

TAX POLICY AND CAPITAL FORMATION

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INTRODUCTION

This report is a summary of material presented by the staff of the Joint Committee on Taxation to the Task Force on Capital Formation of the House Committee on Ways and Means. The Task Force, which met weekly between February and September 1976, believed that this material should be made available to the general public. In some cases, the staff has refined the data originally presented to the Task Force and added new material.

The report discusses in sections I and II the need for greater capital accumulation and the economic forces that determine a market economy's level of investment. Section III analyzes the impact of various tax policies that have been suggested to increase investment. These include integrating the corporate and individual income taxes, increasing the investment tax credit, increasing depreciation deductions, reducing corporate tax rates, indexing the tax system for inflation and permitting more liberal deduction of net operating losses. Section IV analyzes the distributional effects of these alternative tax measures to stimulate investment. Section V discusses ways to provide more saving. Section VI considers the overall Federal budget picture to see whether budget surpluses are likely to provide additional saving once the economy returns to high employment and whether the budget is likely to contain room for permanent tax cuts. Section VII examines the historical mix of Federal revenues and compares the U.S. pattern with that of other countries. Section VIII considers the relation between capital accumulation and fiscal and monetary policies. Section IX considers capital accumulation and economic growth in various foreign countries. The appendix summarizes various studies of the effectiveness of investment incentives.

I. NEED FOR CAPITAL ACCUMULATION

1. Economists have long recognized the critical importance of capital accumulation as a source of economic growth. When a society accumulates capital, it foregoes current consumption in order to provide a higher standard of living in the future—through construction of plant, equipment and housing, accumulation of inventories, discovery and development of mineral deposits, research and development of new products and processes, and improvements in the skills and health of workers. In order to provide the improvement in our standard of living that Americans expect, it will be necessary to devote at least as large a share of our national output to capital accumulation as we have done in the past.¹

2. There are several reasons to be concerned about whether the United States will have an adequate amount of capital accumulation. First, there are several national goals whose fulfillment would require high levels of investment. These goals include the housing goals of the 1968 Housing Act, the environmental standards established in the Clean Water and Clean Air Acts, the goal of energy independence, the occupational health and safety standards for business, and the rebuilding of many parts of our large cities.²

3. Second, in the past decade there has been a significant increase in the rate of growth of the labor force—the people who either have jobs or are looking for them. Between 1966 and 1976, the labor force grew by 19 million workers, compared to an increase of 9 million between 1956 and 1966. This growth in the labor force has not been matched by a corresponding increase in the rate of growth of the amount of plant and equipment; therefore, the growth rate of the amount of plant and equipment available for each employee has declined significantly. This has reduced the growth of labor productivity—the amount produced per hour worked—and the decline in the growth rate of productivity has reduced the growth rate of real wages.³

4. A recent study by the Congressional Budget Office measures these disturbing trends in investment and productivity.⁴ It notes that the growth rate in the amount of private plant and equipment (excluding pollution control investments) declined from 4.3 percent per year in the period 1965–70 to 3.3 percent per year in 1970–75 and can be expected to decline further to 2.5 percent per year in the period 1975–77.

¹ In recent years gross investment in plant, equipment, housing and inventories has been approximately one-sixth of gross national product. (Only for these types of capital accumulation are data readily available.) About one-half of this gross investment has been needed to offset depreciation of the existing stock of capital, so that net capital accumulation in these areas has been about one-twelfth of GNP.

² A useful study of the capital requirements implied by these social goals is Bosworth, Duesenberry and Carron, *Capital Needs in the Seventies*, Brookings, 1975.

³ Real wages measure wages relative to consumer prices.

⁴ Congressional Budget Office, *Sustaining a Balanced Expansion*, August 3, 1976.

The growth rate in the amount of such plant and equipment per worker fell from 2.6 percent in 1965-70 to 1.6 percent in 1970-75 and is expected to decline further to only 1.0 percent in 1975-77.

5. According to the CBO study, the growth rate in worker productivity fell from 2.4 percent in 1965-70 to 1.0 percent in 1970-75. To some extent this resulted from unusually low productivity in the recession year of 1975, but inadequate investment in plant and equipment was also a major factor. The estimated contribution of increased plant and equipment to the increase in labor productivity fell from 0.9 percent per year in 1965-70 to 0.4 percent per year in 1970-75 and is estimated to be only 0.2 percent per year in 1975-77.

6. Without major structural changes in the economy, the growth rate of real wages over the long run is determined primarily by the growth rate of productivity. The recent slowdown in the growth rate of the amount of plant and equipment per worker and the resultant slowdown in the growth rate of labor productivity, therefore, have contributed to the extremely sluggish growth in real wages in recent years. (Since 1969, real hourly wages in private nonfarm employment have grown by only 5.2 percent, less than 1 percent per year.) To the extent that workers have responded to what they perceive to be an inadequate growth in real wages by demanding higher money wage rates, the rate of inflation has increased. More capital accumulation would raise real wage rates and could also reduce the rate of inflation.

7. A third reason why it is desirable to increase investment is to forestall a repetition of the shortages which occurred in certain capital-intensive industries in 1973 and 1974 and which contributed to the high rate of inflation in those years. The affected industries included chemicals, steel and paper, along with other industries producing materials used as inputs by other industries. A high rate of investment in the next few years will help prevent the recurrence of this problem.

8. Fourth, one dollar of additional investment in plant and equipment will increase gross national product by about 10 cents per year over and above what is needed to replace the assets as they wear out. To most Americans, this opportunity to increase future consumption by foregoing current consumption is attractive, which implies that more investment is desirable.

9. Thus, several important widely held social goals would be served by increased capital accumulation.⁵

10. Policies of the Federal Government have a significant impact on capital accumulation. Through its monetary policies, the Federal Reserve System exercises a powerful influence on interest rates. Tax policies help determine the after-tax return that can be expected from investments, which influences the aggregate rate of investment and also its composition. Budget policies affect the level of national saving in periods of high employment by either supplying or draining funds from the money markets. With these tools, there is no reason why the United States cannot have sufficient investment for an adequate rate of economic growth.

⁵ A bill introduced by Congressman Rostenkowski and cosponsored by Congressman Conable, H.R. 5359, asserts a national policy toward capital accumulation, similar to the policy toward full employment in the Employment Act of 1946. Other bills have contained many specific tax changes designed to achieve such goals.

II. ECONOMIC FORCES DETERMINING THE LEVEL OF INVESTMENT

Definitions of saving, investment and capital

1. When analyzing the determinants of a market economy's rate of capital accumulation, it is useful to distinguish between the processes of investment and saving. Often, these are done by different persons for unrelated reasons and are affected differently by tax policy. The term "investment," as used here, refers to such activities as the purchase of new plant and equipment by a business or of a new home by a family or to the accumulation of inventories. Investment also includes such things as spending for research and development, intangible drilling costs for oil and gas wells or expenditures on health or education. The term "saving" generally refers to refraining from consuming all of one's income. This may be done by individuals (in which case it is termed "personal saving"), by corporations (retained earnings), or by the government when it runs a budget surplus. When our imports of goods and services exceed exports, the effect is the same in many ways as an increase in savings by U.S. persons.

2. The term "capital" is frequently used to mean two entirely different things. One use of "capital" refers to such things as plant, equipment, housing and inventories; that is, physical capital. Physical capital can be either tangible items like plant and equipment or intangible items like drilling costs or research and development. Another use of the term "capital" refers to a source of funds, usually to a particular business (but sometimes to the whole economy); that is, financial capital. Under this second usage, "debt capital" would be funds raised by borrowing and "equity capital" would be funds raised by offering stock or retaining earnings. Clearly, what is important to stimulate economic growth and to serve other social and economic purposes is not the accumulation of financial capital *per se* but rather the accumulation of physical capital. Of course, there is a relationship between financial and physical capital, since financial capital represents a source of funds for the purchase of physical capital. However, because it is physical capital which actually increases future production, physical capital is the subject of this report; and to avoid terminological confusion, the term "capital" will be used only in the sense of physical capital.

Interaction of saving and investment

1. When an economy is operating well below its capacity, all that is generally needed to achieve more capital accumulation is for there to be an increase in the willingness of businesses or individuals to invest—to purchase new plant, equipment, housing, inventories and other items. Such investment stimulates the economy and creates new jobs and income; and the additional saving out of this additional income will be sufficient to finance the additional investment. This

process by which investment spending in an underemployed economy generates growth in income, and hence in saving, through the multiplier effect is the basic feature of Keynesian economies.⁶

2. When an economy is operating at a high level of employment, however, an increase in the willingness to invest without a corresponding increase in the willingness to save will lead to inflation and higher interest rates and will result in little additional investment. At full employment, there can be no further economic expansion to generate additional saving to finance the investment, and at such times, an increase in investment must be accompanied by a corresponding increase in the willingness to save.

3. Thus, policy to stimulate capital accumulation should be different at the different stages of the business cycle. During slack periods, it is only necessary to increase the willingness to invest, through such changes as the increase in the investment tax credit enacted in 1975 or easier monetary policy. Indeed, in these periods increased saving would be counterproductive because it would depress the economy even further. During boom periods, however, there is the additional requirement that there be a corresponding increase in the willingness to save.

Determinants of investment

1. In the United States, most investment is undertaken by private businesses and individuals, although public investment can also significantly affect the rate of growth. (In socialist countries, the government performs most investment.) One useful theory of how businesses decide how much to invest assumes that businesses will only purchase capital goods if they lead to a combination of increased revenues, reduced costs, and tax advantages whose net value, when expressed as a yearly percentage of the cost of the capital goods, exceeds the cost of the funds raised to finance the investment. Higher interest rates raise the cost of funds and, therefore, reduce the willingness of businesses to invest because, at the higher cost of funds, fewer investments will be profitable enough to be undertaken. More favorable tax treatment of the income from capital raises the after-tax return to be expected from purchasing capital goods and, assuming no change in the cost of funds, thereby stimulates investment.

2. There has been considerable empirical research in recent years on the responsiveness of various kinds of investment to tax incentives. The appendix surveys some of this literature. While there is still disagreement, the consensus of opinion is that investment in plant and equipment is responsive to such tax incentives as the investment credit and rapid depreciation, although with a lag of from one to four years. The lag results from the time it takes businesses to plan investment projects and to implement those plans.

3. Federal Government policies, according to the theory outlined above, can encourage investment by reducing interest rates through easier monetary policy or by reducing the tax burden on the income from capital.

⁶ There will not always be quite enough induced additional saving to finance all of the additional investment. This is because the expansion of the economy will increase the demand for money. Unless monetary policy is sufficiently accommodative, this will raise interest rates, thereby choking off some of the additional investment.

4. There are other ways to influence investment. The willingness of businesses to invest is likely to be higher when existing capacity is fully utilized than when there is idle capacity. Also, the state of business confidence, which is affected by such phenomena as inflation or fear of price controls, will influence expectations of the productivity of capital and, therefore, the willingness to invest.

Determinants of savings

1. At high levels of employment, increased capital accumulation requires not only an increased willingness to invest but also an increased willingness to save. There are three principal sources of saving in the United States: personal saving, retained corporate earnings and government budget surpluses (government saving). Also, when U.S. imports exceed exports, the effect is similar to an increase in U.S. saving. There is some uncertainty about the precise determinants of private savings; but the government can influence the overall level of saving by its budget policy.

2. The way in which tax policy might influence personal saving is by raising the after-tax rate of return received by savers. If raising the after-tax rate of return increases personal saving, then tax incentives can have a significant impact. The consensus view among economists, however, is that personal saving is not very responsive to changes in the after-tax rate of return, in which case tax incentives that try to stimulate personal saving are probably ineffective in influencing the overall willingness to save, although they may affect purchases of particular assets. A person's personal saving appears to depend on such things as his income, how fast and in what direction income is changing, his wealth, the availability of consumer credit and his confidence that a loan can be repaid, and the extent to which he is covered by social insurance programs.

