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THE IMPACT OF TAX  
REFORM ON HOUSEHOLDS

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ABSTRACT

This paper analyzes the Reagan Administration's tax reform proposal in terms of its three stated objectives--fairness, simplicity, and economic growth--and considers its likely effect on labor supply, saving and investment, and housing. The paper also attempts to place the tax reform debate in the context of modern public finance theory, in order to provide some rigorous framework for discussion of the important issues.

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## I. Introduction

### I.A. Objectives and Organization of the Paper

In the past year tax reform has leapt from the obscurity of public finance textbooks and journals onto the front page of every newspaper in the United States. The lightning rod of public attention has been the proposal for major tax reform advanced by the Reagan Administration in May, 1985, which followed by six months the release of a set of reform proposals by the Treasury Department. The principal focus of the public debate has been a taxonomy of which individuals and corporations would pay higher taxes under the proposed plan, who would pay lower taxes, and how large the changes in tax liability would be.

The goal of this paper is to shift the focus of the debate from the taxonomy of tax reform to the economics of tax reform, and in particular to its likely impact on households. Because tax reform is of interest only because of its ultimate effect on households, this topic is not really limiting. In order to bound the topic at hand, primary attention will be paid to the proposed changes in individual income taxation not considered elsewhere in this volume and to certain critical areas of impact--labor supply, saving and investment, and housing. The Administration's proposal, which will likely be the starting point for legislative action, will be the principal subject, although some aspects of the earlier Treasury proposal will be considered, both because it represents a more radical approach to tax reform and because many of the alternative approaches suggested there may eventually find their way into the policy debate. Due to limitations on space, other proposals for fundamental tax reform will not be considered.

The organizing principle of this paper is drawn from the objectives presented in the title of the Treasury's tax reform study: Tax Reform for Fairness, Simplicity, and Economic Growth, and retained in modified order in the Administra-

tion's proposal. Following a brief discussion of revenue neutrality, Sections II, III, and IV assess the Administration's tax proposal in the context of its three stated objectives. Section V briefly discusses the effect of tax reform on tax evasion, and Section VI offers some concluding comments.

The design of a tax system must inevitably trade off the achievement of the goals of fairness, simplicity, and economic growth. Because value judgments enter any assessment of fairness and because success in meeting any of the goals is difficult to quantify precisely, economics cannot be expected to offer an exact solution to how these tradeoffs should be resolved. An important objective of this paper is to shed light on what tradeoffs are involved in the adoption of a fundamental tax reform such as that proposed by the Reagan Administration. Another major goal is to place the tax reform debate in the context of modern public finance theory, in order to provide some rigorous framework for a discussion of the important issues.

#### I.B. Revenue Neutrality

The Administration's tax plan is designed to be revenue neutral during the 5 years after its projected introduction, from 1986 to 1990.<sup>1</sup> There is, however, reason to doubt whether the plan is revenue neutral in the longer run. The analysis accompanying the plan invites such doubt by projecting the steady-state revenue implications to be a 7 percent decrease in individual income tax revenues and a 9 percent increase in corporation income tax revenues. Based on the 1990 current law revenue yields of the two taxes, these changes amount to a \$26.2 billion annual shortfall, or 4.2 percent of total income tax revenue.<sup>2</sup>

The long-term revenue shortfall in the face of approximate short-term revenue neutrality is largely due to the expiration of the excess depreciation

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<sup>1</sup> The Administration's short-run revenue estimates show a \$12 billion shortfall over the period 1986 to 1990, or less than 1 percent of estimated revenues. The Joint Committee on Taxation has estimated a \$25 billion shortfall over this period.

<sup>2</sup> Note, though, that the estimates do not consider the potential revenue gain from improved economic performance or from improved compliance with the tax system.

recapture rule in 1989, the delayed revenue loss of the depreciation allowances, which are significantly more back-loaded than current law, and the modified accounting rules for production costs, which force deductible expenses to be capitalized rather than expensed, and thus gain revenue in the early years of the transition and lose revenue later.<sup>3</sup>

This long-term revenue shortfall is important for much of the analysis that follows in this paper. Estimates of the investment incentive effects, in particular, rely on forward-looking calculations of the effective tax rate, and thus are not affected by a temporary, essentially lump-sum, tax such as the excess depreciation recapture rule. Thus, the efficiency implications of the proposed tax system tend to look better than they must inevitably be in the long run if taxes were to be raised to make up the 4.2 percent revenue shortfall. If the revenue shortfall is not made up with increased taxes, then an analysis of the tax plan must deal with the consequences of increased deficits in the years after 1990.

## II. Fairness

### II.A. Vertical Equity

Economic theory has not provided policy-makers much guidance about the proper distribution of the burden of taxes among income groups. The modern theory of optimal income tax progressivity has sharpened our understanding that decisions about progressivity must trade off the social value of a more equal distri-

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<sup>3</sup> Offsetting these provisions are other aspects of the plan whose revenue pickup accelerates. An example is the revenue increase from the repeal of the tax exemption of private-purpose municipal bonds, which is grandfathered to apply only to bonds issued after January 1, 1986. In this case the revenue gain is roughly proportional to the stock (as opposed to the flow of new issues) of private-purpose tax-exempt bonds which would have been issued after 1986. This revenue gain thus increases sharply with time.

bution of welfare and the disincentive effects of high marginal tax rates.<sup>4</sup> The resolution of this tradeoff must ultimately rest on a value judgment about which economists have no comparative advantage. Economic analysis can, though, be valuable in assessing the nature of the tradeoff involved in any particular policy and in assessing the true incidence of a tax system.

The Administration's proposal was designed so that the 7 percent reduction in total individual income tax revenues would be "distributionally neutral", by which is meant that the percentage reduction in tax liability would be spread approximately uniformly across income classes. In fact, the percentage reduction in tax burden is U-shaped by economic income class. Mainly because of the increase in the threshold income below which no tax is due and the expansion of the earned income credit, the percentage tax reduction for families with less than \$20,000 in economic income is 18.3%, significantly more than the average decline of 7%.<sup>5</sup> In addition, the percentage reduction for taxpayers with family economic income over \$200,000 amounts to 10.7%. Of course the tax reduction in absolute dollar terms is much greater than average for higher-income taxpayers.

Even if these figures were accepted as a reasonable measure of the vertical distribution of the tax burden, they of course would not show that the proposed tax system is (vertically) equitable. Rather, they would show that the proposed system is about as equitable as the current system, no more and no less. Even this assessment, though, is subject to several qualifications.<sup>6</sup>

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<sup>4</sup> See Slemrod (1983) for a review of the recent literature on optimal income tax progressivity.

<sup>5</sup> If, though, the tax reduction is measured as a proportion of total federal taxes including the social security tax, the percentage reduction for low-income families is not exceptionally high.

<sup>6</sup> Regardless of the qualifications that follow, the Treasury should be commended for analyzing the distribution of tax burdens on the basis of a constructed measure of family economic income, as opposed to a more accessible but less meaningful measure such as the adjusted gross income concept reported on tax returns.

