 | −110.8 | | 63.1 |
| 1983 | 130.6 | 65.0 | 195.6 | −176.0 | 47.5 | −128.6 | | 67.0 |
| 1984 | 164.1 | 94.0 | 258.1 | −169.6 | 64.6 | −105.0 | | 153.1 |
| 1985 | 125.4 | 102.7 | 228.1 | −196.9 | 65.1 | −131.8 | | 96.3 |
| 1986 | 124.9 | 84.5 | 209.4 | −206.9 | 62.8 | −144.1 | | 65.3 |
| 1987 | 92.5 | 83.2 | 175.7 | −158.2 | 51.0 | −107.1 | | 68.6 |
| 1988 | 145.6 | 91.4 | 237.0 | −141.7 | 46.5 | −95.3 | | 141.7 |
| 1989 | 171.8 | 53.1 | 224.9 | −134.3 | 46.4 | −87.8 | | 137.1 |
| 1990 | 179.1 | 29.1 | 208.2 | −161.3 | 35.4 | −126.0 | | 82.2 |

Source: Department of Commerce, Bureau of Economic Analysis.

Table 9 presents net saving by component as a percentage of gross national product (GNP). As the table demonstrates, net business saving,[37] personal saving, and public saving were all lower during the 1980s then in any of the three previous decades. Net national saving declined steadily through most of the 1980s.

**Table 9.—Components of Net National Savings as a Percentage of GNP, Selected Years, 1929–90**

| Year | Net personal saving | Net business saving | Total net private saving | Public saving | Total net national saving |
|------|------|------|------|------|------|
| 1929 | 2.5 | 2.3 | 4.8 | 1.0 | 5.8 |
| 1939 | 2.0 | .3 | 2.3 | −2.4 | −.1 |
| 1949 | 2.8 | 4.0 | 6.9 | −1.3 | 5.6 |
| 1954 | 4.4 | 2.6 | 7.0 | −1.9 | 5.1 |
| 1959 | 4.4 | 3.2 | 7.6 | −.3 | 7.2 |
| 1964 | 4.8 | 3.9 | 8.8 | −.4 | 8.4 |
| 1969 | 4.4 | 2.6 | 7.0 | −1.0 | 8.0 |
| 1974 | 6.6 | 1.4 | 7.9 | −.3 | 7.6 |
| 1975 | 6.5 | 2.3 | 8.9 | −4.1 | 4.8 |
| 1976 | 5.4 | 2.6 | 8.0 | −2.2 | 5.8 |
| 1977 | 4.6 | 3.1 | 7.7 | −1.0 | 6.7 |
| 1978 | 4.9 | 3.1 | 8.0 | −.1 | 7.9 |
| 1979 | 4.7 | 2.5 | 7.2 | .5 | 7.6 |
| 1980 | 5.0 | 1.4 | 6.4 | −1.3 | 5.1 |
| 1981 | 5.2 | 1.4 | 6.6 | −1.0 | 5.7 |
| 1982 | 4.9 | .6 | 5.5 | −3.5 | 2.0 |
| 1983 | 3.8 | 1.9 | 5.7 | −3.8 | 2.0 |
| 1984 | 4.4 | 2.5 | 6.8 | −2.8 | 4.1 |
| 1985 | 3.1 | 2.6 | 5.7 | −3.3 | 2.4 |
| 1986 | 3.0 | 2.0 | 4.9 | −3.4 | 1.5 |
| 1987 | 2.0 | 1.8 | 3.9 | −2.4 | 1.5 |
| 1988 | 3.0 | 1.9 | 4.9 | −2.0 | 2.9 |
| 1989 | 3.3 | 1.0 | 4.3 | −1.7 | 2.6 |
| 1990 | 3.3 | .5 | 3.8 | −2.3 | 1.5 |
| Average 1950–59 | 4.7 | 2.8 | 7.5 | −.1 | 7.4 |
| Average 1960–69 | 4.6 | 3.5 | 8.1 | −.3 | 7.9 |
| Average 1970–79 | 5.6 | 2.4 | 8.0 | −1.0 | 7.1 |
| Average 1980–89 | 3.8 | 1.7 | 5.5 | −2.5 | 3.0 |

Source: Department of Commerce, Bureau of Economic Analysis.

Some analysts suggest that because households save out of their disposable income (i.e., after-tax income), it is more appropriate to examine personal saving relative to disposable income than to examine personal saving relative to GNP. Table 10 presents personal saving as a percentage of disposable income. Generally, the same trends observed in Table 9 are evident in Table 10.

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[37] Tables 8 and 9 present net saving, which equals gross saving less capital consumption (depreciation). Trends in gross saving are presented in Appendix II.

**Table 10.—Personal Saving as a Percentage of Disposable Personal Income, Selected Years, 1929–90**

| Year | Personal saving as a percentage of disposable personal income |
|---|---:|
| 1929 | 3.2 |
| 1939 | 2.6 |
| 1944 | 25.1 |
| 1949 | 3.9 |
| 1954 | 6.3 |
| 1959 | 6.3 |
| 1964 | 7.0 |
| 1969 | 6.4 |
| 1974 | 9.3 |
| 1975 | 9.2 |
| 1976 | 7.6 |
| 1977 | 6.6 |
| 1978 | 7.1 |
| 1979 | 6.8 |
| 1980 | 7.1 |
| 1981 | 7.5 |
| 1982 | 6.8 |
| 1983 | 5.4 |
| 1984 | 6.1 |
| 1985 | 4.4 |
| 1986 | 4.1 |
| 1987 | 2.9 |
| 1988 | 4.2 |
| 1989 | 4.6 |
| 1990 [1] | 4.5 |

[1] Estimate.

Source: Department of Commerce, Bureau of Economic Analysis.

Figure 1, above, displays domestic saving, domestic investment, and net foreign investment as a percentage of GNP for the period 1970 to 1990. Prior to 1980, domestic saving generally financed domestic investment as well as providing funds for Americans to be net investors abroad (negative net foreign investment in the figure). Since 1980, net saving has fallen short of domestic investment. The figure indicates that, as a share of GNP, domestic investment has declined from its 1984 peak and that net foreign investment has provided for the difference in domestic savings and investment.[38] Thus, although the decline in saving was coincident with a decline in investment, this decline was not as severe as it might have been had there not been foreign investment.