3. Thus, the surest way to increase total saving through tax policies is to increase the Federal budget surplus (or reduce the deficit) in periods of high employment. (The deficit is not an important determinant of the amount of capital accumulation in periods of high unemployment, because at such times the amount of investment is not constrained by the amount of saving.)

III. TAX MEASURES TO INCREASE INVESTMENT DEMAND

A necessary step in increasing the rate of capital accumulation is to make the private sector of the economy more willing to invest in plant, equipment and other types of capital. Several tax changes have been suggested to accomplish this goal: integration of the individual and corporate income taxes, the investment tax credit, larger depreciation deductions, a cut in the corporate tax rate, indexing the tax system for inflation, and more liberal deduction of losses. These six alternatives are discussed below.

A. Integration of Corporate and Individual Income Taxes

Existing law

1. Under existing law, corporate income is taxed differently than other sources of income. That part of corporate earnings which is paid out to individual shareholders as dividends has been taxed first under the corporate income tax and then is taxed under the individual income tax. Earnings which are retained by the corporation, however, are taxed once at the corporate level, and not at all at the shareholder level except to the extent that they raise the value of the stock and result in recognized capital gains. Thus, there is double taxation of corporate income paid out as dividends, and the tax burden on retained earnings is much different than would be true if the tax rate were equal to the shareholder's individual tax bracket.

2. An exception to these general rules exists for so-called "subchapter S" corporations. If a corporation has fifteen or fewer shareholders and meets certain other requirements, it may elect to be treated generally as a partnership, so that there is no corporate income tax and retained earnings are subject to the individual income tax. This represents total integration of the corporate and individual income taxes.

3. Business income earned by partnerships and sole proprietorships is taxed at the individual income tax rates applicable to the owners of the business.

Problems with the existing system of taxing corporate income

1. *Cost of capital.*—The double tax on dividends significantly increases the cost of funds for corporate investment financed by new issues of stock. As a result, the before-tax rate of return on such investment projects must be higher for them to be profitable, and corporations, therefore, undertake fewer investments than they otherwise would.

2. *Allocation of capital between corporate and noncorporate business.*—Because the double taxation of dividends raises the cost of funds to corporate business relative to noncorporate business, it leads to

an inefficient allocation of capital. Corporate investments need to be more profitable than noncorporate investments if they are to yield a sufficiently large after-tax return to make it worthwhile for a business to undertake them. From the standpoint of economic efficiency, there is too little capital in the corporate sector.

On the other hand, in some cases capital is invested in corporate business because the corporate tax rate is lower than the shareholder's individual tax rate, especially in the case of corporations whose income is less than the corporate surtax exemption. In such situations, the second tax on retained earnings (either when they are subsequently paid out as dividends or lead to recognized capital gains) is sufficiently unimportant that the business is carried on in corporate form even though nontax considerations might otherwise have caused the business to be carried on in noncorporate form.

3. *Corporate financial structures.*—There is now a strong tax incentive for corporations to use certain sources of funds and to avoid others. Retained earnings are the cheapest source of funds, because they are exempt from the individual income tax until realized as a capital gain. Current law also encourages the use of debt finance relative to new stock issues, since interest payments are deductible and dividends are not. More debt increases the risk associated with corporate financial structures because firms must meet higher fixed charges for interest and face greater risk of bankruptcy. This causes corporations to undertake too few risky investment projects. By encouraging the use of retained earnings as a source of equity financing rather than new issues of stock, the double taxation of dividends also biases the allocation of capital in favor of those firms that are already earning income and against new businesses. The tax incentive for earnings retention may be a major cause of corporate mergers and takeovers.

4. *Tax equity.*—A basic principle of tax equity is that a person's tax burden should not depend on the source of his income. The existing method of taxing corporate income violates this principle in two ways. First, dividends in excess of the \$100 dividend exclusion (\$200 for joint returns) are taxed twice. Second, retained earnings are taxed proportionately at corporate tax rates, which because of various deductions, exclusions, preferential tax rates and credits effectively average below 30 percent on income earned within the U.S., rather than at progressive individual tax rates, which range from 14 to 70 percent. While there is a tax on any capital gains that result from retained earnings, this burden is usually relatively modest because only a fraction of accrued capital gains are realized each year and because of the 50-percent exclusion for realized long-term capital gains. Thus, for many individual shareholders, present law imposes a lighter overall tax burden on retained earnings than would taxing them currently under the individual income tax.

Alternative proposals for corporate integration

There are many possible ways to integrate the individual and corporate income taxes. Some of these involve sizable losses of revenue, but it is possible to integrate in ways that increase revenue.

Corporate integration would be a major legislative undertaking. In effect, it would rewrite the corporate income tax. What follows are three possible ways to achieve corporate integration. Many variations on these basic proposals are possible.

Integration for dividends—withholding approach

1. Integrating the corporate and individual income taxes just for dividends involves eliminating the double taxation of dividends but keeping the existing treatment of retained earnings. This can be done through the "withholding approach," under which the corporate tax allocable to dividends would be transformed into a withholding tax similar to the withholding tax on wage and salary income. An alternative approach would be to allow corporations to deduct their dividends in computing their taxable income under the corporate income tax.

2. Under the withholding approach, corporations would have an incentive to raise a larger percentage of their funds from new issues of stock and a smaller percentage from debt and retained earnings than under existing law. Because the tax burden on corporate investments would be lower, more potential investment projects would have an after-tax profitability sufficiently high for them to be undertaken, which should increase corporate investment.

3. Instead of including in their taxable income their dividends received in excess of the \$100 dividend exclusion, shareholders would include in taxable income the before-tax income of the corporation attributable to dividends (that is, the dividends "grossed up" by the corporate tax attributable to the dividends). Shareholders would then claim a tax credit for the amount of the corporate tax attributable to the dividend. This credit could exceed the shareholder's tax liability, and in that sense would be treated the same as overwithholding on wages and salaries. Corporations would report to each shareholder the amount of his grossed-up dividend and his tax credit.

4. *Treatment of corporate tax preferences.*—A major issue in designing an integration plan is whether shareholders should be able to claim a tax credit for the amount of U.S. tax the corporation actually pays (the "exact" or "pro-rata" method) or whether they should assume that the corporation paid the 48-percent maximum statutory rate (the "48-percent" method). Because the U.S. corporate tax after credits is only about 25 percent of the so-called "book income" that corporations report to shareholders, the revenue effect of eliminating the double taxation of dividends is very sensitive to whether the exact method or the 48-percent method is used. Use of the 48-percent method almost triples the revenue loss from eliminating the double taxation of dividends.

(a) There are three reasons for the gap between the 25-percent effective rate of U.S. tax on worldwide book income and the 48-percent maximum statutory corporate tax rate: (1) tax credits, such as the foreign tax and investment credits; (2) deductions and exclusions arising from such tax preferences as DISC and accelerated depreciation, which cause "book income" to be greater than taxable income; and (3) preferential tax rates applying to certain amounts or sources of income, such as the surtax exemption or the alternative capital gains rate.

(b) The 48-percent method, in effect, passes through the benefits of these tax preferences to shareholders, even though the corporate tax itself is being effectively eliminated with respect to income paid out as dividends. The exact method, in contrast, denies the corporation and its shareholders the benefit of the tax preferences to the extent that

the preferences are allocable to dividends. (This is why the exact method can also be termed the pro-rata method: it prorates the tax preferences between dividends and retained earnings and retains the preferences only with respect to retained earnings.) The 48-percent method, in effect, allocates all preferences to retained earnings.

(c) Apart from the revenue loss involved in using the 48-percent method, the main issue in choosing between the exact method and the 48-percent method is whether Congress desires to maintain the existing tax incentives for corporations to engage in particular activities and to make particular types of investments or whether these incentives should be scaled down in the same proportion that the corporate tax is being scaled down as a result of integration.

(d) The foreign tax credit presents a special issue. Passing through the foreign tax credit to shareholders by allowing them to claim a credit for the corporation's tax before it subtracts the foreign tax credit would promote neutrality between U.S. and foreign investment by U.S. corporations; however, it would involve a sizable revenue loss and would do nothing to encourage capital formation in the United States. Under the exact method, shareholders would not claim a credit for their corporations' foreign tax credits on their individual tax returns, but the corporation would deduct foreign taxes in computing book income.

5. *Shareholders eligible for integration.*—Another issue with significant revenue effects is whether tax-exempt shareholders should be made eligible for integration. Tax-exempt organizations, pension funds and foreigners receive about 20 percent of all dividends (net of intercorporate dividends), but making them eligible for integration would increase the revenue loss by about 50 percent (that is, the tax-exempt shareholders would receive one-third of the tax reduction from integration). The reason the tax-exempt shareholders benefit disproportionately from integration is that for taxable shareholders, some of the shareholder credit is "recaptured" by the gross-up, but there would be no gross-up for tax-exempt shareholders. However, excluding tax-exempt shareholders from integration would reduce the beneficial effects of integration on corporate financial structures and resource allocation. Whether foreign shareholders in U.S. corporations should be eligible for integration is an appropriate subject for tax treaty negotiations.

6. *Intercorporate dividends.*—Corporations who own shares in other corporations could be eligible for the shareholder credit, although it would then be appropriate to repeal the deduction for intercorporate dividends received.

7. *Revenue effects.*—Under the exact or pro-rata method without eligibility for tax-exempt shareholders, integration for dividends would involve a revenue loss of about \$5 billion at 1976 levels of income and profits. (The estimate includes the revenue gain of \$0.4 billion from repeal of the dividend exclusion.) Extending eligibility to tax-exempt shareholders would increase the revenue loss to between \$7 and \$8 billion. Using the 48-percent method rather than the exact method would increase the revenue loss to about \$14 billion if tax-exempt shareholders are excluded and to about \$21 billion if they are included.

Integration for both dividends and retained earnings

1. Conceptually, integrating the corporate and individual income taxes for both dividends and retained earnings involves taxing all corporate income under the individual income tax and eliminating the double taxation of dividends. The corporate income tax would, in effect, be eliminated, except as a withholding device, for shareholders made eligible for integration. Shareholders would include in their taxable income their *pro rata* share of the corporation's pretax earnings. Corporations would continue to pay the corporate income tax, largely as under existing law, but shareholders would obtain a tax credit (which could exceed their tax liability) for the corporate tax paid on those earnings. The relevant information could be communicated to shareholders along with their dividend checks or their information returns (form 1099).

2. Under this proposal, the tax structure would be neutral with respect to a corporation's financial structure, since all corporate-source income, whether it be dividends, interest or retained earnings, would be taxed at the income tax rates applicable to the shareholders or bondholders.

3. The issues concerning treatment of tax preferences and tax-exempt shareholders apply also to integration for both dividends and retained earnings. Making tax-exempt shareholders eligible for integration under this proposal, even under the exact method, would involve a revenue loss of about \$10 billion; and the cost would be prohibitively large under the 48-percent method.

4. *Treatment of corporate losses.*—Treating corporations like partnerships would imply allowing shareholders to deduct the corporation's losses on their individual income tax returns. However, unless all corporate tax preferences were repealed, this would create possibilities for tax shelters similar to those that have been used in recent years through the use of limited partnerships. One solution might be to not allow shareholders to deduct these losses but rather to allow corporations to carry them forward for (say) ten years. There could be no net operating loss of capital loss carrybacks under integration for both dividends and retained earnings, because they would require a shareholder's recomputing his individual tax each time one of the corporations whose stock he owned used such a carryback.

