How Would Tax Reform Affect Financial Markets?

By John E. Golob

The U.S. Congress is evaluating several proposals to reform the federal income tax system. Proponents of tax reform want to simplify tax preparation and stimulate economic growth by increasing the incentives for taxpayers to work, save, and invest.

While the primary objective of tax reform is a more productive economy, changing the tax laws would also affect financial markets. Several of the proposals would change the way interest expenses are deducted and change the way income from interest, dividends, and capital gains is taxed. These changes would affect interest rates and the prices of stocks.

This article analyzes the effects of income tax reform on U.S. financial markets. The first section of the article describes the general goals and features of tax reform. The second section analyzes in broad terms how tax reforms would affect financial markets. The third section examines the specific proposals that Congress is evaluating and ranks them according to their effects on interest rates and stock prices.

John E. Golob is an economist at the Federal Reserve Bank of Kansas City. Stephen Monto, a research associate at the bank, helped prepare the article.

The article reaches three conclusions. First, most proposals would reduce interest rates in credit markets where interest income is currently taxable, including bank loans, Treasury securities, and corporate securities. Second, all proposals would increase interest rates in municipal credit markets where interest income is not currently taxable. And third, most proposals would increase stock prices. All three of these effects could be substantial.

AN OVERVIEW OF TAX REFORM

Tax reformers typically agree that the broad goal of reform is to improve the well-being of U.S. taxpayers. One way to accomplish this goal is through tax simplification. Few taxpayers find pleasure in filling out their tax forms, and most would welcome a simpler, less costly way of performing this irritating annual ritual.

Another way to improve the well-being of taxpayers is to spur economic growth. Reformers would do so by minimizing the disincentives inherent in all tax systems. For example, economists have long recognized that taxing wages discourages work and taxing capital income discourages saving. Some tax systems distort economic decisions more than others. Proponents of reform want to minimize such distortions.

Goals of tax reform

Tax reformers want to simplify the tax system to lower the costs of tax compliance. Although all of the costs of complying with the tax laws cannot be measured, estimates of these costs are substantial. Compliance costs include the time taxpayers spend preparing returns and the money they pay to tax preparers. Taxpayers must also keep records, and the IRS estimates that the record-keeping time exceeds the preparation time for some tax forms. In a study of 1985 tax returns commissioned by the IRS, Arthur D. Little, Inc. estimated that tax preparation and record-keeping costs were $50 billion for individuals and $100 billion for businesses. Since then, both the number of taxpayers and the reporting requirements have increased. Proponents of tax reform argue that a simpler tax system would eliminate most of the compliance costs.

In addition to reducing the explicit costs of tax compliance, proponents contend that a simpler tax system would reduce taxpayer frustration. The tax system currently contains approximately 480 IRS forms, 280 IRS information pamphlets, and thousands of pages of supplementary documentation. *Money* magazine highlighted this complexity when it asked 41 tax professionals to prepare the return of a fictional family who owed $35,000 in taxes (Tritch). Even though all 41 preparers knew their results would be published in the national magazine, only two preparers calculated the tax within $500 of the correct amount, and 14 missed by over $5,000. As further evidence of the system's complexity, up to a third of the callers to IRS taxpayer assistance lines receive incorrect answers (Simon).

More important than tax simplification, tax reformers also want to reduce the disincentives in the tax system. Tax reform proposals would encourage individuals to work and save more, and would encourage businesses to invest and export more. In addition, the proposals would discourage investors from making unsound investments designed to reduce tax liabilities. Finally, the proposals would reduce the incentives for individuals and businesses to evade taxes by entering the "underground economy."

The greatest concern of tax reformers is the low U.S. savings rate. Reformers contend that the current income tax system encourages consumption over savings and that the United States needs to save more to keep its economy healthy. The U.S. savings rate has been declining since the 1960s, and the savings rate has been lower over the last ten years than in any other ten-year period in U.S. history (Bernheim and Shoven). The savings rate is also lower in the United States than in most other industrialized countries and is less than half the rate in Japan (OECD). Thus, all tax reform proposals include features to encourage taxpayers to save more of their income. Higher savings, in turn, would promote more investment spending, higher productivity growth, and ultimately, a higher standard of living.

The broad goals of tax reform are supported by many legislators, economists, and political analysts. Critics, however, are concerned about possible side effects. For example, provisions that encourage greater savings could also lead to a rise in income inequality. Critics are also concerned that certain sectors of the economy would be hurt by tax reform. For example, homeowners and the housing industry have benefited from the home mortgage deduction, and both are concerned about losing this implicit subsidy. Issues such as these will be important in the ongoing debate over tax reform and will need to be addressed in conjunction with the financial market effects addressed in this article.[1]

Features of tax reform

Tax reformers want to change several features of the tax code. To improve tax incentives, most proposals would reduce tax rates. But because lower rates could lead to less revenue, the proposals would also eliminate many tax credits and deductions. Reformers also want to ensure that high-income households continue to pay higher average tax rates than low-income households.

This section describes the general features of tax reform being evaluated by Congress. Some of the features are common across multiple proposals, while others are unique to a single proposal. The features are broken into three categories. The first category contains the proposed changes to the individual income tax, the second category contains the proposed changes to the business income tax, and the final category describes the proposed direct taxes on consumption. Taxing consumption directly has been proposed as an alternative to taxing the income of individuals and businesses.

Individual income tax. Reformers have proposed seven key changes to the individual income tax:[2] (1) reduce marginal tax rates, (2) increase the income exempt from taxes, (3) reduce or eliminate deductions, (4) eliminate taxes on income from investments,[3] (5) allow a deduction for savings, (6) tax individuals for the interest income received from municipal securities, and (7) tax individuals on the value of their fringe benefits.

The first tax change for individuals would reduce marginal tax rates. The marginal tax rate is the rate taxpayers pay on the last dollar of their income. It is the rate economists consider most relevant for economic decisions (appendix). Marginal tax rates currently vary from 15 percent for low-income households to 39.6 percent for households earning over $250,000. Proponents of lower marginal rates say high marginal rates discourage work and encourage taxpayers to spend resources avoiding taxes.

To reduce marginal rates as much as possible some tax reformers propose a flat tax. Under a flat tax all income above a certain threshold would be taxed at a single rate. Proponents have proposed flat rates from 17 to 20 percent, depending on other features of the proposals. Not all tax reformers would flatten rates, however, and one proposal includes a multiple-rate structure that would increase the marginal rate for many taxpayers.

The second tax change for individuals would increase the personal exemption, which is the amount of income that is exempt from taxes. Households with incomes less than the personal exemption pay no taxes. The current exemption depends on filing status and ranges from $3,800 for single taxpayers to $6,350 for married taxpayers filing jointly.[4] All income tax reform proposals would raise this exemption. One proposal would raise the exemption to $13,100 for single taxpayers and $26,200 for married taxpayers filing jointly.

Tax reformers have two reasons for increasing the personal exemption. First, a high personal exemption eliminates taxes for many low-income households. Second, a high personal exemption ensures that the tax system is progressive, which means that high-income taxpayers pay a greater proportion of their income in taxes than low-income taxpayers.

The third tax change for individuals would reduce or eliminate many tax deductions. The three most important deductions are mortgage interest expenses, state and local taxes, and charitable contributions. Tax reformers would reduce these deductions to increase taxable income, thereby compensating for the reforms that would reduce revenue. Some reformers offer a second reason for eliminating these deductions. They want to minimize the importance of taxes in economic decisions. For example, the home mortgage deduction currently encourages households to buy rather than rent their residences. If this deduction were eliminated, households would no longer have to consider taxes when deciding whether to buy or rent.[5]

The fourth tax change for individuals would reduce or eliminate taxes on income from savings, also known as capital or investment income. Capital income includes interest income, stock dividends, and capital gains from the sale of real or financial assets. Tax reformers contend that high taxes on capital income encourage taxpayers to consume rather than save.