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[38] Appendix table 5 in Appendix II provides data underlying Figure 1.

## *Comparison between the saving rates of the U.S. and other countries*

The United States' national saving rate is low when compared to that of other nations. This comparison is shown in Table 11 for total national saving and in Table 12 for household or personal saving. Figure 3 also highlights the data from Table 11 for the United States, Canada, Germany, and Japan. As the table indicates, the net saving rate of the United States during the 1980s was below the saving rates of most countries in the OECD.[39]

FIGURE 3

# Net National Saving Rates as a Percentage of GDP
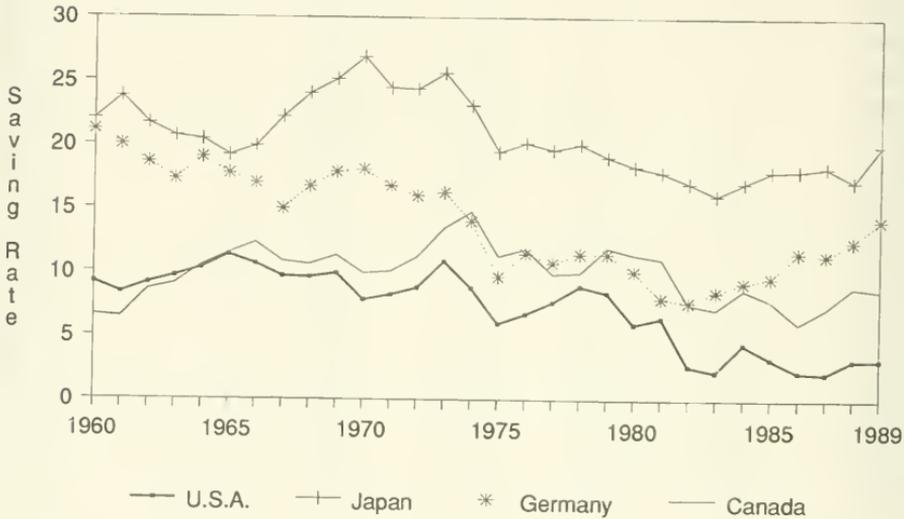


source: OECD

[39] The data on international saving rates in Tables 11 and 12 are not directly comparable to the data in Tables 9 and 10 because such data are not always compiled consistently across nations. For example, in computing household saving rates, the OECD subtracts household interest expense from income to determine U.S. household disposable income. The Bureau of Economic Analysis does not make a similar adjustment in defining household disposable income. Also, while the source of the international comparisons draws on data from the OECD, which attempts to provide data on an internationally comparable basis, the data are not fully comparable. For example, in computing household saving rates, the definition of the household sector is not identical across all countries. In particular, except in Japan, France, and Italy, private non-profit institutions are included in the household sector. *See*, Andrew Dean, Martine Durand, John Fallon, and Peter Hoeller, "Saving Trends and Behaviour in OECD Countries," OECD, Economics and Statistics Department Working Paper, No. 67, June 1989.

# Table 11.—Net National Saving as a Percentage of Gross Domestic Products (GDP), Selected Years, 1962–1989

| Country | 1962 | 1967 | 1972 | 1975 | 1978 | 1981 | 1983 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| United States.............. | 9.1 | 9.7 | 8.8 | 6.0 | 8.9 | 6.4 | 2.7 | 2.2 | 4.4 | 3.3 | 2.2 | 2.1 | 3.1 | 3.2 |
| Japan........................... | 21.7 | 22.2 | 24.4 | 19.4 | 20.0 | 17.9 | 17.0 | 16.1 | 17.0 | 18.0 | 18.0 | 18.3 | 17.2 | 20.0 |
| Germany ..................... | 18.6 | 15.0 | 16.0 | 9.6 | 11.4 | 8.0 | 7.7 | 8.5 | 9.2 | 9.6 | 11.6 | 11.3 | 12.4 | 14.1 |
| France.......................... | 17.3 | 18.4 | 17.6 | 13.2 | 13.0 | 8.5 | 7.2 | 6.4 | 6.3 | 6.4 | 7.6 | 7.3 | 8.2 | 8.8 |
| United Kingdom ......... | 8.6 | 9.4 | 9.1 | 3.5 | 6.9 | 4.3 | 4.6 | 5.3 | 5.1 | 5.8 | 4.4 | 4.3 | 4.7 | 4.5 |
| Italy............................. | 19.7 | 16.3 | 15.0 | 10.9 | 14.1 | 10.2 | 9.3 | 9.5 | 10.0 | 9.2 | 9.1 | 8.5 | 8.8 | 8.5 |
| Canada........................ | 8.6 | 10.8 | 11.2 | 11.2 | 10.0 | 11.1 | 7.5 | 7.1 | 8.7 | 7.8 | 6.0 | 7.2 | 8.9 | 8.6 |
| Belgium ...................... | 12.1 | 14.5 | 15.8 | 12.4 | 11.1 | 4.8 | 4.4 | 5.0 | 6.2 | 5.6 | 7.6 | 8.1 | 10.0 | 11.7 |
| Greece......................... | 14.3 | 14.7 | 22.0 | 16.3 | 18.6 | 16.1 | 8.3 | 8.0 | 6.7 | 4.4 | 4.8 | 4.9 | 8.0 | 5.7 |
| Netherlands................ | 17.4 | 17.9 | 18.3 | 14.0 | 12.0 | 10.4 | 10.8 | 11.2 · | 12.9 | 13.6 | 12.7 | 10.5 | 12.4 | 13.4 |
| Sweden........................ | 13.6 | 13.6 | 12.8 | 12.7 | 6.0 | 3.6 | 1.9 | 3.8 | 5.9 | 5.7 | 6.2 | 6.4 | 6.8 | 7.3 |
| Switzerland................ | 18.5 | 19.5 | 20.5 | 17.0 | 16.2 | 17.8 | 17.7 | 17.7 | 18.7 | 19.5 | 21.1 | 21.6 | 22.5 | 23.3 |
| Australia..................... | 10.6 | 9.5 | 13.4 | 8.5 | 6.6 | 4.2 | .7 | 3.0 | 3.4 | 2.3 | 2.4 | 4.7 | 7.4 | 6.3 |

Source: OECD, *National Accounts, 1960–89*, volume 1, 1991.