5. *Redeterminations of tax.*—When there is a redetermination either of corporate earnings or of tax liability as a result of an amended return or an audit, the adjustment would be made for the year in which the redetermination occurs, not for the taxable year for which the redetermination is made. This rule also would be necessary to prevent cumbersome recomputations of tax for prior years by shareholders.

6. *Basis adjustment.*—Shareholders who have included corporate retained earnings in income would be permitted to adjust the cost or other basis of their stock upward by the amount of those retained earnings. This basis adjustment is needed to prevent double taxation—once as the earnings are reported and again as a capital gain. The basis adjustment would be the main complexity for the shareholders that would result from integration for retained earnings.

7. There could be objections to integration for retained earnings by taxpayers in higher tax brackets. Some shareholders would be subject to a tax on retained earnings in excess of the amount withheld by the corporation. Because integration would probably cause a significant increase in dividend payout, this may not be a significant problem except in the case of corporations with very low effective tax rates which retain a large fraction of their earnings. The problem could be alleviated by any reduction in high individual tax brackets that could accompany a broadening of the individual tax base.

8. *Revenue effect.*—The revenue effect of integration for both dividends and retained earnings would vary widely depending on whether the exact method or the 48-percent method is used, whether shareholders would be allowed to deduct corporate losses on their own tax returns, and whether tax-exempt shareholders would be made eligible for integration.

(a) At one extreme, an integration plan which excluded tax-exempt shareholders, used the exact method and did not allow shareholders to deduct corporate losses would increase revenues by about \$8–\$9 billion at 1976 income levels (taking into account the effect of the basis adjustment in reducing future capital gains taxes). The reason for this revenue gain is that integration for retained earnings involves taxing such income at shareholder's tax rates (which would average about 48 percent for individual shareholders once grossed up corporate-source income is included in taxable income) rather than the 25-percent effective U.S. corporate tax rate on worldwide book income. The revenue gain from integration for retained earnings under this approach would be more than enough to offset the revenue loss from eliminating the double taxation of dividends. An integration proposal that gains revenue would not encourage business investment, although it would have beneficial effects on corporate financial structures and the allocation of capital.

(b) It is possible to design an integration proposal for both dividends and retained earnings with approximately the same revenue effect as the proposal for integration for just dividends discussed above. For example, there could be integration for both dividends and retained earnings and a cut in the top bracket individual income tax rate to 50 percent, and corporations could be allowed to use accelerated depreciation on equipment in computing book income. This would involve a revenue loss of about \$5 billion.

Dividend deduction

1. The administratively easiest way to eliminate the double tax on dividends is to allow corporations to deduct dividends paid in computing the corporate income tax. This method requires no change at all in the individual income tax. A result similar to a deduction for a portion of dividends paid would be achieved by applying a higher tax rate to retained earnings (the "split-rate" approach).

2. The dividend deduction would have similar effects on capital accumulation as the withholding approach applied to dividends if the two were designed to have the same revenue effect. Possibly, corporate managers would consider a dividend deduction under the corporate tax to be a stronger stimulus than the same tax reduction on dividends for the shareholder, but there are unlikely to be significant differences.

3. There are, however, several disadvantages to the dividend deduction relative to the withholding method. It would automatically give tax-exempt and foreign shareholders the benefits of integration, which increases the revenue loss. Also, the dividend deduction is taken at the corporation's marginal tax rate (generally 48 percent), while the withholding approach outlined above gives shareholders credit only for the lower average effective tax rate paid by corporations. This feature also increases the revenue loss from the dividend deduction. Under a dividend deduction, retained earnings would become the most expensive source of funds and new stock issues the cheapest.

4. The intercorporate dividends received deduction would be eliminated if there were a dividend deduction, since the paying corporation would already have received a deduction for the dividend.

5. A dividend deduction for all dividends, along with repeal of the dividend exclusion, would lose about \$15 billion. This revenue loss could be offset by repeal of other corporate tax incentives. The principal such incentives, in terms of revenue involved, and the revenue gain from repealing them for corporations are the investment credit (\$8.6 billion), ADR (\$1.6 billion), the surtax exemption (\$4.7 billion), percentage depletion (\$1.0 billion) and DISC (\$1.0 billion).

Examples of integration proposals

Consider a corporation with \$300 of book income. Under existing law, assume its corporate tax liability is \$100. Further assume that it now pays \$150 in dividends out of its \$200 in after-tax income and retains \$50. If the shareholders are in the 40-percent bracket, they pay \$60 in tax on their dividend, so that the total tax burden—corporate plus individual—is \$160. If the retained earnings lead to an equivalent increase in stock prices, there will be a capital gains tax in the future of \$10, assuming the gain is long-term. Examples of the three general approaches to integration are displayed in the following table, page 16.

Integration for dividends—withholding approach

Assume that the corporation continues to pay a \$150 dividend. Since this is three-fourths of after-tax income, the corporate tax attributable to the dividend would be \$75 out of the \$100 in overall corporate tax liability. The shareholders would report income of \$225 (the \$150 dividend "grossed up" by the \$75 in corporate tax attributable to the dividend). The individual tax on this amount at a 40-percent rate is \$90. The shareholders would claim a tax credit of \$75 for the corporate tax attributable to the dividends, so that their net individual tax would be \$15. The total tax burden would be \$115 (\$100 corporate tax plus \$15 individual tax), a reduction of \$45 from existing law.

Assume now that, in response to the elimination of the double tax on dividends, the corporation raises its dividend from \$150 to \$180, so that retained earnings fall to \$20. Now, the corporate tax attributable to the dividend is \$90. Shareholders would report income of \$270 (\$180 in dividends grossed up by \$90 in corporate tax attributable to the dividends), on which the individual tax is \$108. Since they would get a tax credit of \$90, the net individual tax would be \$18, and the total tax burden would be \$118, a tax cut of \$42 from present law.

EXAMPLES OF INTEGRATION PROPOSALS ⁵

	Pres- ent law	Integration for dividends— withholding approach		Integration for dividends and retained earnings	Dividend deduction	
		(a)	(b) ¹		(a)	(b) ¹
Corporation						
Pretax income-----	\$300	\$300	\$300	\$300	\$300	\$300. 0
Corporate tax ² -----	100	100	100	100	28	13. 6
After-tax income-----	200	200	200	200	272	286. 4
Dividends-----	150	150	180	150	150	180. 0
Retained earnings----	50	50	20	50	122	106. 4
Shareholder						
Dividend-----	150	150	180	-----	150	180. 0
Gross-up ⁴ -----	-----	75	90	-----	-----	-----
Increase in taxable income-----	150	225	270	300	150	180. 0
Individual tax ³ -----	60	90	108	120	60	72. 0
Shareholder credit-----	-----	75	90	100	-----	-----
Tax after credit-----	60	15	18	20	60	72. 0
Total tax liability, corporate and individual-----	160	115	118	120	88	85. 6

¹ Assumes increase in dividend payment to \$180.

² Assumes average effective rate of 33 $\frac{1}{3}$ percent but marginal rate of 48 percent.

³ Assumes tax rate of 40 percent.

⁴ The gross-up, under the withholding approach for dividends, equals the corporate tax times the ratio of dividends to after-tax corporate income.

⁵ These examples are discussed in the text below.

Integration for both dividends and retained earnings

The shareholders would report \$300 in income. At their 40-percent bracket, this would involve income tax liability of \$120. There would be a tax credit for the \$100 of corporate income tax paid, so that their individual tax liability would be \$20 (compared to \$60 under existing law). The total tax burden would be \$120, so that the overall tax reduction would be \$40 relative to present law. Shareholders would increase the basis of their stockholdings by the grossed-up retained earnings, or by \$75. This basis adjustment would reduce the future capital gains tax on the stock by \$15 for a long-term gain. These results are independent of whether corporations change their dividend payout policies in response to integration.

Dividend deduction

Assume that the corporation pays a \$150 dividend. If its marginal tax bracket is 48 percent (which is consistent with an average effective

rate of $33\frac{1}{3}$ percent on "book income"), the dividend deduction would reduce its tax from \$100 to \$28. The individual shareholders would continue to pay \$60 of tax on their dividend, so the total tax burden would be \$88, a reduction of \$72 from present law.

More likely, the corporation would increase its dividend payout. If the dividend increases to \$180, the corporate tax would be \$13.60 and the individual tax would be \$72 for a total tax burden of \$85.60, a reduction of \$74.40 from present law.

U.S. Experience With Integration, 1936-38

1. In 1936 Congress enacted a split rate corporate income tax under which income paid out as dividends was taxed at normal tax rates between 8 and 15 percent and retained earnings were taxed under a surtax, whose rates ranged from 7 to 27 percent and were based on the fraction of earnings paid out as dividends.

2. As might be expected, the existence of an additional progressive tax on retained earnings encouraged a substantial increase in dividends. It has been estimated that during the two years in which this was in effect (1936 and 1937), dividend distributions were one-third greater as a result of this changed tax treatment. Substantial inter-industry differences in increased payout occurred. Manufacturing payout was 40 percent higher, while construction, forestry and fisheries and agriculture paid out 75 percent more. Small and medium corporations had higher payout rates of dividends than did the larger firms as measured by asset size. Apparently, the surtax on retained profits stimulated greater outlays to corporate employees and outlays for maintenance. Larger executive salaries and bonuses enabled owners of small businesses to reduce corporate normal taxes as well as to avoid the surtax.

3. In 1938 the undistributed profits surtax was repealed.

Foreign Mechanisms to Achieve Integration

1. Many of our trading partners have eliminated some or all of the double taxation of dividends; however, none provides integration for retained earnings as well as dividends. The description that follows relates only to domestic corporate dividends which flow to domestic shareholders.

2. West Germany is the major country which has eliminated all of the double taxation of dividends. It uses a combination of the split-rate approach and the withholding approach. The corporate tax rate on income distributed as dividends is 36 percent, compared to a 56-percent rate on retained earnings. Shareholders are given a credit against individual income tax liability for the 36-percent corporate tax on dividends and must gross up their dividends by that amount.

3. France, Japan and the United Kingdom eliminate a part of double taxation. France and the United Kingdom use the withholding approach. Japan uses a split corporate rate of 30 percent on dividends and 40 percent on retained earnings, and it allows shareholders a tax credit equal to 10 percent of their dividend income (with no gross up). The shareholder credit is 5 percent at higher income levels.

B. Investment Tax Credit

Description of present law

1. The investment tax credit now equals 10 percent of the cost of qualified equipment. To be eligible for the credit, equipment must be depreciable property with a useful life of at least 3 years. Property with a useful life of 3 or 4 years receives one-third the normal credit, and property with a useful life of 5 or 6 years receives two-thirds the normal credit. Used property qualifies for the credit, but the amount of qualifying property is limited to \$100,000. Qualified property is generally limited to tangible personal property used in the United States.

2. In any year the credit generally may not exceed \$25,000 plus one-half of tax liability above that amount. Unused credits may be carried back 3 years and carried forward 7 years, subject to the limitations applicable in those years. As a result of the Tax Reform Act of 1976, investors may use investment credit carryovers on a first-in, first-out basis.

3. Generally, property becomes eligible for the credit when it is placed in service. For property with a normal construction period of 2 years or longer, however, the credit is available as progress payments are made. This change, made in the Tax Reduction Act of 1975, is being phased in between 1975 and 1979.

4. Several special rules apply to public utilities. Prior to 1975, they received a 4-percent credit rather than the general 7-percent credit applicable during that period. Their rate was raised to 10 percent in the Tax Reduction Act of 1975. Also, that Act raised the 50-percent limit to 100-percent in 1975 and 1976 with a gradual phasedown to 50-percent by 1981. There are also special limitations for utilities to prevent regulatory agencies from requiring that the credit be passed through to consumers immediately in lower prices (the "immediate flow-through" method). Some of the tax benefit from the credit however, may still be passed through over the life of the relevant equipment (under either the "ratable flow-through" or "rate base reduction" methods).