First of all, these measures make no attempt to trace the ultimate incidence of the taxes paid by corporations. Because the drop in individual income tax revenues is offset by a large increase in corporation tax revenues, the distributional pattern of the whole income tax burden depends critically on one's assumptions about the incidence of the corporation income tax.<sup>7</sup> This remains an unresolved issue, although in the context of a general equilibrium model with a fixed capital stock there is substantial agreement that the tax burden is spread among capital owners in general. If this is true, then the progressivity of the tax proposal is greater than the analysis indicates, since capital income is more concentrated among the wealthy than is labor income. Once capital accumulation is introduced in a dynamic model, the possibility arises that taxes on capital income are in the long run borne by workers due to their adverse effect on capital accumulation and the steady-state capital-labor ratio.<sup>8</sup> In this case the Treasury's analysis may not be too misleading. This controversial issue is simply sidestepped in the official analysis by ignoring the burden of all corporation income taxes and assuming the ultimate burden of all individual income taxes falls on the taxpayer who is liable for the tax payments.

The issue of the ultimate incidence of taxation is important not only for questions of labor versus capital income taxation but for several other provisions of the proposal. Consider as an example the proposed limitation of the

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<sup>7</sup> See Pechman (1985) for a calculation of the overall incidence of the tax system using various assumptions about the ultimate distribution of the burden of the corporation income tax.

<sup>8</sup> The possibility that the increased corporation income taxes will be passed on to workers is less likely under the Administration's plan than under the Treasury's plan, since in the former a substantial fraction (61%) of the increased revenues in the first 4 years of the plan come from the recapture tax on past accelerated depreciation. This is essentially a capital levy which does not affect the incentive to invest in new capital goods, excepting cash-flow repercussions. As mentioned above, this leaves open the question of how the long-run revenue shortfall will be made up.

tax-exempt status of employer-provided health insurance. If the induced reduction in demand causes a decline in the price of medical services, the tax increase is less than fully borne by the consumers of medical services and partly passed on to the suppliers of medical services.<sup>9</sup> Similarly, an increase in the effective tax rate on investment in real estate will be partially reflected in an increased rental price of housing relative to other prices.<sup>10</sup> Changes in the tax system are also likely to affect the pattern of pre-tax rates of return earned by different kinds of assets. For example, the expected rate of return on tax-exempt securities is lower than that on taxable securities. The rate of return differential can be thought of as an implicit tax borne by owners of tax-exempt securities. Reduced marginal tax rates are likely to cause this differential to shrink, thus lowering the implicit tax on owners of tax-exempt bonds.<sup>11</sup> In an important sense, some of the tax reduction is spread from the owners of taxable bonds, whose before-tax relative rate of return likely falls, to the owners of tax-exempt securities. Neither this change in implicit taxes nor the induced changes in relative prices discussed above are considered in the analysis of the distribution of tax burdens presented by the Administration.

The message of the preceding discussion is that a precise assessment of the

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<sup>9</sup> Such a reduction in demand was much more likely under the Treasury's proposal, which would have eliminated the tax preference for health insurance at the margin. The Administration's proposal features a small inframarginal tax.

<sup>10</sup> The ultimate incidence of eliminating the deductibility of state and local taxes is another important issue, and is addressed in another paper in this conference.

<sup>11</sup> Note that the Administration's proposal features not only a reduction of marginal tax rates but also several other provisions which affect the supply and demand for tax-exempt bonds, especially the elimination of private-purpose issues. Thus, the net effect of the proposal on the rate of return differential is more problematic than indicated in the text.

distributional impact of a major tax reform is a complex matter.<sup>12</sup> A list of important caveats to the Administration's claim of approximate distributional neutrality can be offered although, in the absence of a more complete analysis, no strong argument can be made to dispute this claim.

### II.B. Horizontal Equity

The principle of horizontal equity states that taxpayers who are equally well-off in the absence of taxation should remain equally well-off when taxes are imposed. Many of the special features of the present income tax have been justified in the name of horizontal equity. For example, the deductibility of extraordinary medical expenses has been defended on the ground that income overstates one's true utility in the presence of large involuntary medical expenses. Many other features of the law have been criticized as being the source of horizontal inequity, such as the tax exemption of fringe benefits and the deductibility of charitable contributions.

Not all instances of preferential tax treatment result in horizontal inequity, however. If a tax-preferred activity is available to everyone and valued equally by all, then the long-run effect of preferential tax treatment is only to induce resources to move into the activity. For example, a subsidy to the purchase of television sets would not be horizontally inequitable if all equally well-off people had identical tastes for television.

Many examples of preferential tax treatment are sources of persistent horizontal inequity because they apply to activities which are not valued equally by all equally well-off taxpayers or are not available on an equal basis to all

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<sup>12</sup> In fact, there are even more conceptual problems. Assessing the distribution of tax burdens by examining the pattern of average tax rates by income class in a given year can be misleading. After all, our ultimate interest should be the effect of taxation on the lifetime well-being of households. A snapshot of one year's tax burden distribution will misrepresent the lifetime distribution of tax burdens if, as is likely, there is a life cycle to income and tax payments.

taxpayers. For example, the deduction for charitable contributions favors those who derive satisfaction from charitable gifts, and the tax advantages accorded to housing favor those who prefer housing services over other forms of consumption.

Several provisions of the Administration's proposal are designed to eliminate sources of apparent horizontal inequity. The taxation of a limited amount of employer-provided health insurance and the repeal of the \$5,000 exclusion for employer-provided death benefits is defended as correcting the current inequity toward individuals who are not covered by employer plans and who must therefore pay for health care with after-tax dollars.<sup>13</sup> Repealing the deductibility of state and local taxes eliminates the tax benefits that accrue only to itemizers residing in areas with high taxes, which presumably finance services valued by the residents.<sup>14</sup> There are many other examples. Note also that any horizontal inequities which remain would also be of smaller magnitude if the level and dispersion of marginal tax rates were reduced.

The Administration proposal has serious repercussions for the relative tax burden on families of different size and number of earners. The personal exemption allowance is nearly doubled to \$2,000, the two-earner credit is eliminated, full IRA eligibility is extended to non-working spouses, and the child-care credit is changed to a deduction. The net impact of these changes is a shift in the tax burden away from "traditional" families (i.e., large, one-earner families). Whether this is a move toward or away from horizontal equity depends on, among other things, whether children are viewed as an involuntary expense like extraordinary health care expenditures (in which case a large exemption for children

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<sup>13</sup> Some of the horizontal inequity would be eliminated if the wages of individuals not covered by employer plans are higher than otherwise due to the tax disadvantage. Because the value of the exemption depends on the marginal tax rate, any given wage increase cannot equalize after-tax returns for workers in all tax brackets.

<sup>14</sup> The advantage of deductibility may, to some extent, be offset by higher land prices in high-tax areas.

is desirable) or as a voluntary choice about how to spend one's income (in which case no exemption allowance is called for).

### II.C. Transitional Equity

One unavoidable side effect of tax reform is that it alters the return to long-term commitments made on the basis of the former tax law. Consequently, assets that lose preferential tax treatment will likely experience capital losses, while assets with a reduced tax burden will likely experience capital gains. Individuals who have made long-term commitments, such as career or locational choices, on the basis of previous law may be capriciously rewarded or penalized.

In many cases, these gains and losses cannot be justified as recovery of tax benefits unfairly received or as compensation for excess taxes unfairly paid. Once the current law has been in place for several years, the benefits of preferential tax treatment may be reflected in the price of the asset or activity. For example, preferential tax treatment of real estate undoubtedly generated capital gains for landowners when the provisions were enacted. Subsequent purchasers of land and real estate have had to pay a higher price that reflected the tax advantages, and therefore are unlikely to have earned an extraordinary after-tax rate of return on their investment.<sup>15</sup> Revoking the tax preferences would cause a capital loss to all owners of real estate, whether or not the current owners received a capital gain when the provisions were enacted.