Table 12.—Net Household Saving As a Percentage of Disposable Household Income, Selected Year, 1972-1989

| Country | 1972 | 1975 | 1978 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | Average 1980-89 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| United States | 7.5 | 9.4 | 7.3 | 7.7 | 7.0 | 5.5 | 6.3 | 4.5 | 4.3 | 3.3 | 4.3 | 5.6 | 5.6 |
| Japan | 18.2 | 22.8 | 20.8 | 18.3 | 16.5 | 16.3 | 16.0 | 16.0 | 16.4 | 15.1 | 14.8 | 15.3 | 16.3 |
| Germany | 14.4 | 15.1 | 12.0 | 13.5 | 12.7 | 10.8 | 11.4 | 11.4 | 12.2 | 12.3 | 12.6 | 12.2 | 12.2 |
| France [1] | 18.9 | 20.2 | 20.4 | 18.0 | 17.3 | 15.9 | 14.5 | 14.0 | 13.2 | 11.5 | 12.1 | 12.2 | 12.9 |
| Italy [1] | 31.2 | 26.9 | 25.6 | 20.5 | 19.0 | 19.8 | 20.4 | 17.8 | 15.3 | 14.3 | 14.2 | 14.1 | 15.5 |
| United Kingdom [1] | 9.6 | 11.6 | 11.1 | 12.8 | 11.6 | 9.8 | 10.2 | 9.7 | 8.2 | 5.7 | 4.1 | 5.0 | 9.1 |
| Canada | 8.7 | 12.7 | 12.6 | 15.4 | 18.2 | 14.8 | 15.0 | 13.3 | 10.6 | 9.7 | 9.4 | 10.4 | 13.0 |
| Belgium | 17.4 | 16.5 | 16.6 | 16.2 | 13.6 | 14.7 | 13.4 | 11.1 | 13.1 | 11.9 | 13.3 | 14.1 | 13.8 |
| Greece | 20.3 | 19.0 | 20.4 | 21.6 | 19.7 | 18.8 | 20.6 | 21.4 | 17.6 | •16.8 | 20.3 | 21.0 | 19.8 |
| Netherlands | 7.6 | 3.9 | 2.5 | 2.3 | 4.7 | 2.0 | 1.9 | 2.0 | 2.8 | 2.1 | 2.4 | 3.8 | 2.5 |
| Sweden | 2.3 | 4.7 | 4.5 | 3.0 | 0.8 | 1.6 | 1.3 | 1.7 | 0.3 | −3.4 | −5.1 | −3.7 | 0.2 |
| Switzerland | 10.2 | 7.6 | 4.6 | 4.6 | 6.2 | 5.8 | 5.8 | 5.7 | 7.0 | 8.4 | 9.8 | 10.7 | 6.7 |
| Australia | 11.8 | 14.9 | 11.7 | 9.7 | 8.3 | 7.9 | 9.1 | 7.7 | 6.8 | 6.5 | 6.7 | 7.9 | 8.1 |

[1] The figures for France, Italy, and the United Kingdom are gross saving rates.

Source: Organization for Economic Co-Operation and Development, *OECD Economic Outlook*, 45, June 1989, and *OECD Economic Outlook*, 47, June 1990.

Generally, saving rates of all nations have declined from the rates of the late 1960s. In percentage terms, the decline in the national saving rate of the United States between 1967 and 1989 is greater than the decline of the saving rates of Japan and Germany, but comparable to the decline of the saving rates of France and Italy.

Although many people have pointed to the low saving rate in the United States as a cause of declining productivity, others argue that the United States has long been a relatively low-saving nation, and yet has enjoyed substantial economic growth. They note that many of the nations with higher saving rates were nations which needed to rebuild after the destruction of war on their own territory.

Furthermore, some argue that the low saving rate in the United States may be a product of demographics, and that the saving rate will increase as the baby boomers enter their forties and fifties, typically the years during which people do much of their retirement saving. However, others note that in the past, demographic changes have not been very successful at predicting saving rates.

In general, the decline in private saving rates is not well understood. It is likely that demographic changes, capital market liberalization, increased insurance availability, and increased social security benefits have all contributed to the decline. However, these factors have not proved significant enough to account for the total decline in the saving rate. Similarly, there is no convincing explanation for why saving rates have declined in other nations as well.

### *Wage growth and productivity*

People who are concerned about the low saving rate in the U.S. point to the relationship between saving, investment, and labor productivity. Figure 2, above, illustrates the relationship between saving and investment. Figure 4 illustrates the relationship between investment rates and productivity growth in manufacturing. Countries that had high investment rates during the period from 1960 to 1989 also experienced large increases in productivity (output per hour worked).

FIGURE 4

# Investment & Manufacturing Productivity
## Selected Countries, 1960-89
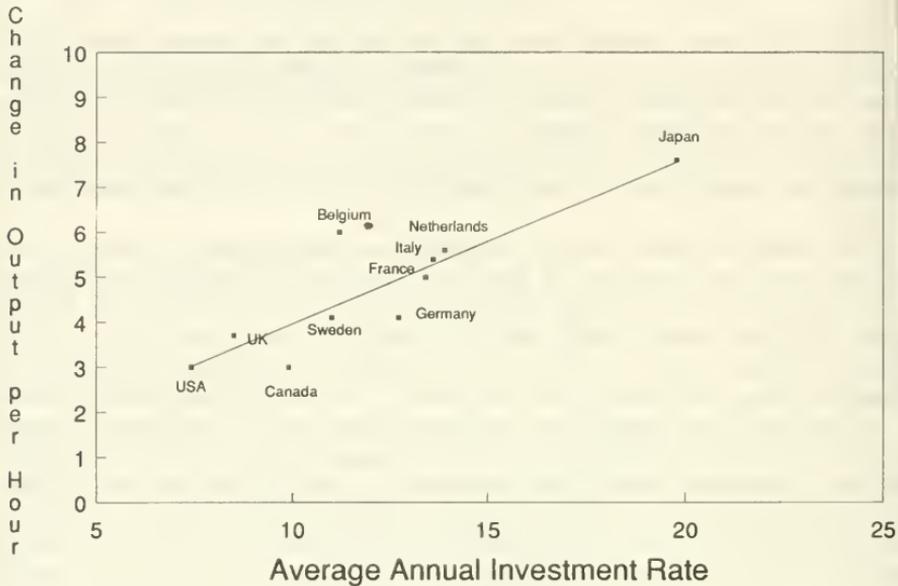


Source: data in Appendix II

## D. The Adequacy of Retirement Savings

### 1. Economic status of the elderly

#### Sources of retirement income

Table 13 presents a breakdown of the sources of income for individuals over age 65. As the table indicates, social security is the largest source of retirement income (38 percent in 1986), followed by income from assets (26 percent in 1986), earnings (17 percent in 1986), and private and government employee pensions (14 percent in 1986).