5. Airlines and railroads have a temporary increase in the percent-of-tax limitation similar to that of utilities, starting in 1977, as a result of the Tax Reform Act of 1976.

Effect of the investment credit on business investment

1. Theoretically, the investment credit can be expected to make businesses more willing to make investments in equipment at any given rate of interest by increasing the after-tax rate of return from investments in equipment. Because the credit is received at the same time that the equipment is placed in service (or earlier under the progress payment provision), it is especially effective as an investment incentive, because businesses need not worry about repeal of the credit after the equipment is placed in service and they receive the cash from the tax incentive shortly after making their cash outlay.

2. There have been many empirical studies of the impact of the credit on the propensity to invest in equipment. Some of these are summarized in the appendix. While there is a fairly wide range in the results of these studies, the consensus of economists is that the investment credit increases the willingness of business to invest at a given rate of

interest by about as much as, or perhaps slightly more than, the revenue loss. However, this increase in investment occurs with a long lag after the investment credit is increased, perhaps as much as 3 or 4 years. (The time lag is analyzed in greater detail in section VIII below.)

Structural issues

There are several structural problems with the investment credit which affect its usefulness as an investment incentive.

Qualifying investments

1. The investment credit applies only to equipment, not to other types of investment such as structures, inventories, and intangible investments such as research and development and intangible drilling costs or investments in more education for workers. Thus, it tends to favor investment in equipment relative to other investments.

2. In many cases, however, there are separate tax incentives for these other types of investment. Businesses can expense intangible drilling costs and research and development costs, and significant tax incentives are provided for structures through accelerated depreciation and rapid write-offs of interest and taxes paid during the construction period. In each of these cases, an investment credit would probably be a more efficient incentive; and the Congress could consider substituting the credit for some of the existing incentives.

Percent-of-tax limitation

1. A second source of nonneutrality results from the limitation on the investment credit to no more than the first \$25,000 of tax liability plus 50 percent of tax liability in excess of that amount. The effect of this limitation is that firms whose investment in equipment is large relative to their tax liability (perhaps because they have losses) are unable to use the full credit to which they would otherwise be entitled. The 3-year carryback and 7-year carryover, and the use of equipment leasing, mitigate the effect of the limitation, but some credits will still expire each year for the rest of the decade, particularly in a few capital intensive industries with losses or chronically low profits. The change in the Tax Reform Act of 1976 permitting firms to use investment credits on a first-in-first-out basis effectively lengthens the averaging period relative to prior law.

2. When a business fears that it may be unable to use its full investment credit during the carryback and carryover period, the incentive effect of the credit to make additional investments is reduced. In the extreme case when a firm is certain it will be unable to use its full credit, the credit provides no incentive at all for increased investment unless the firm leases the equipment and the availability of the credit to the leasing company reduces the rental fee.

One proposal to solve these problems is to make the credit refundable either immediately or at the end of the carryover period; that is, to permit the credit to exceed tax liability. There are, however, several objections to this approach. First, while a refundable credit may be equitable in a case where a firm is having a bad year or has very large investments relative to its profits because it is expanding rapidly, some would consider it overly generous to those firms whose tax liabilities are low because they are already making use of other tax preferences. Second, the part of the credit in excess of tax liability would be functionally equivalent to a direct subsidy to the

firms involved, and some would argue that this type of subsidy should not be undertaken apart from the normal appropriations process.

4. An alternative to a refundable investment credit would be to raise the 50-percent limit to 100 percent, either for everyone or for selected industries.

Credit for public utilities

1. When the investment credit was enacted in 1962 at a general 7-percent rate, public utilities were limited to a rate of 3 percent. Also, there was no prohibition on the "immediate flow-through" method of passing through the tax reduction to consumers. In 1964, the immediate flow-through method was prohibited (except with the consent of the utility) as to rate-setting by Federal regulatory agencies. When the investment credit was restored in 1971, utilities received a 4-percent credit and the immediate flow-through method was prohibited for most regulatory agencies. Finally, in 1975 utilities were given the 10-percent rate that was made generally applicable in the Tax Reduction Act of 1975. That Act also temporarily raised the 50-percent-of-tax limit for utilities, which means that utilities, for the first time, are receiving a more generous investment credit than other industries.

2. There are two principal issues concerning the investment credit for public utilities: Should they receive the same credit as do other industries? How, if at all, should the benefit from the credit be passed through to consumers?

3. Generally, the rate-setting regulatory agencies have set rates which permit utilities to earn a sufficient rate of return on equity to enable them to raise equity in the open market, but not so high that they receive excessive profits from their monopoly position. Under these circumstances, if utilities do not receive the same investment credit as other industries (or, for that matter, if their tax treatment is more stringent in any respect), their after-tax rate of return will be below that of other industries, and regulatory agencies will have to permit price increases to restore the previous relationship between after-tax rates of return.

4. If regulatory agencies follow these general guidelines, the issue of whether utilities should receive the same credit as other industries is not really a distributional issue—utilities will receive the same after-tax rate of return in either case. (There may, however, be delays in granting the price increases.) Rather, it is a question of resource allocation. Failing to provide the utilities with the same cost of capital as other industries distorts economic decisions. It raises the prices of utilities' services relative to other consumer goods and services, distorting consumption decisions; and it reduces the amount of investment by utilities, causing them to substitute other inputs for capital, like labor and fuel.

5. The appropriate policy, then, appears to be to allow the utilities to claim the investment credit and other tax incentives on the same basis as other industries.

6. To prevent the investment credit from raising the after-tax rate of return to investments by utilities above that of other industries and, therefore, creating windfall gains for utility shareholders, the tax benefit from the credit should be passed through to consumers as lower prices. This could be done in the year the credit is claimed (the

immediate flow-through method) or over the life of the equipment. Were there to be a fall in the price of equipment, the regulatory agencies would reduce the rate base and the cost of service for ratemaking purposes accordingly, so that the reduction in costs would be passed through as lower prices over the life of the asset. Presumably, the same treatment should apply to the investment credit. Under this approach, a combination of the ratable flow-through and rate base reduction methods of passing through the credit to consumers would be appropriate. This would involve somewhat more flow-through than under existing law but less than under the immediate flow-through method.

Interaction with corporate integration

If there is integration of the individual and corporate income taxes for both dividends and retained earnings under the "exact method," under which individual shareholders receive a tax credit only for the tax rate actually paid by the corporation whose stock they own, the corporate investment credit would, in effect, be eliminated for those shareholders eligible for integration. It may still be appropriate, however, to retain the investment credit as an incentive for noncorporate businesses (which claim about 20 percent of total investment credits) and for corporations to the extent they are owned by shareholders not eligible for integration, such as tax-exempt organizations. If integration for just dividends is enacted using the withholding approach and the exact method, the investment credit would also provide an incentive for corporations to the extent they continue to retain earnings.

C. Depreciation Deductions

Present law

1. Under present law, taxpayers may claim depreciation allowances for equipment under any one of four general methods:

(a) straight-line depreciation, which spreads the annual charge evenly over the asset's useful life;

(b) double declining balance depreciation, which allows a rate twice the straight line rate but applies this rate to the unrecovered cost (i.e., cost less depreciation taken in prior years);

(c) sum-of-the-years digit method of depreciation, which is computed under a method which adds to the early years of life still more depreciation than under the declining balance method; and

(d) any other method consistently applied which during the first two-thirds of the useful life of the property does not provide more depreciation than the declining balance method.

The unit of production method, which spreads the depreciation each year on the basis of the proportion of the total units which are produced in each year, and the machine-hours method, which spreads the depreciation over the estimated number of hours the machine can be used in the business, are two variants of the straight-line method.

2. New construction for residential housing, under present law, is eligible for double declining balance depreciation, under which the first-year deduction is twice the amount allowed under straight-line depreciation. New construction other than residential housing is limited to 150 percent declining balance depreciation. Used residential property with a remaining life of 20 years or more is limited to 125 per-

cent declining balance depreciation. Other forms of real estate are generally limited to straight line depreciation or its equivalent.

3. To aid small business, under present law an additional first-year depreciation allowance of up to 20 percent is allowed on the first \$10,000 of value (\$20,000 on a joint return).

4. Under present law, guideline lives are established for the useful lives of property other than real estate on the basis of industry classification. Taxpayers are allowed to decrease these guidelines lives by 20 percent (the so-called ADR system).

Effect on business investment

1. It is generally agreed that businesses should be allowed to deduct an amount equal to the wear and tear on depreciable property. Under what is sometimes termed "economic depreciation," the depreciation deduction would equal the decline in the value of the property during the year, either because of wear and tear, obsolescence or any other reason. If allowable depreciation deductions exceed economic depreciation, there is a positive incentive to business investment. Accelerated depreciation operates as an incentive in much the same manner as the investment credit; that is, by increasing the profitability of potential investment projects by reducing the present value of the tax otherwise due.

2. Frequently, analysis of depreciation deductions starts with the assumption that straight-line depreciation, which is the least generous of the allowable methods, is the best measure of economic depreciation and, therefore, leads to the most accurate measure of income. Under these circumstances, any more generous method of depreciation would represent a tax expenditure to stimulate investment.

3. However, straight-line depreciation is not a very accurate measure of economic depreciation. For equipment, studies indicate that the double-declining balance method of depreciation is a better measure of economic depreciation than straight-line depreciation. For structures, however, economic depreciation is probably slower even than straight-line depreciation, since buildings physically depreciate very slowly in the years just after they are constructed, and declining balance depreciation represents a substantial advantage.

4. A second problem is that depreciation is now based on the historical cost of assets to the taxpayer, but when there is inflation, the depreciation deductions will be taken at a time when the value of the dollar is worth less than when the depreciable asset was purchased. This effect tends to reduce historical cost depreciation relative to economic depreciation. With the high rates of inflation in recent years, the use of historical cost depreciation unadjusted for inflation reduces depreciation deductions by over \$30 billion each year relative to economic depreciation, and this amount is likely to rise in the future. This issue is discussed in greater detail below in the section on indexing for inflation.

5. To some extent, tax depreciation on equipment is brought closer to economic depreciation through the asset depreciation range (ADR) system, which enables taxpayers to shorten useful lives by 20 percent. Also, the investment credit provides some compensation.

6. One way to speed up depreciation deductions on equipment during periods of inflation would be to permit businesses to adjust

the basis of depreciable equipment upward by the rate of inflation each year, so that they could compute annual depreciation deductions on an amount that is constant in terms of purchasing power. Total depreciation deductions on each asset, however, would continue to be limited to the historical cost of that asset, less allowable salvage value. Thus, aggregate depreciation deductions over the life of the asset would not change, but there would be a further acceleration in periods of inflation. This proposal, if applied to all equipment placed in service after December 31, 1976, would reduce revenues by \$0.4 billion in 1978, \$1.1 billion in 1979 and \$3.4 billion in 1981.

7. In some cases there are incentives in existing law for particular types of investment which allow businesses to elect 5-year amortization. Generally, this is not the best way to provide such an incentive, since amortization over a fixed period of time provides a greater incentive to long-lived assets than to short-lived assets, creating an undesirable bias. When the class of property eligible for 5-year amortization is sufficiently narrow, this may not be a serious problem; but amortization over a fixed period for a broad class of assets would be inefficient relative to a more neutral incentive like the investment credit or even a proportional cut in tax lives.