Many economists are especially critical of the taxes on dividends and capital gains because these taxes are applied to income that has already been taxed. Earnings from capital invested in a business are taxed first as business income and second as dividends and capital gains. This double taxation can imply effective marginal tax rates on capital income of up to 60 percent.[6]

In addition to affecting incentives, eliminating taxes on interest income would simplify the tax system. If taxes on interest income and deductions for interest expenses were eliminated, the IRS could stop monitoring all interest payments. Currently, over a billion IRS 1099 forms must be filled out each year to keep track of the interest transactions in the U.S. economy.

The fifth tax change for individuals would allow a deduction for income saved. Under this proposed change, taxpayers would pay taxes only on the part of their income they consumed. Tax reformers have proposed the savings deduction as an alternative to eliminating taxes on investment income. Both strategies would increase the incentives to save.[7]

The sixth tax change for individuals would affect taxpayers receiving interest income from municipal securities. Taxpayers currently do not pay taxes on interest income from municipals, which include securities issued by both state and local governments. One proposal would increase federal tax revenue by taxing the income from municipals.

The final tax change for individuals would include fringe benefits as taxable income. Because fringe benefits are not currently taxed, many large companies have increased fringe benefits as a fraction of employee compensation. Taxing these benefits would generate substantial revenue. This change would also treat employees more equitably, since employees with substantial fringe benefits currently pay lower effective tax rates on their total compensation.

Business income tax.[8] Reformers have proposed six key changes to the business income tax system:[9] (1) reduce tax rates, (2) eliminate industry-specific deductions and credits, (3) eliminate taxes on income from financial investments, (4) eliminate deductions for interest paid, (5) allow immediate deductions for capital investments, and (6) eliminate deductions for fringe benefits.

The first tax change for businesses would lower tax rates on business income. Proponents give three reasons for reducing these rates. First and most important, taxing business income discourages business investment. That is, taxes on business income reduce the after-tax return on investment, which reduces the number of investments that are economically viable. Lowering these taxes would make more investments viable and leave businesses with more money to invest.[10]

A second reason tax reformers want to reduce the business tax rate is to help the United States attract more international business. Lower business taxes would allow companies to increase their after-tax profits by relocating to the United States from countries with higher taxes.

A third reason flat-tax proponents want to reduce the business tax rate is to make business and individual rates similar. If businesses and individuals paid the same rates, lawyers and tax accountants would be less able to avoid taxes by creatively moving income and expenses between the two tax systems. This flexibility caused federal revenues to fall substantially below projections after the 1986 Tax Reform Act (Poterba). Small businesses were able to reduce their tax liability by filing as

Subchapter S corporations, which allowed them to pay the tax rate for individuals rather than the higher tax rate for businesses.

The second tax change for businesses would eliminate all industry-specific tax credits and deductions. Critics contend these tax subsidies cannot be justified from a public policy perspective. They argue the tax code should not be used to conduct industrial policy because most "loopholes" grow out of effective lobbying campaigns rather than public need.

The third tax change for businesses would eliminate taxes on income from financial investments. Most of this income is from interest on liquid assets, but some businesses also have income from stock holdings. Proposals that would eliminate taxes on financial income for businesses are typically the same proposals that do so for individuals. Proponents give the same reasons as those already discussed, simplifying taxes and eliminating double taxation.

The fourth tax change for businesses would eliminate deductions for interest paid on debt. Currently, interest expenses are among the items businesses deduct from their revenues when they calculate taxable profits. Disallowing the interest deduction would substantially increase tax revenues, which would partly compensate for the revenue lost by eliminating taxes on interest income.

The fifth tax change for businesses would allow an immediate deduction for capital investments, which include expenditures on buildings, furniture, vehicles, and equipment. Businesses currently spread these deductions over several years, corresponding to the useful life of each investment. In each year the deduction compensates the business for the amount that the investment wears out, or depreciates, during the year. Allowing immediate deductions for business investments would reduce their taxable income and would encourage them to invest more. Although this change would ultimately benefit all businesses, many could suffer during a transition period. Some proposals would not allow depreciation deductions for previous investments, and these proposals would only benefit businesses with investments larger than their depreciation deductions.[11]

The final tax change for businesses would eliminate deductions for employee fringe benefits. The rationale for eliminating the deductions is that employees do not currently pay taxes on these benefits. Eliminating business deductions for fringe benefits would increase federal tax revenues without taxing employees directly.

Consumption tax. Several tax reformers have proposed replacing the income tax with a direct tax on consumption. Taxpayers would pay the consumption tax on retail purchases the same way they now pay state and local sales taxes. Supporters of the consumption tax estimate that a 17 percent federal tax rate could replace the revenue currently generated by the income tax system. To rally support for a consumption tax, proponents promise to abolish the IRS.

Tax reformers have proposed two alternative consumption taxes, a sales tax and a value-added tax. The two taxes would be indistinguishable to a taxpayer. In both cases, the retail price of goods and services would increase by the amount of the tax.

The difference between a sales tax and a value-added tax emerges when viewed from the perspective of a business. A sales tax is collected only by retailers. In contrast, a value-added tax is collected by each business that adds value to a product. Consider a manufacturer that builds a car from raw materials and then sells the car to a dealer. A sales tax would be collected only by the dealer. A value-added tax would be assessed on the supplier of raw materials, the manufacturer, and the dealer. The price the manufacturer pays for raw materials would increase by the amount of the value-added taxes paid by the suppliers of the raw materials. The price the dealer pays would reflect the value-added taxes paid by both the raw materials supplier and the manufacturer. Finally, the price the consumer pays would reflect the value-added taxes paid by all three—supplier, manufacturer, and dealer.

A sales tax has both an advantage and a disadvantage relative to a value-added tax. Since a sales tax is collected entirely at the retail level, the tax is easier to administer. The disadvantage of a sales tax is that assessing the entire tax at one point increases the incentive to evade it. For example, the entire tax could be evaded by a black-market retailer. The value-added tax is more difficult to evade because it is not levied at a single point.

A direct consumption tax would be administered differently than an income tax, but both tax systems would have similar effects on financial markets. The effects would be similar because both tax proposals tend to put the tax burden on the part of income that is consumed. The similarity is explained further in the next section.

FINANCIAL MARKET EFFECTS OF TAX REFORM

Tax reform would have direct and indirect effects on financial markets. The direct effects would stem from changes in taxes on capital income and changes in the deductibility of interest expenses. The indirect effects would occur through changes in the economy. Reformers contend that changing the tax system would increase savings, investment, and economic growth, thereby indirectly affecting financial markets. This section describes both the direct and indirect effects of tax reform and explains why the direct effects are typically larger.

The analysis in this section assumes that tax reform would not affect the level of federal revenues or the federal budget deficit.[12] This assumption is reasonable because the sponsors have tried to design the proposals to be revenue-neutral. Nevertheless, Congress has not yet produced any official estimates of the revenue impact of tax reform. Previous tax reforms have shown that revenue changes can be difficult to forecast, and revenue uncertainty must be recognized as a risk in any reform proposal (Poterba).

Direct effects

The financial markets affected by tax reform can be broken into three categories. The first category contains debt contracts whose interest income is currently taxable, including bank debt, Treasury securities, and corporate securities. The second category contains municipal securities whose interest income is not currently taxable. The final category contains the stocks of publicly traded corporations.