The Administration's tax plan is certainly not immune from this "transitional equity" problem of windfall gains and losses. Real estate and housing would likely fall in value, as would shares in financial institutions, while shares of service and high-tech firms would probably increase in value. The return to high-income itemizers of locating in high-tax states will fall if sub-federal tax deductibility

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<sup>15</sup> This is another example of how preferential tax treatment may not result in horizontal inequity. It presumes that all equally well-off people have equal access to real estate investments.

is eliminated.

The Administration's proposal attempts to reduce transitional inequities by gradually phasing in several provisions. This allows time for adjustment to the new rules and reduces the present value of induced gains and losses. For example, the tightening of the interest deduction limitation would be phased in over a 10-year period, so that 10 percent of newly included interest would be subject to the limitation in the 1986 tax year, 20 percent in the 1987 tax year, etc.; in addition, the new limit of \$5,000 would be applied beginning in 1988. In many cases the changes are "grandfathered", i.e. applied only to new commitments.

The proposed excess depreciation recapture rule can be thought of as an attempt to limit the transitional inequity of moving to a lower rate system. Under accelerated depreciation, expenses taken early in the productive life of assets were deductible against a high tax rate. In the absence of such a recapture rule, a capital gain would result since the income would be taxed at a lower rate, one that is below the rate that was expected when the investment was made.<sup>16</sup>

### III. Simplicity

By almost any standard the present income tax system is quite complex and absorbs a large amount of resources to operate. The Office of Management and Budget has determined that the 260 different federal tax forms comprise 78 percent of all federal reporting requirements.<sup>17</sup> Slemrod and Sorum (1984) have estimated that the total resource cost of taxpayers' time and monetary expenditure on complying with federal and state individual income tax amounted in the tax year

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<sup>16</sup> Note that the recapture rule does not apply to other analogous windfall gains that would result from the Administration's plan, such as the taxation of retirement benefits at a lower rate than expected and the taxation at lower tax rates of the income from oil and gas investments that were expensed under the higher tax rates of current law. It is also not clear that it accurately achieves its stated purpose. See Stretch and Sunley (1985) and Aaron (1985).

<sup>17</sup> These figures are cited in Hall and Rabushka (1985), p. 30.

1982 to between \$17 and \$27 billion. This comprised approximately 2 billion hours of taxpayers' time (or about twenty hours per taxpayer spread over a tax year) and more than \$3 billion of expenditure on professional assistance. The total cost of administering the income tax system should also include a large fraction of the IRS budget (\$6.0 billion in fiscal year 1985) and the cost borne by third parties (e.g., employers operating the tax withholding system, financial institutions filing transactions reports, etc.). The total resource cost of income tax collection could now easily be in the \$30 to \$40 billion range.

The Administration's proposal addresses the problem of complexity directly by eliminating scores of special provisions and reducing some structural sources of complexity, and addresses it indirectly by reducing marginal tax rates. However, some of the proposal's provisions would add to the complexity of the tax system. In what follows we assess the likely net effect of the Administration's proposal on the system's complexity.

First of all, the collapsing of 14 tax brackets (15, for single filers) to three, although promoted by the Administration as a key element of simplification, is actually an insignificant change in the complexity of the system. Once taxable income is computed, finding tax liability from the tax tables is a trivial operation and would not be simplified by having fewer brackets. This change, though, may improve the perceived simplicity of the system.

Marginal tax rates may affect the resource cost of collecting taxes because they affect the incentive of taxpayers to invest in finding ways to reduce their taxable income. After all, the return to reducing taxable income by a dollar is exactly the marginal tax rate.<sup>18</sup> Thus, a general reduction in marginal tax rates should cause a substitution away from the use of taxpayer's own time and expenditure in the tax return filing process. However, preliminary empirical research

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<sup>18</sup> This applies to legal tax "avoidance" as well as illegal tax "evasion." The latter is discussed in Section V of this paper.

reported in Slemrod (1984) suggests that there would be only small resource cost savings from moving toward a lower structure of tax rates.<sup>19</sup>

By eliminating the deduction for state and local taxes, it is estimated that the fraction of taxpayers that itemize their deductions would decline from 37% to 33%.<sup>20</sup> This decline would reduce a large part of the record-keeping burden for about 4 million taxpayers.<sup>21</sup>

Several provisions of the Administration's proposal are designed to reduce recordkeeping requirements directly. In this category lie the repeal of the political contribution credit, Presidential campaign checkoff, adoption expense deduction, and two-earner deduction.<sup>22</sup> Employee business expenses and other miscellaneous deductions are to be summed and allowed as an adjustment to income only to the extent that they exceed 1 percent of a taxpayer's adjusted gross income. Other simplifying reforms include the repeal of income averaging and the several provisions designed to reduce the incentive to invest in tax shelters.

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<sup>19</sup> This conclusion, though, rests on the assumption that taxpayers' sources of income remain unchanged when the rate structure changes. This assumption could result in an underestimate of the cost saving from a lower rate structure if the new system discourages involvement in relatively high compliance cost activities such as self-employment or investment in real estate.

<sup>20</sup> Because the Treasury's proposal also limited the deduction for charitable contributions and indexed deductible interest payments, the fraction of itemizers was estimated to decline under that plan to 22%. Note, however, that the interest indexing provisions in the Treasury's proposal, by encouraging households to fully mortgage their principal residences, would have had the effect of increasing the fraction of itemizing households toward the fraction of home-owning households, or 65%. See the discussion of this effect in Section IV, footnote 47.

<sup>21</sup> Because expenditures for tax assistance are a deductible expense, reducing the fraction of itemizers will also increase the net cost of a dollar of professional tax assistance for former itemizers. This is another reason why the reduced itemization reduces the resource cost of compliance.

<sup>22</sup> According to the IRS, the Administration's proposal would reduce the number of lines in the 1040 tax return from 65 to 55.

Several provisions in the Treasury proposal would serve to complicate the tax filing process. The attempt to expand the taxation of fringe benefits received by employees will inevitably lead to additional calculations and problems of appropriate valuation. The inclusion in taxable income of all unemployment compensation and cash payments for disability is another complicating provision, as is the expansion of the alternative minimum tax.<sup>23</sup>

Both the Administration's and the Treasury's proposal are accompanied by a suggestion that the Internal Revenue Service consider initiation of a return-free system, under which the IRS would calculate the tax liability of eligible taxpayers who elect this option, using information that it already receives from third parties under current law. The IRS estimates that this program could eventually be extended to more than 50 percent of all taxpayers.<sup>24</sup>

The resource cost saving from instituting this program depends on two factors. The first is what fraction of eligible taxpayers would voluntarily cede their responsibility for tax assessment to the IRS. The IRS estimates that, for the program to be worthwhile, at least half of all taxpayers (or nearly all of those eligible) would have to participate.<sup>25</sup> There is no direct evidence about what fraction of taxpayers would actually participate in such a program, although the recent adverse publicity accorded to the IRS raises doubts

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<sup>23</sup> The Treasury's plan called for the indexing of capital income for inflation, which would have required additional calculations of all recipients and payers of interest (except as relating to home mortgage interest payments) and of taxpayers who realized capital gains and losses.

<sup>24</sup> Under the Treasury's proposal, the return-free system could have applied to as many as 66 percent of all taxpayers.

<sup>25</sup> This figure was obtained from a personal communication with IRS staff.

about the willingness of taxpayers to trust the IRS with their tax affairs.<sup>26</sup>

The second factor is the relative efficiency of self-assessment versus IRS computation of taxes. If they are equally efficient, then this plan would merely reallocate resource costs from the private to the public sector, but not reduce them. To the extent that the IRS can more effectively collate the sources of income and exemption amounts, then resource savings could result.