## Table 13.—Composition of Elderly's Income Over Time, Selected Years, 1976–1986

**Shares of Aggregate Income of Married Couples and Unmarried Persons Aged 65 and Older: Percentage Distribution of Income from All Sources**

[In percent]

| Source of income | 1976 | 1978 | 1980 | 1982 | 1984 | 1986 |
|---|---|---|---|---|---|---|
| Total percentage...................... | 100 | 100 | 100 | 100 | 100 | 100 |
| Percentage of income from retirement benefits ............. | 55 | 54 | 55 | 54 | 53 | 54 |
| Social security.................. | 39 | 38 | 39 | 39 | 38 | 38 |
| Railroad retirement........ | 1 | 1 | 1 | 1 | 1 | 1 |
| Government employees pensions......................... | 6 | 6 | 7 | 7 | 7 | 7 |
| Private pension annuities................................ | 7 | 7 | 7 | 6 | 6 | 7 |
| Earnings...................................... | 23 | 23 | 19 | 18 | 16 | 17 |
| Income from assets ................. | 18 | 19 | 22 | 25 | 28 | 26 |
| Public assistance ..................... | 2 | 2 | 1 | 1 | 1 | 1 |
| Other ........................................ | 2 | 2 | 3 | 2 | 2 | 2 |

Source: *EBRI Data Book on Employee Benefits, 1990;* p. 73.

Many researchers have attempted to measure whether people have adequate savings for retirement. A common measure of retirement savings adequacy is called the replacement rate, which is defined as the ratio of retirement income over income during the working years.

The issue of what replacement rate should be called adequate depends on a number of factors. A replacement rate of 100 percent means that the person's income during retirement is equal to their income during working years. There are a number of reasons that a replacement rate of 100 percent may not be optimal. First, people may desire to have more income during the working years because some of that income is saved for retirement. If people choose to have constant consumption over time, they save during their working years and dissave during retirement. Second, most elderly own their own homes (75 percent of households in 1987 [40] ), and most of these (83 percent in 1987 [41] ) have paid off their mortgages. Thus, most elderly receive housing without incurring any expenses beyond maintenance and utilities, whereas during their working years, they were likely to have been making mortgage payments. Third, few elderly households care for children, and therefore household expenses are likely to be lower. Fourth, the elderly are generally covered by Medicare, which provides insurance against large medical expenses and pays for most expenditures on health. Fifth, social security benefits, which represent the major source of

[40] *Statistical Abstract of The United States 1990*, Table 1277, page 722.
[41] *Statistical Abstract of The United States 1990*, Table 1278, page 722.

retirement income, are largely untaxed.[42] Thus, social security benefits can be smaller than income earned during the working years and still provide the same after-tax income. For the lowest income groups, this effect is not large since earned income is subject to the payroll tax, but probably not subject to the income tax.

These arguments suggest that the appropriate replacement rate for the elderly to have adequate retirement savings is less than 100 percent. However, there may be some factors which dictate that the replacement rate should be higher than 100 percent. First, although the elderly are covered by Medicare, they are also more likely to incur large medical expenses which may not be completely covered by medicare. Similarly, Medicare generally does not cover nursing home care or the costs of care in other long-term care facilities, and only those elderly poor enough to receive Medicaid or eligible through veterans' assistance are covered.

Table 14 presents actual replacement rates for social security and pension income for retired workers. These are calculated using two methods. The first method calculates the ratio of social security and pension benefits relative to a worker's highest career earnings.[43] The second method calculates benefits relative to the average earnings in the 5 years preceding retirement.[44] It seems likely that the career high earnings overstate average earnings, and earnings during the 5 years preceding retirement understate average earnings. Thus, these two replacement rates may be seen as upper and lower bounds of estimates of the replacement of average career earnings. These replacement rates measure the replacement of income through retirement benefits, and do not include any income earned during retirement or any income from savings.

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[42] Social security benefit recipients with modified AGI exceeding certain limits have to include up to 50 percent of their benefits in income. In 1990, 21% of all elderly included some portion of social security benefits in taxable income.

[43] Earnings are indexed by the rate of wage growth. Highest career earnings are defined as the average of the highest 5 years of earnings.

[44] This measure is calculated only for those individuals who worked a significant amount during the 5 years preceding retirement.

## Table 14.—Social Security and Pension Income as a Percentage of Individuals' Preretirement Income

[Post-retirement income replacement rates in percent]

| Category | All | Individuals in | | | |
|---|---|---|---|---|---|
| | | Lowest 25% | Second 25% | Third 25% | Highest 25% |
| *Men* | | | | | |
| Highest earnings:[1] | | | | | |
| Median social security rate.......... | 26 | 31 | 28 | 25 | 18 |
| Median total rate..... | 33 | 34 | 34 | 34 | 27 |
| Percent with employer pensions................. | 44 | 16 | 41 | 57 | 63 |
| Last earnings:[2] | | | | | |
| Median social security rate.......... | 38 | 67 | 42 | 34 | 25 |
| Median total rate..... | 50 | 72 | 50 | 45 | 40 |
| Percent with employer pensions................. | 44 | 22 | 43 | 60 | 66 |
| *Women* | | | | | |
| Highest earnings: | | | | | |
| Median social security rate.......... | 31 | 38 | 30 | 30 | 27 |
| Median total rate..... | 34 | 39 | 31 | 34 | 35 |
| Percent with employer pensions................. | 26 | 5 | 15 | 34 | 54 |
| Last earnings: | | | | | |
| Median social security rate.......... | 44 | 89 | 45 | 41 | 35 |
| Median total rate..... | 52 | 94 | 47 | 47 | 47 |
| Percent with employer pensions................. | 26 | 10 | 20 | 42 | 63 |

[1] Highest earnings are calculated as the average of the highest 5 years of earnings.