Taxable interest rates. Two features of the proposed tax reforms would directly affect interest rates on securities that are currently taxable. First, many proposals would eliminate taxes on all interest income. Second, many proposals would either reduce or eliminate the deductibility of interest expenses. These changes would reduce the demand for credit and increase the supply, which would cause interest rates to decline.

Eliminating the deductibility of interest expenses would reduce the demand for credit. Businesses currently deduct all of their interest expenses. Individuals deduct the two largest components of their interest expenses, home mortgages and debt incurred for financial investments.[13] To the extent that interest deductions reduce a borrower's taxes, the effective after-tax costs of a borrower's loan are less than the payments to the lender. Eliminating the interest deduction would make borrowing less attractive, *causing the demand for credit to decline.* On a graph with interest rates on the vertical axis, the demand curve would shift to the left (Figure 1).

Figure 1

THE EFFECT OF TAX REFORM ON THE DEMAND FOR CREDIT

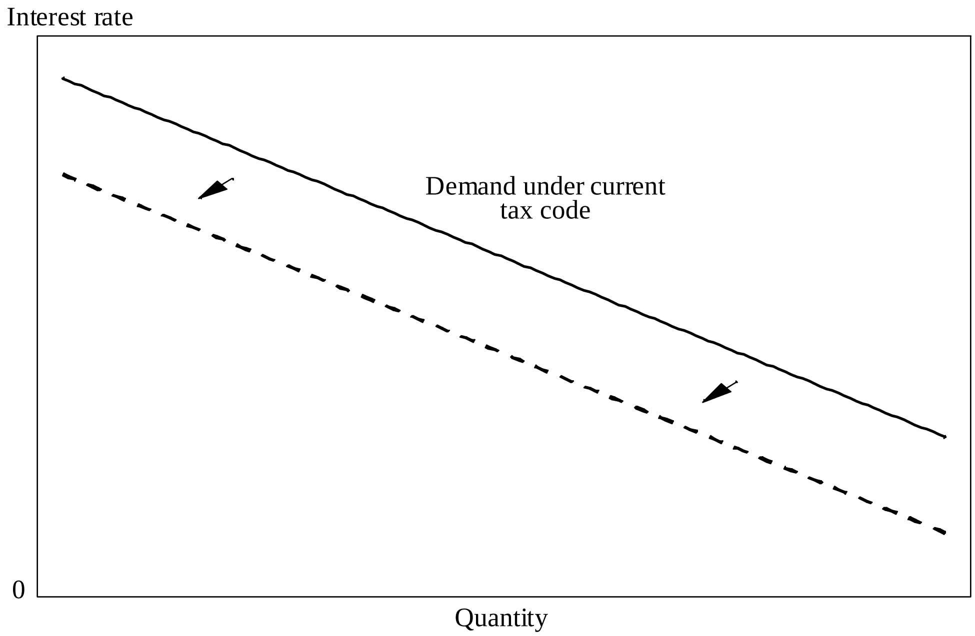
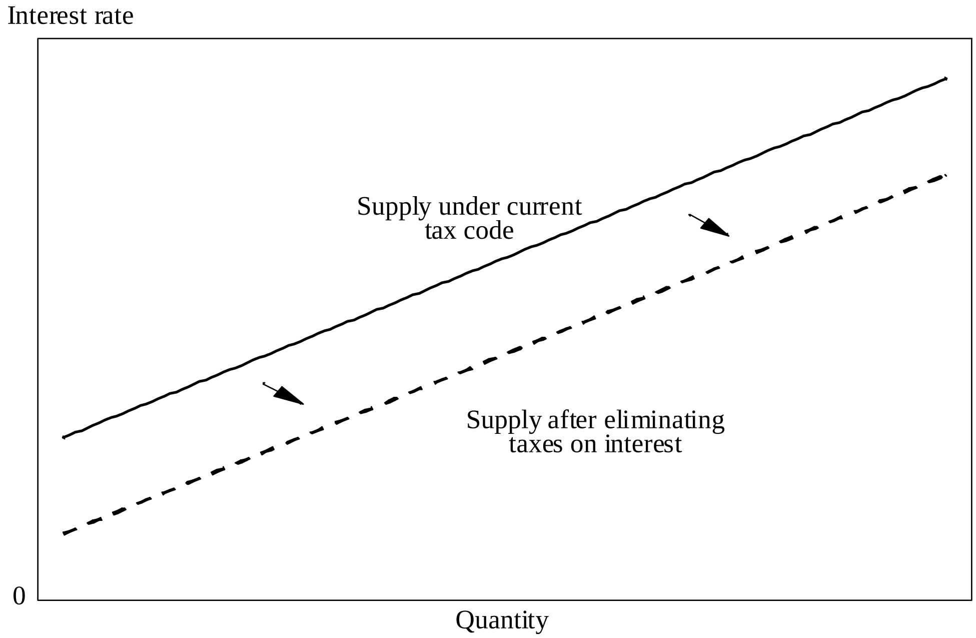


Figure 2

THE EFFECT OF TAX REFORM ON THE SUPPLY OF CREDIT



Just as interest deductibility affects credit demand, taxing interest income affects credit supply. If taxes were eliminated on interest income, lending would become more attractive, *causing the supply of credit to increase.* An increase in the supply of credit implies that the credit supply curve would shift to the right (Figure 2).

The equilibrium interest rate occurs where the credit demand and credit supply curves intersect. With the credit demand curve shifting to the left and the credit supply curve shifting to the right, the equilibrium interest rate would decline (Figure 3).

How much would rates decline? The shift in credit supply and demand curves can be estimated by considering how taxes affect borrowing and lending decisions. The analysis is based on the assumption that after-tax interest rates are the relevant rates when borrowers and lenders agree to debt contracts. The importance of tax considerations can be illustrated by comparing the interest rates on taxable Treasury securities with the interest rates on nontaxable municipal securities (Chart 1). Even though Treasury securities are less risky than municipals, municipals consistently pay lower interest rates. Credit suppliers are willing to accept the lower interest rate on municipals because the after-tax return on municipals is generally higher than the after-tax return on Treasuries.

The shift in the credit demand curve is related to the tax rate of individuals and businesses that deduct interest expenses from their taxable income. Consider the credit demanded by a taxpayer paying a 25 percent marginal tax rate. For this taxpayer, an 8 percent tax-deductible interest rate is equivalent to a 6 percent nondeductible rate. That is, his taxes would be reduced by one-fourth of the 8 percent interest payment, causing his effective interest rate to be three-fourths of 8 percent, or 6 percent. This taxpayer would be indifferent if offered a choice between an 8 percent tax-deductible interest rate and a 6 percent nondeductible rate. If interest deductibility were eliminated and nothing else changed, the taxpayer would demand the same amount of credit at 6 percent as he had previously demanded at 8 percent. This quantifies the shift in the taxpayer's credit demand curve. On a graph with interest rates on the vertical axis, the taxpayer's credit demand curve would shift downward by a fraction corresponding to the marginal tax rate. Returning to the numerical example, the new credit demand curve would be 75 percent of the original curve.