#### IV. Economic Growth and Resource Allocation

This section has two purposes. The first is to review the role of taxation in promoting the efficient use of resources and economic growth, and to assess the Administration's tax plan in this light. The second purpose is to analyze the effect of tax reform on certain areas of particular interest: saving and investment, labor supply, and housing.

##### IV.A. Neutrality and Growth

Although economic growth as a goal of tax reform occupies a prominent position in the title of both the Administration's and the Treasury's tax proposals, in the body of the accompanying analyses it tends to take a back seat to another goal, that of economic neutrality.<sup>27</sup> Neutrality refers to one of the principles of an ideal tax system defined by Musgrave and Musgrave (1976) as "minimizing

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<sup>26</sup> If the IRS statement of tax liability was binding even in the case of their understating true tax liability, then one might expect taxpayers to elect the return-free option in the hope that the IRS errs in their favor. However, as the system is envisioned, the taxpayer would still be responsible for checking the statement of tax liability and reporting any errors to the IRS. It may, though, be worthwhile for a taxpayer to elect the return-free option in order to discern which, if any, sources of income might be unknown to the IRS.

<sup>27</sup> This is especially true of the Treasury's proposal. For example, the overview volume of the Treasury's report lists thirteen goals of tax reform. Economic neutrality is placed first, while economic growth is discussed third from last, just before "trade-offs".

interference with economic decisions in otherwise efficient markets." The idea is that, in the absence of taxes, the market allocates resources efficiently. Taxes inevitably cause inefficient resource allocation,<sup>28</sup> but a neutral tax system is one which minimizes the extent of this tax-induced inefficient resource allocation. Three dimensions of neutral tax treatment are relevant: neutrality among goods at any given time; neutrality among factors of production; and neutrality among consumption of goods in the present versus consumption in the future.

As of about 1960, the prevailing wisdom among tax economists was that the ideal tax system was a comprehensive income tax. This tax was considered to be neutral because it did not distort relative prices (except as between leisure and other goods), and was felt to be consistent with the principle of horizontal equity. Unfortunately, the modern theory of optimal taxation upset the comfortable notion that the most efficient tax system is necessarily one that alters the relative prices of goods as little as possible. Optimal tax theory first addressed a one-period world. Ignoring intertemporal considerations, the theory demonstrated that comprehensive income taxation is efficient only for a restricted class of preferences.<sup>29</sup> More generally, it is efficient to differentially tax goods and sources of income.

The practical significance of static optimal tax theory has proven to be limited. Its critical weakness, as Deaton (1984) and others have convincingly argued, is that econometric investigation is unlikely ever to be decisive in

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<sup>28</sup> Taxes such as poll taxes (called lump-sum taxes because they do not depend on any economic decision) are not distortionary, but are rarely used because they violate other principles of an ideal tax, especially equity.

<sup>29</sup> In the presence of a nonlinear income tax schedule, uniform taxation is optimal only if no good is a relative complement to leisure compared to any other good. See Atkinson and Stiglitz (1976).

specifying the characteristics of an optimal tax structure. In the absence of such evidence, uniform taxation of goods remains the standard for judging neutrality, although its theoretical underpinning is problematic.<sup>30</sup>

The same theory of optimal taxation has been somewhat kinder to the notion of uniform factor taxation as a standard of neutrality. Diamond and Mirrlees (1971) demonstrated that under very general conditions production efficiency (i.e., uniform relative factor prices faced by all producers) is desirable as long as all commodities and pure profits can be taxed. Thus, any policy which imposes different effective tax rates on the same factor when used in different sectors is a source of inefficiency to the economy. Furthermore, differential taxation of different kinds of capital goods is, under general conditions, a source of inefficiency.

What of economic growth, and its desirability? First of all, it is important to keep in mind that, in the long run, the rate of economic growth is determined by the rate of technological progress and growth of the labor supply. Tax policy that increases the rate of saving and investment may increase the growth rate for several years as the economy moves toward a higher capital-output ratio, but the impact on the growth rate will eventually disappear as the new steady state is approached. A more appropriate issue is the desirability of increasing saving and investment, with the goal of attaining a higher capital-output ratio.<sup>31</sup> Optimal taxation theory can be usefully applied in an intertemporal context by simply labelling consumption in different periods as separate goods. From this perspective, income taxation is not neutral because taxation of capital income essentially increases the price of consumption undertaken in the

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<sup>30</sup> Preferential tax treatment can be justified on efficiency grounds if there are positive externalities associated with an activity.

<sup>31</sup> This statement is not meant to discount the importance of the appropriate tax policy toward research and development. The Administration's tax plan, though, contains no major changes in this area.

future. Furthermore, uniform taxation of goods corresponds to the case of a consumption tax or zero taxation of capital income. The condition under which this tax structure is optimal is identical to the one discussed above, that neither present nor future consumption be a relative complement to leisure. No convincing evidence has yet been found to either support or reject this characterization of preferences, so that the proper tax treatment of capital income has not been established even in the context of simple models of the economy.<sup>32</sup>

Several recent studies have attempted to measure the welfare cost of tax-induced resource misallocation in the United States, and the gain from specific policies designed to reduce this misallocation. Ballard, Shoven, and Whalley (1985) calculated, using 1973 data, that the annual value of the efficiency cost is in the range of 13 to 22 percent of revenues raised, or from 4.0 to 6.7 percent of GNP. Because the Administration's proposals do not, of course, completely eliminate this welfare cost, these figures are usefully considered as an upper bound on the potential gain from improving the efficiency of the tax system. Gravelle's (1985) analysis of the Administration's proposal, though, concluded that the capital income taxation provisions alone would, by reducing both the differential tax treatment of different assets and of capital used in different sectors, improve the efficiency of resource allocation enough to increase GNP by 1.1 percent. Gordon and Slemrod (1983) estimated that the elimination of local property tax deductibility could, by greatly reducing the subsidy to municipal expenditures, cause efficiency gains of as much as 0.9 percent of GNP.

All of these quantitative results depend critically on certain modelling

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<sup>32</sup> An inefficiently low capital stock may also arise in models with overlapping generations and no bequests. In this case, one objective of tax policy may be to induce capital formation. This may imply preferential taxation of capital income. See King (1980) for a discussion of these issues.

choices which remain controversial among economists.<sup>33</sup> However, they are illustrative of the magnitude of the possible efficiency gains from reform of the tax system. Improved resource allocation does not have a natural constituency, but it is a source of improved national well-being nevertheless. As important as ensuring that the size of the pie grows or that it is distributed fairly is ensuring that the ingredients are present in the right proportions.

Efficient resource allocation is a valuable perspective for the topics that follow--the impact of tax reform on saving and investment, labor supply, and housing. Although still a controversial position, a large and growing fraction of economists argue that U.S. saving, investment, and capital stock are too low, and that the tax system should be changed to increase them. Aggregate labor supply is clearly too low compared to its level under a first-best (lump-sum) tax system, but whether it is too low compared to its optimal second-best level is a complicated issue, depending on unknown characteristics of preferences and entwined with resolution of optimal tax progressivity. Due to preferential tax treatment, the share of capital allocated to housing is above its efficient level.