[2] Last earnings are calculated as the average of the last 5 years of earnings.

Source: Susan Grad, "Earnings replacement rates of new retired workers", *Social Security Bulletin,* Volume 53, Number 10, October 1990.

Because couples receive at least 150 percent of the social security benefits of the highest earner (for instance, if one spouse did not work, the couples receives an additional 50 percent of the earner's social security benefit), it may be more appropriate to look at replacement rates for couples. These are presented in Table 15.

## Table 15.—Social Security and Pension Income as a Percentage of Couples' Preretirement Income

[Post-retirement income; replacement rates in percent]

| | All couples | Couples in | | | |
|---|---|---|---|---|---|
| | | Lowest 25% | Second 25% | Third 25% | Highest 25% |
| *Men* | | | | | |
| Highest earnings: [1] | | | | | |
| Median social security rate.......... | 30 | 39 | 35 | 28 | 21 |
| Median total rate..... | 30 | 43 | 42 | 35 | 30 |
| Percent with employer pensions................ | 51 | 24 | 52 | 67 | 65 |
| Last earnings:[2] | | | | | |
| Median social security rate.......... | 49 | 77 | 55 | 46 | 33 |
| Median total rate..... | 60 | 86 | 64 | 55 | 48 |
| Percent with employer pensions................ | 51 | 30 | 53 | 60 | 71 |
| *Women* | | | | | |
| Highest earnings: | | | | | |
| Median social security rate.......... | 28 | 36 | 30 | 28 | 20 |
| Median total rate..... | 33 | 38 | 35 | 32 | 26 |
| Percent with employer pensions................ | 52 | 23 | 51 | 61 | 67 |
| Last earnings: | | | | | |
| Median social security rate.......... | 62 | 131 | 75 | 54 | 38 |
| Median total rate..... | 73 | 154 | 82 | 60 | 48 |
| Percent with employer pensions................ | 52 | 40 | 57 | 56 | 64 |

[1] Highest earnings are calculated as the average of the highest 5 years of earnings.

[2] Last earnings are calculated as the average of the last 5 years of earnings.

Source: Susan Grad, "Earnings replacement rates of new retired workers", *Social Security Bulletin,* Volume 53, Number 10, October 1990.

As the tables demonstrate, social security and pension benefits replace roughly 33 percent of the career high earnings and 50 percent of earnings over the last 5 years for individuals. When spousal benefits are taken into account, replacement rates are slightly higher, averaging 30 to 33 percent of highest earnings but 60 to 70 percent of last earnings.

Tables 14 and 15 also demonstrate that replacement rates are highest for the poor. For the lowest income quartile, individual replacement rates varied between 34 and 39 percent of highest earnings, and 72 to 94 percent of last earnings.

Finally, Table 16 demonstrates how social security benefits have increased over time. Social security benefits relative to the income of the elderly have increased substantially over the past forty years.

### Table 16.—Social Security Benefits Over Time,

### Selected Years, 1950–1985

| Year | Ratio of social security payments to per capita disposable income of the elderly (percent) |
| --- | --- |
| 1950 | 2 |
| 1955 | 5 |
| 1960 | 6 |
| 1965 | 27 |
| 1970 | 30 |
| 1975 | 37 |
| 1980 | 40 |
| 1985 | 40 |

Source: Summers and Carroll, "Why is U.S. National Saving So Low?", Brookings Papers on Economic Activity 2, The Brookings Institution, 1987.

### *Poverty*

Another method used to examine the economic status of the elderly is to compare their rates of poverty to those of the general population. These poverty rates are presented in Table 17. As the table demonstrates, poverty among the elderly has declined dramatically over the last 30 years, from over 35 percent in 1959 to 12 percent in 1988. By 1988, the poverty rate of the elderly was less than the poverty rate of the general population. The poverty rate of elderly persons living in families (with a spouse or children) was 6.2 percent, lower than for any other group. The major explanation for this decline in poverty is the increase in social security benefits and coverage described in Table 16 above.

## Table 17.—Poverty Rates by Age,

### Selected Years, 1959–1988

| Age group | 1959 | 1970 | 1980 | 1988 |
|---|---|---|---|---|
| All ages | 22.4 | 12.6 | 13.0 | 13.1 |
| Children under 18 | 26.9 | 15.0 | 17.9 | 19.4 |
| 18 to 54 | 16.5 | 8.7 | 10.5 | 10.7 |
| 55 to 64 | 21.5 | 11.4 | 9.5 | 10.1 |
| 65 or older | 35.2 | 24.6 | 15.7 | 12.0 |
| In families | 26.9 | 14.7 | 8.5 | 6.2 |
| Unrelated individuals | 61.9 | 47.1 | 30.6 | 24.1 |
| Men | 59.0 | 38.9 | 24.4 | 19.5 |
| Women | 63.3 | 49.7 | 32.3 | 25.5 |

Source: *Social Security Bulletin, Annual Statistical Supplement, 1990*, p. 123.

## 2. Expected retirement income and needs of current workers

The above discussion demonstrates that, as a group, the elderly are as well off as the rest of society, indicating that given social security and pension benefits, savings were adequate. However, to determine whether the savings of current workers are enough to provide adequate retirement income, it is necessary to examine how this group might differ from current retirees.

### *Social security and employer-provided pension plan coverage*

Because social security coverage of workers has increased over time, [45] and because the labor force participation of women has also been increasing, current workers are more likely to be covered by social security than current retirees. Similarly, pension coverage of current workers is also substantially larger than of current retirees. Table 18 compares estimates of the percentage of current workers who are projected to be covered by various income sources with the coverage of current retirees.

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[45] For a discussion of the legislative history of social security coverage, see Committee on Ways and Means, *Overview of Entitlement Programs* (WMCP 102–9), May 7, 1991, pp. 105–106.