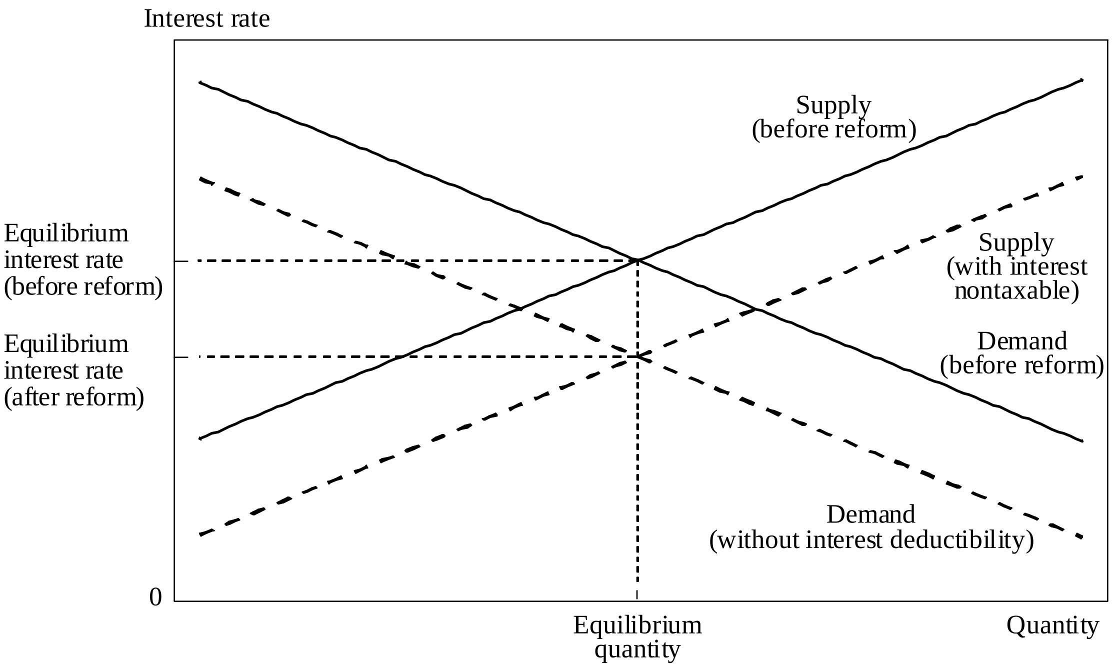
The analysis of tax effects on credit demand for an individual extends to the U.S. economy. The analysis is complicated, however, by the fact that not all taxpayers pay the same tax rate. Marginal tax rates for individuals and small businesses begin at 15 percent and increase to 39.5 percent. Large businesses pay marginal rates according to a separate tax schedule, which taxes most corporate income at a 35 percent rate.

Because different taxpayers are taxed at different rates, economists often use the marginal tax rate paid by the "average" taxpayer when analyzing the economic effects of taxes (Barro and Sahasakul). This approach can be used to estimate the shift in the credit demand curve. Since both individuals and businesses deduct interest expenses, both of their tax rates are relevant. For individuals and small businesses the average marginal rate is about 25 percent. With a 35 percent tax rate for large businesses, the effective tax rate for interest deductions should fall between 25 and 35 percent. Thus, eliminating interest deductibility would lower the credit demand curve by 25 to 35 percent.

The shift in the credit supply curve is related to the tax rate of taxpayers with interest income. The analysis follows the same logic as the shift in credit demand. Consider a taxpayer with a 25 percent marginal tax rate supplying credit at 8 percent. One-fourth of the interest income goes to taxes, making the taxpayer's 8 percent interest rate before

Figure 3

THE EFFECT OF TAX REFORM ON THE SUPPLY AND DEMAND FOR CREDIT



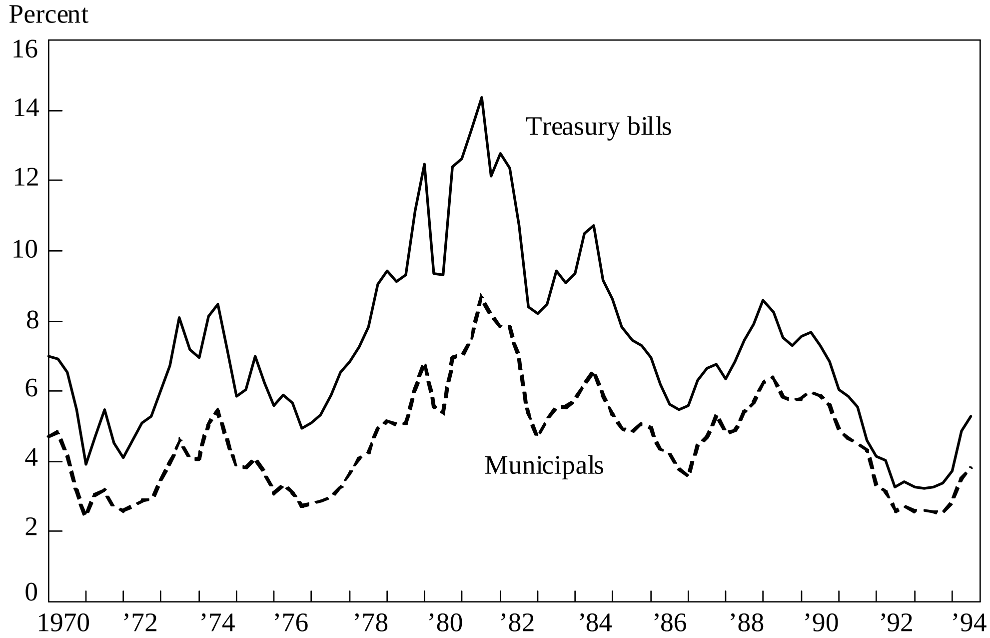
taxes correspond to a 6 percent rate after taxes. This taxpayer would be indifferent to a choice between 8 percent taxable interest income and 6 percent nontaxable interest income. If taxes on interest were eliminated, the taxpayer would supply the same amount of credit at 6 percent that he had previously supplied at 8 percent. That is, the taxpayer's new credit supply curve would be below the original curve by an amount corresponding to the fraction of interest income paid in taxes.

The effect of tax reform on the credit supply curve for the U.S. economy would be similar to the effect for an individual. The new credit supply curve would be below the original curve by an amount corresponding to the tax rate for the U.S. economy. Assuming the relevant tax rate is the same as for the credit demand curve, the new credit supply curve would be 25 to 35 percent below the original curve.

The lower credit demand and supply curves determine a new credit market equilibrium. If the same tax rate applies to both curves, both would decline by the same fraction. Under this assumption the equilibrium quantity of credit would not change (Figure 3). The equilibrium interest rate would be reduced by a fraction corresponding to the relevant tax rate. With marginal tax rates in the 25 to 35 percent range, tax reform would cause interest rates to drop to between 65 and 75 percent of their value before reform. An 8 percent interest rate before tax reform would drop to between 5.2 and 6.0 percent after tax reform.

Chart 1

INTEREST RATES ON 1-YEAR MUNICIPALS AND 1-YEAR TREASURY BILLS



The analysis of credit supply and demand has thus far assumed that all interest income is taxed and all interest expenses are deducted. This assumption is only an approximation, and some secondary factors need to be mentioned. Some interest income escapes taxation because businesses are more diligent in reporting interest deductions than interest income (Hall and Rabushka). Since tax reform would not affect the interest income that is already untaxed, this leakage suggests the credit supply curve would not decline as much as previously suggested. The decline in the credit demand curve would also be reduced because some interest expenses are already not deductible. For example, individuals currently cannot deduct interest on nonmortgage consumer debt.[14]

While the analysis illustrated in Figure 3 implies a 25 to 35 percent decline in interest rates, the analysis does not consider the secondary factors discussed above. These factors are considered secondary because most interest income is taxed and most interest expenses are deducted. The exact importance of the secondary factors is difficult to estimate. Nevertheless, these factors suggest the interest rate decline would probably be closer to 25 percent than to 35 percent.[15]

Interest rates on municipal securities. Under current tax laws, taxpayers do not pay taxes on the interest income from municipal securities. One tax proposal would remove this exemption, causing municipal rates to rise to the levels paid by other taxable securities. Under the assumption that municipal securities would continue to be exempt from state and local income taxes, their interest rates would be marginally lower than the rates on corporate securities with comparable risk.