8. As an incentive for investment, there are several advantages in using the investment credit rather than accelerated depreciation. The credit provides additional cash to businesses shortly after they must pay for the equipment, which is helpful to businesses with liquidity problems. With accelerated depreciation, the cash flow is spread over the initial years of the life of the asset. Also, the tax deferral from accelerated depreciation varies with the marginal tax rate of the taxpayer, while the tax benefit from the credit does not as long as the taxpayer is not subject to the 50-percent-of-tax limit. For this reason, the credit does not give rise to syndicated tax shelters to the same extent as accelerated depreciation.

9. If there is corporate integration with the exact method, it would be necessary to reconsider just what depreciation deductions provide the best measure of income. One possibility would be to allow double declining balance depreciation over realistic useful lives for equipment and straight-line depreciation with realistic useful lives for structures. Existing depreciation rules could be retained for noncorporate business.

D. Corporate Tax Rates

Present law

1. Under existing law, the corporate tax rate is 20 percent on the initial \$25,000 of taxable income; 22 percent on the next \$25,000 of taxable income and 48 percent on taxable income in excess of \$50,000.

2. These rates were put into effect temporarily in the Tax Reduction Act of 1975 and are scheduled to expire at the end of 1977. The Tax Reduction and Simplification Act of 1977, as passed by the House, would extend them through 1978. Prior to 1975, the normal tax rate was 22 percent and the surtax exemption was \$25,000.

Effects on business investment

1. Unless the debt-equity ratio is extremely high or there are generous depreciation deductions, a reduction in the corporate tax rate would reduce the effective cost of capital and, hence, increase the will-

ingness of corporations to invest. For any particular corporation, the relevant rate for this purpose is the corporation's marginal tax rate, the rate applicable to the next dollar of corporate income, since this rate will be applied to the income from the investment project under consideration. A cut in the tax rate on the first \$50,000 of taxable income, for example, provides no incentive for additional investment to a firm whose taxable income is already above \$50,000. Thus, increasing the corporate surtax exemption is a relatively inefficient investment stimulus.

2. As alternative ways to increase the propensity to invest, there are several differences between a cut in the corporate tax rate and either the investment credit or accelerated depreciation.

3. A cut in the corporate tax rate generally stimulates investments by cutting the taxes on the profits to be earned by the investment. Thus, for the rate cut to be an efficient incentive, businessmen must believe that the rate cut will be in effect for the life of the investment, and even some uncertainty about its duration dilutes the incentive effect. The investment credit, in contrast, cuts taxes at the time the investment is placed in service, so that taxpayers need not "second guess" the government.

4. A corporate rate cut applies to all sources of corporate income. This includes not only income resulting from capital accumulation but also profits resulting from excessive market power and, especially for small corporations, profits resulting from the owner's labor. Thus, a cut in corporate tax rates is relatively neutral between different types of investment, although, from the standpoint of capital accumulation, some of the rate cut is "wasted" as a tax cut on labor income or monopoly profits. In contrast, the investment credit applies only to equipment, and rapid depreciation applies to depreciable property: these incentives only encourage accumulation of particular types of capital. These incentives do not encourage such investments as exploration and development of mineral resources, research and development and inventory accumulation. (However, whenever an investment can be expensed immediately, as with intangible drilling costs or research and development, there is no effective corporate tax on profits from such investments and, therefore, no benefit from a corporate rate cut.)

5. The existing corporate income tax contains numerous incentives for investment in particular industries. These incentives are reduced by a corporate rate cut, but not by accelerated depreciation or the investment credit.

6. A corporate rate cut would reduce the existing bias towards debt financing; the investment credit and accelerated depreciation do not.

7. Also, a corporate rate cut is limited to corporate business, while the investment credit and accelerated depreciation apply to noncorporate business as well.

8. Most of the advantages of a corporate tax rate reduction also apply to corporate integration, which itself has advantages relative to a rate reduction in terms of tax equity and efficiency, as discussed elsewhere in this report. Therefore, integration appears to be a better method of stimulating corporate investment than a corporate tax rate reduction.

E. Deduction of Losses

1. Especially for risky investment projects, the tax treatment of losses is an important determinant of the expected after-tax profitability. The existing income tax tends to discourage business risk-taking because, while the profits from successful risktaking are taxed, the government does not provide a refund to businesses which lose money. This asymmetrical treatment, is, however, partially balanced by averaging profits and losses with carrybacks and carryovers of net operating losses. The general rule is that net operating losses of corporations are carried back for 3 years and forward for 7 years, permitting averaging over an 11-year period. (The Tax Reform Act of 1976 lengthened the carryover from 5 years to 7 years and made the carryback optional rather than mandatory.) Lengthening this averaging period further would increase the willingness to make risky investments; but it also would increase the opportunity for purchasing another company in order to make use of its loss carryover.

2. The averaging period could be lengthened further either by increasing the 3-year carryback or the 7-year carryover. A longer carryback is more beneficial to companies with a history of profits and tax liability, and leads to a larger revenue loss, because it leads to a certain refund rather than a future tax reduction. A carryover, however, is more beneficial to new businesses because they cannot use carrybacks.

3. If there is corporate integration for retained earnings, net operating loss carrybacks will probably have to be eliminated for technical reasons. It would be cumbersome to have individuals recompute their tax for prior years whenever a corporation used an NOL carryback. Under these circumstances, a 10-year loss carryforward period would be appropriate.

F. Indexing for Inflation

Inflation causes two types of changes in the tax system, one of which has considerable significance for the taxation of income from capital. First, except in the case of strictly proportional taxes, inflation changes the rate of tax imposed on the same real tax base. Second, inflation changes the base of an income tax by artificially enlarging the definition of taxable income from capital. There are two types of "indexing" corresponding to these two effects of inflation.

Indexing tax rates

1. Most Federal taxes depend on fixed dollar amounts. Common examples are the \$750 personal exemption and the 4-cent per gallon gasoline tax. When inflation occurs, these fixed dollar amounts become smaller in real terms, that is, in terms of purchasing power. Thus, under the individual income tax, an individual whose income has only kept pace with inflation (that is, who has the same real income), pays a larger real income tax after inflation because inflation makes the personal exemption, the minimum and maximum standard deductions, the rate brackets and other items worth less in real terms. However, for the gasoline tax and certain other taxes, inflation reduces the tax rate in real terms.

2. For the Federal tax system as a whole, a 10-percent inflation raises revenue by about 12.5 percent, so that the real tax burden rises by 2.5 percent. This increase in taxes due to inflation amounted to an estimated \$4 billion in 1973, \$7 billion in 1974, \$6 billion in 1975 and \$4 billion in 1976. Congress offset these tax increases with the 1975 and 1976 tax reductions, and since Congress can always enact such compensating tax cuts when they are appropriate, indexing tax rates should not be a major economic issue.

Indexing the income tax base

1. A more serious problem from the standpoint of capital accumulation is that inflation artificially enlarges taxable income from capital. For example, suppose the inflation rate is 5 percent and a person receives \$5 in interest on a \$100 savings account. Under present law, the \$5 interest income is taxable; however, the 5-percent inflation has eroded the real value of the savings account by \$5. In real terms, the taxpayer's wealth has not increased at all and he has no real income, yet he must pay a tax on \$5.

2. For capital assets, the capital gain or loss is measured, under existing law, without regard to inflation. If someone buys an asset for \$100 and sells it for \$200 after a period of time during which the price level has doubled, the individual has really received no income, since the purchasing power represented by the purchase price is the same as that for the selling price; yet he must report a capital gain of \$100. For capital gains, inflation leads to a smaller tax increase than for savings accounts because only half of long-term capital gains are included in income, while all savings account interest is included. (Also, there are interest rate ceilings on most savings accounts, which prevent interest rates from rising to compensate for inflation.)

3. The opposite problem occurs in the case of debt. Inflation erodes the real value of indebtedness, but debtors need not report this gain on their tax returns, even though they may deduct any higher interest costs that result from inflation.

4. Inflation also has important effects on the taxation of business profits. When inventories are accounted for by the first-in, first-out (FIFO) method, price increases between the time the inventories are accumulated and the time they are liquidated are taxed as income. Here, there is some relief for companies with positive inventory investment because they may elect the LIFO method of accounting if they use it in reporting to shareholders.

5. Finally, depreciation deductions are based on the historical cost of the asset involved, so that after inflation the purchasing power represented by the depreciation deduction is less than that represented by the actual cost of the asset.

6. The net effect of these characteristics of the income tax is, in effect, to impose a wealth tax each year, which is generally equal to the rate of inflation times the marginal income tax rate. (In the case of debtors, there is, in effect, a subsidy.) ⁷

⁷ The Constitution forbids imposition of direct taxes by the Federal Government unless the proceeds are apportioned among the States on the basis of population, and the Sixteenth Amendment was needed specifically to exempt the individual income tax from this prohibition. It would be unconstitutional for the Federal Government to adopt a wealth tax, yet much the same result is achieved by defining income from capital in a manner that does not take account of inflation.

7. A program of indexing the income tax base for inflation could involve the following adjustments:

(a) Businesses would adjust upward the basis of depreciable assets by the rate of inflation.

(b) Businesses would use the LIFO method of accounting. (This is not an exact inflation adjustment but is much simpler.)

(c) Individuals and businesses would adjust upward the basis of capital assets by the rate of inflation between the date of purchase and the date of sale.

(d) Owners of financial assets would be allowed to deduct a loss equal to the rate of inflation times the value of the assets.

(e) Debtors would report as income each year an amount equal to the rate of inflation times the value of outstanding debt.

8. There are likely to be objections to some parts of such a program of full indexing of the definition of capital income. For example, debtors who experience a tax increase may have to do additional borrowing to pay their additional taxes. While this borrowing only offsets part of the decline in the real value of their debt resulting from inflation, it may still cause problems, especially in times of tight credit. Also, each of these adjustments for inflation, except LIFO, adds complexity to the tax law.

9. Making only some of these inflation adjustments and not others, however, raises important questions of both equity and efficiency. Permitting indexed depreciation deductions without the offsetting debt adjustment, for example, would confer a significant benefit on businesses which use debt financing. Indexing the basis of capital assets without the similar, but more complicated, adjustment for savings accounts would be inequitable and would distort the allocation of capital away from housing.

10. It has been suggested that reducing the inclusion proportion for capital gains for assets held for long periods of time would provide a partial adjustment for inflation. Actually, such a "sliding scale" would not approximate a true inflation adjustment, which involves an adjustment to the basis of capital assets, not to the inclusion fraction of the gain. There is no reason why the fraction of a capital gain that is inflation-induced should increase with the holding period; indeed, the opposite result is more likely.

11. There appear, therefore, to be significant problems with indexing the tax base for inflation. Inflation, however, creates a serious problem for the taxation of income from capital and, unless it is brought under control, will eventually require compensatory changes in the income tax.

IV. DISTRIBUTIONAL EFFECTS OF BUSINESS TAX CHANGES

1. Most of the alternative investment incentives outlined above involve a cut in the tax on corporate-source income. There is considerable disagreement among economists on who benefits from such a tax cut. The most common view of the "incidence" of a corporate tax rate cut is as follows:⁸

(a) The immediate beneficiaries of a corporate rate cut are shareholders, who benefit from the higher after-tax earnings of the corporation. To the extent that the additional after-tax profits are paid out as dividends, low-bracket shareholders will derive a larger after-tax benefit per share of stock than shareholders in high individual tax brackets. However, to the extent the additional corporate after-tax profits are retained, in which case the only individual income tax is a capital gains tax upon sale of the stock, there will be a looser link between the benefit per share to individual shareholders and their individual income tax bracket. In either case, the benefits will be highly concentrated, since the one percent of taxpayers with the largest incomes own half of all corporate stock, and the 5 percent with the highest income own two-thirds of all stock. All current shareholders will benefit to the extent that a lower tax burden on corporate-source income raises stock prices.