#### IV.B. Saving and Investment

Several aspects of the Administration's proposal would affect the incentive to save and invest in U.S. productive assets. In a closed economy, the combination of these impacts determines the change in the flow of saving and investment (which must be equal) and the change in the level of interest rates. In a world with international capital flows, the impact on national

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<sup>33</sup> For example, both the Gravelle study and the Gordon and Slemrod study assume unitary elasticities of demand for final goods and inputs. If actual elasticities are lower (higher), then the calculated efficiency gains are overestimated (underestimated).

saving and domestic investment can differ. This section discusses the proposal's impact on incentives to save and invest, the net effect of these changed incentives, and briefly discusses how the presence of internationally mobile capital affects these conclusions.

Two aspects of the Administration's proposal have potentially important implications for the incentive to save because they may affect the marginal after-tax rate of return to saving. They are the expansion of Individual Retirement Accounts (IRAs) and the reduction in marginal tax rates.<sup>34</sup>

Under the Administration's proposal, married couples with total compensation of \$4,000 or more would be entitled to an annual \$4,000 IRA contribution regardless of how much of the total compensation was generated by either spouse.<sup>35</sup> Under current law, a couple with one working spouse is limited to a \$2,250 contribution per year. To what extent this provision will stimulate saving depends on the rate-of-return responsiveness of saving and on whether the expansion of IRAs will in fact increase the rate of return at the margin of new saving.

Because households can reduce their current tax liability without any increase in saving by transferring previously accumulated assets into the IRA, any IRA scheme may not be an incentive to new saving. This problem applies particularly to the initial years after implementation of an IRA plan, when there is a large amount of accumulated wealth to transfer into IRAs. The proposed expansion of the limit on annual contributions for one-earner families will hasten the transition period that elapses before the program can become effective at the margin for these families.

Note, however, that because households can borrow (with deductible interest) and place the borrowed funds in their IRA, it is possible that no new saving

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<sup>34</sup> The indexation of interest payments and receipts, proposed in the Treasury's plan, would also have had major implications for saving and investment.

<sup>35</sup> The Treasury's proposal expanded the limit to \$2,500 per spouse.

occurs due to IRA accounts. Feldstein and Feenberg (1983) discount the importance of this possibility, claiming that few households have the opportunity to borrow without collateral and noting that IRA funds cannot legally be accepted as collateral. However, borrowing against home equity could provide funds for the IRA and prolong the transition period. In any event, the limitation on the deductibility of interest payments in the Administration's proposal would reduce the attractiveness of borrowing in order to invest in an IRA account.

Even in the long run and ignoring the possibility of borrowing, an IRA program with a cap on annual allowable contributions will not be effective at the margin for households whose desired annual saving exceeds the cap. By increasing the limit from \$2,250 to \$4,000 for married couples with one earner, the proposal would potentially expand the population for whom the IRA is effective at the margin in the long run. However, based on a study of 1972 tax return and financial data, Feldstein and Feenberg concluded that an IRA plan less generous than current law (and much less generous than the Administration's proposal) would apply at the margin for most savers.<sup>36</sup> This finding implies that the proposal to further expand the IRA limit would probably not be effective at increasing the marginal rate of return to saving for more than a small fraction of households.

The lowered marginal tax rates of the Administration's proposal will tend to increase the after-tax rate of return to saving for given pre-tax rates of return. This is offset to some degree by the increased effective state and local income tax rates for itemizers who lose tax deductibility, and by the elimination of some tax-preferred methods of saving, such as private-purpose municipal bonds. The precise relationship between reduction in marginal tax rates and the corresponding increase in the marginal after-tax return to saving is complicated

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<sup>36</sup> They also concluded that such a plan would quickly exhaust the available assets of most taxpayers, making the transition period very short.

because the income from many forms of saving is already effectively tax-exempt or tax-preferred.

Determining the magnitude of the aggregate saving response to higher rates of return is also problematic. As is well-known, econometric estimates of this response vary widely. Much applied work has utilized Boskin's (1978) estimate of an interest elasticity of saving equal to 0.4, although the methodology underlying this estimate remains highly controversial. Continuing in the tradition of using Boskin's estimate as a benchmark for quantitatively assessing saving responses, the reduction in marginal rates itself could be expected to increase saving by less than 2 percent, holding the interest rate constant.<sup>37</sup>

Assessing the impact of the proposal on corporate investment demand is another difficult task. On the one hand, the analysis accompanying the Administration's proposal estimates that the corporate-level effective tax rate on equity-financed investment would fall from 35 to 26 percent if all its provisions were enacted. (This decline reflects an increase in the effective tax rate on investment in equipment and a reduction in the effective tax rate on investment in structures and inventories.) On the other hand, the revenue projections show increases in corporation tax revenues of about 25 percent over the period 1986 to 1990.

Some reconciliation of these two apparently contradictory statements is possible. Nearly \$60 billion in revenue is raised between 1986 and 1989 by the excess depreciation recapture rule, which does not affect the incentive to make

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<sup>37</sup> The average federal marginal tax rate (weighted by wages and salaries) falls from 23.6 to 19.1. Adjusting for the loss of sub-federal tax deductibility yields about a 4.4 percent increase in the after-tax rate of return, which implies a 1.76 percent increase in saving for an interest elasticity of 0.4. This calculation assumes that the after-tax rate of return on a taxable saving instrument bears the same relationship to the actual marginal after-tax return to saving as it did over the period of Boskin's study.

new investments. Furthermore, the change to a more back-loaded system of capital cost recovery allowances accelerates revenue that will later be lost as larger depreciation allowances in the later years of capital goods' productive lifetimes are taken.

Nevertheless, the Administration has estimated that, when "fully effective", the corporation income tax would raise nine percent more revenue than under current law. How this is compatible with a sharp decline in the corporate-level effective tax rate on new investment is a more difficult question to answer. Part of the answer is that the effective tax rate calculations do not consider some revenue-raising provisions that do not apply generally to investment, but do apply at the margin of some new investment. For example, the revised accounting rules for multiperiod construction will increase effective tax rates for certain investment activities, but are not considered in the effective tax rate calculations. Another part of the answer is that the effective tax rate on debt-financed investment is not reduced by the plan. Finally, the estimates of steady-state corporation tax revenues may have erred on the high side, a conclusion suggested by the finding of the Congressional Budget Office (1985) that the corporate tax proposals will lose rather than gain revenue in the long run.

My tentative conclusion is that the tax incentive to corporate investment probably increases slightly, but not substantially.<sup>38</sup> This conclusion also applies to noncorporate, nonresidential investment. Furthermore, the taxation of noncorporate residential capital income almost certainly increases, as is discussed in more detail in Section IV.D. of this paper. Overall, the taxation of investment is probably not altered much in either direction, although there is a shift in the relative burden of taxation from nonresidential capital to residential capital, and from corporate structures and inventories to equipment.

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<sup>38</sup> Fullerton (1985) also concludes that the overall effective rate of taxation on corporate capital would not be affected significantly by the Administration's tax plan.

The upshot of slightly increased incentives to save and not much change in the incentives to invest would be, in a world closed to international capital flows, slightly lower interest rates and a slightly higher rate of saving and investment. With internationally mobile capital, any increased saving would be spread among investment opportunities throughout the world, and neither interest rates nor aggregate domestic investment would be affected significantly.

#### IV.C. Labor Supply

The most striking fact about the Administration's tax reform plan for assessing its impact on labor supply is the apparent large reduction in marginal tax rates. The average statutory marginal tax rate would be reduced for all income classes, with the largest reductions for families with incomes over \$30,000. The overall average of marginal tax rates would decline by 19 percent, from 23.6 percent to 19.1 percent.<sup>39</sup> A straightforward back-of-the-envelope calculation of the likely labor supply response to the decline in marginal tax rates is a useful starting point. Assuming no aggregate income effect, compensated labor supply elasticities of 0.2 for males and 1.2 for females,<sup>40</sup> and a two-thirds share of total labor income going to males, one obtains a predicted increase in labor supply of 3.1 percent.<sup>41</sup>

This calculation is, though, fraught with pitfalls because the aggregate labor supply response depends critically on by what means the level of statutory

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<sup>39</sup> The average marginal tax rate calculations are weighted by wage and salary income.