Most tax proposals would not change the tax exemption for municipals, but instead eliminate taxes on all other interest income. These proposals would also cause municipal interest rates to rise by eliminating the feature that attracts investors to municipals. Since some municipal investors would be attracted to other credit markets, the supply of credit to the municipal market would decrease. A decrease in the supply of credit implies that the credit supply curve shifts to the left, which would lead to higher municipal interest rates (Figure 4). Note that the demand curve for municipal credit would not change. The credit demand curve would shift if interest deductibility changed, but governments do not pay taxes and thereby do not deduct interest expenses on municipal debt.

Analysts cannot reliably predict how much tax reform would increase interest rates on municipal securities. The size of the increase would depend on two primary factors, neither of which can be easily estimated. First, the rate increase would depend on how rapidly state and local governments reduced their demand for credit as interest rates rose (elasticity of credit demand). Second, the rate increase would depend on the extent to which investors found substitutes for municipals in other credit markets (elasticity of substitution). Nevertheless, if municipal and Treasury securities were taxed the same, municipal interest rates would be higher than Treasury interest rates because municipals are riskier.

Stock markets. Several elements of the current tax laws affect stock prices. Because stocks represent a claim on the expected future income of a corporation, stock prices are affected by any change in shareholders' claim on this income. Owners of stocks pay taxes through both the individual and business income tax systems. Any income earned by a corporation is first taxed as business income. The remaining income is either distributed to shareholders as dividends or reinvested in the business. The dividends distributed to shareholders are taxed immediately. The income reinvested should increase the value of the stock, which is ultimately taxed as a capital gain when the stock is sold. Thus, taxes on business income, dividends, and capital gains all reduce the value of the corporation to the shareholder. Reducing these taxes would raise stock prices, and increasing these taxes would lower stock prices. Most tax reform proposals would reduce the effective tax rate on corporate income paid to shareholders and in turn lead to higher stock prices.

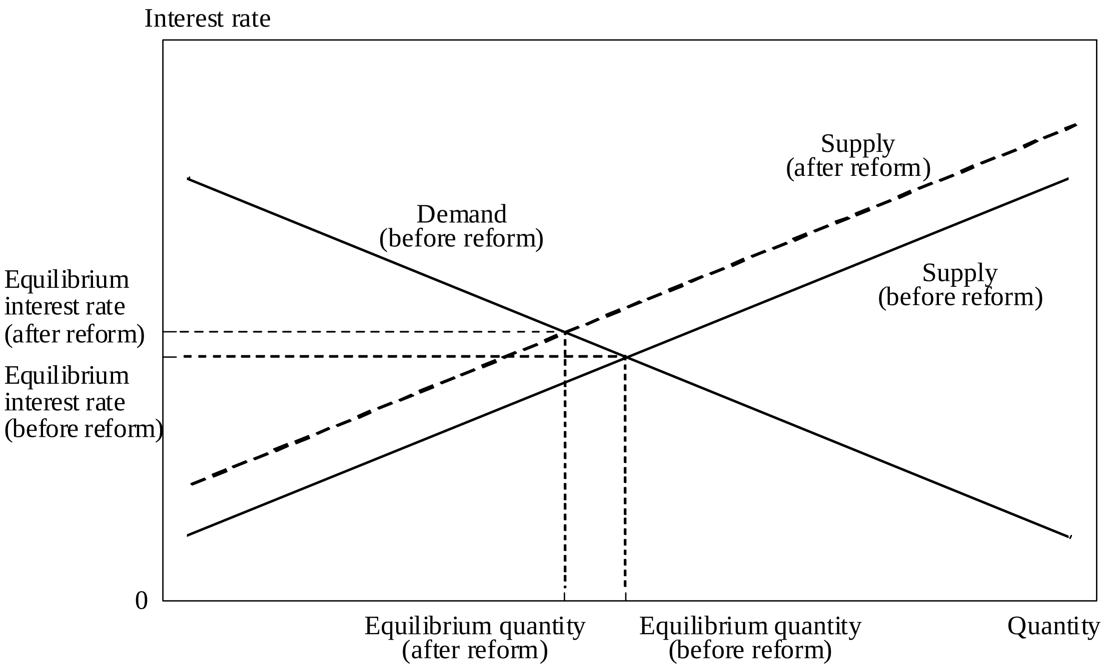
Eliminating all three taxes on capital income could lead to substantially higher stock prices. Market observers are uncertain, however, about the size of the increase. Recall that double taxation in the present system can imply tax rates of up to 60 percent on capital income. With such high rates, one market observer has suggested that stock prices could double in response to tax reform (Forbes). Predictions of stock prices need to be viewed skeptically, however, because economic models are notably unsuccessful in explaining past movements in stock prices (Roll).

Tax reform proposals would have different price effects on different stocks. Eliminating deductions and credits would tend to reduce the earnings and stock prices of companies that benefit most from special provisions in current tax laws. For example, a depletion deduction benefits oil and mining companies, and a tax credit for manufacturing in U.S. territories benefits pharmaceutical and electronics companies.[16] The stocks of companies not favored under current tax laws would respond more positively to tax reform.

Another reason tax reform would have differential effects on stock prices is many taxpayers pay different tax rates on dividends and capital gains.

Figure 4

THE EFFECT OF TAX REFORM ON THE MUNICIPAL CREDIT MARKET



Most capital gains taxes are paid on assets held more than one year, and the maximum tax rate on these "long-term" gains is 28 percent. For dividends, tax rates can be as high as 39.6 percent. Thus, eliminating taxes on dividends and capital gains would be more beneficial to stocks that pay high dividends than to stocks with income in the form of capital gains.

Changing the rules for deducting investment expenses could also have differential effects among different stocks. Allowing immediate deductions for all investment expenditures would be especially beneficial to firms that make large investments. For example, immediate deductions for investments would have contributed to a 75 percent reduction in Intel's federal tax bill in 1993 (Hall and Rabushka). Mature companies typically invest less than growing companies, and disallowing depreciation deductions for previous investments could lead to higher taxes for some mature companies.

Indirect effects

In addition to the direct effects of tax reform, financial markets would be affected indirectly by changes in the economy. Tax reformers contend that the current tax code discourages economic activity and that economic activity would increase if the disincentives were reduced. Reformers also contend that tax reform would reduce tax evasion.

The indirect effects of tax reform are even more difficult to quantify than the direct effects. The indirect effects are more uncertain because economists cannot reliably predict how the economy will respond to changes in tax incentives. Some economists have estimated tax reform would increase the level of economic output by 5 to 6 percent (Hall and Rabushka). Others have suggested the economy would respond only marginally to tax reform (Krugman). Without trying to resolve the debate regarding the responsiveness of the economy to tax incentives, this article will describe how financial markets would react if the economy responds to the revised tax incentives.

Many of the tax reform proposals would reduce the tax rate on capital income. Tax reformers contend that doing so would increase savings and investment, a view supported by the predictions of economic models (Blanchard and Fischer).[17] According to this view, increases in savings and investment would increase the capital stock, which in turn would tend to reduce interest rates. This conclusion is based on the economic principle that an increase in one of the factors of production will lower the return to that factor. Thus, interest rates would decline because increases in the capital stock would reduce the return to capital.

Increases in the capital stock would also affect the stock market. As the capital stock increases, the economy becomes more productive and economic output rises. A stronger economy implies higher corporate income, which would lead to higher stock prices.