(b) These higher after-tax returns in the corporate sector cannot persist for very long, since they will encourage additional investment in those industries. This shift in investment from the noncorporate sector to the corporate sector should reduce before-tax rates of return in the corporate sector and raise them in the noncorporate sector until the after-tax rates of return in the two sectors assume approximately the same relationship they had before the corporate tax reduction. Thus, the benefits of the corporate tax reduction will be partly shifted to owners of wealth other than corporate stock. This shifting makes the tax cut more progressive since wealth in general is more equally distributed than corporate stock: the wealthiest 1 percent of families own about one-fourth of all wealth, compared to one-half of all corporate stock.

(c) The incidence of a corporate tax cut also depends on the extent to which it increases investment. An increase in investment would increase worker productivity and raise wages, thereby passing through some or all of the benefit of the tax cut to workers.

⁸ The "incidence" of a tax refers to what persons or sources of income bear the burden of that tax. The analysis of the incidence of a corporate tax rate change presented here also applies to changes in corporate taxes resulting from accelerated depreciation, the investment credit, or more liberal deduction of losses.

2. The incidence of corporate integration will be more progressive than that of other corporate tax cuts, especially if integration applies to retained earnings as well as dividends. There should be the same general pattern—an immediate benefit to shareholders and an eventual benefit to other wealthholders and to workers; but there are major differences between integration and general corporate tax cuts.

(a) Eliminating the double taxation of dividends confers more benefit per share to shareholders in lower brackets than to those in higher brackets. Because of the gross-up in the withholding approach, the Treasury recovers 70 percent of the shareholder tax credit from a shareholder in the 70-percent bracket and only 14 percent from a shareholder in the 14-percent bracket. Taxpayers with adjusted gross income over \$50,000, slightly less than 1 percent of the total, receive 27 percent of the tax cut from eliminating the double tax on dividends, even though this group owns about one-half of corporate stock owned by individuals. (Eliminating the double tax on dividends, thus, has the same distributional effect as a corporate rate cut in which 100 percent of the additional corporate cash flow is paid out as dividends.)

(b) To the extent that eliminating the double tax on dividends causes corporations to increase their dividend payout, its incidence will be more progressive. Without double taxation, dividends would be taxed at the progressive individual tax rates (14 to 70 percent) while, except for the capital gains tax upon sale of the stock, retained earnings are taxed at a flat corporate rate. Thus any tendency by corporations to reduce retained earnings and increase dividends helps low-bracket shareholders and hurts high-bracket shareholders.

(c) Integrating the individual and corporate income taxes for retained earnings is a progressive tax change, since it leads to an actual tax increase for shareholders in individual tax brackets higher than the corporate tax rate and a tax cut for those in lower brackets.

V. MEASURES TO INCREASE THE WILLINGNESS TO SAVE

1. When the economy is operating well below its full capacity, it is possible to increase the level of investment simply by increasing the willingness of businesses or individuals to purchase plant, equipment, homes and other types of capital. These investments, in effect, finance themselves to a large extent by stimulating the economy and inducing additional saving out of the additional income.⁹ At high levels of capacity utilization, however, further economic expansion is not possible, and increased investment requires an increase in the willingness to save. During booms, an increase in the willingness to invest without a corresponding increase in the willingness to save leads to higher interest rates and to inflation.

2. There are three main domestic sources of saving: saving by individuals (personal saving), corporate retained earnings (corporate saving) and government budget surpluses (government saving). In addition, the supply of domestic saving is augmented whenever imports of goods and services exceed exports. With floating exchange rates such a "current account" deficit must be accompanied by a balance of payments surplus on the capital account. (This report does not deal with the effects of foreign investment on capital accumulation in the United States. That subject was considered by the Ways and Means Committee's Task Force on Foreign Income.)

3. Typically, personal saving accounts for two-thirds of the total net saving in the economy (that is, saving in excess of depreciation), and corporate saving accounts for about one-third of the total. In most years, government saving and inflows of funds from abroad are relatively unimportant.¹⁰ In 1967, however, the government sector did run a deficit of \$14 billion when the economy was at full employment, which was a significant amount of negative saving.

A. Tax Incentives for Personal Saving

Existing tax incentives for personal saving

1. There are many tax incentives for personal saving in existing law. Some of these incentives provide tax exemption or deferral for the income from capital; others give tax deferral to income that is saved.

⁹ The investments will not be entirely self-financing. The increase in income induced by the investment will increase the demand for money. Unless there is a corresponding increase in the supply of money, interest rates will rise, choking off some of the additional investment.

¹⁰ In 1973, the most recent year of reasonably full capacity utilization, personal saving was \$72.7 billion and retained earnings were \$40.9 billion. The government surplus was \$6 billion (the Federal deficit of \$6.9 billion being outweighed by a State and local surplus of \$12.9 billion), and net exports (which are negative saving) were \$7.2 billion.

2. The principal tax incentives that give tax deferral to income that is saved are the provisions relating to pension, profit-sharing and stock bonus plans. Employer contributions to qualified pension and other plans are not taxed as income to the employee until the plan benefits are paid out. (In addition, the tax on the investment income of the pension plan is deferred until the benefits are received.) There are similar tax incentives for self-employed individuals (Keogh plans) for employees of schools and exempt organizations (tax-sheltered annuities) and for individuals not covered by qualified plans or annuities (individual retirement accounts). In fiscal year 1977, these incentives will reduce taxes by \$10 billion.

3. Tax exemptions or deferrals for income from assets include (1) the exclusion from income for imputed rent on owner-occupied homes (or, alternatively, the deductions for mortgage interest and property taxes on such homes), (2) the 50-percent deduction for long-term capital gains, (3) the exclusion for interest on State and local government bonds, (4) the \$100 dividend exclusion, (5) the deductions for percentage depletion and intangible drilling costs, (6) the exclusion for interest on life insurance saving, (7) the deferral of tax on interest on savings bonds until the bonds are redeemed, (8) accelerated deductions for depreciation and construction period interest and taxes on buildings, and (9) the deferral of tax on capital gains on owner-occupied homes when the proceeds are reinvested in a new principal residence. In fiscal year 1977, these tax expenditures will reduce individual income tax revenues by about \$24 billion.

4. Thus, the cost of the various tax incentives for individuals' saving will add up to \$34 billion in fiscal year 1977. Personal saving is expected to be about \$100 billion in 1977.

Effectiveness of tax incentives for personal saving

1. The existing tax incentives for personal saving, and other similar incentives that have been proposed in recent years, increase the after-tax rate of return from certain assets when they are purchased by individuals. This both raises the rate of return to savers in general and also the rate of return to the favored assets relative to others. The effectiveness of the tax incentives depends on the responsiveness of saving to such changes in the after-tax rate of return.

2. While there is some disagreement on this issue, the consensus among economists is that an individual's choice between various assets is quite sensitive to the relative after-tax yields he expects to receive on the assets, but that his aggregate saving is not responsive to changes in rates of return, depending instead on such variables as income, wealth and the availability of consumer credit. This would suggest that tax incentives for personal saving do not significantly affect the amount of such saving but do affect its composition.

3. There are two bits of evidence that support the consensus view that aggregate personal saving is unresponsive to changes in the after-tax rate of return. The highest savings rates of the post-war period occurred in the 1970's, when the real after-tax rate of return was low because of inflation. Also, the country with the highest savings rate in the world is Japan, where the real after-tax rate of return on most financial assets is lower than in the United States because of Japan's higher inflation rate.

Alternative proposals to encourage personal saving

1. In recent years there have been several proposals to encourage personal saving. The Ford Administration offered proposals for "individual savings accounts" and for "broadened stock ownership plans" (BSOP). The more recent BSOP proposal would provide a deduction, phased out at higher income levels, for amounts put into a stock ownership plan. The deduction would be limited to 15 percent of the first \$10,000 of earnings. Income from the stocks in the plan would not be taxed until withdrawn and then at capital gains rates.

2. The Ford administration also recommended that the inclusion percentage for capital gains be reduced for assets held for long periods of time. This would raise the after-tax rate of return for assets that people expect to hold for long time periods and on which they expect to receive capital gains.

B. Employee Stock Ownership Plans

1. Employee stock ownership plans (ESOP's) are any plans under which employees are encouraged to invest in the stock of their employer. The tax laws provide encouragement to two particular kinds of ESOP's: "leveraged ESOP's" and "investment credit ESOP's."

2. A leveraged ESOP is a plan which uses borrowed funds, usually with loan guarantees by the employer, to invest in employer securities for the benefit of employees. In these cases, the loan is usually repaid with tax-deductible contributions by the employer. If an ESOP meets most of the requirements of the tax law for qualified pension and other plans, it receives the substantial tax incentives that are available for such plans. ESOP's are exempt from the usual rules requiring diversification of the plan's assets and limits on investments in employer stock.

3. The investment credit ESOP was originated by the Tax Reduction Act of 1975. Under that Act, an employer who establishes an ESOP which meets the requirements of that Act qualifies for one additional point of investment credit if that amount of stock or money is contributed to the ESOP. The Tax Reform Act of 1976 extended through 1980 this one-percent option and provided an additional one-half percent credit if there is a matching contribution by the employee.

4. ESOP's are potentially an important tax incentive for capital accumulation through their impact on saving. The existing tax incentive for ESOP's could be made a more effective stimulant to saving by expanding the employee-matching aspect of the investment credit ESOP, which provides an incentive for saving by employees. The one-percent additional investment credit, which requires no matching employee contribution, provides no direct incentive for additional saving by the employee, although it does encourage firms to establish employee stock ownership plans.

C. Government Saving

1. The government can augment total saving by operating at a surplus. This source of saving is quite significant for France, Germany and Sweden, where government saving is typically about 5 percent of gross national product in years of high employment.

2. The United States has been less successful in generating government saving. Typically, there are deficits in recession years, but this is no obstacle to increasing the rate of capital accumulation since more saving during recessions would serve only to depress the economy still further. More serious is the fact that the United States has had only meager surpluses, and in some cases actual deficits, in years of high employment. Between 1965 and 1969 the government sector (Federal, State and local) had a cumulative deficit even though the economy was at full employment. (The deficit was \$14 billion, or almost 2 percent of GNP, in 1967.) In 1973, another year of high employment, the surplus was only \$6.0 billion, or 0.5 percent of GNP.

3. In view of the apparent ineffectiveness of tax incentives to encourage personal saving (as discussed above) and the desirability of increased saving during periods of prosperity, it would be extremely beneficial to have government surpluses of 2 or 3 percent of GNP during periods of high employment. This would permit a comparable increase in the rate of investment (if some way could be found to increase the willingness to invest by this amount). State and local governments are likely to run surpluses in these years equal to about one percent of GNP, so that this goal implies a Federal surplus of one or two percent of GNP, or about \$20 to \$40 billion. Since the present Federal budget, even on a hypothetical full-employment basis, is operating with a deficit, achieving such a level of government saving clearly requires a major change in fiscal policies.

VI. FEDERAL BUDGET PROJECTIONS

1. The outlook for the Federal budget is significant for the nation's policy towards capital accumulation for two reasons. First, in periods of high employment, Federal surpluses will be needed to finance increased investment. Second, the projected Federal budget surplus or deficit indicates whether tax increases or spending reductions would be needed to finance any tax reductions designed to increase the willingness to save or invest.

2. Table 1 shows a projection of Federal outlays and revenues if current policies are continued through fiscal year 1981. The "current policy" projection is derived from the Ford Administration's budget for fiscal year 1978. (The Carter Administration has not made budget projections for 1980 and 1981.) It assumes extension of existing tax laws and no new Federal spending programs (although existing programs are adjusted for inflation). It does not include the effects of any economic stimulus which has been or may be enacted in 1977. The projection assumes that unemployment declines to 4.9 percent by 1980, so that the budget projection for fiscal year 1981 relates to a year of reasonably high employment.