### Table 18.—Projected Rates of Retirees Eligible for Pension Benefits

[In percent]

| Income source | Workers currently retiring [1] | Baby boom retirees [2] |
|---|---|---|
| Social security............................................. | 86 | 97 |
| Employer-sponsored pension......................... | 48 | 71 |
| Earnings...................................................... | 35 | 29 |
| Supplemental security income...................... | 10 | 3 |

[1] Aged 55 to 64 in 1979.
[2] Aged 25 to 34 in 1979.

Source: *EBRI Databook on Employer Benefits, 1990*, p. 75.

### *Personal saving*

Although coverage by pensions and social security is expected to be higher for current workers than it is for current retirees, the saving rate of current workers may be lower than the rate at which current retirees saved during their working lives. This would imply that although one source of retirement income, retirement benefits, is expected to be higher for current workers, another source, income from savings, may be lower.

The measure of personal saving used in the National Income and Product Accounts attributes all corporate pension contributions and earnings to the household sector. Thus, the increased pension coverage is already included in the measure of household saving. Table 9, above, shows that personal saving has been declining over the past 15 years. Private saving, which includes the saving of business, and which may provide a better measure of total households saving since businesses are ultimately owned by households, exhibits the same downward trend. Thus, the saving of the current generation of workers for their retirement seems to be low relative to the past.

### 3. Increased retirement costs

Finally, it is possible that the need for retirement income is increasing over time. Increases in life expectancies and trends toward earlier retirement increase the number of years in retirement and therefore, increase the need for saving. Furthermore, the normal retirement age for social security was changed in 1983. In 1991, the normal retirement for social security (the age at which retirees receive full benefits) is 65. By 2010, normal retirement will be 67 years. If the increase in the normal retirement age means that individuals will be working more years, then current saving need not adjust. However, if the historical trend toward earlier retirement continues, then the increase in normal retirement age for receipt of full social security benefits means that individuals should increase their retirement saving.

Similarly, increased life expectancies and rapid medical cost inflation increase the probability of large medical expenses. Table 19 shows that out-of-pocket medical expenditures for the elderly have been steadily increasing over the last 11 years. Also, many people have noted that the probability of an individual requiring long-term care some time in their lifetime has been increasing.

### Table 19.—Out-of-Pocket Health Expenditures of the Elderly

|  | 1977 | 1984 | 1988 |
|---|---|---|---|
| Per capita expenditures (current dollars)... | $522 | $1,059 | $1,697 |
| Per capita expenditures (1988 dollars) ........ | $1,019 | $1,206 | $1,697 |
| Percentage of total health care expenditures that are out-of-pocket ....................... | 29.4 | 25.2 | 29.3 |

Source: *EBRI Databook on Employee Benefits, 1990,* pp. 164–165.

# APPENDIX I:

## Comparison of S. 612 To Other Tax Incentives For Saving

### *Qualified plans*

Many employers contribute to tax-favored qualified retirement pension plans to help their employees save for retirement. Under certain circumstances, benefits accrued under a qualified retirement plan may be borrowed or withdrawn to pay education expenses, purchase homes, or be used for other nonretirement purposes. By design, the after-tax return from investment in a qualified plan is generally the same as the after-tax return to investment in an IRA. In general terms, both a qualified plan and a deductible IRA exempt the current investment from current income, but tax the principal and earnings upon withdrawal.

There are several differences between IRAs, as proposed in S. 612, and qualified plans that may affect taxpayers' preference of saving via an IRA or qualified plan. Contributions to qualified plans generally are exempt from social security (FICA) taxes,[46] whereas investments in an IRA, to the extent they are made with wage or salary income, generally are subject to the payroll tax. However, because payroll tax payments may be seen by the taxpayer as providing for a future benefit, it is unclear whether this disparate treatment favors investment via a qualified plan over investment via an IRA. The extent to which the taxpayer may make tax-favored saving is subject to annual limitations under both the IRA and a qualified plan. Generally, the annual contribution limitation under the qualified plan is greater than the annual contribution limitation under the IRA. As an entirely self-directed saving plan, the IRA may offer the taxpayer more flexibility in the choice of his investments. On the other hand, many employers effectively increase the employee's return to saving via a qualified plan (e.g., sec. 401(k) plans) by matching all or a portion of the employee's contribution. Employer matching would give the taxpayer a strong economic incentive to save via a qualified plan before saving via an IRA. Certain qualified plans, for example defined benefit plans, may be perceived as offering the taxpayer protection against some of the risk of the market place, which a self-directed IRA may not offer. The provisions of S. 612 providing for penalty-free early withdrawals from IRAs may make the IRA relatively more attractive than qualified plans which have more restrictive withdrawal provisions. For example, under the special option of S. 612, the taxpayer may withdraw his or her funds for any purpose after satisfying a 5-year holding period requirement.

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[46] This is not true in the case of contributions to a qualified cash or deferred arrangement (sec. 401(k) plan), which are subject to social security taxes.

## Tax-exempt bonds

The interest on qualified bonds issued by State and local governments is exempt from Federal income taxation. However, because the demand for these bonds is large relative to the quantity of these bonds, most of the benefits of municipal bonds accrue to the issuers who pay interest rates below those offered on taxable securities. Because IRAs permit taxpayers to earn taxable yields on a tax-exempt basis, some have suggested that the expansion of present-law deductible IRAs and the creation of special IRAs would reduce demand for qualifying tax-exempt State and local bonds, thereby increasing issuers' interest costs. In addition, as noted above, one would expect that taxpayers receiving social security benefits might prefer investment in a special IRA to municipal bonds because interest on tax-exempt securities is includible in modified AGI when determining whether the taxpayer's social security benefits are taxable, while the earning on the IRA may not be. However, the annual contribution limit applicable to the IRA may be small relative to the average purchase of tax-exempt bonds.

## U.S. Series EE savings bonds

The interest on U.S. Series EE savings bonds currently is taxed on a deferred basis. An IRA effectively exempts interest from tax. A taxpayer would find it more profitable to invest in otherwise fully taxable instruments, such as other U.S. Treasury securities, and place those securities in an IRA. Such a strategy would not diminish the market for Treasury securities as a whole, although it might diminish the demand for Series EE bonds. In addition, to the extent that the annual IRA contribution limit constrains the taxpayer, Series EE bonds would offer further opportunities for tax-preferred saving.