In addition to the impact of higher domestic savings, proponents contend that tax reform would attract more investment from abroad. This effect would increase the capital stock even further, leading to additional downward pressure on interest rates and upward pressure on stock prices.

Tax reformers maintain that lower marginal tax rates would increase the labor supply by providing greater incentives to work. For example, researchers have found that lower marginal tax rates are especially effective in attracting married women into the labor force (Eissa). Increases in the labor force would lead to increases in both employment and economic output. Higher economic output would increase the return to capital, which implies higher interest rates (Dornbusch and Fischer). Since stock prices are positively correlated with economic output, stock prices would rise as employment increased.

On balance, the indirect effects of tax reform on interest rates are ambiguous. Increases in the capital stock would tend to lower interest rates, while increases in the labor force would tend to raise them.

Although the indirect effects of tax reform on interest rates are uncertain, the effects would certainly be smaller than the direct effects. Proponents acknowledge that tax reform would take seven years to increase the level of GDP by only 2 to 4 percent (Hall and Rabushka), and some economists have suggested that even these moderate effects are optimistic. The percentage change in interest rates from the indirect effects would be similar to the percentage change in GDP. Recall that the direct effects of tax reform are much larger, on the order of 20 percent. The indirect effects would also take several years to be fully realized, which further reduces their potential importance.

The indirect effects of tax reform on stock prices would reinforce each other. Increases in domestic savings and investment, the labor supply, and foreign investment would all cause stock prices to rise. Predicting the size of the effect, however, is more difficult than predicting the direction. But again, the size of the indirect effects would be smaller than the direct effects. Although corporate income fluctuates over the business cycle, over the long term it is a relatively stable fraction of GDP. Since stock prices are a claim on corporate earnings, the indirect effect of tax reform on stock prices would be similar to the effect of tax reform on GDP. That is, stock prices might increase a few percent, which would be much less than the direct effects. Recall that the direct effects would be comparable to marginal tax rates, which can be as high as 60 percent on capital income.

FINANCIAL MARKET EFFECTS OF SPECIFIC PROPOSALS

This section examines the financial market effects of specific tax proposals. The proposals are diverse and their financial market effects could vary widely.

Congress is currently evaluating seven alternative tax proposals, which fall into three categories. Three of the proposals are in the flat tax category and have many common features (Table 1). The flat tax was first proposed by Representative Armey and is now cosponsored by Senators Craig and Shelby. Two variations of the flat tax have also been proposed, one by Senator Spector and another by Representatives Solomon and Souder. In addition, two income tax proposals contain *progressive marginal rates*, which are substantially different both from each other and from the flat tax proposals (Table 2). The first of these proposals, the USA (Unlimited Savings Allowance) tax, is jointly sponsored by Senators Nunn and Domenici. The second proposal, the 10 percent tax, is sponsored by Representative Gephardt. The final category contains *direct consumption* taxes, which include both the sales tax and the value-added tax. Senator Lugar is sponsoring a sales tax proposal and Representative Gibbons is sponsoring a value-added tax proposal (Table 3).[18]

The various tax reform proposals can be ranked according to their effect on interest rates and stock prices. The discussion begins with the proposal or proposals that would affect each market the most and continues with those having progressively smaller effects. The analysis is based primarily on the direct effects of tax reform.

Effects on taxable interest rates

Most of the specific tax reform proposals would cause interest rates to decline, but the size of the decline would vary across the different proposals. The primary reasons for the decline are the direct effects of eliminating taxes on interest income and eliminating the deductibility of interest expenses.

Three proposals would have the maximum direct effect. The sales tax, the value-added tax, and the Armey flat tax would eliminate all taxes on interest income and all tax deductions for interest expenses. As discussed earlier, these proposals would likely cause interest rates to decline to less than 80 percent of their current level.

The Spector and Solomon-Souder flat tax proposals would reduce interest rates slightly less than the Armey proposal. Both of these alternative proposals would allow deductions for some mortgage interest, which implies somewhat less downward pressure on interest rates. Nevertheless, both of these proposals would eliminate taxes on all interest income and eliminate all interest deductions by businesses, so the interest rate declines would still be substantial.

The Nunn-Domenici proposal is next in the interest rate ranking. This proposal would eliminate taxes on interest income and deductions for interest expenses, but only on business returns. Thus, the Nunn-Domenici proposal would affect interest rates less than the proposals that would change how interest is taxed for both individuals and businesses.[19]

The Nunn-Domenici proposal has a unique feature regarding the indirect incentive effects of tax reform. The proposal would allow a deduction for all income saved. This deduction would provide a larger incentive for taxpayers to save than proposals to eliminate taxes on capital income. Eliminating taxes on capital income would reward taxpayers in

Table 1

SUMMARY OF THREE FLAT RATE INCOME TAX PROPOSALS

Common features	Variations in specific flat tax proposals
• Personal exemption is increased • Tax deductions and credits are reduced or eliminated • Taxes are eliminated on interest income • Taxes are eliminated on dividends and capital gains • Individuals and businesses are taxed at same flat rate • Businesses are allowed immediate deductions for capital investments	*1. Sponsored by Representative Armey, Senator Shelby, and Senator Craig* • All deductions are eliminated, but a high personal exemption is allowed on individual returns • Individuals and businesses are taxed at 20 percent tax rate for two-year transition, 17 percent rate afterward *2. Sponsored by Senator Spector* • Interest deductions are allowed on mortgage debt up to $100,000 • Charitable contributions are deductible up to $2,500 • Individuals and businesses are taxed at 20 percent rate *3. Sponsored by Representatives Solomon and Souder* • Interest deductions are allowed on mortgage debt up to $100,000 • All charitable contributions are deductible • Individuals and businesses are taxed at 20 percent rate

the future for current savings. The savings deduction would reward savers immediately. Since the Nunn-Domenici proposal would provide greater incentives to save, it would have greater indirect effects. This increase in savings would tend to lower the return to savings, which would imply lower interest rates.

The Gephardt proposal is last in the interest rate ranking. The proposal would not change taxes on interest income or the deductibility of interest expenses for either individuals or businesses. Also, the proposal contains no incentives for taxpayers to save more. Thus, the proposal would affect interest rates only marginally. Since the proposal would reduce the marginal tax rates for some high-income taxpayers, interest rates might decline a little. But, these changes would be small relative to the typical interest rate moves over the business cycle.

Effects on municipal interest rates

All tax reform proposals would increase interest rates on municipals to some extent. The Gephardt proposal would have the largest effect on municipal interest rates. This proposal eliminates the tax exemption for municipal securities, so municipal rates would become comparable to other taxable interest rates. Municipal rates would be at least as high as the rates on Treasury securities with comparable maturity. Municipal rates would exceed the interest rates on Treasuries by the appropriate risk premium, which would likely be in the vicinity of 30 to 50 basis points for highly rated securities.

Table 2

SUMMARY OF TWO INCOME TAX PROPOSALS WITH PROGRESSIVE RATES

1. The USA (Unlimited Savings Allowance) tax sponsored by Senators Nunn and Domenici	2. The 10 percent tax sponsored by Representative Gephardt
• Deductions are allowed for all income saved • Deductions are allowed for higher education (college or vocational) up to $2,000 per person, with a maximum of $8,000 for a family • Deductions are continued for mortgage interest, charitable contributions, and alimony • A tax credit is given for social security taxes • Individuals are initially taxed at rates from 19 to 40 percent, but rates are lowered to from 8 to 40 percent over time • Businesses are allowed immediate deductions for capital investments • Businesses' deductions for wages and fringe benefits are eliminated • Businesses are not taxed on revenues from exports • Businesses are taxed at an 11 percent rate	• All deductions are eliminated, except interest on home mortgages • Interest income from municipal bonds is taxed • Income from interest, dividends, and capital gains continues to be taxed • Employees are taxed on employer-provided fringe benefits • Individuals are taxed at rates between 10 and 34 percent • 75 percent of taxpayers are taxed at a 10 percent rate

Only the Gephardt proposal would change the taxation of municipal interest income, but the other proposals would still increase municipal interest rates. Other proposals would increase municipal interest rates by providing investors with alternative tax-free securities.