TABLE 1.—*Federal budget projections*

[In billions of dollars]

	Fiscal year—		
	1977	1980	1981
Current policy: ¹			
Revenues-----	361	526	585
Outlays-----	411	509	541
Surplus-----	-50	+17	+44
Alternative projection: ²			
Revenues-----	365	508	561
Outlays-----	411	504	551
Surplus-----	-46	+4	+10

¹ Current services budget with full adjustment of outlays for inflation from the *Budget of the United States Government Fiscal Year 1978*.

² Outlays equal to 20 percent of GNP; revenues adjusted to remove real tax increase resulting from inflation.

3. If current policies are continued, the Federal budget surplus would be \$44 billion in fiscal year 1981, or about 1½ percent of projected GNP that year. Thus, if there are no new spending programs and no additional tax reductions, it would be possible to generate a sufficiently large surplus to finance an increase in the rate of investment equal to about 1½ percent of GNP. This large an increase in the willingness to invest, however, probably will not be achieved without some reduction in business taxes. By 1981, the cost of eliminating the double taxation of dividends under the withholding approach and the exact method will be roughly \$10 billion, which would reduce the projected surplus from \$44 billion to \$34 billion. If integration leads to an increase in investment by an amount equal to the revenue loss, then \$10 billion of this surplus would be needed to finance the additional investment, leaving a \$24 billion surplus for new spending programs or other tax reductions.

4. There are several reasons why these "current policy" budget projections are misleading. First, it is extremely unlikely that there will be no new spending programs between now and fiscal year 1981. Table 2 presents data on Federal outlays as a percentage of GNP in years of high employment. Except for wartime, Federal spending has fluctuated between about 18 percent and 20 percent of GNP in such years. (In years of high unemployment, the ratio of Federal spending to GNP tends to be higher than this because GNP is low and spending for such purposes as unemployment compensation is high.) In 1973, the ratio was 19.9 percent. A more realistic projection of how large a surplus there is likely to be in 1981 would assume Federal spending to be 20 percent of GNP.

5. Also, the "current policy" projection includes a sizable revenue increase resulting from inflation, which is assumed to be at a rate between 4 and 6 percent in the projection. In the past, Congress has reduced individual income taxes to offset this inflation-induced tax increase, and it is reasonable to assume they will continue to do so.

TABLE 2.—*Government spending as a percentage of GNP in years of prosperity*

[Dollar amounts in billions]

Fiscal year	Federal outlays	GNP	Federal outlays, as percentage of GNP
1953.....	\$76. 1	\$360. 1	21. 1
1955.....	68. 5	381. 0	18. 0
1957.....	76. 7	433. 3	17. 7
1965.....	118. 4	658. 1	18. 0
1966.....	134. 7	722. 4	18. 6
1967.....	158. 3	773. 5	20. 5
1968.....	178. 8	830. 2	21. 5
1969.....	184. 5	904. 2	20. 4
1973.....	246. 5	1, 238. 4	19. 9

6. The alternative budget projection in table 1 makes these adjustments, raising outlays to 20 percent of GNP and reducing revenues by the inflation-induced individual tax increase after fiscal year 1977. Under this more realistic projection, revenues in fiscal year 1981 decline by \$24 billion relative to the current policy budget and outlays rise by \$10 billion. The surplus in fiscal year 1981 shrinks to only \$10 billion. Under this projection, new taxes or spending cuts would be needed to finance corporate integration and to generate a budget surplus large enough to finance anything more than a very modest increase in investment.

VII. ALTERNATIVE SOURCES OF REVENUE

If new tax revenues will be needed when the economy returns to high employment, it is helpful to examine the historical pattern of Federal receipts and also to compare the U.S. pattern with that of other nations.

A. Historical Pattern of Federal Receipts

1. Table 3 shows the percentage distribution of the major sources of Federal receipts in the years since 1940.

2. Since World War II, the individual income tax has fluctuated between 39 percent and 47 percent of total receipts. Currently, it is 44 percent of the total. Because it is progressive, the income tax tends to increase disproportionately when income increases, either because of growth or inflation; but this automatic increase has been offset by tax cuts in 1964, 1969, 1975 and 1976.

3. Corporate income taxes peaked in 1952 (during the Korean War) at 32 percent of total receipts and have declined steadily since then to 13.8 percent in 1976. (The Korean War excess profits tax was in effect between fiscal year 1951 and fiscal year 1954.) Because corporate profits vary over the business cycle, corporate tax receipts tend to be a larger share of total receipts during boom years (like 1966 and 1973), so the corporate tax share should rise in 1977. There have been important cuts in corporate taxes in 1954 (accelerated depreciation), 1962 (investment credit), 1964 (the rate cut from 52 percent to 48 percent), 1971 (DISC, ADR and reenactment of the investment credit), and 1975 (the increase in the investment credit to 10 percent and increase in the surtax exemption).

4. Payroll taxes have accounted for a steadily increasing share of total receipts, growing from 8 percent in 1946 to 31 percent in 1976. This has been the result of rate increases, increases in the income level subject to this tax, and extension of coverage of social insurance programs.

5. Excise taxes have also fallen as a share of total taxes—from 19 percent in 1950 to 6 percent in 1976. There were excise tax increases in the Korean War. A large excise tax reduction occurred in 1965, the auto excise tax was finally repealed in 1971, and the telephone tax is being phased out.

6. Estate and gift taxes have stayed at about 2 percent of total receipts in the last 30 years, although these taxes were relatively more important before World War II.

7. Other receipts, largely deposits at the Treasury of the earnings of the Federal Reserve System, have grown in recent years because of the increase in interest rates on the Federal debt.

TABLE 3.—*Percentage composition of budget receipts by source*

[In percent]

Fiscal year	Individual income taxes	Corporate income taxes	Social insurance taxes and contrib- utions	Excise taxes	Estate and gift taxes	Other
1940-----	17.5	15.4	27.0	29.0	5.5	5.7
1941-----	18.4	21.4	23.2	27.7	4.7	4.5
1942-----	22.6	33.0	16.9	21.7	2.9	2.8
1943-----	27.4	40.5	12.7	15.9	1.9	1.5
1944-----	45.6	34.5	7.7	9.9	1.1	1.2
1945-----	40.7	36.2	7.6	13.0	1.4	1.1
1946-----	41.0	31.1	7.8	16.9	1.7	1.4
1947-----	46.7	22.4	8.7	18.7	2.0	1.5
1948-----	46.2	23.2	9.5	17.6	2.1	1.4
1949-----	39.4	28.4	9.7	19.0	2.0	1.5
1950-----	39.9	26.5	11.1	19.1	1.8	1.7
1951-----	41.8	27.3	11.1	16.7	1.4	1.7
1952-----	42.2	32.1	9.8	13.4	1.2	1.4
1953-----	42.8	30.5	9.8	14.2	1.3	1.4
1954-----	42.4	30.3	10.3	14.3	1.3	1.4
1955-----	43.9	27.3	12.0	13.9	1.4	1.4
1956-----	43.2	28.0	12.5	13.3	1.6	1.4
1957-----	44.5	26.5	12.5	13.2	1.7	1.6
1958-----	43.6	25.2	14.1	13.4	1.7	2.0
1959-----	46.4	21.8	14.8	13.3	1.7	1.9
1960-----	44.0	23.2	15.9	12.6	1.7	2.5
1961-----	43.8	22.2	17.4	12.6	2.0	2.0
1962-----	45.7	20.6	17.1	12.6	2.0	2.0
1963-----	44.7	20.3	18.6	12.4	2.0	2.1
1964-----	43.2	20.9	19.5	12.2	2.1	2.1
1965-----	41.8	21.8	19.1	12.5	2.3	2.6
1966-----	42.4	23.0	19.5	10.0	2.3	2.8
1967-----	41.1	22.7	22.3	9.2	2.0	2.7
1968-----	44.7	18.7	22.5	9.2	2.0	2.9
1969-----	46.5	19.5	21.3	8.1	1.9	2.8
1970-----	46.7	16.9	23.4	8.1	1.9	2.8
1971-----	45.8	14.2	25.8	8.8	2.0	3.4
1972-----	45.4	15.4	25.8	7.4	2.6	3.3
1973-----	44.5	15.6	27.8	7.0	2.1	3.1
1974-----	44.9	14.6	29.0	6.4	1.9	3.3
1975-----	43.6	14.5	30.8	5.9	1.6	3.7
1976-----	43.9	13.8	30.9	5.7	1.7	4.0

B. Comparison With Other Countries

1. Table 4 shows the percentage distribution of Federal, State and local tax receipts for the United States and six other countries.

TABLE 4.—*Percentage distribution of tax revenues by source, 1972*
(Federal, State and local)

(In percent)

County	Individual income taxes	Corporate income taxes	Payroll taxes	Taxes on goods and serv- ices ¹	Death and gift taxes	Property taxes
United States-----	34	11	20	19	2	13
Japan-----	26	24	19	24	2	5
United Kingdom----	32	7	18	30	2	11
France-----	11	6	41	40	1	1
Germany-----	28	5	34	30	2	(²)
Italy-----	13	7	39	39	1	1
Sweden-----	42	4	23	30	(²)	1
United States (Fed- eral only)-----	45	15	26	11	3	(²)

¹ Includes sales, value-added and excise taxes; taxes on imports, exports and transfers of property and securities; and other transactions taxes paid by enterprises.

² Less than 0.5 percent.

Source: OECD and table 3.

2. Except for Sweden, the United States relies more on the individual income tax than any of the others. France and Italy collect little tax with the individual income tax.

3. Japan is the leader in reliance on the corporate income tax, with the United States second. The other countries receive very little of their revenue from that tax.

4. Germany, France and Italy get a larger share of revenue from payroll taxes than the other countries.

5. The United States ranks last in reliance on taxes on goods and services, the most significant of which are sales taxes including the value-added tax. France and Italy rely heavily on these taxes.

6. Death and gift taxes are an unimportant fraction of total receipts in all countries.

7. The United States and the United Kingdom place greater reliance on the property tax (which is entirely a State and local tax in the United States).

8. If the individual and corporate income taxes, death and gift taxes and the property tax are classed as progressive taxes,¹¹ the United States leads with 60 percent of its revenue coming from progressive taxes, with the United Kingdom second (57 percent) and Japan third (52 percent). Italy is last (16 percent). On this basis, at the Federal level, 63 percent of U.S. taxes are progressive.

9. If the corporate income tax, property tax and death and gift taxes are classified as taxes on capital, and if the individual income tax and the taxes on goods and services are split between labor and capital on the basis of their relative shares in total income (roughly 75 percent for labor and 25 percent for capital), then Japan appears to have the heaviest tax burden on capital in terms of the fraction of total receipts (43.5 percent). The U.S. is second with 39.25 percent of receipts coming from taxes on capital (32 percent at the Federal level). The U.K. is third with 35.5 percent. The other countries are bunched between 21 and 23 percent.

¹¹ There are disputes as to whether this is the correct characterization of the corporate income tax and property tax.

VIII. CAPITAL ACCUMULATION AND STABILIZATION POLICY

General considerations

1. Stabilization policy refers to attempts to alter aggregate demand, generally through fiscal and monetary policy, to avoid excessive unemployment or inflation. Tax provisions designed either to discourage or encourage capital accumulation are one tool of stabilization policy.

2. The way fiscal and monetary policies have been used in the United States leads to a bias against investment over the business cycle. During recessions, when there is a desire to stimulate the economy, we have emphasized individual tax cuts, whose major effect is to increase consumer spending. During booms, however, there have generally not been individual tax increases, but rather we have relied on tight money, which primarily discourages investment spending. Thus, over the business cycle, there is a bias towards consumption relative to investment. Furthermore, the periodic credit crunches that result from tight money policies lead to higher long-term interest rates over the whole business cycle, since the money market anticipates the tight money periods. This further discourages investment.