<sup>40</sup> These labor supply elasticities are taken from Stuart's (1984) study of the welfare cost of the tax system, and are based on his survey of the literature. Hausman (e.g., 1981) has argued for a higher compensated labor supply elasticity.

<sup>41</sup> A 19 percent decline in marginal tax rates, from 23.6 to 19.1, is equivalent to a 5.9 percent increase in the after-tax wage rate. With a two-thirds share of labor income going to males, the aggregate compensated labor supply elasticity is 0.53. Applying an elasticity of 0.53 to the 5.9 percent increase in wages yields 3.1 percent.

marginal tax rates is reduced. Three different sources are relevant: a reduction in the total taxation of labor income, a broadening of the tax base, and a less progressive tax system.

A large fraction of the reduction in marginal tax rates is made possible by the 7 percent reduction in individual income tax revenues, which is offset in the short run by an increase in corporation income tax revenues.<sup>42</sup> A shift from labor income taxation to capital income taxation tends to stimulate labor supply only in the context of a static model. In a multi-period model, such a shift does not unambiguously increase labor supply because although it increases an individual's real after-tax wage in terms of present consumption goods, it decreases the real after-tax wage in terms of future consumption goods. The labor supply response depends on individuals' preferences.

Some of the reduction in marginal tax rates is made possible by broadening the tax base. However, in the case of base broadening, a decline in the statutory marginal tax rate is not sufficient information for claiming that there will be a substitution effect away from leisure toward work. Because base broadening eliminates the preferential tax treatment of certain activities, the real wage in terms of some goods will decline, even though the real wage in terms of most goods will rise. Consider a taxpayer presently in the 50 percent bracket who under the Administration's plan will be in the 35 percent bracket; suppose the wage rate is \$10. Currently, one hour of work buys \$5 of food or recreation; under the Administration's plan one hour of work will buy \$6.50 of these goods. Conversely, while under current law one hour of work could provide \$10 worth of municipal services financed by deductible property taxes, under the Administration's plan one additional hour of work may provide only \$6.50 more of these goods because

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<sup>42</sup> Note that if, as discussed in Section I.B., the increase in corporate tax revenues is only a temporary phenomenon, then the proposal is not revenue neutral in the long run.

the deductibility is eliminated.<sup>43</sup> In this case, even the direction of the substitution effect is not unambiguous, and depends on the shape of individuals' preference functions.

More directly, eliminating the deductibility of state and local income taxes reduces the combined federal, state, and local marginal tax rate on labor income for itemizers by less than the decline in the federal marginal tax rate. The increase in the effective impact of sub-federal income taxes tends to offset the federal rate reduction that the increased revenue gained from eliminating deductibility allows. Similarly, the elimination of the two-earner credit would tend to offset the reduction in statutory marginal tax rates for those who currently make use of it. Note that this provision applies to the lower-earning spouse, whose labor supply behavior is widely believed to be more sensitive to wages than primary earners.

One possible way to reduce the average level of marginal tax rates while not reducing the revenue yield is to reduce the progressivity of the tax system.<sup>44</sup> Hausman (e.g., 1981) has argued, on the basis of his econometric analysis of labor supply behavior, that moving to a completely flat-rate income tax would, at the cost of diminished progressivity, substantially increase aggregate labor supply as well as reduce the resource misallocation costs of the tax system.<sup>45</sup> Hausman's estimate is not, however, a reliable guide to the likely effect of the Administration's proposal on labor supply because, by design, the plan does not

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<sup>43</sup> Under the Treasury's plan, this argument also applied to employer-provided health insurance and charitable contributions, depending on the circumstances involved.

<sup>44</sup> On the relationship between progressivity and labor supply, see Sandmo (1983).

<sup>45</sup> The estimated increase in labor supply is 10.7 percent, based on Table 7 of Hausman (1981) and information contained in the text. Hausman's analysis has been challenged by Heckman (1983) and Browning (1985).

significantly alter the progressivity of the tax system.<sup>46</sup>

In conclusion, the reduction in statutory marginal tax rates would be expected, ceteris paribus, to increase the desired supply of labor by as much as 3 percent. The true after-tax real wage rate would not, though, rise by as much as a simple extrapolation from marginal tax rates would indicate. This would mitigate, though probably not eliminate, the increased incentive to supply labor. In this case, the perception that after-tax wages have increased may be as important as the reality that the true return to working has not changed quite as much.

#### IV.D. Housing

Under current law, the return to owner-occupied housing is untaxed at the federal level and the return to investing in rental housing is preferentially taxed. In broad outline, the Administration's tax proposal leaves unchanged the federal taxation of owner-occupied housing but, by eliminating property tax deductibility, may increase its overall rate of taxation. It also increases the rate of taxation on rental housing. This section discusses these changes in more detail and attempts to trace out their implications for housing markets.

The Administration's proposal impacts owner-occupied housing through three principal avenues: the elimination of the deductibility of local property taxes, the restriction of interest deductibility for borrowing other than on mortgages for principal residences, and the changes in the rate of taxation on competing

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<sup>46</sup> Although see Section II.A. for a discussion of the difficulties of assessing the distributional impact of the plan.

uses of capital.<sup>47</sup>

Holding the interest rate constant, the decline in individual marginal tax rates increases the user cost of owner-occupied housing. To the extent that housing is financed by borrowing, it increases the after-tax cost of borrowing for itemizing households only.<sup>48</sup> To the extent that housing is equity-financed, the decline in tax rates increases user cost if it increases the after-tax rate of return on alternative investments. For high-bracket taxpayers who primarily invest in tax-exempt assets this connection is indirect, occurring only if the rate of return on tax-exempt assets rises in order to remain competitive with fully-taxed assets. As Section IV.C discusses, the Administration's tax reform plan is not likely to induce a large change in the general level of interest rates, though perhaps a slight decline could be expected.

The effect on housing demand of eliminating property tax deductibility depends on the essential nature of the property tax. If it is viewed as a distorting tax on capital, then eliminating the deductibility increases the effective

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<sup>47</sup> In the Treasury's proposal, a fourth aspect was critical--the indexation of interest payments and receipts. Under the indexation scheme, interest receipts and payments (other than for mortgages on principal residences and up to \$5,000 of other net interest expenses) would have been adjusted downward to approximate the portion that represented real income or expense. The exemption of mortgage interest from indexing would have provided a strong incentive for all itemizing homeowners to be mortgaged up to the value of their principal residence. The portion of the loan that formerly represented equity in the house could be invested in a taxable security with similar characteristics to the mortgage loan. The individual's portfolio then would essentially be unchanged, but the individual would earn an arbitrage profit since all mortgage interest would be deductible but only the real portion of the interest receipts would be taxable; the proceeds from the bond would pay the interest on the home equity loan. Because owning a house would be required to support this arbitrage, the net result of this provision would be to reduce the user cost of owner-occupied housing to itemizing households to an extent determined by the rate of inflation, the nominal interest rate, and the taxpayer's marginal tax rate.