If a taxpayer uses the proceeds from qualifying Series EE savings bonds to pay qualifying post-secondary education expenses, the interest is exempt from tax. This is comparable to treatment of an investment in an IRA which is withdrawn to pay for education expenses. Unlike the Series EE savings bonds, withdrawals for education expenses, or any other withdrawal, are subject to income limitations. This feature would make the IRA a more attractive investment. On the other hand, the annual purchase of Series EE savings bonds to be used for education expenses is not limited, as is the proposed IRA. This feature would make the Series EE savings bond a more attractive investment.

## Life insurance and annuity contracts

While one of the reasons individuals purchase life insurance is the insurance protection, it can also be a savings vehicle. Income earned on a life insurance contract accrues annually ("inside buildup"). Similarly, the earnings on an annuity contract accrue annually. The income which has accrued to such policies is subject to taxation on a tax-deferred basis. Consequently, the policy could be redeemed to meet a saving goal. Alternatively, a loan against the cash surrender value of a life insurance contract can be used as a method of tax-favored saving, generally without current income taxation of the inside buildup. By providing exemption from, rather

han deferral of, tax, investment in an IRA which provides for pre-retirement withdrawals generally would be more profitable than the purchase of life insurance as a saving vehicle. However, the annual contribution limitation may mean that the expansion of IRAs would have only a small effect on the purchase of life insurance as a saving vehicle. (Life insurance cannot be purchased through an IRA.)

### Taxation of capital gains upon realization

Under present law, capital gains on assets held by the taxpayer are taxed upon realization rather than accrual. This offers the taxpayer the benefit of tax deferral. If such assets are held until death, the basis of the asset is stepped-up in the hands of the heir, and the gain is exempt from tax. The IRA offers exemption during the lifetime of the taxpayer, which is more valuable than deferral. However, if capital assets are held until death, they are also exempt from tax. Furthermore, the purchase of assets which may accrue gains is not subject to an annual limitation, and the assets may be held by the heir indefinitely, whereas funds in an IRA must generally be distributed within a certain period after the death of the taxpayer.

### Asset shifting to minor children

Parents can shift assets to children and receive the benefit of the children's lower marginal tax rates if the children are over 13 years old. For children younger than 14, the first $500 of income from investments generally is exempt from tax. To the extent that parents shift assets to minor children only to the extent that the children's tax rate is zero, asset shifting and investment in an IRA are economically comparable. Both offer the same net return. In addition, like the IRA contributions, asset shifting to children is effectively capped. An effective contribution limit exists to the extent that at some point the income from shifted assets is taxable to the child, if over age 13, or to the parent, if under 14. At the point at which income from shifted assets is taxable to the child or the parent, the IRA offers greater after-tax returns.

### Home ownership

The returns to investment in owner-occupied housing receive preferential tax treatment. The implicit rental income is exempt from tax. The gain from any appreciated value may be deferred upon realization if another home is purchased, or $125,000 of gain may be excluded by certain taxpayers age 55 or older, or if held until death the gain is untaxed as the property's basis is stepped-up upon bequest. Consequently, saving by building equity in owner occupied housing is a tax-preferred saving vehicle. Unlike an IRA, some of the return to saving via homeownership may be subject to tax. However, there is no annual limit to the amount of equity the taxpayer may contribute to his or her housing investment, although in order to receive the favorable tax treatment, the taxpayer must take the return from the investment in the form of housing.

# APPENDIX II: ECONOMIC DATA

**Appendix Table 1.—Gross and Net Business Saving in Billions of Dollars and Total Gross and Net Saving as a Percentage of GNP, Selected Years, 1929–90**

| Year | Gross business saving (billions) | Capital consumption allowance (billions) | Net business saving (billions) | Gross national savings as percent of GNP | Net national saving as percent of GNP |
|------|------|------|------|------|------|
| 1929 | $12.3 | $9.9 | $2.4 | 15.3 | 5.8 |
| 1939 | 9.3 | 9.0 | .3 | 9.7 | −.1 |
| 1949 | 32.5 | 22.0 | 10.5 | 14.0 | 5.6 |
| 1954 | 42.3 | 32.5 | 9.8 | 13.9 | 5.1 |
| 1959 | 60.3 | 44.6 | 15.7 | 16.2 | 7.2 |
| 1964 | 79.3 | 53.9 | 25.4 | 16.7 | 8.4 |
| 1969 | 106.7 | 81.4 | 25.3 | 16.5 | 8.0 |
| 1974 | 157.6 | 137.5 | 20.1 | 16.8 | 7.6 |
| 1975 | 198.9 | 161.8 | 37.1 | 14.9 | 4.8 |
| 1976 | 225.6 | 179.2 | 46.4 | 15.9 | 5.8 |
| 1977 | 263.8 | 201.5 | 62.3 | 16.9 | 6.7 |
| 1978 | 298.9 | 229.9 | 69.0 | 18.2 | 7.9 |
| 1979 | 327.7 | 265.8 | 61.9 | 18.3 | 7.6 |
| 1980 | 341.5 | 303.8 | 37.7 | 16.3 | 5.1 |
| 1981 | 391.1 | 347.8 | 43.3 | 17.1 | 5.7 |
| 1982 | 403.2 | 383.2 | 20.0 | 14.1 | 2.0 |
| 1983 | 461.6 | 396.6 | 65.0 | 13.6 | 2.0 |
| 1984 | 509.5 | 415.5 | 94.0 | 15.1 | 4.1 |
| 1985 | 539.9 | 437.2 | 102.7 | 13.3 | 2.4 |
| 1986 | 544.6 | 460.1 | 84.5 | 12.4 | 1.5 |
| 1987 | 570.2 | 487.0 | 83.2 | 12.3 | 1.5 |
| 1988 | 605.7 | 514.3 | 91.4 | 13.5 | 2.9 |
| 1989 | 607.5 | 554.4 | 53.1 | 13.3 | 2.6 |
| 1990 | 604.8 | 575.7 | 29.1 | 12.0 | 1.5 |

Source: Department of Commerce, Bureau of Economic Analysis.