3. One way to increase the rate of capital accumulation would be to change the mix between fiscal and monetary policy to rely more on tight fiscal policy during booms and less on tight money. This would require Federal budget surpluses in periods of high employment. Also during slack periods there could be greater emphasis on temporary investment tax incentives to stimulate the economy rather than individual tax cuts.

Use of investment tax incentives for stabilization

1. There have been several explicit attempts to use investment tax incentives for stabilization purposes. These include the enactment of the investment credit in 1962, its suspension in 1966 and reinstatement in 1967, its repeal in 1969, its reenactment in 1971, the increase in the rate of the credit in 1975, and the cut in corporate tax rates in 1964.

2. One problem with using such tax incentives as the investment credit to stimulate the economy during slack periods is that the credit stimulates investment only with a lag of between about one and four years. Individual tax cuts act somewhat more quickly. The investment credit, then, is best used in recessions in which it is fairly clear that the economy will require stimulus for several years, such as in 1975, when the credit was raised to 10 percent.

3. The investment credit appears to be more powerful and faster-acting when it is used to reduce investment spending. The suspension of the credit in 1966 and its repeal in 1969 were soon followed by sharp declines in investment in equipment, although it is unclear to what

extent these declines resulted from the extremely tight money conditions that prevailed in each of those years or from changes in the investment credit. The problem with using the credit to depress the economy during booms but not using it to stimulate the economy during recessions, however, is that it creates a bias against investment over the business cycle.

4. There are several ways the credit could be made a more effective economic stimulant. In the past, when the credit has been repealed or suspended, there have been very generous transition rules that permit taxpayers to claim the credit for equipment not yet constructed but for which there are binding contracts. Because of the liberal transition rules and because businesses can usually forecast when Congress will seriously consider removing or reducing the investment credit, there is little incentive for businesses to speed up their investment programs while the credit is in effect for fear that it will be repealed. A stricter transition rule when the credit is repealed or reduced, while it could be unfair to some taxpayers, would make the credit a more effective and faster-acting stimulant. Similarly, an explicit policy to vary the rate of the credit to achieve stabilization objectives, rather than a policy of keeping the rate of the credit constant, would also make the credit a more effective stimulant by creating an impression that the credit could be reduced in the future and thereby encouraging businesses to speed up investment programs.

5. Another way to make the credit a more effective temporary stimulant would be an incremental credit which would apply only to investment in excess of depreciation deductions. A 10-percent incremental investment credit would involve a revenue loss of \$2½ billion in 1977. If such a credit were temporary, it would provide almost as much stimulus to investment as an increase in the existing investment credit from 10 percent to 20 percent, which would cost about \$7 billion. (An incremental investment credit that was permanent would provide relatively little stimulus. While additional investments in one year would generate additional credits in that year, they would also raise depreciation deductions in future years and hence lower the investment credit in those years. Thus, the incremental credit would be a tax deferral device, which is not as powerful a stimulant as a credit. This is not a problem with an explicitly temporary incremental investment credit since the base period for future years would not then be relevant.)

6. There could be a "permanent" level for the investment credit that is deemed appropriate in the long run. When Congress wants to depress investment spending in an overheated economy, there could be a temporary reduction in the rate of the credit, which appears to be a powerful way of reducing investment spending relatively quickly. When Congress wants to stimulate investment spending during a recession, it could enact a temporary (say, two-year) incremental investment credit in addition to the "permanent" regular investment credit.

IX. ECONOMIC GROWTH AND CAPITAL ACCUMULATION IN OTHER COUNTRIES

1. In recent years the U.S. economy has grown more slowly than that of most other industrial countries. This is shown in table 5, which compares growth rates for eight countries between 1960 and 1973 and various earlier time periods for which data are available. (The data come from a recent study comparing and analyzing economic growth in several countries by Laurits Christensen, Dianne Cummings and Dale Jorgenson). Between 1960 and 1973, annual growth rates ranged from 3.8 percent in the United Kingdom to 10.9 percent in Japan. Canada, France, West Germany, the Netherlands and Italy all experienced growth rates between 4.8 percent and 5.9 percent. The U.S. growth rate was 4.1 percent. Prior to 1960, growth rates ranged from 3.3 percent in the United Kingdom to 8.2 percent in Germany, with the U.S. growth rate being 3.6 percent. (The pre-1960 comparisons are based on different time periods because comparable data are not available for all countries for the whole postwar period.)

TABLE 5.—*Comparison of economic growth rates*

[In percent]

Country	Rate of economic growth 1960-73	Rate of growth prior to 1960
United States-----	4. 1	¹ 3. 6
Canada-----	5. 1	¹ 5. 2
France-----	5. 9	² 4. 9
West Germany-----	5. 4	² 8. 2
Italy-----	4. 8	³ 6. 0
Japan-----	10. 9	³ 8. 1
Netherlands-----	5. 6	⁴ 5. 0
United Kingdom-----	3. 8	⁵ 3. 3

¹ 1947 to 1960.

² 1950 to 1960.

³ 1952 to 1960.

⁴ 1951 to 1960.

⁵ 1955 to 1960.

Source.—Laurits Christensen, Dianne Cummings and Dale Jorgenson, "Economic Growth, 1947 to 1973: An International Comparison," *Harvard Institute of Economic Research*, discussion paper No. 521 (processed).

2. Despite its relatively low growth rate, the level of output per person remains higher in the United States than in most other industrial countries. Table 6 shows gross national product (GNP) per capita in various countries for the years 1973, 1974 and 1975. The data for 1973 probably represent the best indication of the differences in productive capacity among countries because they are not affected by the severe recession of 1974 and 1975. While Switzerland and Sweden have higher GNP per capita than the United States, the United States is still slightly above Germany and has significantly higher GNP per capita than Japan. (Owing to statistical problems with such international comparisons, small differences in measures of per capita GNP between countries are insignificant.)

TABLE 6.—*Gross national product per capita in various countries*

	GNP per capita		
	1973	1974	1975
United States.....	\$7, 465	\$7, 287	\$7, 099
France.....	6, 392	6, 593	6, 386
West Germany.....	7, 039	7, 058	6, 842
Italy.....	3, 138	3, 216	3, 074
Netherlands.....	5, 841	5, 990	5, 886
United Kingdom.....	4, 161	4, 154	4, 089
Sweden.....	8, 133	8, 456	8, 450
Switzerland.....	9, 176	9, 348	8, 754
Canada.....	6, 891	7, 002	6, 935
Japan.....	4, 492	4, 380	4, 425

SOURCE.—*Statistical Abstract of the United States, 1976.*

3. Table 7 compares the growth rates of the amount of capital used in the economy for various countries for the period 1960 to 1973. These data are also derived from the study by Christensen, Cummings and Jorgenson. "Capital" is defined to include plant, equipment, housing, inventories, land and consumer durables. The growth rate of capital input has been lowest in the United States (4.0 percent) and highest in Japan (11.0 percent).

4. Table 7 also shows an estimate of the contribution of capital accumulation to economic growth in these countries between 1960 and 1973. Capital accumulation contributed 1.6 percent to the rate economic growth in the United States out of an overall growth rate of 4.1 percent (see table 5). In West Germany, capital accumulation contributed 3.6 percent to an overall economic growth rate of 5.4 percent. In Japan, it contributed 5.0 percent to an economic growth rate of 10.9 percent. Other sources of economic growth include such things as increases in health and skills of workers, shifts in resources from low productivity to high productivity industries, and advances in knowledge.

5. Because its labor force grew rapidly, the growth rate in the amount of capital per worker in the United States was even lower relative to that of other countries than the growth rate of capital input. In terms of the amount of capital per worker, however, the United States still ranks higher than other industrial countries, although this situation will not persist for many more years if the U.S. rate of investment per worker remains well below that of the other countries.

TABLE 7.—*Role of capital accumulation in economic growth, 1960-73*

[In percent]

Country	Growth rate of capital input	Contribution of capital accumulation to economic growth
United States.....	4.0	1.6
Canada.....	4.9	2.2
France.....	6.3	2.6
West Germany.....	7.0	3.6
Italy.....	5.4	2.3
Japan.....	11.5	5.0
Netherlands.....	6.6	3.4
United Kingdom.....	4.6	2.2

SOURCE.—See table 5.

APPENDIX

EMPIRICAL STUDIES OF EFFECTIVENESS OF INVESTMENT INCENTIVES

During the past decade, there have been many studies of the effect of various tax incentives on the level and composition of capital expenditures. This appendix presents a summary of the results of some of these inquiries.

Today, the most common view among economists is that tax incentives work to increase investment by reducing "rental cost of capital." The "rental cost" is the amount that a capital expenditure must return in order to justify purchasing it. Generally, a firm will only purchase new plant or equipment if the combination of tax incentives, increased revenues and reduced costs is sufficient both to generate enough funds to replace the original investment and to pay out interest and dividends on the funds raised to purchase the plant or equipment. The main area of controversy concerns measuring exactly how responsive is business investment to changes in the rental cost of capital and particularly to changes brought about by tax incentives.

In addition to this "cost of capital" effect, some economists have suggested a "cash flow" effect, as well. This theory is that even with no change in the rental cost of capital, the additional cash flow from a reduction in tax burden will induce additional investment.

The most common view among economists who have studied the issue is that tax incentives like the investment credit increase the propensity to invest by somewhat more than their revenue loss. The peak effect, however, occurs after a lag of several years.

Robert Hall and Dale Jorgenson found that the credit had an extremely strong impact on investment in plant and equipment.¹ The peak effect of the enactment of the 7-percent credit, occurring after 3 years, was to induce a 9-percent increase in investment in equipment.

Charles Bischoff studied the period 1963-1966, using a more sophisticated technique than Hall and Jorgenson, and found a peak effect of 9 percent occurring after 4 years.²

Lawrence Klein and Paul Taubman analyzed investment during the period 1962-64, considering the "cash flow" effect both separately and in conjunction with the "cost of capital" effect.³ Comparing the two results, their findings suggest that most of the investment reaction

¹ Hall and Jorgenson, "Application of the Theory of Optimal Capital Accumulation" in Fromm, ed., *Tax Incentives and Capital Spending*, Brookings, 1971.

² Bischoff, "The Effect of Alternative Lag Distributions," in Fromm, *op. cit.*

³ Klein and Taubman, "Estimating Effects Within a Complete Econometric Model," in Fromm, *op. cit.*

is due to the reduced rental cost of capital produced by the credit, rather than to increased cash flow. Their estimates of the potency of the credit are about as large as Bischoff's.

Robert Eisner conducted the principal study concluding that investment incentives do not significantly increase investment. According to Eisner, the main determinant of a firm's investment behavior is the demand for its product, not the rental cost of capital. His estimate of the impact of the investment credit would significantly cut the results of other studies.⁴

Henry Aaron, Frank Russek, Jr., and Neil Singer found that the peak effect of the credit occurred after 7 years when expenditures on equipment were increased by 9 percent because of the 1962 investment tax credit.⁵

Roger Gordon and Dale Jorgenson concluded that the credit has a powerful effect on investment.⁶ Their model suggests that the 7-percent credit increased investment in equipment by 8 percent after 3 years and 10 percent after 5 years.

⁴ Eisner, "Tax Incentives for Investment," *National Tax Journal*, 1973.

⁵ Aaron, Russek and Singer, *Tax Changes and the Composition of Fixed Investment*, 1973.

⁶ Gordon and Jorgenson, *Policy Alternatives for the Investment Tax Credit* (processed).