All three flat tax proposals and both consumption tax proposals would provide municipal investors alternative tax-free securities. As investors shifted to these other securities, municipal rates would rise until their rates exceeded the rates on Treasury securities by the appropriate risk premium. Municipal rates would be marginally higher under the Spector and Solomon-Souder flat tax proposals than under the other flat tax and consumption tax proposals. Recall that nonmunicipal interest rates would decline less with the Spector and Souder plans because both would allow interest deductions on mortgages up to $100,000.

The Nunn-Domenici proposal would affect municipal rates less than all of the other proposals. Municipals would retain their tax advantage for

Table 3

SUMMARY OF PROPOSALS FOR DIRECT CONSUMPTION TAXES

1. Sales tax sponsored by Senator Lugar	2. Value-added tax sponsored by Representative Gibbons
• Assessed on retail purchases	• Assessed on value added at each stage of production
• Collected by states	• Value added is revenue minus costs
• 17 percent rate is required to provide same revenue as current tax system	• Revenue from exports and costs of imports are not included in calculation of value-added
• Replaces personal and business income taxes	• Replaces personal and business income taxes

individual investors but would lose their tax advantage for businesses. Businesses would be encouraged to shift to other securities, but individuals would not. Thus, municipal rates would not increase as much as under proposals that change the attractiveness of municipals for both individuals and businesses.[20]

Effects on stock markets

Three taxes currently reduce the income available to a business's shareholders—the business income tax, the individual income tax on dividends, and the individual income tax on capital gains. Reducing any of these taxes would increase stock prices.

The proposals that would tax consumption directly, the sales tax and the value-added tax, would have the most positive impact on stock prices. These proposals would eliminate all three taxes on capital income. With this approach, income from capital would not be taxed until it is ultimately consumed.

The three flat tax proposals would eliminate taxes on dividends and capital gains but would continue to tax business income. By eliminating two of the relevant taxes, these proposals would also increase stock prices. Since business income would continue to be taxed, however, stock prices would increase less than under the consumption tax proposals.

The flat tax proposals contain another feature that would affect stock prices. While flat tax proposals would reduce tax rates on business income, by eliminating business deductions the proposals would increase the tax burden on businesses relative to individuals. In 1993, for example, individuals paid 81 percent of federal income tax revenues and businesses paid the remaining 19 percent. Under a flat tax, individuals would have paid 58 percent of federal tax revenues and businesses would have paid 42 percent (Hall and Rabushka).[21] This increase in business income taxes would dampen the increase in stock prices.

The effects of the Nunn-Domenici and Gephardt proposals on stock prices are ambiguous. Both proposals would retain all three taxes on capital income. Both proposals would also reduce marginal tax rates for some taxpayers with dividends and capital gains. Other taxpayers, however, would pay higher tax rates on capital gains. The net effect of these two changes is uncertain. Nevertheless, the

Nunn-Domenici and Gephardt proposals would certainly have smaller effects on stock prices than the other proposals.

CONCLUSION

With the U.S. savings rate near a historic low and taxpayers increasingly frustrated by the complexity of the income tax system, many economists and political analysts are recommending tax reform. By increasing the savings rate and simplifying the tax system, tax reformers hope to make the economy more productive. Critics are concerned that encouraging savings could lead to greater income inequality. Also, groups and industries favored under the current tax code are concerned about losing their preferential treatment. In addition to these issues, tax reform would have important effects on financial markets.

This article has examined the potential financial market effects of proposals to reform the U.S. income tax system. Most proposals would reduce interest rates in credit markets where interest income is currently taxable, which includes bank loans, Treasury securities, and corporate securities. Interest rates would decline because the supply of credit would increase and the demand for credit would decrease. Lenders would supply more credit because they would no longer have to pay taxes on their interest income. Borrowers would demand less credit because they could no longer deduct interest expenses from their taxes.

Tax reform would increase interest rates on municipal securities. One proposal would eliminate the tax exemption for interest on municipal securities. Under this proposal municipal interest rates would rise to levels similar to those on other taxable securities. Municipal interest rates would also be affected by proposals that eliminate taxes on all interest income. These proposals would lower the demand for municipals by creating many nontaxable substitutes.

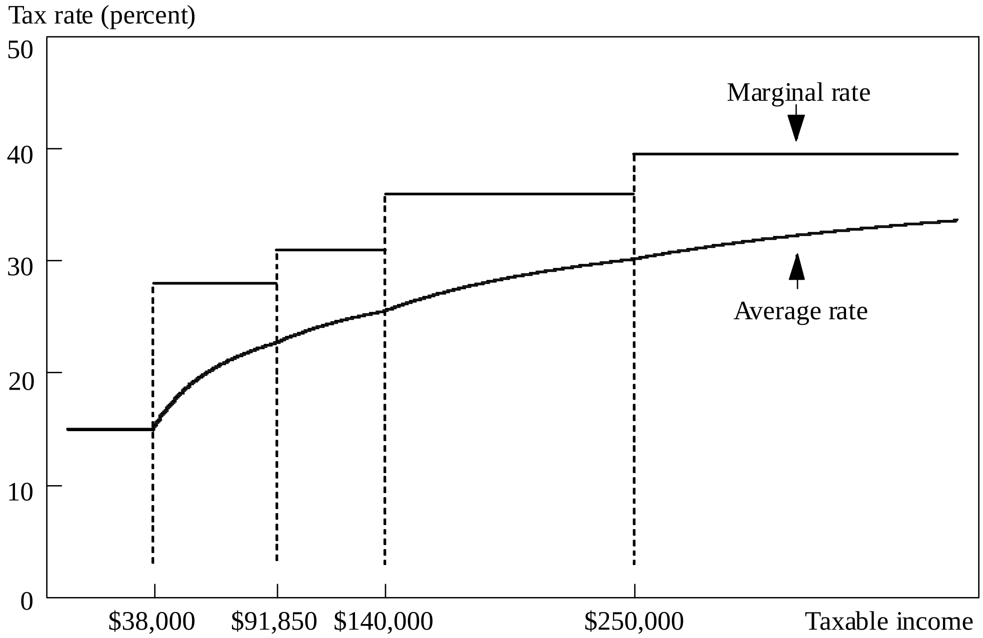
Finally, most tax reform proposals would increase stock prices. Three taxes currently reduce the fraction of a business's income that is available to its shareholders, the business income tax, the individual tax on dividends, and the individual tax on capital gains. Most proposals would reduce one or more of these taxes, which would lead to higher stock prices.

Financial market effects vary widely among the various tax proposals, and in some cases the effects are substantial. Anticipating these effects will be important both to Congress and to financial market participants.

APPENDIX

Chart A-1

TAX SCHEDULE FOR 1994



MARGINAL VS. AVERAGE TAX RATES

Economists consider the marginal tax rate to be the important tax rate for economic decisions. The marginal tax rate is the rate applied to the last dollar of income and is typically higher than the average tax rate. For example, in 1994 the tax rate for married taxpayers filing jointly was 15 percent for income up to $38,000 (Chart A-1). The rate increased to 28 percent for income between $38,000 and $91,850. For those in higher income brackets, the lower tax rate still applies to the first $38,000 of their income. Consider a married couple earning $76,000. The 15 percent rate would apply to the first $38,000, and the 28 percent rate would apply to the remaining $38,000. The average tax rate for this couple would be the average of 15 and 28 percent, which is 21.5 percent. But, if the couple increased their income by one dollar they would retain only 72 cents after taxes, so the 28 percent marginal rate is the important rate for economic decisions.