<sup>48</sup> The fraction of households that itemize (now at an all-time high of 37 percent) is significantly below the fraction of households that are owner-occupiers (about 65 percent).

taxation of housing and consequently the user cost of housing for itemizers. If, following Tiebout (1956) and Hamilton (1976), the property tax is simply the price for municipally-provided services, then eliminating deductibility will in the long run have no effect on the demand for housing. The net price of municipal services to itemizing homeowners will increase, leading households to seek out communities which offer lower levels of services, but no smaller average house values.

There is a limitation on deductible interest expenses under current law, but mortgage interest is exempt from the limit. The Administration's proposal subjects mortgage interest secured by a non-principal residence to this limit, though an exemption worth at least \$5,000 is provided and the new rules are phased in gradually over a ten-year period. This provision will increase the cost of second homes unless desired debt can be shifted onto the principal residence or debt finance is not required.

Several provisions of the Administration's proposal would affect the profitability of investment in real estate, and would thereby influence the supply and equilibrium price of rental housing. The most important of these are (i) the replacement of the ACRS depreciation schedule with a stretched-out, though indexed, depreciation schedule; (ii) the substitution of full taxation of real capital gains (with no loss limitation) for depreciable assets in place of the long-term capital gains exclusion; (iii) immediate taxation of pledged receivables, which eliminates the deferral of taxation on installment sales; (iv) the extension of the "at-risk" limitations on deductible losses to real estate; (v) repeal of the special investment tax credit for rehabilitation of certain old or historic buildings; (vi) the expanded limitation on interest deductions, proposed to include interest on mortgages for non-principal residences and the taxpayer's share of the interest expense of limited partnerships and most Sub-

chapter S corporations; (vii) the elimination of tax-exempt industrial development bond financing for multifamily housing and (viii) repeal of the special five-year amortization of expenditures to rehabilitate low-income housing.<sup>49</sup>

Most recent analyses have concluded that the net effect of the provisions that directly affect real estate plus the reduction in marginal tax rates would be to substantially reduce the after-tax rate of return of a typical real estate investment, holding constant the rental rates and the value of real estate. Downs (1985), in an extensive discussion of this issue, estimated that in order to maintain the same real after-tax return, rental rates would have to rise by between 5 and 10 percent.

This result may seem somewhat surprising in view of the fact that most economists have concluded that the current tax system favors investment in equipment compared to investment in structures. In this case, a policy which moves in the direction of uniform taxation of all types of investment would be expected to favor real estate compared to other types of investment. Some reconciliation of these two apparently incompatible views is possible. The standard analysis refers to the corporate-level effective rate of taxation of an equity-financed investment. The recent studies of tax reform's impact on real estate focus on a highly-leveraged investment made by a top-bracket individual (often held through some kind of partnership) where the current preferential treatment of capital gains can be exploited by sale of the asset well before its productive life has ended and many of the other special tax provisions that apply to real estate are utilized. The tax consequences of General Motors erecting a building to house its assembly lines are quite different than a limited partnership putting up a

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<sup>49</sup> Two important aspects of the Treasury's proposal that were deleted from the Administration's proposal are the indexation of interest and the taxation of limited partnerships with more than 35 partners as corporations.

multi-family apartment building. The first conclusion is that, disregarding leverage, the Administration's proposal increases the taxation of real estate relative to investment in corporate structures and inventories, and arguably increases it relative to investment in equipment.

A second key aspect of these analyses is that the real estate investment is assumed to be highly leveraged. This implies that any change in the underlying return becomes greatly magnified in the return to the leveraged investment. Furthermore, a decline in the tax rate against which interest deductions are taken, holding constant the effective tax rate on an equity investment, can greatly reduce the after-tax return to a leveraged investment. Since the decline in tax rates applies to borrowing for any purpose, it is not clear why this implies a relative disadvantage to real estate. The role of leverage is explored in what follows.

Consider the problem first in a stylized economy where there is no risk, all wealth owners have identical marginal tax rates, and all real income is correctly measured for tax purposes and fully taxed. In this world there is no advantage to leverage, as the after-tax rate of return is the same for all investments and for all investors. In this economy a reduction in the common marginal tax rate will not change the relative attractiveness of the available assets. Next assume that, due to accelerated depreciation and preferential tax treatment of capital gains, the effective tax rate on equity in real estate is lower than the statutory rate. In equilibrium enough capital is attracted to real estate so that its after-tax rate of return is equal to the return to investments in other sectors. In this case a decline in the statutory marginal tax rate reduces the relative tax advantage of real estate, and will cause a flight away from real estate. An increase in the effective tax rate on equity-financed real estate, holding statutory rates constant, will have a similar

effect. In a progressive income tax system, high-bracket individuals will find it in their interest to hold leveraged positions in tax-preferred assets. Low-bracket individuals and tax-exempt entities will find it in their interest to lend to the high-bracket individuals. The presence of inside debt causes a revenue loss to the government, because the average tax rate against which interest deductions are taken exceeds the average tax rate applicable to interest receipts. In this world, an across-the-board decrease in marginal tax rates disfavors the preferentially taxed asset as above, and also reduces the arbitrage-related loss of revenue due to the flattening of rate differentials. In equilibrium, though, this private loss will be reflected in a general reduction in after-tax rates of return.

According to this analysis, the Administration's proposal disadvantages real estate both by reducing its preferential tax status and by lowering and compressing the marginal rate structure. The fall in marginal rates negatively impacts real estate because it reduces the magnitude of any tax advantage real estate maintains and not because real estate, as an especially highly leveraged investment, is hurt relatively more by a reduction in the tax rate against which interest can be deducted.

Introducing risk into these stylized models complicates the analysis considerably. A risky asset will, in equilibrium, earn a higher after-tax expected rate of return than a riskless investment. By borrowing at the riskless after-tax rate of interest and buying the higher-yielding risky asset, an individual can increase his portfolio's expected rate of return, but only at the cost of increasing its riskiness. An accurate analysis of tax reform must carefully specify not only how expected rates of return are changed, but also how the riskiness of alternative investments is affected. The Administration's proposal reduces the riskiness of real estate investments

by indexing depreciation allowances and by allowing unlimited deduction of all real capital losses. These features may to some degree offset the factors discussed above.

The role of leverage in understanding the effects of tax policy also can look different in a model with risk. In the riskless model, borrowing is not limited and is not tied to any particular collateral assets. However, if there are real bankruptcy costs, the ability to borrow (or the interest rate on the borrowing) may depend inversely on the riskiness and bankruptcy costs attendant to the borrower's assets. In a progressive tax system, high-bracket individuals who gain from being highly leveraged will then prefer less risky, tax-preferred investments. That is relevant to real estate because it is often argued that, due to better secondary markets, it is subject to lower bankruptcy costs--it is easier to find a new owner for an apartment building than for a factory. Then real estate assets can be more easily (or cheaply) leveraged than other assets. If this argument is correct, a general reduction in marginal tax rates does disfavor real estate precisely because it reduces its relative advantage due to leverage.

It should be obvious from this discussion that the net impact of the Administration's tax proposals on housing is difficult to quantify in a precise way. The broad implications are, though, fairly clear: both owner-occupied and rental housing are relatively less favored under the Administration's plan. The short-run implication of this is a decline in the market value of housing. Over time resources will shift away from housing, forcing the level of rents up. How much real rents will increase in the long run depends on the substitutability of housing services and other goods and on the substitutability of real estate and alternative assets. If, for example, there is relatively little of the first type of substitutability, then rents

will tend to rise until the relative attractiveness of real estate investment is restored to its former position. Note, though, that this is an increase in the relative price of housing services and, for a given level of prices, implies a fall in the price of other goods. This change in relative prices has distributional implications only to the extent that different income groups spend different shares of income on housing. Low-income households will be worse off to the extent, and only to the extent, that they spend relatively high shares of income on housing services.