## Appendix Table 2.—Savings as a Percentage of GDP, Decadal Averages, 1960s–1980s

| Country | 1960s | 1970s | 1980s | Average 1960–89 Appied |
|---|---|---|---|---|
| United States .................... | 9.8 | 8.2 | 3.6 | 7.2 |
| Japan................................. | 21.9 | 22.3 | 17.8 | 20.7 |
| Germany ........................... | 18.0 | 13.6 | 10.2 | 14.0 |
| France ............................... | 17.7 | 15.4 | 7.8 | 13.6 |
| United Kingdom.............. | 10.0 | 7.5 | 4.8 | 7.4 |
| Italy .................................. | 17.8 | 14.4 | 9.6 | 13.9 |
| Canada ............................. | 9.8 | 11.4 | 8.4 | 9.9 |
| Belgium............................. | 12.8 | 13.8 | 7.2 | 11.3 |
| Greece............................... | 14.4 | 19.7 | 8.8 | 14.3 |
| Netherlands...................... | 18.3 | 15.8 | 11.8 | 15.3 |
| Sweden ............................. | 13.8 | 10.7 | 5.4 | 10.0 |
| Switzerland....................... | 19.3 | 18.4 | 19.6 | 19.1 |
| Australia........................... | 11.7 | 9.8 | 4.1 | 8.5 |

Source: OECD, *National Accounts, 1960–89,* 1991.

## Appendix Table 3.—Investment as Percentage of GDP, Decadal Averages, 1960s–1980s

| Country | 1960s | 1970s | 1980s | Average 1960–89 |
|---|---|---|---|---|
| United States .................... | 9.0 | 7.9 | 5.2 | 7.4 |
| Japan................................. | 22.1 | 21.5 | 15.8 | 19.8 |
| Germany ........................... | 17.2 | 12.7 | 8.3 | 12.7 |
| France ............................... | 16.7 | 15.2 | 8.2 | 13.4 |
| United Kingdom.............. | 10.5 | 9.4 | 5.6 | 8.5 |
| Italy .................................. | 16.0 | 14.2 | 10.5 | 13.6 |
| Canada ............................. | 12.1 | 13.0 | 9.9 | 9.9 |
| Belgium............................. | 12.5 | 13.2 | 7.9 | 11.2 |
| Greece............................... | 17.5 | 22.0 | 12.5 | 17.3 |
| Netherlands...................... | 18.0 | 14.6 | 9.2 | 13.9 |
| Sweden ............................. | 14.5 | 11.4 | 7.0 | 11.0 |
| Switzerland....................... | 19.5 | 14.1 | 15.7 | 16.4 |
| Australia........................... | 14.2 | 11.2 | 9.4 | 11.6 |

Source: OECD, *National Accounts, 1960–89,* 1991.

## Appendix Table 4.—Output Per Hour in Manufacturing in Selected Countries, Decadal Averages, 1960s–1980s

[Average annual percentage rates of change]

| Country | 1960s | 1970s | 1980s | Average 1960–89 |
|---|---|---|---|---|
| United States | 3.1 | 2.4 | 3.6 | 3.0 |
| Japan | 10.7 | 7.2 | 5.5 | 7.6 |
| Germany | 6.2 | 4.5 | 1.8 | 4.1 |
| France | 6.8 | 5.0 | 3.4 | 5.0 |
| United Kingdom | 3.9 | 2.7 | 4.7 | 3.7 |
| Italy | 6.6 | 6.0 | 4.0 | 5.4 |
| Canada | 4.7 | 3.0 | 1.5 | 3.0 |
| Belgium | 5.8 | 7.4 | 4.9 | 6.0 |
| Greece | NA | NA | NA | NA |
| Netherlands | 6.8 | 6.9 | 3.4 | 5.6 |
| Sweden | 7.0 | 3.7 | 2.2 | 4.1 |
| Switzerland | NA | NA | NA | NA |
| Australia | NA | NA | NA | NA |

NA—not available.

Source: U.S. Department of Labor, Bureau of Labor Statistics, Office of Productivity and Technology, "Output per Hour, Hourly Compensation, and Unit Labor Costs in Manufacturing, Fourteen Countries or Areas, 1960–1989," April 1991.

# Appendix Table 5.—Net Foreign Investment by Foreigners in the United States, Selected Years, 1929–1990

| Year | Billions [1] (dollars) | Percentage of GNP | Percentage of gross private domestic investment |
|---|---|---|---|
| 1929 | −.8 | −.8 | −4.8 |
| 1939 | −.1 | −.1 | −1.1 |
| 1949 | −.9 | −.3 | −2.5 |
| 1954 | −.2 | −.1 | −.4 |
| 1959 | 1.2 | .2 | 1.5 |
| 1964 | −7.5 | −1.2 | −7.5 |
| 1969 | −1.7 | −.2 | −1.1 |
| 1970 | −4.8 | −.5 | −3.2 |
| 1971 | −1.3 | −.1 | −.8 |
| 1972 | 2.9 | .2 | 1.4 |
| 1973 | −8.8 | −.6 | −3.7 |
| 1974 | −5.4 | −.4 | −2.2 |
| 1975 | −21.6 | −1.4 | −9.8 |
| 1976 | −9.0 | −.5 | −3.2 |
| 1977 | 8.7 | .4 | 2.5 |
| 1978 | 10.1 | .4 | 2.4 |
| 1979 | −2.6 | −.1 | −.6 |
| 1980 | −13.0 | −.5 | −3.0 |
| 1981 | −10.6 | −.3 | −2.1 |
| 1982 | 1.0 | .0 | .2 |
| 1983 | 33.5 | 1.1 | 6.7 |
| 1984 | 90.9 | 2.4 | 13.7 |
| 1985 | 114.4 | 2.8 | 17.8 |
| 1986 | 135.8 | 3.2 | 20.6 |
| 1987 | 154.6 | 3.4 | 22.1 |
| 1988 | 119.2 | 2.4 | 16.0 |
| 1989 | 96.8 | 1.9 | 12.6 |
| 1990 [2] | 90.1 | 1.6 | 12.1 |

[1] A negative entry indicates net investment by Americans overseas; a positive entry indicates net investment by foreign persons in the U.S.
[2] Estimate.

Source: Department of Commerce, Bureau of Economic Analysis.

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