ENDNOTES

[1] The political implications of tax reform are discussed in separate articles by Gray and Richman.

[2] In addition to the seven changes discussed in the text, two other features are worthy of mention. First, one proposal includes a tax credit for social security taxes paid by individuals. This change would reduce income taxes by the amount of taxes paid to the social security system. Taxpayers whose tax payments to social security exceeded their income tax bill would receive a refund. The social security tax credit would reduce or eliminate income taxes for many low-income households.

Another proposed feature is a deduction for the cost of higher education. This deduction would subsidize the cost of higher education by providing tax relief for families with students in universities and vocational schools.

[3] Unlike income from financial investments, income from rental properties would be subject to business taxes.

[4] The personal exemption increases with inflation, and specific numbers given are for 1994 returns.

[5] The interest deduction for home mortgages creates what economists refer to as an economic distortion. By encouraging home ownership the deduction distorts the decision households would make in the absence of tax considerations.

[6] After applying a 35 percent tax rate to business income, 65 percent remains available to shareholders. If the income is distributed to shareholders in the form of dividends the marginal tax rate can be as high as 39.5 percent, so the taxpayer keeps 60.5 percent of the dividend. Thus, the shareholder ultimately receives 60.5 percent of 65 percent, which is 39.3 percent of the capital income. The effective tax rate is 60.7 percent.

Inflation can further increase the effective tax rate because taxes are applied to nominal rather real returns. Price inflation implies that real returns are less than nominal returns, so taxes are a greater proportion of real returns than of nominal returns.

[7] Although both the savings deduction and the elimination of taxes on investment income would encourage savings, these strategies have different consequences for some taxpayers. For example, consider a taxpayer living exclusively on investment income from assets that were either inherited or purchased with previous savings. If taxes on investment income were eliminated, the taxpayer would pay no taxes. Under the savings deduction, however, the taxpayer would pay taxes on the difference between income and savings. That is, the taxpayer would still be taxed on the amount consumed.

[8] This article will follow the convention of other authors and refer to the corporate income tax as the business income tax. In practice, many small businesses are taxed under the individual income tax rather than the corporate income tax.

[9] In addition to the changes discussed in the text, some tax reformers would like to reduce the U.S. current account deficit. These reformers have proposed encouraging exports and discouraging imports by changing how taxable income is calculated. Export sales would not be included as taxable revenue, and imports would not be included as costs when calculating taxable income.

[10] Reducing tax rates would not necessarily reduce taxes. By eliminating deductions while reducing tax rates, flat tax proposals would increase income taxes for many businesses.

[11] For example, in 1993 General Motors invested $6 billion and took $9 billion in depreciation deductions. Allowing deductions for new investments while disallowing depreciation deductions on previous investments would have increased General Motors' taxable income by $3 billion in 1993 (Hall and Rabushka).

[12] Economists generally believe that increases in the federal deficit would put upward pressure on interest rates.

[13] Not all interest on debt for financial investments is deductible. The deduction is only allowed if the investment generates income, and the interest deduction cannot exceed the amount of income that the investment generates.

[14] Of course, tax reform would not change the deductibility of interest on the national debt. In addition, IRAs and other pension plans allow taxes on interest income to be deferred. To the extent that these accounts lower the effective tax rate on interest income, the interest rate decline from tax reform would be reduced further.

[15] Further evidence regarding the relevant marginal tax rate can be found in the municipal securities market. The municipal interest rate should correspond to the after-tax interest rate on similar securities. Assuming that municipals contain a risk premium of 50 basis points, the one-year municipal market over the last five years is consistent with a marginal tax rate of 30 percent.

[16] The depletion deduction for oil and mineral companies typically exceeds the costs of exploration and recovery.

Many pharmaceutical and electronics companies receive a tax credit for manufacturing in Puerto Rico. Congress may eliminate this tax credit before enacting a complete tax reform proposal.

[17] To the extent that capital can flow between countries, domestic savings do not have to equal domestic investment. Nevertheless, researchers have found that capital is not perfectly mobile. Feldstein and Horioka authored a widely cited paper on this issue, and Frankel confirmed their conclusion in more recent research.

[18] Representative Archer, Chairman of the House Ways and Means Committee, has endorsed the concept of a consumption tax. His committee will hold hearings on alternative proposals.

[19] The Nunn-Domenici proposal would also increase marginal tax rates for many taxpayers, which would further dampen the interest rate decline.

[20] Approximately half of the municipals are held by businesses. If substitution elasticities are comparable for businesses and individuals, the Nunn-Domenici proposal would increase municipal rates by about half as much as the flat tax and consumption tax proposals.

[21] Some income from small businesses would shift from individual to business returns under a flat tax, which accounts for part of the calculated increase in the tax burden on businesses.

REFERENCES

Arthur D. Little, Inc. 1988. *Development of Methodology for Estimating the Taxpayer Paperwork Burden*. Washington, DC.: Internal Revenue Service, June.

Barro, Robert, and Chaipat Sahasakul. 1983. “Measuring the Average Marginal Tax Rate from the Individual Income Tax,” *Journal of Business*, October, pp. 419-52.

Bernheim, Douglas, and John Shoven. 1991. *National Saving and Economic Performance*. Chicago: University of Chicago Press.

Blanchard, Olivier, and Stanley Fischer. 1989. *Lectures on Macroeconomics*. Cambridge: MIT Press.

Dornbusch, Rudiger, and Stanley Fischer. 1987. *Macroeconomics*. New York: McGraw-Hill, pp. 297-300.

Eissa, Nada. 1995. “Taxation and Labor Supply of Married Women: The Tax Reform Act of 1986 as a Natural Experiment,” NBER Working Paper No. 5023.

Feldstein, Martin, and Charles Horioka. 1980. “Domestic Saving and International Capital Flows,” *Economic Journal*, pp. 314-29.

Forbes, Malcolm. 1995. “What’s Stoking the Stock Market?” *Forbes*, July 31, p. 23.

Frankel, Jeffrey. 1991. “Quantifying International Capital Mobility in the 1980s,” in B. Douglas Bernheim and John Shoven, eds., *National Saving and Economic Performance*. Chicago: University of Chicago Press.

Gray, Robert. 1995. “Blockbuster Tax Reform,” Nations Business, April, pp. 18-24.

Hall, Robert, and Alvin Rabushka. 1995. *The Flat Tax*. Stanford: Hoover Institution Press.

Krugman, Paul. 1994. *Peddling Prosperity*. New York: W.W. Norton & Co.

OECD. 1994. *Taxation and Household Saving*. Paris: OECD.

Poterba, James. 1992. “Why Didn’t the Tax Reform Act of 1986 Raise Corporate Taxes?” *Tax Policy and the Economy, NBER*. Cambridge: MIT Press.

Richman, Louis. 1995. “The Flat Tax,” *Fortune*, June 12, pp. 36-46.

Roll, Richard. 1988. “R-squared,” *Journal of Finance*, July, pp. 541-66.

Simon, William. 1995. “Flat Tax Is Test of GOP’s Sincerity,” *Wall Street Journal*, May 24.

Tritch, Teresa. 1993. “Keep an Eye on Your Tax Pro,” *Money*, March, pp. 99-109.