The impact on the rate of homeownership is likely to be small because the price of housing services will rise regardless of tenure.<sup>50,51</sup> If rents are sticky in the short run, there may be a shift toward renting. This shift will not persist as rents rise to restore the profitability of real estate investment.

#### V. Tax Evasion

A recent study by the Internal Revenue Service (1983) estimated that in 1981 the individual income tax revenue foregone due to noncompliance with the tax law amounted to \$68.5 billion, or 24 percent of individual income tax

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<sup>50</sup> Hendershott (1985) draws a similar conclusion.

<sup>51</sup> One provision that makes debt-financed homeownership less attractive for itemizers is the elimination of state and local tax deductibility, the largest itemized deduction. This will increase the number of taxpayers for whom the sum of non-housing related deductions is below the standard deduction, and therefore for whom some of the mortgage interest deduction does not result in a dollar-for-dollar reduction in taxable income. This would not affect the demand for housing at the margin (except for those households who are no longer itemizers), but would increase the relative price of owning versus renting housing. On this issue see Hendershott and Slemrod (1983).

receipts in that year.<sup>52</sup> It further estimated that evasion had been growing at an annual real rate of 4.3 percent since 1973. Assuming the same real rate of growth between 1981 and 1985 yields an estimated tax gap in 1985 of \$96 billion.

The prevalence of tax evasion has adverse implications for both the fairness and efficiency of the tax system. It contributes to unfairness because it favors individuals who are willing to gamble against detection and stretch the tax law to their advantage and whose line of work facilitates understatement of true taxable income. Individuals who are unwilling or unable to successfully underpay their tax liability suffer because higher tax rates are necessary to make up the lost revenues due to evasion and to finance the enforcement of the tax laws. Tax evasion contributes to inefficiency because it utilizes resources for the research, planning, and camouflaging of tax evasion schemes and requires resources for the enforcement of the tax laws. It may also cause inefficiency by drawing resources into those activities which facilitate evasion, such as self-employment or assets that produce capital gains.

Two aspects of the Administration's proposal would potentially mitigate the problem of tax evasion--the reduction in marginal rates and the paring of special credits, deduction, and adjustments to income. Reducing marginal tax rates reduces the expected return to understating taxable income, and thus ceteris paribus diminishes the incentive to engage in tax evasion. However, as Yitzhaki (1974) has pointed out, if (as is usually the case in the U.S.) the penalty for tax evasion is determined as a fraction of the understatement, then lower tax rates proportionately reduce both the payoff to

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<sup>52</sup> This estimate does not include tax revenue lost due to failure to pay tax liabilities reported on filed returns nor does it include the tax liability due to income earned from illegal activities.

undetected understatement and the penalty incurred for detected evasion. In this case, there is no substitution effect toward less evasion from lower marginal tax rates. If, however, the probability of detection depends positively on the amount of income underreported, then lower marginal taxes will generally lead to a substitution effect reducing evasion.

In a pioneering empirical effort, Clotfelter (1983) estimated the responsiveness of tax evasion to marginal tax rates. Using data from the IRS' Taxpayer Compliance Measurement Program (TCMP) survey, which consists of extensive audits of a random sample of the taxpaying population, Clotfelter estimated that the elasticity of underreported income with respect to marginal tax rates ranged from 0.5 to 3.0, depending on the specification chosen.

Using this range of estimated responsiveness, a 10 percent across-the-board reduction in federal income tax rates was simulated to reduce the amount of underreported income by between 9 and 26 percent. The Administration's tax plan features an average reduction in marginal tax rates of 19 percent (although it is not uniformly distributed); it also, by eliminating sub-federal tax deductibility, reduces overall marginal tax rates less than otherwise. Using 15 percent as the decline in the average overall marginal tax rate leads to a predicted drop of between 13 1/2 and 39 percent in underreported income, which would raise an estimated \$13 to \$37 billion in additional revenue in 1985.<sup>53</sup> Empirical research into both the magnitude and determinants of tax evasion is, however, still in its infancy. Even a range of estimates as wide as these results should be treated as tentative and preliminary.

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<sup>53</sup> This calculation is based on several assumptions, specifically that (i) individuals' underlying attitudes have not changed substantially since 1969; (ii) the ratio of aggregate tax understatement to tax paid is equal to the ratio of income understatement to income reported and (iii) that Clotfelter's simulation results for a 10% across-the-board cut in rates can be linearly extrapolated to apply to a larger cut in rates.

The elimination of several special credits, deductions, and adjustments to income will more firmly base tax liability on activities that are subject to information returns provided by third parties, such as wage and salary payments, interest and dividend receipts, and other miscellaneous income. This will facilitate the monitoring of reported tax liabilities.

Finally, there is another potentially important link between tax reform and tax evasion. There is considerable evidence that taxpayers who perceive the tax system to be unfair are more likely to be evaders.<sup>54</sup> If fundamental tax reform can contribute to an increased general perception of fairness, it may directly reduce noncompliance.

## VI. Conclusions

The tax reform proposal offered by the Reagan Administration is not as radical or intellectually satisfying as other plans that have been suggested, including that of its own Treasury Department. Nor does it quite live up to its accompanying public relations campaign, which has hailed it as the Second American Revolution and promised substantial tax reductions for the great majority of Americans. Its less-than-radical nature is not entirely surprising, considering that it must eventually pass through a political system which has apparently placed one important constraint on the reform package--that no income group or politically important constituency suffer inordinately in the short run. This constraint rules out many plans which feature more radical changes in progressivity, base broadening, or change in the tax base concept itself.

Nevertheless, the tax plan offered by the Administration would induce a

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<sup>54</sup> See Mason and Calvin (1984) for a brief discussion, and an opposing view, of this literature.

clear improvement over the current system. It would induce a more efficient use of the nation's resources and thus improve economic performance, eliminate several sources of inequity, and potentially stem the rapidly growing problem of tax evasion. It falls short of its stated objectives by not substantially reducing the system's complexity or increasing the overall incentives to save and invest. As with any tax change, it would generate transitional inequities and could also increase the uncertainty that accompanies the expectation of further future changes in the tax system.

But what about households, the presumed object of this study? The foregoing analysis of tax reform in terms of macroeconomic aggregates and lofty objectives can obscure the implications of tax reform for individuals and families. The average household would notice little change in the tax filing process--perhaps a few less lines to skip over. More people will be aware of their federal marginal tax rate. Tax liability would decline on average, with the individual situation depending largely on the size of family, number of wage earners, and state of residence. The price of certain goods, such as leisure (i.e., working), charitable contributions, housing, and municipal services (for itemizers), will change and some households would adjust their behavior in response. The benefits of improved resource allocation would show up gradually in the form of increased wages and generally improved economic conditions.

Much of the above also applies to high-income individuals, who tend to have complicated returns with varying sources of non-wage income. Capital gains and losses on their portfolios would be an additional factor in how they fare under tax reform. Investment decisions would have to be re-evaluated because of the changes in the relative tax treatment of assets and because of the decline in the return to reducing taxable income.

The macroeconomic impact of tax reform results from the response of house-

holds (and firms) to the changed incentives of a new tax system. If the incentives encourage the efficient use of resources, one benefit of tax reform is improved economic performance. This potential benefit does not show up in the local newspaper's calculations of how tax liability will change, but deserves to be an important element of the continuing debate on tax reform.

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